EUROPEAN COMMISSION

Brussels, 31.7.2020
C(2020) 5412 final

PUBLIC VERSION

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EC) No 139/2004 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus […]. Where possible the information omitted has been replaced by ranges of figures or a general description.

To the notifying party

Subject: **Case M.9779 – Alstom/Bombardier Transportation**
Commission decision pursuant to Article 6(1)(b) in conjunction with Article 6(2) of Council Regulation No 139/2004[1] and Article 57 of the Agreement on the European Economic Area[2]

Dear Sir or Madam,

(1) On 11 June 2020, the European Commission received a notification of a proposed concentration pursuant to Article 4 of the Merger Regulation by which Alstom S.A. (France, hereinafter 'Alstom' or the 'Notifying Party') will acquire sole control of Bombardier Transportation (Investment) UK Limited (UK, hereinafter 'Bombardier'), the rail solutions division of Bombardier Inc., by way of acquisition of the entirety of the issued and outstanding shares of Bombardier (the 'Transaction').[3] Alstom and Bombardier are collectively referred to as the 'Parties'.

1 OJ L 24, 29.1.2004, p. 1 (the 'Merger Regulation'). With effect from 1 December 2009, the Treaty on the Functioning of the European Union ('TFEU') has introduced certain changes, such as the replacement of 'Community' by 'Union' and 'common market' by 'internal market'. The terminology of the TFEU will be used throughout this decision.

2 OJ L 1, 3.1.1994, p. 3 (the 'EEA Agreement').

3 Publication in the Official Journal of the European Union No C 205, 19.6.2020, p. 21.

Commission européenne, DG COMP MERGER REGISTRY, 1049 Bruxelles, BELGIQUE
Europese Commissie, DG COMP MERGER REGISTRY, 1049 Brussel, BELGIË

Tel: +32 229-91111. Fax: +32 229-64301. E-mail: COMP-MERGER-REGISTRY@ec.europa.eu.

1. THE PARTIES

(2) Alstom is headquartered in France and listed on Euronext Paris Stock Exchange. It is active globally in the rail transport industry, offering a wide range of transport solutions, including activities in rolling stock and signalling.

(3) Alstom's shares are currently held by the Bouygues group (c. 15% and representing c. 25% of Alstom's voting rights), institutional investors (77%), individual shareholders (7%) and by Alstom employees (1%). No shareholder holds an interest in its issued share capital that is sufficient to confer control.

(4) Bombardier, the global rail solutions division of Bombardier Inc., is headquartered in Germany and offers a wide range of rail solutions, ranging from trains to sub-systems and signalling. Bombardier has production, engineering and service centers around the globe.

(5) Bombardier's shares are held by Bombardier Inc. (c. 64%) and by Caisse de dépôt et placement du Québec ('CDPQ') (c. 36%).

2. THE OPERATION

(6) On February 17, 2020, Alstom, Bombardier Inc. and CDPQ signed a memorandum of understanding, as further amended and restated on March 30, 2020, in accordance to which, after the end of the information and consultation process of Alstom's European Works Forum, which is expected to be completed by the end of the third quarter 2020, the Parties and CDPQ will formally sign a sales and purchase agreement. In addition, Alstom will formally sign investment agreements with both CDPQ and Bombardier Inc.

(7) Under the agreements to be signed pursuant to the memorandum of understanding, (i) Alstom will acquire the entirety of the issued and outstanding shares of Bombardier and (ii) CDPQ and Bombardier Inc. will reinvest in Alstom the transaction proceeds they will receive from the sale of their stake in Bombardier, in return for non-controlling minority interests in Alstom. Following the Transaction, Alstom's share capital will be held by Bouygues (c. […]%), Bombardier Inc. (c. […]%), CDPQ (c. […]%) and other shareholders ([…]%). No shareholder will hold an interest in Alstom's issued share capital that would be sufficient to confer control over Alstom.

(8) The stated economic rationale for the Transaction is to create a more competitive and innovative global player in the rapidly transforming global mobility sector. The Notifying Party further explains that the Transaction will reinforce Bombardier's competitive and financial position which has recently been decreasing due to financial and project execution difficulties.

3. CONCENTRATION

(9) Following the Transaction, Alstom will hold the entirety of the issued and outstanding shares of, and sole control over, Bombardier.

(10) The Transaction therefore constitutes a concentration pursuant to Article 3(1)(b) of the Merger Regulation.

4. UNION DIMENSION

(11) The undertakings concerned have a combined aggregate world-wide turnover of more than EUR 5 000 million[4] (Alstom: EUR 8 201 million; Bombardier: EUR 7 396 million). Each of them has an EU-wide turnover in excess of EUR 250 million (Alstom: EUR […]; Bombardier: EUR […]), but each does not achieve more than two-thirds of its aggregate EU-wide turnover within one and the same Member State. The notified operation therefore has a Union dimension.

5. MARKET DEFINITION – ROLLING STOCK

5.1. Introduction

(12) The Parties' activities in the EEA overlap in very high-speed, mainline and urban rolling stock (metros and trams/LRVs), as well as maintenance. The Parties' activities create vertical links in rolling stock components and spare parts.

5.2. Relevant markets

5.2.1. Product market definition

5.2.1.1. Very high-speed rolling stock

(A) The Notifying Party's view

(A.i) Distinction between high-speed and very high-speed trains

(13) The Parties consider that there is a single overall product market for high-speed trains operating at speeds of 250 km/h and above and that trains capable of speeds at or above 300 km/h ('very' high-speed rolling stock) do not constitute a separate market.

(14) First, the Notifying Party states that the same regulations apply to all trains capable of speeds at or above 250 km/h. In that regard, it indicates that EU legislation and policy documents only provide definition and specific technical requirements for trains capable of speeds at or above 250 km/h, without specific references to trains capable of speeds at or above 300 km/h.[5]

(15) According to the Notifying Party, once requirements for speeds of 250 km/h are met, most technical requirements do not differ between high-speed and very high-speed

[4] Turnover calculated in accordance with Article 5(1) of the Merger Regulation and the Commission Consolidated Jurisdictional Notice (OJ C95, 16.4.2008, p. 1).

[5] For instance, the 2008 Interoperability Directive provides that high-speed vehicles include those circulating '*at speeds of at least 250 km/h on lines specially built for high speeds, while enabling operation at speeds exceeding 300 km/h in appropriate circumstances.*" In addition, no reference is made to the 300 km/h speed threshold in the 2016 Interoperability Directive which describes high-speed infrastructures as that '*equipped for speeds generally equal to or greater than 250 km/h.*'

trains.[6] Any additional technical requirements (and any related costs) for reaching speeds above 300 km/h are incremental and are obtained through an extension of the same technology.[7]

(16) Second, the Notifying Party states that high-speed rolling stock suppliers can develop new platforms or adapt existing platforms to allow for higher speeds. High-speed rolling stock suppliers can thus rely on their technical know-how and capacity to develop trains operating at higher speeds.[8]

(17) In that regard, the Notifying Party submits that the speed increase does not require significant technical modifications. Operating speed only impacts a few components and sub-components, requiring replacement or adaptation in line with the new speed,[9] and which represent a negligible part of the total platform costs. In addition, the overall trainset architecture and the interior do not need to be changed, saving rolling stock suppliers significant cost and time. Furthermore, the Notifying Party considers that R&D investment to convert a high-speed platform into a very high-speed one is limited and a supplier having developed a 250 km/h solution may participate in a very high-speed tender with very little upfront investment.[10]

(18) Third, the Notifying Party considers that tender specifications and infrastructure costs do not provide a basis for distinguishing between high-speed and very high-speed trains.[11]

(19) In particular, the Notifying Party claims that trains with maximum speeds below 300 km/h can compete in tenders for trains capable of speeds of 300 km/h or above.[12] Conversely, trains capable of running at speeds above 300 km/h may compete in tenders for trains operating between 250-300 km/h.[13] In that regard, the Notifying Party indicates that multiple suppliers use the same platform in both high-speed and very high-speed tenders.[14]

---

6 The Notifying Party states that there is only one additional technical specifications for interoperability requirement applicable when the platform speed exceeds 280 km/h (the use of a magnetic braking system is required). Other Technical Standards of Interoperability requirements already applying to 250 km/h platforms may also become slightly more stringent as the operating speed increases. However, according to the Notifying Party, these requirements are secondary compared to the technical standards associated with the 250 km/h speed threshold (Form CO, Chapter B.1, paragraph 18).

7 For instance, the Technical Standards of Interoperability set out different maximum breaking distances at different speeds from 150 km/h upwards, and which increase with the speed. This would not be a relevant distinguishing factor, in particular because various speeds do not necessarily require different braking solutions (e.g., increasing the number of braking discs required for a very high-speed train compared to a high-speed train may be sufficient) (Form CO, Chapter B.1, paragraph 19).

8 Form CO, Chapter B.1, paragraph 22.

9 According to the Notifying Party, these components include, for instance, anti-yaw dampers, gearboxes ratio, on-board signalling systems, and power-bogies.

10 Form CO, Chapter B.1, paragraph 23.

11 Form CO, Chapter B.1, paragraph 25.

12 For instance, while [*Information on Alstom's business strategy*].

13 For example, Alstom won the 2016 tender by Amtrak, for the Northeastern corridor with its Liberty platform, designed for maximum speeds of up to 300 km/h. The Liberty trainsets ordered by Amtrak are manufactured for maximum speeds of 300 km/h, but remain upgradable to 350 km/h, in view of the expected upgrade of sections the network between Washington, D.C. and Boston.

14 Form CO, Chapter B.1, paragraph 24.

(20) The Notifying Party further states that customers for high-speed trains do not use 300 km/h as a relevant threshold. In that regard, it indicates that maximum speed is often not the main factor of choice for high-speed operators and that customers sometimes express their requirement in journey time rather than in terms of maximum speed. In addition, certain customers are interested in flexible rolling stock solutions with platforms capable of high-speed and very high-speed.[15]

(21) In terms of infrastructure, the Notifying Party considers that the Commission's findings in its decision in case M.8677 - *Siemens/Alstom* (hereinafter '*Siemens/Alstom*') regarding the specific characteristics of tracks allowing for very high-speed travel[16] and having higher construction costs[17] are insufficient to warrant a distinction between high-speed and very high-speed trains. In that regard, it states that there is no general difference in construction costs between high-speed and very high-speed dedicated tracks, because each line has specific geographic and other considerations that may have an important impact on construction costs. Moreover, it states that there is a certain level of substitutability between tracks dedicated to high and very high-speeds, since several trains that are not capable of speeds of 300 km/h or above are operating on very high-speed tracks across the EEA.[18]

(22) Based on the above, according to the Notifying Party, the question of a speed threshold within the high-speed market is not a decisive issue from both supplier and customer perspectives.[19]

(23) In any event, the Notifying Party considers that the question of a potential segmentation of the market between high-speed and very high-speed trains can be left open as the competitive conditions do not change materially regardless of the market definition.

(A.ii) Distinctions in relation to the number of floors and to the traction system or architecture

(24) The Notifying Party states that segmentations of high-speed rolling stock based on the number of floors (single- or double-decker) and the traction system (distributed traction or concentrated traction) or architecture (articulated or non-articulated) are not warranted.

(25) With respect to traction system and architecture, the Notifying Party indicates not having determined any particular traction system or architecture type requirement in the high-speed and very high-speed rolling stock tenders in the past 10 years at global level. In addition, it states that while many suppliers may only offer one type of traction and/or architecture, this does not prevent them from competing in tenders against suppliers whose offerings are based on different traction systems or architecture.[20]

15 Form CO, Chapter B.1, paragraph 30.
16 Curve radius, cant deficiency/tilt, catenary construction, etc.
17 9% more than a conventional railway.
18 Form CO, Chapter B.1, paragraph 28.
19 Form CO, Chapter B.1, paragraph 31.
20 Form CO, Chapter B.1, paragraph 34.

(26) With respect to number of floors, the Notifying Party indicates that most tenders do not include any specifications related to single- or double-deck high-speed trains. Therefore, the Notifying Party considers that single-deck and double-deck platforms are typically perceived as substitutable from a customer standpoint and compete closely in most tenders.[21] Finally, it submits that the exact market definition can be left open.

(B) The Commission's decisional practice

(27) In *Siemens/Alstom*[22], the Commission considered that, based on both supply and demand-side considerations, tender specifications and technical requirements show that high-speed rolling stock (trains capable of speed between 250 km/h and 299 km/h) is not substitutable for very high-speed rolling stock (trains capable of speed equal to and above 300 km/h). It ultimately left the question open as the transaction raised competition issues under both conceivable definitions.

(28) From a customer perspective, the Commission noted the existence of a specific demand for very high-speed rolling stock. In that regard, customers running train capable of speed at or above 300 km/h operate trains on dedicated tracks for very high-speed travels and require, in their tender specifications, trains capable of very high-speeds.

(29) From a supply-side perspective, the Commission notes that most suppliers have different platforms for high-speed and very high-speeds and that converting high-speed platforms into very high-speed platforms[23] takes several years and entails significant investment in R&D, engineering and development.

(C) Results of the market investigation and the Commission's assessment

(C.i) Distinction between high-speed and very high-speed trains

(30) The Commission considers that the findings in relation to a possible segmentation of the high-speed rolling stock market distinguishing very high-speed trains as explained in *Siemens/Alstom* remain applicable for the purpose of the present decision.

(31) The results of the market investigation conducted in the present case thus confirmed that high-speed trains (capable of a speed equal to or higher than 250 km/h) are not substitutable with very high-speed trains (capable of a speed equal to or higher than 300 km/h). The majority[24] of respondents consider that very high-speed rolling stock belong to a separate market, mainly because of (i) their operational speed capacity and performance, which allow for travel at 300 km/h and above, (ii) dedicated lines

21 Form CO, Chapter B.1, paragraph 36.

22 Commission decision of 8 February 2018 in Case M.8677 – *Siemens/Alstom*, paras. 88 and 89.

23 In *Siemens/Alstom*, the Commission assessed the technical and financial conditions surrounding the [*Information on Alstom's bidding strategy*] (recitals 83 to 87).

24 Throughout this decision, when the Commission refers to the (number of) respondents in relation to a given question of the market investigation this excludes all respondents that have not provided an answer to that question or replied 'I do not know', unless stated otherwise. For example, 'a majority of respondents' means a majority of respondents having replied to a given question and not having ticked 'I do not know'.

used to operate them, and (iii) specific technical requirements, price and investment needed to develop such rolling stock.[25]

(32) From the demand-side, major high-speed and very high-speed lines operators such as Ferrovie dello Stato Italiane ('FSI', Italy) and SNCF (France) confirmed that very high-speed rolling stock constitute a separate relevant market.[26] SNCF explained in that regard that the condition of exploitation of high-speed and very high-speed rolling stock differ, and that trains running at speed below 300 km/h cannot be operated on very high-speed dedicated track without disturbing the service. SNCF further explained that the European Technical Standards of Interoperability ('TSI') specifications for very high-speed rolling stock do differ and are more demanding than high-speed rolling stock (requiring, for example, that mechanical parts be of greater strength for a very high-speed train than for a high-speed trains).

(33) On the other hand, some customers, including Deutsche Bahn (Germany), Nuovo Trasporto Viaggiatori ('NTV', Italy) and High Speed Two ('HS2', United Kingdom), consider that a distinction between high-speed and very high-speed rolling stock may not be warranted.[27] They indicated that they operate both kinds of fleets and consider that technical requirements for running high-speed and very high-speed do not significantly differ.

(34) However, these customers also recognised that they have a specific demand for very high-speed rolling stock and that they would not procure a high-speed train to be operated on very high-speed tracks.[28] This is because the procurement of a very high-speed train aims at maximising the performance allowed by the railway infrastructure, which would not be possible with a high-speed train. For instance, HS2 indicated that investments in very high-speed dedicated tracks aim to '*HS2 Ltd is procuring very high-speed rolling stock capable of 360km/h operation on infrastructure designed for 360km/h operation. This is to maximise the capacity benefits of the* [very] *high-speed infrastructure and achieve HS2 Ltd's Sponsor Requirements (set by the UK Department for Transport).*'[29] This is consistent with the Commission's findings in *Siemens/Alstom*, where investments in very high-speed dedicated tracks were found to rely on major policy decisions and to involve substantial public spending in order to specifically achieve speeds that only very high-speed trains can achieve.[30]

(35) From the supply-side, a large majority of rolling stock suppliers agree that multiple factors justify distinguishing high-speed and very high-speed rolling stock markets.[31]

(36) First, high-speed and very high-speed trains differ in performance. As stated in *Siemens/Alstom*, very high-speed trains are designed to travel long distances at speeds over 300 km/h (other high-speed trains are designed to travel at speeds between 250 km/h and cannot reach 300 km/h). In order to achieve speeds above 300 km/h, suppliers explained that very high-speed trains need specific technological

25 Commission decision in Case M.8677 – *Siemens/Alstom* (2018), recital 61.

26 Questionnaire 2 addressed to customers in very high-speed rolling stock ('Q2"), replies to question 5.

27 Q2, replies to question 5.

28 Q2, replies to question 6.1.

29 Q2, reply to question 6.1.

30 Commission decision in Case M.8677 – *Siemens/Alstom* (2018), recitals 66-67.

31 Questionnaire 1 addressed to competitors in very high-speed rolling stock ('Q1"), replies to question 4.

development, such as sophisticated aerodynamics, and strict safety requirement, such crash tests. In addition, respondents explained that the design and manufacture of a very high-speed train require a specific combination of special pre-calculations and laboratory tests prior to performing track tests.[32]

(37) Second, respondents to the market investigation indicated that customers generally specify the speed required (i.e., at least 300 km/h in a very high-speed tender). In certain cases, customers request bidders to have a certified very high-speed platform in order to be capable to participate in the tender.[33]

(38) Third, as a results of the above, the technical and commercial development of a very high-speed platform with certified technology require more than 10 years and very significant investments, significantly higher than those needed to develop a high-speed platform.

(39) It follows from the above that very high-speed rolling stock appear to constitute a distinct relevant market. However, it is not necessary to conclude on the precise delineation of the relevant product market for the assessment of the effects of the Transaction for the purpose of the present decision. For the reasons set out at paragraphs (281), the Commission will focus its competitive assessment on the market for very high-speed (including all trains capable of a speed equal to or higher than 300 km/h).

(C.ii) Distinction in relation to traction system or architecture and the number of floors

(40) With respect to traction system or architecture, customers generally do not distinguish between traction system or architecture type, allowing suppliers to compete in tenders with one or the other traction system. For example [*Information on Alstom's bidding strategy*] while Siemens' (ultimately winning) bid was based on a non-articulated solution (Velaro e320).

(41) With respect to the number of floor, the Commission notes that Alstom is currently the only supplier offering double-decker platforms. Given that most tenders do not distinguish between the number of floors in their specification, [*Information on Alstom's bidding strategy*].

(42) As a result, the Commission considers that no segmentation on the basis of (i) the type of traction of train architecture and (ii) the number of floors is warranted for the purpose of defining the relevant market in the present case.

5.2.1.2. Mainline rolling stock

(43) Mainline rolling stock comprise trainsets used for a variety of distances, including around and between cities, across country borders, and running on large networks of conventional tracks typically shared between several railway operators (i.e., the mainline rail network). The defining feature of mainline trains is their self-propelled nature, meaning that power is distributed through several motors along the train. As a result, mainline trains can accommodate passengers in all cars and do not have

[32] Q1, replies to question 4.1.
[33] Q1, reply to question 4.1.

dedicated vehicles with no passenger access (such as locomotives) at the front and end of the train that provide the pull. The traction can be powered through different sources, including, among others, by drawing power from overhead catenaries to power electrical multiple units ('EMUs') or by on-board diesel-engines (diesel multiple units ('DMUs')).[34]

(44) Mainline trains are distinct from high-speed trains (running at speeds at or above 250 km/h) and urban trains running on urban networks and covering mass transit within cities.

(A) The Notifying Party's view

(45) The Notifying Party indicates that, as established by the Commission in Siemens/Alstom,[35] mainline trains differ from high-speed trains on the basis of regulatory and technical differences related to maximum speed.[36] It explains that trains travelling at or above 250 km/h must respect additional technical specifications under the TSI. Nevertheless, in the Notifying Party's view, it cannot be excluded that future intercity tenders will not be constrained by competition from 250 km/h high-speed trains. The Notifying Party argues that although high-speed and intercity trains are not part of the same market, high-speed trains can be offered for intercity tenders as long as they meet the customer's tender requirements (including those related to price) and that high-speed trains can be authorised, and therefore operated, at speeds below 250 km/h.[37]

(46) The Notifying Party submits that mainline trains differ from metros due to the network on which they operate. While metros operate on closed urban mass transit networks, mainline trains operate on mainline networks covering transport between city centers and suburban areas, different cities, regions, and countries. Moreover, mainline trains are characterized by higher speeds, less frequent stops, lower passenger capacity, and higher comfort level compared to metros.[38]

(47) The Notifying Party considers that there is no clear segmentation between regional and intercity trains based on supply-side characteristics but that there may be certain differences from a demand-side perspective.[39]

(48) The Notifying Party puts forward a number of arguments against distinguishing regional from intercity trains, including the absence of any commonly accepted industry definition and the substitutability of product lines between regional and intercity trains from a supply-side perspective. In particular, the Notifying Party asserts that all major players are already active in both markets. The remaining

34 Form CO, Chapter B.2, paragraph 11.

35 Commission decision in Case M.8677 – *Siemens/Alstom* (2018), recitals 57-59.

36 Form CO, Chapter B.2, paragraph 15.

37 Form CO, Chapter B.2, paragraph 15. The Notifying Party refers to the following examples: [*Information on Alstom's bidding data*], the Parties understand that [*Information on the Parties' bidding data*]. Alstom has also [*Information on Alstom's bidding strategy*].

38 Form CO, Chapter B.2, paragraph 15.

39 Form CO, Chapter B.2, paragraph 19.

regional-only suppliers can easily expand into the intercity market in view of the limited technical and regulatory differences between regional and intercity trains.[40]

(49) Furthermore, the Notifying Party argues that suppliers can upgrade regional trains for operation at intercity speeds with limited costs.[41] The Notifying Party explains that intercity speeds are often already incorporated into the pre-design of regional trains.[42]

(50) In relation to the distinction between EMUs and DMUs, the Notifying Party recognises that they may constitute separate product markets.[43] The Notifying Party also explains that new technologies are emerging, including bimode trains which operate on routes consisting of both electrified and non-electrified lines within a single journey without stops or changes by switching between electrical traction and diesel engine power.[44] Other technologies are hydrogen fuel-cell trains that provide an emission-free alternative to DMUs on non-electrified lines, and BEMUs on the other hand, provide emission-free alternatives to bimode trains which operate on both electrified and non-electrified lines to avoid interchanges on a route.[45]

(51) In any event, the Notifying Party explains that the Parties' activities only overlap in EMUs as Bombardier has not supplied any DMU trains in the past 10 years and does not have a DMU train in its portfolio.[46]

(52) In the Notifying Party's view, single-decker and double-decker trains are not likely to constitute separate markets.

(53) From the demand-side perspective, customers' requests for tenders typically do not contain specific architecture requirements as customers tender projects based on capacity requirements and are willing to consider both single- and double-decker architectures. The Notifying Party explains that suppliers decide on the architecture of their offer taking into account customers' capacity and length requirements and infrastructural constraints (e.g., platform length), and their existing portfolio. According to the Notifying Party, on a limited number of occasions, suppliers offered different architectures in the same project.[47]

(54) From the supply-side perspective, the Notifying Party submits that all major suppliers have single- and double-decker platforms in their portfolio.[48] Furthermore, the Notifying Party considers that the recent trend for mixed train configuration

---

40 Form CO, Chapter B.2, paragraphs 21-23. According to the Notifying Party, intercity and regional trains are generally subject to the same technical and regulatory standards, evidenced by mainline platforms, capable of addressing both speeds (such as Stadler's FLIRT and CAF's Civity solutions).

41 The Notifying Party estimates that [*Information on Bombardier's business strategy*]. See Form CO, Chapter B.2, paragraph 23.

42 Form CO, Chapter B.2, paragraph 23.

43 Form CO, Chapter B.2, paragraph 27.

44 Form CO, Chapter B.2, footnote 61.

45 Form CO, Chapter B.2, footnote 62.

46 Form, CO, Chapter B.2, paragraph 28.

47 Form CO, Chapter B.2, paragraph 31. The Notifying Party refers to the following examples of suppliers offering different architecture in the context of the same project: [*Information on Bombardier's and its competitors' bidding strategy and bidding data*].

48 The Notifying Party lists the following competitors that offer both single- and double-decker platforms: Stadler, Siemens, CAF, Hitachi, and Skoda.

platforms (i.e., platforms that combine both single- and double-decker cars) further blurs the distinction between single- and double-decker trains[49].

(55) The Notifying Party submits that the competitive assessment should be carried out by combining speed (intercity/regional) and propulsion (EMU/DMU) in order to reflect commercial reality in tenders. In the Notifying Party's view, customers always specify both the maximum operating speed and power supply requirements in their tender specifications[50].

(56) The Notifying Party indicates, nonetheless, that the market definition can be left open as the Transaction does not give rise to any competition concerns regardless of the precise delineation of the relevant market.

(B) The Commission's decisional practice

(57) In previous decisions, the Commission distinguished between self-propelled trains and locomotive-hauled trains (so-called push-pull trains) and considered separate product markets for self-propelled trains, locomotives, and passenger coaches.

(58) The Commission also distinguished self-propelled mainline trains from high-speed trains designed to travel long distances at speeds of more than 250 km/h on conventional tracks.[51]

(59) The Commission considered additional segmentations within mainline rolling stock. In case *Bombardier/AdTranz*, the Commission drew a distinction between intercity and regional trains in light of differentiating features and separate requirements from the demand-side.[52] Within the intercity and regional rolling stock markets, the Commission examined but left open further sub-segmentations according to the type of traction (EMUs / DMUs) and number of decks (single / double-deckers).[53]

(C) Results of the market investigation and the Commission's assessment

(C.i) On segmentations of the relevant market

(60) First, with regard to the cut-off point between mainline and high-speed trains, the results of the market investigation confirm the Notifying Party's view that the definition of intercity rolling stock should exclude trains capable of travelling at a maximum speed of exactly 250 km/h. Therefore, for the purpose of the present decision, only trains capable of a maximum speed below 250 km/h will fall in the mainline rolling stock category.[54]

---

49 According to the Notifying Party, examples of mixed train configuration platforms include the Siemens' Desiro HC, Bombardier's Omneo, and […]. See Form CO, Chapter B.2, paragraph 32.

50 Form CO, Chapter B.2, paragraph 36.

51 The Notifying Party considers that trains travelling at exactly 250 km/h should be categorised as high-speed trains and excluded from the market for mainline trains.

52 Commission Decision in Case M.2139 – *Bombardier/ADtranz* (2001), recital 11.

53 Commission Decision in Case M.580 – *ABB/Daimler-Benz* (1995); Commission Decision in Case M.2139 – *Bombardier/ADtranz* (2001), recitals 7-12.

54 Q1, replies to question 3; Q2, replies to question 4.

(61) Second, with regard to the distinction between self-propelled and locomotive-hauled trains, a large majority of respondents confirms that distinction.[55] This is due to the fact that locomotive-hauled trains consist of essentially two products, wagons and a locomotive, whereas self-propelled trains consist of a single trainset involving inherently different and more sophisticated technology. Accordingly, from the demand-side, self-propelled and locomotive-hauled trains are used for different services and involve different exploitation and maintenance facilities and management.[56]

(C.ii) On market segmentations in mainline rolling stock

(C.ii.a) Regional and intercity trains

(62) As regards the possible segmentation of the market for mainline rolling stock into regional and intercity trains, a majority of respondents to the market investigation (both customers and competitors) considered that regional and intercity trains are not substitutable.[57] Respondents note that intercity and regional trains have distinct features and answering to different customer needs in terms of speed, number of stops, distance operated, passenger capacity, passenger comfort and accessibility.[58]

(63) When procuring mainline trains, customers typically distinguish in tender specifications between regional and intercity trains in view of requested speed and other characteristics.[59] Despite a certain degree of overlap between products in each market in terms of maximum speeds (certain regional trains being capable/operating above 160 km/h), customers consider that the distinction remains valid due to their different features (interior layout and amenities) and technical characteristics, predominantly speed but also capacity, length, number of doors, and other features.[60] Arriva Tog AS explains that *'although there is some cross-over, in general the characteristics of an intercity train (high speed, few passenger doors, large seat spacing, kitchen provision etc.) are different to those of a regional train (lower speed, more doors to facilitate rapid boarding, closer seat spacing)'*.[61] This view is also supported by competitors.[62]

(64) With regard to speed, even in the absence of an industry definition or a technical segmentation at the 160 km/h speed mark, the results of the market investigation largely confirm that a distinction between trains capable of operating at speeds above and below 160 km/h is valid.[63]

(65) Nevertheless, customers also confirm that trains initially designed for regional/commuter traffic but with intercity configurations built into their pre-design may be competitive in intercity tenders if the other requirements listed at paragraph

---

55 Q3 – Questionnaire to competitors – Mainline Rolling Stock ("Q3"), replies to question 3.1; Q4 – Questionnaire to customers – Mainline Rolling Stock ("Q4"), replies to question 4.1 and 4.1.1.

56 Q4, replies to questions 4.1 and 4.1.1

57 Q3, replies to question 3.4.; Q4, replies to question 4.3.

58 Q3, replies to question 3.3.1.1; Q4, replies to question 4.3.1.

59 Q4, replies to questions 5, 5.1, 6, and 6.1.

60 Q3, replies to questions 3.3, 3.3.1, 5.1; Q4, replies to questions 4.3, 4.3.1 and 4.3.1.1.

61 Q4, Arriva Tog's reply to question 4.3.1.

62 Q3, replies to question 3.3.1.

63 Q3, replies to question 4.1. Q4, replies to questions 6, 6.1, 8.

63 are fulfilled.[64] Several competitors also share this view.[65] Hitachi Rail ("Hitachi") thus considers that *'trains designed for regional/commuter service may be competitively proposed in a tender for intercity/long-distance trains (and vice-versa) if they have been conceived, at a pre-design level, for operation on both kinds of routes'*.[66]

(66) From the supply-side perspective, the results of the market investigation indicate that several competitors already provide platforms capable of operating as both regional and intercity trains (e.g., Stadler, Hitachi, CRRC).[67] Respondents to the market investigation generally considered that, unless intercity configurations are pre-designed, upgrading existing platforms intended for regional/commuter traffic to travel above 160 km/h is a lengthy and costly process which can take around 3-4 years. In addition, such an upgrade would require re-homologation[68] and obtaining regulatory approvals.[69] Nevertheless, the results of the market investigation confirmed that some of the Parties' competitors have already carried out such an upgrade (e.g., Stadler and Construcciones y Auxiliar de Ferrocarriles, S.A ("CAF").[70]

(67) In contrast, adapting a regional train with built-in intercity configurations to travel at intercity speeds can be carried out with more limited cost and within a shorter timeframe as compared to the upgrade of a regional train without such configurations.[71] Siemens explains that *'the inclusion of higher speeds in a train pre-design phase means that a speed upgrade can be achieved more quickly and at lower costs (e.g. adapting traction power and gearbox) compared to a pre-design that does not foresee a speed upgrade'*.[72] Furthermore, several suppliers offer regional trains with intercity configurations in pre-design (e.g., Siemens, CAF, Hitachi and Stadler). Hitachi explains that *'the existing train platforms intended for regional/commuter traffic with intercity configurations built in their pre-design can be easily adapted in terms of time and cost to be operated in intercity traffic if a clause-by-clause analysis of the subsystems requirements and the eventual adaptive redesign and homologation-related activities are carried out'*.[73]

(68) Competitors that responded to the market investigation indicated that any upgrade of an existing platform designed for regional traffic (irrespective of additional configurations included in their pre-design) maybe limited to a maximum speed of 200 km/h, beyond which more substantial modifications would be required.[74]

---

64 Q4, replies to questions 5.1 and 6.

65 Q3, replies to questions 6 and 6.1.

66 Hitachi's response to Q3, question 5.1.

67 Q3, replies to question 7. Based on the Notifying Party's submission, Bombardier's Omneo platform is also capable of operating at regional and intercity speed.

68 "Homologation" of a platform is the term commonly used in the railway. In this decision, the Commission indifferently uses the terms "homologation" and "authorisation".

69 Q3, replies to questions 8.1.1-8.1.5.

70 Q3, replies to question 8, 8.1.6.

71 Q3, replies to question 9.1.1.

72 Siemens' response to Q3, question 9.1.1.

73 Hitachi's response to Q3, question 9.1.1.

74 Q3, replies to questions 8.1.1 and 9.1.1.

(69) Furthermore, several competitors indicated that intercity trains can be operated at lower speed and used for regional/commuter traffic.[75]

(70) Therefore, the Commission is of the view that regional rolling stock that include intercity configurations in pre-design may constitute a competitive constrain when customers demand intercity trains and vice-versa. For the purpose of this decision, the Commission considers that the exact product market definition (i.e., whether overall market for mainline rolling stock or segmented into regional and intercity trains) can be left open. The Commission carries out the competitive assessment in section 6.3 of this decision in all plausible markets.

(C.ii.b) EMUs and DMUs

(71) The Commission notes that a large majority of respondents agree that EMUs should be distinguished from DMUs.[76] EMUs have distinctive technical features and answer to different customer needs, DMUs being more expensive and only operated where tracks are not electrified. Environmental impact and fuel economy are cited as differentiating aspects.

(72) Several respondents also indicate that other technologies are emerging such as bi-mode and hybrid (electric-diesel) as well as alternative self-propelled power sources (battery, fuel-cells, other) multiple units.[77] The Commission considers that the new technologies blur the distinction between EMUs and DMUs. For example, bimode trains operate on routes including both electrified and non-electrified lines without switching between electrical traction and diesel engine power and they thus compete with both EMUs and DMUs. Therefore, a distinction between EMUs used for electrified lines and DMUs required when the lines are not electrified is not warranted.

(73) However, for the purpose of this decision, the Commission considers that the exact market definition of self-propelled mainline trains can be left open (i.e., whether separate markets for EMUs and DMUs or a single market comprising all types of traction) because the conclusion of the competitive assessment remains the same under any plausible product market definition.

(C.ii.c) Single-decker and double-decker

(74) With regard to the possible distinction by number of decks, most respondents indicated that single- and double-decker rolling stock display technical, price and capacity differences.[78] However, from the demand-side perspective, a majority of customers use single- and double-decker interchangeably on the same routes depending on capacity requirements.[79] The main factors driving demand for double-decker trains, according to the results of the market investigation, include capacity

75 Skoda's response to Q3, question 8.1.1.
76 Q3, replies to question 3.2; Q4, replies to question 4.2.
77 Q3, replies to question 3.2.1; Q4, replies to question 4.2.1.
78 Q3, replies to question 3.4; Q4, replies to question 4.4.
79 Q3, replies to question Q4, replies to questions 9 and 9.1.

requirements, configurations of the rail infrastructure, vehicle length requirements, level access and price.[80]

(75) Furthermore, there are mixed views as to whether customers specifically request double-deckers in tenders. Some customers indicated that they specifically requested double-decker trains in tenders, while others responded that they neither requested nor excluded procuring double-decker trains.[81] Arriva Tog confirms that in some instances suppliers may determine the train architecture based on customers' capacity requirements: *'Generally, when specifying rolling stock, we would look to specify a passenger capacity and then the physical characteristics of the infrastructure that the rolling stock needs to be compatible with. It would then be up to the rolling stock manufacturers to propose the type of unit that meets this specification – whether it be single or double deck. There may be occasions when a contracting authority requests specific double or single deck, in which case we would include that requirement in our specification'*.[82] SNCF also considers that it does not explicitly specify if single- or double-deckers will be procured and that *'manufacturers adapt their offers according to the need expressed in terms of passenger carrying capacity'*.[83]

(76) From the supply-side perspective, some competitors explain that substitution between single- and double-decker trains is constrained by technical, structural differences and architectures.[84] Stadler expressed the view that *'from the perspective of a supplier, switching production from single-deck to double-deck rolling stock entails significant time and investment but it is technically and commercially feasible'*.[85]

(77) Respondents considered that the investment required to start manufacturing double-decker platforms would be consistent with the manufacturing of any new train/platform.[86] Respondents explained that engineering know-how specific to double-decker trains may be required but also provided the example of suppliers who developed low-cost double-decker trains or used internal engineering capacity and facilities already employed in the manufacturing of single-deckers to develop double-deckers.[87]

(78) The Commission also observes that a large number of the Parties' competitors already supply both single- and double-decker trains (including Stadler, Siemens, CAF, Hitachi and Skoda).[88] Furthermore, as indicated by the Notifying Party, the existence of trains combining both single-decker and double-decker cars (such as Bombardier's Omneo, Siemens' Desiro and […]) may render a distinction between single- and double-decker trains less relevant.

---

80 Q4, replies to question 4.4.1, 9.1.1 and 10.
81 Q4, replies to question 11.
82 Arriva Tog's response to Q4, question 11.1.
83 SNCF's response to Q4, question 4.4.1.
84 Siemens' response to Q3, question 12.1.
85 Minutes of conference call with Stadler, 24 March 2020, paragraph 8.
86 Q3, replies to question 13.1.1.
87 Siemens' response to Q3, questions 13.2.1 and 13.3.
88 Q3, replies to question 12.1.

(79) The Commission thus considers that, for the purpose of the present decision, on balance, a distinction between single-decker and double-decker trains is not warranted. The Commission will carry out the competitive assessment in the overall market without further segmentations based on train architecture.

(80) In view of the considerations set out at paragraphs 60-79 above, for the purpose of the present decision, the Commission will conduct its competitive assessment of the mainline rolling stock markets considering that self-propelled mainline trains are distinct from locomotive-hauled trains. Within the market for self-propelled trains (segmented on the basis of traction), the Commission will assess both the overall market for self-propelled mainline trains and the separate market for EMUs (where the Transaction creates a horizontal overlap). The Transaction's impact in regional and intercity trains and will also be considered both on a single market and on hypothetical separate markets, so as to cover all conceivable hypotheses.

5.2.1.3. Urban rolling stock

(81) Urban rolling stock comprise railway vehicles used for mass transit and operating within cities, typically on closed networks, separate from mainline networks, that are not shared between operators or with freight rail transport. Urban rolling stock is characterised by lower speeds, more frequent stops, and/or high passenger capacity.

(82) Urban rolling stock comprises trams and LRVs, metros and automated people movers. The Parties' activities overlap in trams, LRVs and metros.

(A) Metros

(83) Metros are automated or non-automated ('conventional') electric vehicles operating within a city centre on segregated tracks, typically underground.

(A.i) The Notifying Party's view

(A.i.a) Segmentation between rubber tyre and steel wheels metros

(84) The Notifying Party considers that steel wheel and rubber tyre metros may constitute separate markets given differences which hinder supply and demand substitutability.

(85) From a demand-side perspective, the Notifying Party explains that customers typically require a specific type of wheel in their tender specifications. Their choice is driven by the various technical and operational differences between steel wheel and rubber tyre metros. For instance, while rubber tyre metros can navigate steeper slopes due to their well-adjusted grip and generate less noise, they are less energy efficient and have higher maintenance costs than steel wheel metros. The Notifying Party further states that rubber tyre metros are niche projects, with only seven new projects globally in the past 10 years, of which only five took place in the EEA.[89]

(86) From a supply-side perspective, the Notifying Party indicates that there are several distinctions between rubber tyre and steel wheel metros. The primary difference is

[89] Form CO, Chapter B.3, paragraph 19. Within the EEA there is no demand for rubber tyre projects outside of France with the exception of one single project in Italy (Turin). The Notifying Party further notes that there is also demand in Switzerland (Lausanne).

the use of different bogie technology and train architecture (namely the weight limit per axle), which impacts the length and width of each car. As a result, there is limited technical overlap between rubber tyre and steel wheel metros. The Notifying Party further states that not all steel wheel metro suppliers are active in the market for rubber tyre metros.[90]

(87) The Notifying Party considers that the exact market definition can be left open as the Proposed Transaction does not give rise to any competitive concerns, regardless of the market definition.

(A.i.b) Segmentation between automated and conventional metros

(88) The Notifying Party considers that a segmentation between automated and conventional metros is not warranted.

(89) From a supply-side perspective, the Notifying Party states that there are no significant differences between automated and conventional metros, which are based on the same platform, have the same car type, are produced with the same equipment and have the same key components (car bodies, bogies, traction, brakes converters, etc.). The majority of the principal components are shared between the conventional and automated versions of the same platform.[91] Accordingly, suppliers' current platforms are typically designed with both automated and conventional versions. Therefore, suppliers participate in both automated and conventional projects with different versions of the same platform.[92]

(90) Furthermore, in terms of pricing, the Notifying Party estimates that the price difference between the automated and conventional configuration of the same platform does not exceed [5-10]%. Moreover, there is no need for a supplier to have a signalling business in order to supply automated metros. Even in cases where the rolling stock and signalling system are procured in the same tender, players that do not have their own independent signalling businesses can team up with others through consortia or sub-contracting in order to provide a complete offer.[93]

(91) From a demand-side perspective, the Notifying Party considers that the difference between automated and conventional metros is blurred by customers, who sometimes requires metros which can be operated with a driver but with already all the necessary equipment and software to be operated in automated mode. Such solutions are requested where the customer envisages upgrading its lines to a fully automated system. Driverless-ready metros can easily be switched to automated operation without manual changes.[94]

---

90 Form CO, Chapter B.3, paragraph 19. Alstom and Siemens were the sole suppliers of rubber-tire metros in the EEA in the past 10 years.

91 Alstom estimates that c. 95% of components are used in both automated and conventional metros. The 5% of components which are specific to automated metros concern additional antennas (used for the on board units to communicate with the wayside equipment), emergency communication devices and remote-controlled safety systems (Form CO, Chapter B.3, paragraph 29).

92 Form CO, Chapter B.3, paragraphs 26 to 28.

93 Form CO, Chapter B.3, paragraphs 31-32.

94 Form CO, Chapter B.3, paragraph 34.

(92) In any event, the Notifying Party considers that the exact market definition can be left open as the Transaction does not raise competitive concerns regardless of the exact segmentation.

(A.ii) The Commission's decisional practice

(A.ii.a) Segmentation between metros and other trains

(93) In previous cases, the Commission identified a relevant product market for 'underground vehicles' which is separate from other types of trains such as trams/LRVs and mainline trains.[95]

(94) In its decision in case *Metronet/Infraco*, the Commission assessed whether the supply of metros and the supply of mainline trains constitute two separate relevant markets. The Commission found that there are different standards and specifications between metros and mainline vehicles. However the Commission also considered that vehicle suppliers are frequently the same companies, which suggests the existence of a unified mainline / metro market. The Commission ultimately left this question open.[96]

(A.ii.b) Segmentation between metros and people movers

(95) In previous cases, the Commission identified a separate market for automated guided transport and automatic or airport people movers, distinct from the market for the supply of metros. The Commission defined people movers as completely automated vehicles that form part of an integrated transit system carrying passengers often in the context of terminal airports. As travel times are shorter and passengers may be carrying luggage, quick loading and unloading are crucial, which is why they are fitted with large doors and little seating capacity.[97]

(A.ii.c) Segmentation between rubber tyres and steel wheels metros

(96) In previous cases, the Commission defined the relevant market of 'underground vehicles or metros' as electric vehicles that 'run on either steel or rubber wheels'. This definition thus considers rubber tyres and steel wheels metros to belong to the same product market.[98]

(A.ii.d) Segmentation between automated and conventional metros

(97) The Commission has not previously considered a distinction between automated and conventional metros.

95 Commission Decision in Case M.2139 - *Bombardier/Adtranz* (2001), recital 7.

96 Commission Decision in Case M.2694 - *Metronet/Infraco* (2002), recitals 26 and 27.

97 Commission Decision in Case M.685 - *Siemens/Lagardère* (1996), recital 16; Commission Decision in Case M.2139 - *Bombardier/Adtranz* (2001), recital 15; Commission Decision in Case M.7871 - *Bombardier/CDPQ/Bombardier Transportation UK* (2016), recital 22.

98 Commission Decision in Case M.2139 - Bombardier/Adtranz (2001), recital 14.

(A.iii) Results of the market investigation and the Commission's assessment

(A.iii.a) Segmentation between metros and other trains

(98) The results of the market investigation confirmed that metros constitute a product market distinct from other rolling stock, in particular trams/LRVs and mainline trains.

(99) With respect to trams/LRVs, the vast majority of respondents to the market investigation (both customers and competitors) consider that metros and trams/LRVs constitute distinct product markets, due to different operating speed, passenger capacity and the fact that, unlike trams/LRVs, the metro infrastructure is usually segregated from overground traffic.[99]

(100) In addition, respondents indicated that, compared to trams/LRVs, metros carry a higher number of passengers, the stops between metro stations must be as short as possible, require larger doors entrances and higher performances for acceleration and braking.[100]

(101) With respect to mainline trains, the vast majority of respondents to the market investigation similarly indicated that metros and mainline trains constitute distinct product market.[101] Respondents (both customers and competitors) mostly mentioned differences in terms of speed (lower for metros), segregated tracks for metros and requirement of higher acceleration/deceleration rate for metros than for mainline trains. Moreover, mainline trains serve stations that are much further apart than metros, while also covering longer distances overall than metros.[102]

(102) In light of the results of the market investigation, the relevant product market for the purpose of this decision is the market for the manufacture and supply of metros, excluding other rolling stock such as trams/LRVs and mainline trains.

(A.iii.b) Segmentation between metros and automated people movers

(103) From both a demand and supply-side perspective, the large majority of respondents to the market investigation confirm that metros and automated people movers constitute distinct product markets.[103]

(104) Metros and automated people movers have different trainset infrastructures, capacity and speeds. People movers are smaller and have less passenger capacity than metros. Moreover, automated people movers have dedicated transport uses (e.g. airport terminal connections, theme park transport, etc.), while metros serve passenger transport covering large parts of major cities.[104]

---

99 Questionnaire 8 addressed to competitors in urban rolling stock ("Q8"), replies to question 3; Questionnaire 9 addressed to customers in urban rolling stock ("Q9"), replies to question 3.

100 Q9, replies to question 4.1.

101 Q8, replies to question 4; Q9, replies to question 4.

102 Q9, replies to question 4.1.

103 Q8, replies to question 5; Q9, replies to question 5.

104 Q8, replies to question 5.1.; Q9, replies to question 5.1.

(105) In addition, metros and automated people movers correspond to distinct tender specifications.[105] Specifically, if a supplier was to offer a metro platform in a tender that required an automated people mover, the majority of respondents to the market investigation explained that such offer would likely not be eligible and/or competitive.[106]

(106) During the investigation, a competitor held the view that, from the supply-side, automated people movers and automated rubber-tyre metros with low/medium capacity[107] are substitutable. According to this competitor, automated people movers and automated rubber tyre metros can compete in particular in greenfield projects, where the customer can make an infrastructure decision in order to fit either type of rolling stock.[108]

(107) However, this statement is not supported by evidence gathered in the course of the investigation. The Notifying Party explained that customers require different designs for automated people movers or automated rubber tyre metros (such as door size and seating capacity), so that suppliers develop different solutions.[109] Another supplier confirmed that automated people movers or automated rubber tyre metros are not substitutable, as they address different service needs, which require different technical characteristics. Automated people movers are simple vehicles that operate in very specific proprietary system with very short distances (i.e., in airports or in some specific city locations) while automated rubber tyre metros with low/medium capacity correspond to metro systems (same type of line lengths, distance between stations, headways) but with a lower passenger transport capacity.[110] In addition, the limited number of specific tenders for which certain metro suppliers would be able to adjust their metro platform to compete in automated people mover tenders is limited to exceptional cases. In the case of Alstom, [*Information on Alstom's bidding data*]. Therefore, this constituted the exception and not the common industry practice.[111]

(108) These explanations are consistent with the overall results of the market investigation, which indicated that automated people movers and automated rubber tyre metros belong to distinct relevant markets, both from a demand and a supply-side perspective.[112]

(109) It follows from the above that the relevant product market for the purpose of this decision is the market for the manufacture and supply of metros, excluding other rolling stock such as people movers.

---

105 Q8, replies to questions 6 and 7.

106 Q8, replies to questions 8.1. and 8.2.; Q9, replies to question 8.1.

107 Also called Low Capacity Driverless Metros ('LCDMs').

108 Reply to RFI 24. For instance, the competitor indicates one project in the EEA, the 2012 Lille tender, in which Alstom's modified RTMs platform competed against Bombardier's Innovia APM solution, concerning the replacement of the rolling stocks for a legacy VAL system provided by Siemens in 1983.

109 Reply to RFI 37.

110 CAF, submission on 8 July 2020.

111 In that regard, the Commission notes that Alstom's bid in the 2012 Lille tender was made with [*Information on Alstom's business strategy*].

112 Q8, replies to questions 8.1. and 8.2.; Q9, replies to question 8.1.

(A.iii.c) Segmentation between rubber tyre and steel wheel metros

(110) The market investigation provided mixed results as to a possible distinction between rubber tyre and steel wheel metros.

(111) From a demand-side perspective, half of the customers that responded to the market investigation consider that rubber tyre and steel wheel metros constitute separate markets, while the other half supports the opposite view. However, most customers also explained that they have limited knowledge in that regard, considering that they only operate steel wheel metros. It is worth nothing that RATP, a very important urban rolling stock operator of both rubber tyre and steel wheel metros, indicated that both types of metros should be distinguished due to significant technical differences. RATP further explained that rubber-tyre metros constitutes a niche market.[113] In addition, competitors tend to consider that there is a limited substitutability between rubber tyre and steel wheel metros from a customer's perspective, as most respondents indicate that a steel-wheel would not be eligible and competitive in a tender for rubber-wheel metros, and vice versa.[114]

(112) From a supply-side perspective, a large majority of competitors consider that rubber tyre and steel wheel metros belong to the same market.[115] In that regard, some respondents indicated that suppliers can easily switch between rubber tyre and steel wheel metros, as both types of metros share several components and a similar braking system. Some further explained that the main differences between both types of vehicles rests in the metro's bogie, which requires specific developments in the case of a rubber wheel metro.[116] Accordingly, some respondents indicated that an existing steel wheel metro could be easily adapted (i.e., in terms of time and cost) into a rubber wheel metro.[117]

(113) In any event, the exact delineation of the metro market can be left open as the Transaction will not give rise to competition concerns under any alternative market definition.

(A.iii.d) Segmentation between automated and conventional metros

(114) Metros can be operated according to different levels of automation. These are referred to as Grades of Automation ('GoAs'). As set out by the International Association of Public Transport ('UITP'), there are five degrees of GoA. Each degree is defined according to the exact allocation of responsibilities between the driver and the system.[118] In particular:

- GoA 0 corresponds on-sight operation, like a tram running in street traffic.

[113] Q9, replies to question 12.1.
[114] Q8, replies to questions 14.1. and 14.2.
[115] Q8, replies to question 13.
[116] Q8, replies to question 13.1.
[117] Q8, replies to question 14.3.
[118] See 'Press Kit – Metro Automation Facts, Figures and Trands' (https://www.uitp.org/sites/default/files/Metro%20automation%20-%20facts%20and%20figures.pdf)

- GoA 1 is manual train operation where a driver controls starting and stopping, operation of doors, and handling of emergencies or sudden diversions.

- GoA 2 is semi-automatic train operation where starting and stopping is automated, but the driver controls train operation, operates the doors, drives the train if needed and handles emergencies.

- GoA 3 is the first degree of driverless train operation where starting and stopping are automated but a train attendant operates the doors and drives the train in case of emergencies.

- GoA 4 refers to a system in which vehicles are run fully automatically without any operating staff on-board. It is fully unattended train operation where starting and stopping, operation of doors, and handling of emergencies are fully automated without any on-train staff.

(115) According to these definitions, the level GoA 3 already corresponds to driverless metros. However, the Commission notes that the UITP uses the term 'automated metro' for platforms operating at GoA4. For the purpose of this decision, the exact definition of automated metros can be left open, as the Transaction does not give rise to competitive concerns regardless of the definition of 'automated' and 'conventional' metros.

(116) The market investigation provided mixed results as to the substitutability between automated and conventional metros.[119] Overall, some respondents indicated that automated metros are becoming increasingly important and progressively replacing conventional ones.

(117) Respondents supporting a distinction between both types of metro indicated that automated metros require specific signalling equipment and that the amount of engineering expertise required to supply a platform and meet the customers' requirements is much higher for automated metros. In addition, competitors indicated that a conventional metro could not be eligible in a tender for automated metros (and vice versa).[120] Conversely, other respondents claim that an existing conventional metro platform can easily be adapted into an automated platform, especially if it is in its pre-design, and that the different levels of automation applicable to the metro platform make the distinction between both types of vehicles blurry.[121]

(118) In any event, for the purpose of the present decision, the exact product market definition can be left open. The Transaction will be analysed on the possible relevant product markets of (i) conventional metros, (ii) automated metros (operated at GoA4 or GoA3 and 4) and (iii) metros overall, including both conventional and automated metros.

[119] Q8, replies to question 11; Q9, replies to question 10.
[120] Q8, questions 12.1 and 12.2.
[121] Q8, question 12.3.

(B) Trams/LRVs

(B.i) The Notifying Party's views

(119) The Notifying Party submits that there is a single market for trams/LRVs with no further sub-segmentation on the basis of floors (low- or high-floor) or tyre (steel wheel or rubber tyre).

(B.i.a) Segmentation on the basis of floors (low- or high-floor)

(120) The Notifying Party states that the demand for high-floor trams/LRVs in the EEA is limited compared to low-floor trams and has been steadily decreasing in the past few years. The demand for high-floor trams/LRVs mainly originates from legacy infrastructures that require high-floor rolling stock (e.g., due to high-platform tram stops in existing rail systems). Customers also prefer low-floor trams as these are more easily accessible for passengers. Customers increasingly change their infrastructure and replace their high-floor with low-floor trams.[122]

(121) As a result, the demand for high-floor trams/LRVs essentially consists of repeat orders. Indeed, in 2010-2019 in the EEA, high-floor trams demand accounted for only [10-20]% of total orders, and only [5-10]% of contestable tenders for trams/LRVs.[123]

(122) Therefore the Notifying Party states that, even if there was a historic distinction between low-floor and high-floor tram/LRVs, this is no longer commercially relevant as high-floor trams/LRVs are increasingly becoming a niche product.

(123) The Notifying Party further states that low-floor and high-floor trams/LRVs are highly substitutable from a supply-side perspective. Many suppliers, including Bombardier and Stadler, offer both low-floor and high-floor solutions. In addition, suppliers that used to offer high-floor trams/LRVs can easily develop low-floor solutions in view of the decreased demand for high-floor trams/LRVs.[124]

(124) Therefore, the Notifying Party considers that a distinction between low-floor trams/LRVs and high-floor trams/LRVs is not warrantied.

(B.i.b) Segmentation between rubber tyre and steel wheel trams/LRVs

(125) The Notifying Party submits that no segmentation between rubber tyre and steel wheel trams/LRVs is warrantied since rubber tyre trams/LRVs are a niche product. The demand for rubber tyre trams/LRVs is *de minimis* and exclusively for legacy infrastructure.[125]

122 Form CO, Chapter B.3, paragraph 121.

123 Form CO, Chapter B.3, paragraph 121.

124 Form CO, Chapter B.3, paragraph 121.

125 Form CO, Chapter B.3, paragraph 123. The Notifying Party indicates that there are only six rubber tyre trams/LRVs that are currently in operation in the EEA. To the Parties' knowledge, there have been no rubber tyre tram/LRV projects for new lines in the EEA since at least 2010.

(126) In any event, the Notifying Party states that the exact market definition can be left open because the Parties' activities do not overlap in a potential market segment for rubber tyre trams.[126]

(B.ii) The Commission's decisional practice

(127) In previous cases, the Commission identified a relevant product market for trams/LRVs, distinct from other rolling stock and encompassing both trams and LRVs.[127]

(128) The Commission also considered high-floor and low-floor trams to belong to the same relevant market.[128] In its decision in case M.2139 - *Bombardier/ADtranz*, the Commission noted the increasing demand for low-floor trams and the progressive replacement of high-floor trams by low-floor trams. From a demand-side perspective, operators have been found hesitant to switch to high-floor trams once they had introduced a low-floor system, because their investments in a low-floor infrastructure would be frustrated and because low-floor trams are better designed to grant disabled people better access to public transport. From a supply-side perspective, the Commission's market investigation pointed towards substitutability between high-floor and low-floor trams. The Commission concluded that low-floor and high-floor trams/LRVs belong to the same product market.

(129) Finally, the Commission also considered steel wheel and rubber tyre trams/LRVs cannot be considered as distinct product markets but ultimately left the exact definition open.[129]

(B.iii) Results of the market investigation and the Commission's assessment

(B.iii.a) Segmentation between trams and LRVs

(130) A large majority of respondents consider that trams and LRVs belong to the same market.[130]

(131) From the demand-side, customers indicated that trams and LRVs share many technical requirements concerning vehicle design, speed, passenger flow, standing capacity, braking capacity, infrastructure size of doors, driveable curve radius. Some customers further indicate that the infrastructure of trams and LRVs are usually quite similar and can allow LRVs to be operated in tram systems. In addition, some customers state that trams and LRVs do not share a commonly understood definition

---

126 Bombardier last produced rubber tire trams in 2002 and has removed these products from its commercial offer since 2006. Alstom last delivered rubber tyre trams in 2015, when it supplied vehicles to existing lines for a repeat order. Alstom has since decided to stop the commercialization of its rubber tyre tram solution.

127 Commission decision in case IV/M.1064 – *Bombardier / Deutsche Waggonbau* (1998), recital 7; Commission decision in case COMP/M.2139 – *Bombardier / ADtranz* (2001), recital 7; Commission decision in case COMP/M.3653 – *Siemens / VA Tech* (2005), recital 113.

128 Commission decision in case COMP/M.2139 – *Bombardier / ADtranz* (2001), recital 13.

129 Commission decision in case COMP/M.6646 – *Alstom Transport SA / FSI / Translohr* (2012), recitals 10-22.

130 Q8, question 15 ; Q9, question 14.

in the industry. Finally, some customers indicate that suppliers generally offer both trams and LRVs.[131]

(132) The view expressed by customers is shared by competitors, which confirm that trams and LRVs are mostly similar in characteristics and that there is no clear distinction between both equipment within the industry. They also confirm that the delineation between the two types of vehicle is fluid, since they often operate as both trams and LRVs on a defined closed network within cities or between neighbouring cities, and sometimes sharing the wayside with road and pedestrian traffic.[132]

(133) As a consequence, the Commission considers that, for the purpose of this decision, trams and LRVs belong to the same market.

(B.iii.b) Segmentation between low floor and high floor trams / LRVs

(134) Most respondents consider that low-floor and high-floor trams/LRVs do not belong to the same market.[133] In that regard, respondents indicated that low-floor and high-floor do not share the same technicalities in terms of brake system, bogie, carbody, position of the components. Some further indicated that the vehicle design and the infrastructure of trams/LRVs are significantly different. In addition, some respondents indicated that low-floor and high-floor trams/LRVs do not exactly allow the same use, as for instance high-floor trams/LRVs have usually the advantage of being able to run on narrower tracks (curves) given that they usually have swivel bogies. A customer further stated that street levels may determine the possible use of low-floor or high-floor trams/LRVs.[134]

(135) Accordingly, most customers indicated that they distinguish between low-floor and high-floor trams/LRVs in tender specifications.[135] Likewise, all competitors indicated that low-floor tram/LRVs would not be eligible in high-floor tram/LRV tenders and vice versa.[136] In addition, all competitors indicated that an existing low-floor tram/LRV platform cannot be easily adapted into a high-floor tram/LRV.[137]

(136) Finally, the Commission notes that the demand in trams/LRVs is indeed evolving to the benefit of low-floor vehicles. For instance, both the customer De Lijn (Belgium) and the supplier Siemens (Germany) consider the demand for high-floor trams/LRV is at least limited if not gradually disappearing from the market. In that regard, Siemens explained that the demand for high-floor trams/LRVs is mainly due to legacy infrastructure.[138]

(137) In any event, the exact delineation of the trams/LRVs market with respect to a possible segmentation between low-floor and high-floor can be left open as the Transaction will not give rise to competition concerns under any alternative market definition.

---

131 Q9, replies to question 14.1.
132 Q8, replies to question 15.1.
133 Q8, question 19 ; Q9, question 18.
134 Q8, replies to question 19.1.; Q9, replies to question 18.1.
135 Q9, question 19.
136 Q8, questions 20.1 and 20.2.
137 Q8, question 20.3.
138 Q8, reply from Siemens to question 19.1.; Q9, reply from De Lijn to question 18.1.

(B.iii.c) Segmentation between rubber tyre and steel wheel trams/LRVs

(138) A majority of respondents consider that steel-wheel and rubber-tire trams/LRVs do not belong to the same market.

(139) In that regard, some respondents explain that rubber tyre and steel wheel trams/LRVs are not interchangeable due to infrastructure constraints.[139] A customer (STIB) further indicated that rubber tyre and steel wheel trams/LRVs are not comparable in terms of lifetime and system cost, as rubber tyre trams/LRVs entail lower infrastructure costs but higher complexity of maintenance.[140] In addition, a competitor (Knorr Bremse) indicated that the brake system for a rubber tyre trams/LRVs differs completely from steel wheel trams/LRVs as the former uses trucks and buses brake systems.[141]

(140) Accordingly, most customers indicated that they distinguish between rubber wheel and rubber tire trams/LRVs in their tenders.[142] Likewise, most competitors indicated that a steel wheel tram/LRV would not be eligible in the rubber wheel tram/LRV tender and vice versa.[143] Some competitors further indicated that an existing steel wheel tram/LRV platform cannot be easily adapted into a rubber wheel one.[144]

(141) Finally, the Commission notes that some competitors (Stadler, Siemens) consider that the demand for rubber wheel trams/LRVs is very limited and that steel wheel trams/LRVs are prevailing in the EEA.[145]

(142) The Parties' activities do not overlap in the potential market for rubber tyre trams/LRVs. As a consequence, for the purpose of the present decision, the possible relevant markets are (i) the overall market for trams/LRVs (including steel wheel and rubber-tyre) and (ii) the steel wheel trams/LRVs market. In any event, the exact delineation of the trams/LRVs market can be left open as the Transaction will not give rise to competition concerns under any alternative market definition.

5.2.1.4. Locomotives

(143) Locomotives are self-propelled vehicles designed to haul and/or push passenger coaches and freight wagons. Solely designed for traction, locomotives cannot carry passengers or have loading capacity.

(144) Mainline locomotives are high power locomotives used in the mainline traffic for hauling and/or pushing passenger coaches and (heavy) freight wagons. Shunting locomotives are low power locomotives that are used for organising train cars into complete train sets, or for parking trains and/or track works. They operate at lower speed than mainline locomotives. Certain shunting locomotives can be also used to haul light freight cargo over shorter distances on mainline networks.

139 Q8, replies to question 17.1. ; Q9, replies to question 16.1.1.
140 Q9, reply to question 16.1.1.
141 Q8, reply to question 17.1.1.
142 Q9, replies to question 17.
143 Q8, replies to questions 18.1 and 18.2.
144 Q8, replies to question 18.3.
145 Q8, replies to question 17.1.1.

(A) The Notifying Party's views

(145) The Notifying Party considers that mainline and shunting locomotives constitute separate product markets because they are used for different purposes and exhibit significant technical differences. From the demand-side perspective, mainline locomotives are used to haul and/push passenger coaches and freight wagons over long distances and thus require significant power. Shunting locomotive have a lower power output and are designed to manoeuvre train cars and train sets in marshalling yard and/or haul ballast for track works. From the supply-side perspective, there are significant technical differences between the mainline and shunting locomotives (e.g., in terms of speed or track and security devices).[146]

(146) The Notifying Party considers that mainline locomotives should not be further segmented between electric and diesel locomotives, irrespective of technical differences in terms of traction. The Notifying Party submits that such a segmentation is not necessary for shunting locomotives as electric shunting locomotives are a niche product. Shunting operations are mainly performed by diesel locomotives as ports, industrial railways and works are not electrified.[147]

(B) The Commission's decisional practice

(147) In past decisions, the Commission found that locomotives constitute a separate product market. In case *Knorr Bremse/Vossloh*, the Commission noted that there are '*significant technical differences*' between mainline and shunting locomotives and suppliers tend to specialise in either of two. The Commission therefore considered that mainline locomotives and shunting locomotives belong to separate markets.[148]

(148) In previous decisions, the Commission found a distinction between electric and diesel locomotives.[149] In a more recent decision, in case *Siemens/VA Tech*, the Commission left the distinction between electric and diesel locomotives open.[150]

(C) Results of the market investigation and the Commission's assessment

(149) The majority of respondents to the market investigation indicated that mainline locomotives and shunting locomotives constitute separate product markets.[151] Respondents indicated that mainline locomotives and shunting locomotives serve different purposes and are subject to different technical specifications, including in terms of speed, power, energy supply, capacity to manoeuvre, homologation, infrastructure requirements.[152] The results of the market investigation confirmed that mainline locomotives could be also sub-segmented on the basis of the type of traction.[153]

(150) Therefore, for the purpose of this decision, the Commission considers that mainline and shunting locomotives constitute separate markets. The Commission considers

146 Form CO, Chapter D, paragraph 19.
147 Form CO, Chapter D, paragraphs 21-22.
148 Commission Decision in case M.7538 – *Knorr Bremse/Vossloh* of 14 September 2015, recital 62.
149 Commission Decision in case IV/M.580 - *ABB/Daimler Benz* of 18 October 1995, recital 9.
150 Commission Decision in case M.3653 – *Siemens/Va Tech* (2005), recital 113.
151 Q3, replies to question 15.2; Q4, replies to question 12.2
152 Q4, replies to question 12.2.1.
153 Q3, replies to questions 15.1 and 15.1.1; Q4, replies to questions 12.1 and 12.1.1.

that the question whether mainline locomotives should be further segmented based on the type of traction between electric and diesel locomotives can be left open as the Transaction will not give rise to competition concerns under any plausible product market definition.

5.2.1.5. Components and spare parts

(151) Components are pieces of equipment, which are used as inputs for the manufacture of rolling stock. The Notifying Party explains that rolling stock components are rolling stock inputs that are less than a complete trainset (or coach or locomotive). A defining feature of components is that they are not independently performing products, i.e., they need to be integrated into a trainset, locomotive or coach in order to deliver functional performance. Examples include bogies, dampers, and switchgears.[154]

(152) Rolling-stock subsystems typically include a combination of hardware (i.e., rolling stock components) and control mechanisms which deliver a particular functional performance. Similar to components, sub-systems cannot independently deliver the full performance and functionality associated with an 'integrated solution' (in this case a rolling stock vehicle).[155] The Notifying Party explains that components could be seen as passive devices (i.e., hardware but no control mechanisms) while sub-systems are active devices (a combination of hardware and control mechanisms).[156]

(153) Spare parts refer to pieces of equipment used to replace worn, damaged, or fully consumed parts which are already installed on existing rolling stock. Examples of spare parts are brakes and wheels.

(A) The Notifying Party's views

(154) The Notifying Party submits that components constitute a separate product market from other rail-related products such as rolling stock, maintenance, repair, and refurbishment services. The Notifying Party considers that components may not be substitutable with each other (e.g., electrical components cannot replace mechanical components). The Notifying Party considers spare parts to be part of a larger market for rolling stock aftermarket solutions.[157]

(155) However, the Notifying Party submits that the precise product market definition can be left open because the Parties' activities do not overlap in the EEA and the Transaction will not give rise to competition concerns under any product market definition.[158]

---

154 Response to RFI 35 of 6 July 2020, paragraph 2.2.

155 The Notifying Party provides the following examples: the propulsion system (also called the Propulsion & Power Control or PPC) is a rolling stock sub-system which allows electrical energy to be converter to mechanical energy and propel a vehicle. It integrates components such as induction machines and transformers, as well as insulated-gate bipolar transistors. Another example of a sub-system is the Train Control and Management System or TCMS, i.e., the standard control, communication, and train management system for rolling stock platforms, and which is made up a mixture of hardware and software. See Response to RFI 35 of 6 July 2020, paragraph 2.4.

156 Response to RFI 35 of 6 July 2020, paragraph 2.5.

157 Form CO, Chapter D, paragraph 63.

158 Form CO, Chapter D, paragraph 63.

(B) Commission's decisional practice

(156) In case *Alstom/Fiat Ferroviaria*, the Commission included spare parts in its 'miscellaneous' category. The Commission did not clearly identify separate segments for components and spare parts.[159] In case *Cardo/Thyssen*, the Commission identified a separate product market for spare parts and distinguished spare parts from sales of 'original equipment.' The Commission included spare parts in a broader aftermarket category. The Commission found that contracts for spare parts are usually entered into with the end user (generally an operator), whereas contracts for original equipment are usually concluded with other rolling stock suppliers (assemblers).[160] The Commission considered separate segments based on the type of spare part, but left the exact definition open.

(157) In more recent decisions, the Commission found that certain components for rolling stock, each constituted separate product market. In case *Knorr Bremse/Vossloh*, the Commission found that HVAC (heating, ventilation and air conditioning) systems, friction/service brake systems and door systems were separate product markets.[161] The Commission considered whether HVAC systems and door systems could be further segmented by type of rolling stock vehicles.[162] The Commission also considered whether friction/service brake systems could be segmented between pneumatic and hydraulic brake systems, but left the exact product market definition open.

(158) In case *Wabtec/Faiveley*, the Commission found that energy meters, event recorders, doors, pneumatic friction brake systems and sub-systems, friction materials in disc brakes, brake discs and pantographs each constituted separate product markets.[163] The Commission considered whether components should be sub-segmented by types of rolling stock or components, but left open the precise product market definition.[164]

(159) In case *Knorr-Bremse*, the Commission found the supply of components and spare parts take place in the the original equipment manufacturers ('OEM') and the independent after-market ('IAM') respectively. In the OEM market, components are sold to rolling stock suppliers by component suppliers while in the IAM market, spare parts are sold by the same components suppliers but to rail operators directly. The Commission found that rolling stock suppliers also supply spare parts. The Commission found nonetheless that the IAM market largely mirrors the OEM market, and assessed the OEM market only.[165] In the most recent *Wabtec/Faiveley* case, the Commission endorsed the Commission's finding in *Knorr/Bremse*, but added that the latter case concerned components that do not require regular replacement. The Commission further explained that the situation may be different for components that need regular replacement. The Commission accordingly

159 Commission Decision in Case M.2069 – *Alstom/Fiat Ferroviaria* (2000), paragraph 8.
160 Commission Decision in Case M.818 – *Cardo/Thyssen* (1996), paragraph 19.
161 Commission Decision in case M.7538 – *Knorr Bremse/Vossloh* (2015), paragraphs 40, 48 and 55.
162 Commission Decision in case M.7538 – *Knorr Bremse/Vossloh* (2015), paragraphs 40, 48 and 55.
163 Commission Decision in Case M.7801 – *Wabtec/Faiveley* (2016), recitals 35, 54, 75, 100-101, 237, 415-417.
164 Commission Decision in Case M.7538 – *Knorr Bremse/Vossloh* (2015), paragraph 40.
165 Commission Decision in Case M.7538 – *Knorr Bremse/Vossloh* (2015), paragraphs 28-36.

conducted the effects of the Transaction for friction materials and brake discs separately in the IAM markets.[166]

(C) Result of the market investigation and the Commission's assessment

(160) The market investigation did not provide indications to depart from the Notifying Party's views and the Commission's most recent decisional practice according to which each type of component constitutes a separate product market from rolling stock and that there may be a separate market for spare parts.[167]

(161) The results of the market investigation confirmed the Commission's decisional practice that each type of rolling stock component (e.g., bogies, electrical equipment, wheels axes, propulsion, converters etc.) constitutes a separate market.[168] Respondents indicated that each component has specific technical requirements (also in terms of R&D), serve a different function and are subject to separate procurement. Wabtec explained that *'[c]ar builders' procurement operations are broken down by railway components, because of the very specific technical content of each system. The specs of each component vary upon various factors: rolling stock mission profile, operators specifics expectations and existing installed base, local norms and regulations, system interfaces'*.[169]

(162) With regard to spare parts, a majority of respondents considered that spare parts constitute a separate market distinct from other rail-related products such as rolling stock, maintenance and components.[170] There are mixed results as to whether customers procure spare parts at the same time and in the same tender as the rolling stock. Customer tend to procure spare parts from the rolling stock supplier for the duration of the warranty period. This is also true for customers that do not outsource their maintenance services but carry them out in-house. After the warranty period, some customers appear to continue to procure spare parts from the rolling stock OEMs while others procure directly from component suppliers. Several customers expressed the view that the aftermarket for the supply of spare part is more robust.[171]

(163) For the purpose of this decision, the Commission considers that there is a separate market for each type of component and a separate market for spare parts. The Commission will carry out the competitive assessment on that basis.

5.2.1.6. Maintenance and refurbishment

(164) Maintenance services are operations which are essentially conducted to keep rolling stock vehicles in good order to operate. Examples of services are repair and components exchanges. Refurbishment services consist in operations which essentially aim at modernising rolling stock vehicle and extending their commercial life and/or improving their reliability, functionality and comfort.

166 Commission Decision in Case M.7801 – *Wabtec/Faiveley* (2016), paragraphs 237 and 393.

167 Q3, replies to questions 17; Q4, replies to question 14; Q10 – Questionnaire to suppliers of components ('Q10'), replies to questions 6, 6.1, 6.2, 7.

168 Q10, replies to question 6.

169 Q10, replies to question 6.1.

170 Q1, replies to question 8 ; Q2, replies to question 8; Q8, replies to question 23 ; Q9, replies to question 21

171 Q4, replies to question 58.1.

(A) The Notifying Party's views

(A.i) Segmentation between maintenance and refurbishment services vs rolling stock

(165) The Notifying Party explains that customers (rail operators) mainly provide rolling stock maintenance services in-house. When customers opt to outsource the provision of maintenance services to third parties, they typically rely on the OEM of the rolling stock. In the Notifying Party's view, the extent to which customers outsource maintenance or refurbishment services depends on factors such as size of services and maintenance workforce, and its engineering capabilities.[172]

(166) According to the Notifying Party, when customers decide to rely on third parties for maintenance services, they often tender the maintenance services contract together with the tender for the rolling stock, such that the supplier of the rolling stock will also provide the maintenance services, typically for a specified period. The Notifying Party estimates that up to [30-40]% of the total yearly outsourced rolling stock maintenance services in the EEA are tendered simultaneously with the new rolling stock vehicles.[173] Furthermore, the Notifying Party submits that when the tender concerns a standalone maintenance contract (e.g., when the initial contract expires), the incumbent supplier has an advantage over other bidders and is best placed to win the new contract (due to existing knowledge of the technical details of the rolling stock and required maintenance procedures).[174]

(167) The Notifying Party considers that, similar to maintenance services, refurbishment works may be carried out either in-house or outsourced to the incumbent OEM supplier, and in some cases by specialist engineering companies with railway-related expertise.[175]

(168) Therefore, the Notifying Party submits the relevant market for maintenance and refurbishment services includes all maintenance and refurbishment services, whether carried out by operators in-house, by OEMs or by third party maintenance suppliers.[176]

(A.ii) Segmentations within rolling stock maintenance

(169) First, the Notifying Party submits that light maintenance can be distinguished from heavy maintenance. Light maintenance includes day-to-day repairs, component exchanges and safety checks carried out on a regular basis, while heavy maintenance covers more substantial interventions and major overhaul of railway vehicles. From the supply side, suppliers typically offer both light and heavy maintenance services. The Notifying Party submits that further segmentation of maintenance services is not necessary.[177]

---

172 Form CO, Chapter D, paragraph 104. The Notifying Party refers to UNIFE (the European rail supply industry association) and SCI Verkehr data, according to which around 60% of rolling stock maintenance and refurbishment work in the EEA by value is carried out by customers in-house.

173 Form CO, Chapter D, paragraph 106.

174 Form CO, Chapter D, paragraph 108.

175 Form CO, Chapter D, paragraph 110.

176 Form CO, Chapter D, paragraph 111.

177 Form CO, Chapter D, paragraph 112.

(170) Second, the Notifying Party explains that a further segmentation by train type is not warranted as the scope maintenance services is comparable across different type of trains and the suppliers of maintenance services typically supply maintenance services for all types of trains. Similarly, maintenance techniques are very similar for all types of trains.[178]

(171) Third, the Notifying Party considers that no distinction between (light and heavy) maintenance and refurbishment services is warranted. Refurbishment services involve the modernisation and adaptation of rolling stock vehicles and their components. In the Notifying Party's view, all major suppliers can and do typically provide both maintenance and refurbishment services. From a demand-side perspective, customers that require refurbishment services sometimes also contract the refurbishment provider to carry out maintenance services on the refurbished rolling stock.[179] Furthermore, contracts that provide for full maintenance over 30 years typically also provide for refurbishment and overhaul services. In any event, the Notifying Party submits that the exact market definition can be left open since refurbishment makes up a very small portion (c. 11%) of the overall maintenance and refurbishment market and the Transaction does not raise concerns under any possible segmentation.[180]

(B) The Commission's decisional practice

(172) In case *Bombardier/ADtranz*, the Commission found that light maintenance, heavy maintenance and refurbishment require different equipment, skills and technology and therefore constitute separate product markets.[181]

(173) In case *Metronet/Infraco*, the Commission considered whether the supply of new rolling stock could be analysed together with the maintenance of that rolling stock. However, the Commission ultimately left open whether the supply of maintenance services should be considered as complementary services within one single market with rolling stock supply.[182]

(174) In the more recent case *Bombardier/CDPQ/Bombardier Transportation UK* case, the Commission noted its previous findings in *Bombardier/ADtranz* and *Metronet/Infraco*, but left the exact product market definition open.[183]

(C) Results of the market investigation and the Commission's assessment

(175) The results of the market investigation did not depart from the Notifying Party's views and the Commission's decisional practice according to which maintenance services constitute a separate product market. Similarly, the market investigation did not provide indications to depart from the Commission's decisional practice

178 Form CO, Chapter D, paragraph 113.

179 Form CO, Chapter D, paragraph 114. The Notifying Party provides the example of Bombardier that has undertaken to provide both maintenance and refurbishment services on 59 Regina EMUs for AB Transitio in Sweden, and a Stadler/OBB joint venture that is providing both maintenance and refurbishment services on 17 KISS EMUs in Austria for DB.

180 Form CO, Chapter D, paragraph 114. The Notifying Party refers to data from SCI Verkehr from 2017.

181 Commission Decision in Case M.2139 – *Bombardier/Adtranz* (2001), recital 16.

182 Commission Decision in Case M.2694 – *Metronet/Infraco* (2002), recital 30.

183 Commission Decision in Case M.7871 – *Bombardier/CDPQ/Bombardier Transportation UK* (2016), recitals 18-21.

regarding the distinction between light maintenance, heavy maintenance and refurbishment due to different equipment, skills and technology.[184]

(176) The results of the market investigation were mixed as regards the precise scope of the market. Respondents confirmed that depending on the customers' requirements, competencies and existing infrastructure, there can be different procurement patterns for maintenance services. Maintenance services can indeed be provided in-house, and the market for maintenance services is therefore partly captive. Some respondents indicated that national railway operators tend to carry out maintenance in-house, while private operators would typically outsource the provision of maintenance.[185] Several customers that participated to the market investigation indicated that when maintenance services are procured from third parties, they are typically procured at the same time and from the same supplier as the rolling stock.[186] This seems to vary depending on the type of rolling stock. With regard to very-high speed trains, customers tender to procure maintenance services separately from their procurement of rolling stock.

(177) A majority of customers that responded to the market investigation indicates that if maintenance services are supplied together with mainline trains it is generally for a fixed period of time (that varies between 10 and 25 years, depending on the customer). Some private operators indicate that the duration of the maintenance contract coincides with the duration of the lease or franchise agreement.[187]

(178) The Commission considers, for the purpose of this decision, that the market for the provision of maintenance services is separate from the supply of other rail-related products such as rolling stock, spare parts and components. The Commission considers that the exact product market definition for maintenance services (i.e., whether an overall market or further segmented by light, heavy maintenance and refurbishment or segmented by type of rolling stock) can be left open as the Transaction will not give rise to competition concerns under any alternative product market definition.

5.2.2. Geographic market definition

5.2.2.1. Introduction and framework for reference

(179) The Commission Notice on the definition of the relevant market[188] highlights that the Commission '*will take a preliminary view of the scope of the geographic market on the basis of broad indications as to the distribution of market shares between the parties and their competitors, as well as a preliminary analysis of pricing and price differences at national and Community or EEA level*'.[189] The Commission will also need to explore '*the reasons behind any particular configuration of prices and*

[184] Q1, question 8 ; Q2, question 8; Q3, replies to question 16.1; Q4, replies to question 13.1; Q8, question 21.2 ; Q9, question 20.2.

[185] Q3, replies to questions 73.1 and 73.2.

[186] Q2, replies to question 64; Q3, replies to questions 73 and 73.1; Q4, replies to question 58; Q8, replies to question 68; Q9, replies to question 66.

[187] Q2, replies to question 64 ; Q4, replies to questions 16, 16.1, 16.2; Q9, replies to question 66.

[188] Commission Notice on the definition of relevant market for the purposes of Community competition law (OJ C 372, 9.12.1997, p. 5–13).

[189] Commission Notice on the definition of the relevant market, paragraph 28.

market shares […]'.[190] For example, '*companies might enjoy high market shares in their domestic markets just because of the weight of the past, and conversely, a homogeneous presence of companies throughout the EEA might be consistent with national or regional geographic markets*'.[191]

(180) The Notice goes on to identify a number of factors such as the '*importance of national or local preferences, current patterns of purchases of customers, product differentiation/brands, other) in order to establish whether companies in different areas do indeed constitute a real alternative source of supply for consumers*' and '*the question to answer is again whether the customers of the parties would switch their orders to companies located elsewhere in the short term and at a negligible cost*'.[192] The Notice also states that '*the Commission will identify possible obstacles and barriers isolating companies located in a given area from the competitive pressure of companies located outside the area, so as to determine the precise degree of market interpenetration at national, European or global level*'.[193]

5.2.2.2. Very high-speed rolling stock

(A) The Notifying Party's views

(181) The Notifying Party considers that the relevant geographic market(s) for (very) high-speed trains is worldwide and likely excluding China, Japan and South Korea.

(182) First, the Notifying Party explains that high-speed rolling stock suppliers compete globally for a few and prestigious large tenders. The market for high and very high-speed trains is characterised by infrequent, but large, orders. In the past 10 years, only 14 contestable projects were awarded worldwide (excluding China, Japan and South Korea) including nine in the EEA and Switzerland. According to the Notifying Party, the low number of contestable tenders and their commercial significance incentivises high-speed suppliers to participate more frequently and actively in tenders, irrespective of the country in which the tender takes place.[194]

(183) Second, the Notifying Party considers that EEA-specific technical requirements do not constitute a barrier to entry in the EEA for non-European high-speed suppliers. High-speed suppliers compete globally regardless of authorisation requirements. Competition at the global level is made easier by the fact that all suppliers already comply with similar standards and that high-speed trains are typically tailored to a specific customer's specifications and needs. Differences between national, EEA and other technical requirements are thus tackled in the context of customization for each customer. According to the Notifying Party, this also applies to non-European suppliers as they already comply with high standards in their home countries. Indeed, technical requirements in and outside the EEA are increasingly similar. European standards have in fact often been the basis for other standards.[195]

190 Commission Notice on the definition of the relevant market, paragraph 29.
191 Idem.
192 Idem.
193 Commission Notice on the definition of the relevant market, paragraph 30.
194 Form CO, paragraph 43.
195 Form CO, Chapter B.1, paragraphs 48 to 50.

(184) Third, the Notifying Party considers that there are no significant differences in prices between EEA and the rest of the world. In that regard, the Notifying Party submits that EEA standards are not necessarily more costly to comply with than standards applicable in non-EEA jurisdictions, such as the US. Moreover, even if prices differ across regions, that alone is not indicative of different geographic markets, because prices are typically not comparable across projects due to customization requirements.[196]

(185) In any event, the Notifying Party considers that the geographic market definition for very high-speed rolling stock can be left open, since the Transaction does give rise to competitive concern regardless of the market definition (EEA (including Switzerland) or worldwide (excluding China, Japan, and South Korea) level).

(B) The Commission's decisional practice

(186) In its decision *Siemens/Alstom*, the Commission considered that the geographic scope of the market(s) for both high and very high-speed trains include at least the EEA and Switzerland. The Commission also considered that the market could be worldwide, excluding China, South Korea and Japan, in scope, but ultimately left the question open.[197]

(187) With respect to the EEA-wide delimitation of the market, the Commission noted that high-speed and very high-speed platforms are under specific technical requirements in the EEA. It further considered that TSIs have contributed to harmonising the authorisation requirements within the whole EEA. In addition, the Commission noticed that the set of competitors bidding for high and very high-speed contracts within the EEA differs from the ones in the rest of the world, and that prices for the same type of high-speed rolling stock differ significantly between customers located in the EEA and those located in the rest of the world, due to additional costs associated with EEA-specific standards.[198] The Commission also considered that Switzerland should be included in the relevant geographic market, due to its adoption of equivalent rules and participation in the EU railway regulatory framework and the absence of barriers to entry for EEA-based suppliers.[199]

(188) With respect to the global geographic market, the Commission noted that demand outside of the EEA is expected to grow and that, as other regions develop their high-speed rail infrastructures, certain non-EEA countries appear to adopt EU regulatory standards in their own calls for tenders, demanding TSI-compliant rolling stock.[200] Furthermore, the Commission considered that China, Japan and South Korea should

---

196 Form CO, Chapter B.1, paragraphs 56-57. For instance, the Parties understand that Talgo supplied high-speed trains capable of speeds of up to 300 km/h to Saudi Railways Organization ('SRO') for €34 million per trainset (following the 2011 tender) and will supply trains capable of (2) speeds of up to 350 km/h to Renfe for €20 million per trainset (following the 2016 tender). While it is difficult to make a like-for-like comparison of selling prices, including due to different customer requirements (e.g., as regards train size and passenger capacity), this example nonetheless illustrates that the customer's geographic location or applicable regulatory standards cannot, of themselves, explain differences in price.

197 Commission decision of 8 February 2018 in Case M.8677 – *Siemens/Alstom*, recital 133.

198 Commission decision of 8 February 2018 in Case M.8677 – *Siemens/Alstom*, recitals 113 to 118.

199 Commission decision of 8 February 2018 in Case M.8677 – *Siemens/Alstom*, recital 126.

200 Commission decision of 8 February 2018 in Case M.8677 – *Siemens/Alstom*, recital 128.

be excluded from the global geographic market due to insurmountable barriers to enter these national markets.[201]

(C) Results of the market investigation and the Commission's assessment

(189) The results of the market investigation fully confirmed the Commission's findings in *Siemens/Alstom*.

(190) A large majority of respondents consider that the relevant markets for both high and very high-speed trains are at least EEA-wide and include Switzerland, due in particular to the applicable EU regulatory and technical requirements and homologation standards.[202] In that regard, the majority of respondents indicated that the authorisation requirements across the EEA for high-speed and very high-speed rolling stock have become similar as a result of EEA-wide Technical Specifications for Interoperability (TSIs).[203] For instance, a customer stated that, in order to bid for a European tender, non-European manufacturers '*have to adapt their products to European TSI, which implies very high costs. Therefore, their offers are not enough competitive compared to those of Europe-based bidders. As a consequence, in our past experience, only Europe-based manufacturers has participated to tenders.*'[204]

(191) In addition, a majority of competitors consider that it cannot be excluded that the geographic market for very high-speed is also global market excluding China, South Korea and Japan.[205] However, the explanation provided from respondents in that regard show that European technical and regulatory standards remain a significant barrier to enter for non-European suppliers. In particular, CRRC considers that the geographic market for very high-speed trains should be defined as EEA-wide including Switzerland in scope.[206] The results are rather mixed from a customers' perspective. Some respondents indicated that Asian competitors (Hyundai Rotem, CRRC) were willing to enter the European market. However, a majority of customers consider that CRRC, Hyundai Rotem and Kawasaki do not constitute credible bidders for the procurement of VHS trains.[207]

(192) In light of the results of the market investigation, and in accordance with the Siemens/Alstom decision, the Commission considers that, for the purpose of the

---

201 Commission decision of 8 February 2018 in Case M.8677 – *Siemens/Alstom*, recital 129. More specifically, the Commission noted that in China, barriers to entry include (i) rules under which only Chinese majority-owned companies are allowed to bid for rolling stock contracts; (ii) the direct award of contracts to domestic suppliers; (iii) the requirement that companies be licensed to bid for contracts, under no pre-defined criteria, effectively resulting in licenses only granted to Chinese-controlled company; (iv) public procurement rules requiring local production. In Japan, barriers to entry include (i) a clause allowing Japan to circumvent the WTO's Agreement on Government Procurement in the rail sector for reasons of 'operational safety', which has been used to prevent foreign firms from bidding in procurement contracts and avoid the publication of open tenders; (ii) limited open procurement; (iii) discriminatory and complex procurement rules de facto benefiting local companies. In South Korea, barriers to entry include (i) tendering procedures tailor-made for the domestic industry and lacking transparency for foreign suppliers; (ii) government backing of Hyundai-Rotem; (iii) requirements in relation to licensing and technology transfers; (iv) the express exclusion of EU suppliers from tenders until 2015.

202 Q1, replies to questions 12.2 and 12.2.1; Q2, replies to questions 11.2 and 11.2.1.

203 Q1, question 14.

204 Q2, reply to question 11.1.1.

205 Q1, replies to question 13.2.

206 Q1, reply from CRRC to question 13.2.

207 Q2, replies to question 12.2 and 14.

present case, the exact geographic market definition for very high-speed rolling stock can be left open. The Commission will address its competitive assessment both at EEA (including Switzerland) and global level.

5.2.2.3. Mainline trains

(A) The Notifying Party's views

(193) The Notifying Party considers that the geographic market for mainline trains is at least EEA-wide for the following reasons: (i) suppliers participate in mainline tenders across the EEA, and all major players are active across the EEA; (ii) suppliers win projects across the EEA regardless of their footprint; (iii) the harmonisation of technical standards in the EEA facilitates EEA-wide competition because standardisation reduces the cost of adapting rolling stock equipment to local specifications and offering trains that can operate in several Member States; and (iv) the increased use of platform-based products makes it easier for suppliers to adapt their trains to national requirements, thus making it easier for suppliers to operate throughout the EEA.[208]

(194) The Notifying Party submits that the geographic market also includes Switzerland for the following reasons: (i) similar technical requirements apply in Switzerland and the EEA in the areas of railway interoperability and railway safety, also evidenced by the fact that Switzerland is a member of the ERA, and (ii) there is no material difference between suppliers participating in projects in the EEA and Switzerland.[209]

(195) In any event, the Notifying Party considers that the geographic market definition can be left open as the Transaction does not give rise to competition concerns regardless of the market definition.

(B) The Commission's decisional practice

(196) In *Bombardier/ADtranz*, the Commission considered the market for regional trains to be national in scope and considered both national and EEA markets for intercity trains, leaving the geographic market definition for intercity trains open. The Commission noted that the market for regional trains was still national, especially in Member States with a strong rail industry, and in view of the different national standards for rail infrastructure across Member States.[210]

(197) In *Alstom Holdings/Areva T&D*, the Commission considered whether the market for EMUs for intercity and regional transport should be considered EEA-wide instead of national, noting that all respondents to the market investigation had pointed towards an at least EEA-wide market for EMUs. The Commission ultimately left the geographic market definition open.[211]

---

[208] Form CO, Chapter B.2, paragraph 42.

[209] Form CO, Chapter B.2, paragraph 43.

[210] Commission Decision in Case M.2139 – *Bombardier/Adtranz* (2001), recitals 19-23.

[211] Commission Decision in Case M.5754 – *Alstom Holdings/Areva T&D* (2010), recitals 40-43.

(C) Results of the market investigation and the Commission's assessment

(198) The market investigation is inconclusive as to whether the relevant product markets are national or EEA-wide, including Switzerland. Responses from competitors and customers are mixed as regards the geographic scope of the market.[212] Nevertheless, the Commission considers that there are strong indications that the market for self-propelled mainline rolling stock and possible segmentation are national in scope due to country-specific technical differences, authorisation and homologation requirements, and barriers to entry identified in France and Germany.

(199) The Commission considers that self-propelled mainline trains are significantly different in terms of customer preference, technical specifications, and regulatory requirements in different countries of the EEA such that a self-propelled mainline train operated within one EEA country could not be used in another EEA country absent significant adaptation. This view is supported by a majority of competitors.[213]

(200) The continued existence of national technical specifications is cited as a reason for markets being national. CAF claims that the markets are national because *'[e]ven with TSI compliance, country specific technical specifications (gauge, envelope, signalling systems, power supply tension) differ so that trains can require significant adaptation from one EEA country to another'*.[214] Competitors also indicate that to the extent that mainline trains differ from one EEA country to another, significant investments are required to adapt a train developed for operation in one Member State for operation in another.[215]

(201) Several customers also expressed the view that country-specific technical requirements still prevail. Deutsche Bahn explained that, '*[w]hile the same platform may be used for the production of mainline trains used in different countries, there is, at this point in time, no product on the market which can be used in different countries in Europe without significant and expensive modifications. This is mainly due to differences regarding certification requirements, signalling and other infrastructure technologies (e.g. electric power supply)'*.[216] Alpha Trains, a large leasing company for passenger trains, indicates that *'[s]ome manufacturers have products which they try to sell on different EEA (and Swiss) markets, however, quite often the incumbent operators have specific requirements for its country. […] France is extremely difficult for other manufacturers than Alstom and Bombardier who have shared the market […]'*.[217]

(202) With regard to authorisation requirements, while many respondents indicate that TSIs have resulted in the authorisation requirements across the EEA for mainline trains to converge, the majority of respondents consider that significant differences from one country to another still remain (e.g., relating to infrastructure, gauge, envelope, signalling, power supply). A majority of customers thus consider that the

212 Q3, replies to question 21; Q4, replies to question 18.
213 Q3, replies to question 22.
214 CAF's response to Q3, question 22.1.
215 Q3, replies to question 22.1.
216 Deutsche Bahn's response to Q4, question 18.1.
217 Alpha Trains' response to to Q4, question 18.1.

adoption of EU-wide authorisation procedures have not yet created homogenous conditions for competition within the EEA.[218]

(203) In particular, with regard to France and Germany some respondents indicated country-specific technical and regulatory requirements as a factor limiting the number of credible competitors. As regards France, SNCF explains that *'[t]he constraint of national requirements may generate technical discrepancies between the reference product of certain manufacturers and the specifications'*.[219] In SNCF's view, the related adaptations maybe seen as too expensive or requiring engineering capabilities that cannot be mobilised. Alpha Trains also refers to these requirements as limiting the number of competitors in France.[220]

(204) As regards Germany, Deutsche Bahn similarly states that *'[t]he complexity of the German national rules is one reason why it is difficult to purchase rolling stock especially from manufacturers in Asia, but also in Eastern Europe. More generally, the different national requirement are an obstacle to the development of standards in the industry. The lengthy homologation requirements in various European countries are often a challenge for new suppliers when entering the market'*.[221] Other customers having their operation in Germany (Flixtrain, Netinera, LNVG) also consider that suppliers have to comply with national standards and point out that homologation is difficult to achieve in Germany.[222] Skoda expressed the view that some countries require a '*specific approach, especially Germany and France are very specific in terms of vehicle homologation, and therefore competition may be limited*'.[223]

(205) The bidding analysis confirms that the identity of bidders and the scope of competitive interactions vary from one EEA Member State to the other.[224] Therefore, although a large number of suppliers are active in the EEA, they are not all active in the same Member States and the scope of their competitive interactions and mutual constraints is, consequently, limited. This is particularly true in France and Germany, where the Parties overlap and hold high combined market shares.

(206) In addition, with respect to France, the Commission considers that there are high barriers to entry for the following reasons.

(207) First, with regard to the need for local manufacturing presence, as a preliminary point, the Commission notes that EU procurement rules prohibit customers from disqualifying bidders that do not have local production assets.[225] While customers cannot include explicit requirements in that regard, the requirement for local manufacturing presence appear to be a prerequisite for a bidder to win contracts in France.

---

218 Q4, replies to question 21.

219 SNCF's response to to Q4, question 20.1.

220 Alpha Trains' response to to Q4, question 20.1.

221 Deutsche Bahn's response to Q4, question 20.1.

222 Q4, replies to question 20.1.

223 Skoda's response to Q3, question 24.1.

224 Parties' CPL.

225 Articles 36.1, 60.2, and 60.4 of Directive 2014/25/EU of February 26, 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC [2014] OJL 94/243.

(208) The Parties' bidding data and market shares demonstrate that the only suppliers that won contracts in France in the period 2010-2018 are Alstom, Bombardier, and CAF. The Commission notes that all these suppliers have manufacturing facilities in France. As stated by the Notifying Party, CAF acquired a manufacturing site in Bagnères de Bigorre in France[226] in 2008 and secured a contract with SNCF for 28 intercity trains in 2019[227]. The Commission notes that it took CAF more than 10 years after establishing manufacturing presence in France before it was able to win a tender against Alstom and Bombardier. This is despite previous bids submitted in this period as indicated in the Parties' bidding data.[228] No other supplier was able to enter the French market in the last 10 years. Furthermore, the number of suppliers that competed in tenders in France is also very limited. According to the Parties' bidding data, in addition to the Parties and CAF, only Stadler participated in a single tender held by the Hello Paris consortium in 2019 but the contract was ultimately awarded to Alstom in 2019 (with the Coradia Polyvalent platform). [229]

(209) Therefore, the Commission considers that there is a strong correlation between being having manufacturing presence and the ability to win contracts in France, which raises high barriers to entry.

(210) Second, a supplier referred to the requirement for an existing track record in France to be eligible in tenders and win contracts.[230] This requirements does not apply in other Member States where customers generally require commercial references from previously supplied mainline rolling stock in the EEA. The Commission also notes that complex tender requirements prevent smaller competitors from bidding in France, as evidenced by the absence of participation in tenders in France from other suppliers.[231]

(211) According to a respondent, complex homologation requirements also deter entry in France. Transdev expressed the view that *'[i]n France, the Transaction is problematic because Alstom and Bombardier are the only market participants that have homologated rolling stock (heavy trains)'*.[232]

(212) In addition, the Commission considers that the Parties' large installed base and longstanding customer relationships in France entrench their established position and further raise barriers to entry. This is evidenced by the high proportion of repeat/non-contestable orders that were awarded to the Parties in the last 10 years in France (i.e., nearly all repeat orders for which customers chose not to tender out their procurement were awarded to Alstom or Bombardier, see section 6.3.2.2, B.iii).

---

226 Form CO, Chapter B.2, footnote 205.

227 Form CO, Chapter B.2, paragraph 84.

228 Parties' CPL.

229 Parties' CPL.

230 Confidential minutes of conference call with Talgo, 14 April 2020, paragraph 8.

231 For example, Siemens lists a number of large scale, complex tenders in France that were awarded the Parties. These include SNCF's 2017 tender won by the Parties in consortium. According to Siemens, SNCF rejected a lower-priced offer from CAF because of concerns that the Spanish company might not have the capacity needed for the project. Non-confidential submission of Siemens, 21 April 2020, paragraph 61.

232 Non-confidential minutes of conference call with Transdev, 4 June 2020, paragraph 9.

(213) Similarly, with respect to Germany, the Commission considers that there are high barriers to entry for the following reasons.

(214) First, the lengthy and complex homologation process limits the number of credible competitors and raises barriers to entry. Most respondents to the market investigation having railway operations in Germany expressed the view that the homologation process limits the number of credible suppliers in Germany.[233] Transdev explained that '*[i]t is very difficult to obtain homologation in Germany (the process takes 2- 4 years) due to the very high safety standards and the fact that these standards keep changing. Also because of these different homologation standards, a train in France would not be the same as a train in Germany (e.g. Stadler's KISS or FLIRT platforms are different in both countries). Suppliers such as Skoda or Chinese companies have good trains but they are not homologated in Germany and France*'.[234]

(215) In view of the lengthy and complex homologation process, customers have a strong preference for a supplier that already has a homologated train in Germany. This is an important selection criterion for customers that seek to ensure that delivery times are respected. For example, according to Deutsche Bahn, *[a]pproval management for rail vehicles, […], is a critical key factor in rail vehicle projects. In the past, a lack of experience with this official act was one of the reasons for delivery delays'*.[235] Alpha Trains similarly stated that *'[s]uch compliance generally reduces the homologation risk'*.[236] Flixtrain explained that *'[a]nother important aspect to consider is that homologation is a significant barrier to enter the German market. Considering the time needed and the difficulty to obtain homologation in Germany, having a previously homologated train is an important advantage for a bidder'*.[237] Flixtrain further explains that homologation is seen a risk factor for timely delivery in Germany.

(216) The Commission thus considers that the complex homologation process and the related risks linked with timely delivery and successful completion of the project deter entry from suppliers not already present with a homologated train.

(217) Second, there are very stringent financial and technical requirements for bidders in Germany. The main customer in Germany, Deutsche Bahn, sets very high financial criteria because suppliers have to bear the costs of development and adaptations of platforms during the homologation process and until full project delivery. Deutsche Bahn explained that it *'purchases homologated trains, and payment of the purchase price depends on the delivery of a fully-functional train. This means that up to that point operators need to finance the whole project and the ability to pre-finance the project has to be demonstrated in tenders'*[238]. Smaller customers such as Flixtrain also explained that *technical and financial capabilities are one of the main […] selection criteria*'.[239]

---

233 Q4, replies to question 20.1 and 26.1.

234 Non-confidential minutes of conference call with Transdev, 23 June 2020, paragraph 8.

235 Deutsche Bahn's response to Q4, question 26.1.1.

236 Alpha Trains' response to Q4, question 26.6.1.

237 Non-confidential minutes of conference call with Flixtrain,

238 Non-confidential minutes of call with Deutsche Bahn, 14 April 2020, paragraph 7.

239 Flixtrain's response to Q4, question 26.3.1.

(218) The Commission considers that such stringent technical and financial requirements to participate and win contracts in Germany deter entry from smaller suppliers not already having a homologated platform in operation and not being able to bear the financial cost of the investment required for the duration of the homologation process (up to 4 years). Such suppliers are effectively excluded from tenders in Germany.

(219) Skoda explained that it succeeded in winning a single contract with Deutsche Bahn for locomotive-hauled intercity trains in 2014. However, Skoda also stated that *'[a]lthough it is usually very hard for a medium-sized supplier like Skoda to sell rolling stock in Germany (due to German homologation requirements and herewith connected need for pre-development), for this tender Deutsche Bahn set out specific customisation requirements and quantity, so that only a limited number of suppliers were interested to participate. Skoda considers that the special conditions of this tender allowed Skoda to enter the German market'.*[240]

(220) In the Commission's view, this indicates that suppliers such as Skoda can only win contracts in Germany under specific circumstances and when such projects do not attract interest from established players with homologated platforms in Germany that are able to comply with the high financial requirements imposed by customers. The single contract won by Skoda (for locomotive-hauled trains) and the fact that Skoda was not able to expand its activities after winning this contract therefore reinforces the conclusion that there are high barriers to entry and expansion in Germany.

(221) Third, while a number of competitors participated in tenders in Germany, including the Parties, Stadler, Siemens, Hitachi, CAF, Pesa, Skoda, the suppliers that won contracts are indeed only the Parties, Siemens and Stadler.[241] Both competitors have established manufacturing facilities in Germany. Siemens is a long-standing player in the German market which increased its activities in mainline rolling stock in recent years. Stadler was the remedy taker in *Bombardier/ADTranz*, which also included the transfer of ADtranz' Berlin Pankow manufacturing facility in Germany.[242] No supplier (except for Skoda) was able to enter the German market for regional trains without having local manufacturing facilities.[243] Skoda won only one small contract in Germany (for locomotive-hauled intercity trains) and due to the very specific circumstances of the tender and the absence of interest of established players. The Commission thus considers that also in Germany there is a strong correlation between having local manufacturing presence and the ability to win contracts.

(222) Fourth, similarly to France, the Parties' large installed base and longstanding customer relationships in Germany further raise barriers to entry. Nearly all repeat orders in Germany in the last 10 years were awarded to Alstom and Bombardier (see section 6.3.2.2, B.iii).

---

240 Non-confidential minutes of conference call with Skoda, 6 May 2020, paragraph 4.

241 The Commission notes that Skoda secured a single contract for intercity trains in 2014 but, as explained, due to the specific conditions of the tender which generated only limited interest.

242 Non-confidential minutes of conference call with Stadler, 20 March 2020, Annex – Stadler's response to RFI 151.

243 Non-confidential minutes of conference call with Skoda, 6 May 2020, paragraph 4.

(223) Therefore, the Commission considers that the market for mainline rolling stock (and possible segmentations) is most likely national in scope. For the purpose of this decision, the Commission will carry out its competitive assessment at both an EEA-wide level, including Switzerland, and at national level.

5.2.2.4. Metros

(A) The Notifying Party's views

(224) The Notifying Party considers that the metro market has evolved significantly towards an at least EEA-wide market.

(225) First, the Notifying Party states that suppliers participate in tenders across the EEA. While rolling stock players may have different geographic focuses based on their respective commercial strategies, all major metro suppliers are active in tenders outside of their historic home base.[244]

(226) Second, the Notifying Party considers that difference in technical specifications are limited and driven at project-level. In contrast with high-speed and mainline trains, there are no platform-level authorizations for metros at European or national level. Authorizations are instead given for a specific project due to the differing infrastructure of projects, even those within the same country and sometimes even within the same city. As a result, the 'technical' variations are generally driven by project-specific requirements and not national standards. In any event suppliers can easily overcome the project-level technical variances by making minor adjustments to their existing EEA-level platforms. Suppliers design their platforms taking into considerations variances across different countries and customers. As a result, the resulting platform has a broad spectrum of applications.

(227) In any event, the Notifying Party considers that the exact market definition can be left open as the Transaction does not raise competitive concerns regardless of the exact geographic market.

(B) The Commission's decisional practice

(228) In the previous decision, the Commission considered that the geographic market for metros should be national in scope.[245] This conclusion was mainly based on the fact that, despite the EU procurement rules and standardisation trends, in countries in which there is a strong national rail industry (Germany was used as an example), orders for rail vehicles had almost exclusively gone to national suppliers and only very few 'truly foreign suppliers' had bid for the tenders. Moreover, the diversity of infrastructural requirements among different Member States was considered a major obstacle to EEA harmonisation.

---

[244] Form CO, Chapter B.3, paragraph 38. For instance, in the past 10 years, Siemens won projects in Austria, Bulgaria, France, Poland and the United Kingdom in addition to Germany, and received repeat orders in Italy and Norway. Similarly, CAF won projects in Belgium, Finland, Italy, the Netherlands, Romania, Spain, and the United Kingdom. Stadler won projects in Germany and the United Kingdom and Newag won projects in Bulgaria and Poland.

[245] Commission decision of 3 April 2001 in case M.2139 - *Bombardier/ADtranz*, at paras. 14 and 23.

(229) In its subsequent decision in *Metronet/Infraco*, the Commission left the question open of a possible delineation of the market for the supply of metros at national or EU level.[246]

(C) Results of the market investigation and the Commission's assessment

(230) The results of the market investigation show that respondents consider that the relevant geographic market for metros is at least EEA-wide (including Switzerland) due to similar customer and homologation requirements, which allow suppliers to compete at European level.[247] The presence of similar suppliers within the EEA is further confirmed by a majority of competitors, which indicated that the set of competitors that they face does not differ between the different EEA Member States but vary significantly for tenders in or outside the EEA.[248] Moreover, some customers, all located in the EEA, confirm that European suppliers (or European branches of global suppliers) typically participate in their tenders.[249]

(231) These results are supported by the bidding data provided by the Parties, which indicate that most of the metro suppliers typically bid in various Member States across the EEA. For instance, over the past 10 years, CAF bid in […] different Member States in steel wheel metro tenders, Siemens […] or Alstom […], while tenders have been issued in 15 different Member States.

(232) Some respondents to the market investigation consider that the market for metro is global in scope. They explain that metro suppliers are able to bid on a global scale, due to similar metro systems. For instance, a component supplier (Knorr Bremse) indicated that '*Metro systems originate in Europa and the system has been brought to a worldwide application from there. Metro systems are similar, thus carbuilders usually operate with worldwide platforms where possible, only distinguishing carbody shells where legacy infrastructure are demanded (e.g. London, Berlin, Paris).*'

(233) However, the Commission notes that non-European suppliers of metros which may be successful outside the EEA are not active in the EEA. In that regard, no non-European suppliers[250] have been successful in winning metro tenders in the EEA in the past 10 years. In addition, bids stemming from non-European suppliers in metro tenders remain erratic.[251]

(234) Finally, some competitors further explain that some national manufacturers may have a stronger position in their domestic countries, which may make it more difficult to foreign suppliers to enter these national markets.[252] However, for a large majority of respondents, this does not constitutes a sufficient barrier to enter to consider a national geographic market in scope. Indeed, no customer consider that the market for metros is national in scope, while only a minority of competitors support this view and indicated that the competition conditions for metros should be

246 Commission Decision in Case M.2694 - *Metronet/Infraco* (2002), recital 34.
247 Q8, replies to question 26.1.; Q9, replies to question 27.1.
248 Q8, replies to question 27.1 and 27.2.
249 Q9, replies to question 27.1.
250 Except Hitachi.
251 For instance, CRRC bid in […] tenders over the past 10 years.
252 Q8, replies to question 26.1.

assessed at national level (depending on the responses, on a standalone basis or in parallel with a wider scope, either EEA-wide or globally).[253]

(235) It follows from the above that, for the purpose of this decision, the geographic market for metros is EEA-wide (including Switzerland) in scope.

5.2.2.5. Trams/LRVs

(A) The Notifying Party's views

(236) The Parties consider that the relevant geographic market for trams/LRVs is at least EEA-wide.

(237) First, the Notifying Party states that tram/LRV suppliers compete in tenders across the EEA. For instance, Spanish player CAF has been recently awarded projects in Norway, Sweden, Italy, the Netherlands, Germany, the UK, Belgium and Portugal, in addition to its Spanish contracts. Even smaller players like Pesa are increasingly active across the EEA.[254]

(238) Second, the Notifying Party considers that trams/LRVs are more standardised than other rolling stock. Trams/LRVs are low capacity solutions that are typically ordered more frequently, and in lower quantities per tender than other rolling stock. According to the Notifying Party, customers aim to avoid high production costs with relatively standardised technical requirements, design and product specification requirements, which allow suppliers to offer standard models in various Member States with limited adapted costs. In addition, the increased level of harmonisation of technical requirements has also facilitated the entry of non-European, and especially Asian suppliers, such as Hyundai Rotem or CRRC.[255]

(B) The Commission's decisional practice

(239) The Commission previously considered that the market for trams/LRVs is national in scope.[256] In its decision in case *Alstom Transport SA/FSI/Translohr*, it noted that the market could be wider in scope (EEA) but ultimately left the precise geographic market definition open.[257]

(C) Results of the market investigation and the Commission's assessment

(240) The results of the market investigation indicate that the geographic market for trams/LRVs is at least EEA-wide (including Switzerland).

(241) In that regard, almost all respondents consider that the market for trams/LRVs include at least the EEA and Switzerland. Among the respondents, while customers consider that the market is EEA-wide,[258] including Switzerland,[259] a majority of

---

253 Q8, replies to question 6.1.; Q9, replies to question 27.1.

254 Pesa won a 2019 contract in Bulgaria and a 2020 contract in Romania.

255 Form CO, Chapter B.3, paragraphs 130-131.

256 Commission Decision in Case M.2139 – *Bombardier/ADTranz* (2001), paragraph 23.

257 Commission decision in case M. 6646 – *Alstom Transport SA/FSI/Translohr*, paragraph 26.

258 Siemens and CAF did not express explicit view in that matter.

259 Q9, replies to question 30.

competitors consider that the market for trams/LRVs is worldwide in scope.[260] No respondents, except CRRC, consider that the market for trams/LRVs is national in scope.

(242) In that regard, a majority of customers indicated that there is no national technical specifications and regulatory requirements that would limit the number of viable suppliers of trams/LRVs in their home country.[261] While some respondents indicate that national specificities in the regulatory requirements persist between the Member States, customers mainly consider that those should not be considered as barriers to enter a national market. For instance, one customer (Blackpool Council) stated that '*Tram manufacturers are well aware of the differences in regulatory requirements in each country and whilst in the past this may have limited the number of suppliers, the situation appears to have changed.*'[262] Another customer (RATP) indicated that tender specifications consisted in functional requirements and allowed for flexible solution, on the basis of standardized European platforms[263]

(243) Several respondents (both customers and competitors) explained that trams/LRVs are relatively standardised products which are tailored following the specific technical specifications and requirements expressed by each customer, according to its needs and demand, regardless of the Member State where the vehicles are operated.[264]

(244) In addition, responses expressed by the customers in the market investigation are indicative of relatively homogenous competitive conditions in the market for trams/LRVs within the EEA. During the market investigation, the Commission interrogated various customers located in the EEA which generally identified the same EEA-based suppliers as credible bidders for the provision of trams/LRVs, such as Alstom, CAF, Siemens, Bombardier, Skoda or Pesa.[265] In addition, a majority of competitors indicated that they face a different set of competitors in tenders in the EEA and outside the EEA.[266]

(245) These results are supported by the bidding data provided by the Parties, which indicate that most of the metro suppliers typically bid in various Member States across the EEA. For instance, over the past 10 years, CAF bid in […] different Member States in tram/LRV tenders, Stadler […] or Skoda […], while tenders have been issued in 25 different Member States.[267]

(246) Other respondents consider that trams/LRVs systems are similar around the world, thus allowing manufacturers to usually operate with worldwide platforms, only distinguishing bogies where demanded by legacy infrastructure. For instance, a customer (Blackpool Council) indicated that '*Tram systems operate in most major cities around the world. Whilst they are most prominent in Europe, they do operate in parts of Africa, USA, Australia, New Zealand, South America, Canada, China and*

[260] Q8, replies to question 30.
[261] Q9, replies to question 33.
[262] Q9, reply form Blackpool Council to question 33.1.
[263] Q9, reply from RATP to question 33.1.
[264] Q8, replies to questions 31 and 31.1.; Q9, replies to question 32 and 32.1.
[265] Q9, replies to question 31.
[266] Q8, replies to question 32.1.
[267] CPL (Consolidated Projects List) provided by the Notifying Party.

Russia.' In addition, some customers further retained a worldwide dimension based on the fact that CRRC has taken part in a procurement of trams/LRVs conducted within the last 5 years in the EEA.[268]

(247) However, the Commission notes that non-European suppliers of trams/LRVs remain poorly active in the EEA. In that regard, bids and win in trams/LRVs projects from non-European suppliers' have remained very limited in the EEA in the past 10 years. Out of more than 180 contestable projects in the EEA (including Switzerland), one non-European supplier was present in around 5% of all tenders only, mostly in Member States close to their domestic country.[269]

(248) In light of the results of the market investigation, the Commission considers that, for the purpose of the present case, the relevant market for trams/LRVs is EEA-wide and includes Switzerland.

5.2.2.6. Locomotives

(A) The Notifying Party's views

(249) The Notifying Party submits that the market for locomotives is at least EEA-wide. Referring to the findings of the Commission in *Knorr Bremse/Vossloh*, the Notifying Party submits that all major suppliers are active across the EEA and customers tend to source locomotives on an EEA-wide basis.[270]

(B) The Commission's decisional practice

(250) In *ABB/Daimler Benz*, the Commission found that the markets for electric and diesel locomotives are national in scope in the case of Member States which have their own strong rail vehicle industry.[271] In *Siemens/VA Tech*, the Commission made a similar finding with respect to electric locomotives.[272] In a more recent decision, in *Knorr Bremse/Vossloh*, the Commission found that manufacturers could supply rail vehicles, including locomotives, throughout the EEA, and the majority of rail operators sourced them rail vehicles on an EEA-wide basis. However, the Commission left ultimately the precise geographic market definition open.[273]

(C) Results of the market investigation and the Commission's assessment

(251) The results of the market investigation are mixed regarding the geographic market definition.

(252) Competitors expressed mixed views as to whether the markets for shunting and mainline locomotives are EEA-wide, including Switzerland, in scope, while others (Siemens) considering that the supply of locomotives has both national and EEA-wide elements.[274] They notably indicated that the same competitors supply

---

[268] Q9, replies to question 30.1.

[269] For instance, the Turkish companies Durmazlar and Bozankaya bid and won in Romania exclusively. The Russian company Ust Katav bid and won in Latvia.

[270] Form CO, Chapter D, paragraph 24.

[271] Commission decision in Case IV/M.580 – *ABB/Daimler Benz* (1995), recital 41.

[272] Commission decision in Case M.3653 – *Siemens/VA Tech* (2005), recital 118.

[273] Commission decision in Case M.7358 – *Knorr Bremse/Vossloh* (2015), recital 65.

[274] Q3, replies to questions 28 and 28.1.

locomotives across the EEA and that suppliers compete with the same locomotives in different countries.[275]

(253) The majority of customers indicated that the market for locomotives is EEA-wide.[276] This is due to national specification and regulatory requirements that do not seem to restrict the number of viable suppliers of locomotives in their home country. Customers also explained that locomotives (both mainline and shunting) are more standardised that self-propelled trains and are thus less dependent on country-specific requirements.[277]

(254) However, for the purpose of this decision, the Commission considers that the precise geographic market definition for locomotives can be left open as the Transaction will not give rise to competition concerns under any alternative market definition.[278]

5.2.2.7. Maintenance and refurbishment

(A) The Notifying Party's views

(255) The Notifying Party considers that the market for rolling stock maintenance and refurbishment is at least EEA-wide, if not worldwide, in view of the following factors: (i) most players are active across the EEA as well as outside the EEA, (ii) maintenance and refurbishment set-ups are standardised with depots having comparable equipment and skills-set, irrespective of their location, (iii) maintenance and refurbishment operations are often provided across national borders with vehicles shipped to service providers.[279]

(B) The Commission's decisional practice

(256) In previous decisions, the Commission defined the markets for maintenance and refurbishment services as national.[280]

---

275 Q3, replies to questions 28.1.

276 Q4, replies to question 22.

277 Q4, replies to question 22.1.

278 Based on the Notifying Party's submission and the results of the market investigation, the Parties' activities do not overlap as Alstom is only active in shunting locomotives (including through TMH in which Alstom holds a […]% stake, see footnote 558), while Bombardier is only active in mainline locomotives. Based on the Notifying Party's submission, Alstom does not have any mainline locomotive platform that would allow it to re-enter in a timely fashion without incurring significant investment costs and it has no immediate plans to do so. Similarly, the Notifying Party explains that Bombardier does not supply shunting locomotives, nor does it plan to do so. See Form CO, Chapter D, paragraphs 10-18. The results of the market investigation also confirmed that the Parties' activities as regards locomotives are different, with Alstom suppling shunting locomotives and Bombardier mainline locomotives. As Siemens explains 'Alstom is not or only to a small extent active in locomotives. To Siemens' knowledge, they only supply shunting locomotives'. Similarly, Siemens explains that both Bombardier and Siemens supply mainline locomotives. See Q3, replies to questions 81, 81.1, 82 and 82.1. Therefore, due to the absence of an overlap between the Parties' activities in locomotives, the Commission will not further assess in this decision the effects of the Transaction in the markets for shunting and mainline locomotives at the EEA-wide or national level.

279 Form CO, Chapter D, paragraph 116.

280 Commission Decision in Case M.2139 – *Bombardier/ADTranz* (2001), recital 22; Commission Decision in Case M.7871 – *Bombardier/CDPQ/Bombardier Transportation UK* (2016), recital 25.

(C) Results of the market investigation and the Commission's assessment

(257) The results of the market investigation generally confirm the Commission's decisional practice on the geographic market definition. The majority of participants to the market investigation indicated that markets for maintenance and refurbishment services are likely national.[281] Several respondents indicated that they procure maintenance services from suppliers that have local presence in the country of operation.[282]

(258) In any event, the exact geographic scope of the markets for maintenance and refurbishment services can be left open as the Transaction does not raise serious doubts as to its compatibility with the internal market under any alternative market definition, i.e., EEA-wide or national.

5.2.2.8. Components and spare parts

(A) The Notifying Party's views

(259) The Notifying Party submits that the market for components can be considered EEA-wide. The Notifying Party explains that there are different sales practices between the EEA (where customers organise tenders for complete trainsets and rarely source standalone components) and non-EEA markets (where there is a significant demand for standalone sales of components).[283]

(260) The Notifying Party submits the market for spare parts is at least EEA-wide because spare parts can be shipped among Member States, if not beyond.[284]

(261) However, the Notifying Party considers that the geographic markets for components and spare parts can be left open as the Parties' EEA activities do not overlap and the Transaction will not give rise to competition concerns in components or spare parts in the EEA.[285]

(B) Commission's decisional practice

(262) In past decisions, the Commission found the market for components to be EEA-wide.

(263) In *Knorr Bremse/Vossloh*, the Commission found that the geographic market for HVAC systems, friction/service brake systems and door systems were likely to be EEA-wide, but left the exact geographic market definition open.[286]

(264) In *Wabtec/Faiveley*, the Commission found that the geographic markets for doors, pneumatic friction brake systems and sub-systems, friction materials (both OEM and

[281] Q1, replies to question 16; Q2, replies to question 16; Q3, replies to question 29.1.1; Q4, replies to question 23.1; Q8, question 35.1; Q9, question 34.1.

[282] Q2, replies to question 17; Q9, replies to question 37.

[283] The Notifying Party provides the example of Alstom which did not sell any traction and motor component in the EEA in the last three years and reported annual sales of more than EUR […] in non-EEA countries. See Form CO, Chapter D, paragraph 67.

[284] Form CO, Chapter D, paragraph 69.

[285] Form CO, Chapter D, paragraphs 68 and 70.

[286] Commission Decision in Case M.7538 – *Knorr Bremse/Vossloh* (2015), recitals 43, 51 and 58.

IAM) and brake discs (both OEM and IAM) were EEA-wide.[287] The Commission found the geographic market for pantographs was at least EEA-wide.[288] The Commission left the geographic market definitions for energy meters, event recorders open.[289]

(C) The Commission's assessment

(265) The results of the market investigation confirm the existence of EEA-wide markets for components and spare parts.[290] Respondents point out certain differences between procurement patterns and regulation as regards the supply of components in the EEA and outside the EEA but generally consider that competitive conditions are homogenous in the EEA.[291]

(266) Therefore, for the purpose of this decision, the Commission considers that the scope of the markets for each type of components and for spare parts is EEA-wide, including Switzerland.

6. COMPETITIVE ASSESSMENT – ROLLING STOCK

6.1. Framework for the competitive assessment

6.1.1. General principles

(267) Under Article 2(2) and (3) of the Merger Regulation, the Commission must assess whether a proposed concentration would significantly impede effective competition in the internal market or in a substantial part of it, in particular through the creation or strengthening of a dominant position.

(268) In this respect, a merger may entail horizontal and/or non-horizontal effects. Non-horizontal effects are those deriving from a concentration where the undertakings concerned are active in different relevant markets.

(269) As regards the assessment of horizontal overlaps, the Commission guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings[292] (the 'Horizontal Merger Guidelines') distinguish between two main ways in which mergers between actual or potential competitors on the same relevant market may significantly impede effective competition, namely non-coordinated and coordinated effects. Non-coordinated effects may significantly impede effective competition by eliminating important competitive constraints on one or more firms, which consequently would have increased market power, without resorting to coordinated behaviour. In that regard, the Horizontal Merger Guidelines consider not only the direct loss of competition

[287] Commission Decision in Case M.7801 – *Wabtec/Faiveley* (2016), recitals 79, 105, 241 and 393.

[288] Commission Decision in Case M.7801 – *Wabtec/Faiveley* (2016), recital 420.

[289] Commission Decision in Case M.7801 – *Wabtec/Faiveley* (2016), recitals 38 and 61.

[290] Q1, question 18; Q2, question 18; Q3, replies to question 30; Q4, replies to question 24; Q8, question 36; Q9, question 36 ; Q10, replies to question 9.

[291] Q10, replies to question 9.1.

[292] Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (OJ C 31, 05.02.2004, pages 5-18), in particular paragraphs 4 and 22.

between the merging firms, but also the reduction in competitive pressure on non-merging firms in the same market that could be brought about by the merger.

(270) The Horizontal Merger Guidelines list a number of factors which may influence whether or not significant non-coordinated effects are likely to result from a merger, such as the large market shares of the merging firms, the fact that the merging firms are close competitors, the limited possibilities for customers to switch suppliers, or the fact that the merger would eliminate an important competitive force. Not all of these factors indicated in the Horizontal Merger Guidelines as relevant to the analysis of non-coordinated effects need to be present to make significant non-coordinated effects likely. Also, the list of factors is not exhaustive.

(271) The extent of closeness of competition between the merging parties is one of the factors relevant for the analysis of the likelihood of significant non-coordinated effects of a merger.[293] The Commission is not required to show that the merging parties are each other's closest competitors to find that significant non-coordinated effects are likely to arise from a merger.[294] The Horizontal Merger Guidelines clearly provide for a relative approach to the relevance of closeness of competition. According to the Horizontal Merger Guidelines, '*the higher the degree of substitutability between the merging firms' products, the more likely it is that the merging firms will raise prices significantly*.'[295]

(272) The same concept is set out in paragraph 17 of the Horizontal Merger Guidelines, according to which a merger may raise competition concerns based on '*the extent to which the products of the merging parties are close substitutes*'. Both wordings set out a correlation between the degree of substitutability of the products of the merging parties and the likelihood and seriousness of competition concerns raised by the proposed merger.

(273) It follows that if the merging parties' products are each other's closest substitutes, the competition concerns may be particularly strong. However, a merger between firms producing close, but not necessarily the closest substitutes also makes price increases more likely than a merger between firms producing products with a low degree of substitutability.

6.1.2. Calculation of market shares and bidding data

(274) In prior cases involving industries where orders are infrequent, the Commission has considered that market shares should be analysed over several years.[296] At the same time, as mentioned in paragraph 15 of the Horizontal Merger Guidelines, '*changes in historic market shares may provide useful information about the competitive process*

---

293 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraphs 26 and 28-30.

294 See, e.g., Commission decision in Case M.7962 – *ChemChina/Syngenta* (2017), recital 182; Commission decision in Case M.7612 – *Hutchison 3G UK/Telefonica UK* (2017), recital 324; Commission decision in Case M.6992 – *Telefonica Deutschland/E-Plus* (2014), recitals 278-280.

295 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraph 28.

296 See Commission decision in Case M.7278 – *GE/Alstom* (2015), Annex 1 - The Commission's Economic Analysis of Bidding Data, recital 189, page 55; Commission decision in Case M.3653 – *Siemens/VA Tech* (2005), recital 141.

and the likely future importance of the various competitors, for instance by indicating whether firms have been gaining or losing market shares'.

(275) In the present case, in order to address these two issues, the Parties and their competitors' market shares have been examined over a period of 10 years (2010-2019) period.[297] This both limits the distorting impact of infrequent tendering for projects and enables the analysis of historical changes or permanence of competitive positions over a meaningful period of time.

(276) The Notifying Party argues that historical market shares are not determinative for the competitive assessment because the size and infrequency of rolling stock projects distort historical market shares. It considers that calculating market shares on the basis of sales over the past 10 years overstates the Parties' position and ignores recent developments more predictive of post-merger market dynamics. Among these recent developments, the Notifying Party claims that the Parties' market share in high and very high-speed trains has diminished and the competitors' position, most notably Stadler's, has increased.[298] It also observes that tender participation has increased in the past few years.[299] Similarly, in mainline rolling stock, the Notifying Party argues that, both EEA-wide and in certain countries, Bombardier's competitive position decreased in recent years while new competitors have emerged and won contracts. The Notifying Party therefore argues that the time period of the assessment of market shares should be shorter and focus on the last 5 years in order to reflect the more recent development of competition in high and very high-speed rolling stock.

(277) However, the Commission's assessment in the present case cannot be determined by market shares and bidding analysis conducted over the most recent 5 years period, as this would raise significant methodological issues. The Notifying Party's suggested approach would rely on quantitative analysis of a limited number of tenders and would, therefore, give disproportionate weight to recent contract awards or losses, without regard to the position of players with less recent awards, but no less weight as competitors in contemporaneous tenders. This is all the more problematic that rolling stock are characterized by long life cycles (spanning 30-40 years) and the procurement of major customers is also cyclical. As a result, limiting the competitive assessment to the past 5 years would ignore large portions of the market's main customers' procurement and the main suppliers' position. This would risk leading to insufficiently representative results.

(278) Furthermore, the Parties' and their competitors' positions, as well as the extent of rivalry between different suppliers and the loss of competition caused by the Transaction will also be assessed using data on tenders and bidding provided by the Notifying Party.

---

[297] The review of the present Transaction spanned over 2018. In order to conduct its assessment using the most up-to-date data, reflecting the most recent market dynamics, the Commission used market share and bidding data covering 2018 in addition to the prior 10 years.

[298] Notifying Party's Response to the Article 6(1)(c) Decision, High Speed Rolling Stock, paragraphs 103-109.

[299] Notifying Party's Response to the Article 6(1)(c) Decision, High Speed Rolling Stock, paragraphs 110-123.

(279) The Notifying Party provided a Consolidated Project List ('CPL') that consists of a comprehensive list of tender procedures that took place, to the best of the Parties' knowledge, over the period 2010-2019. The CPL includes both tenders in which either Alstom or Bombardier participated, as well as the tenders in which neither participated. It provides details of the different tenders, lists other bidders and winners. In the case of awards to consortia, it allocated the related order intakes to the different consortia members.

(280) The Commission performed its bidding analysis on the basis of so-called 'contestable' (competitive) tenders. The information regarding the contestability status of each tender was provided by the Notifying Party. The Notifying Party defined a tender as contestable if, to the best of its knowledge, the procedure was open to competition[300]. Other awards were designated as 'non-contestable' and, unless indicated otherwise, were not used for the bidding analysis[301].

6.2. Very High-Speed trains

(281) The Commission considers that the Transaction does not raise concerns with respect to the overall market for high-speed rolling stock (comprising all trains capable of speed equal to or above 250 km/h). The Parties' combined market shares in the overall market for high-speed rolling stock are markedly lower ([30-40]% worldwide and [40-50]% EEA-wide) than in the market for very high-speed rolling stock.[302] On the overall market for high-speed rolling stock, Siemens, holds a market share comparable to that merged entity's ([30-40]% worldwide and [30-40]% EEA-wide). Additionally, several competitors such as Stadler ([5-10]% EEA, [0-5]% worldwide) and Talgo ([0-5]% EEA, [5-10]% worldwide) remain. Finally, the investigation shows that the loss of competition resulting from the Transaction stems from its impact in very high-speed rolling stock.

(282) Therefore, the competitive assessment addresses the market with respect of which the Transaction raises serious doubts as to its compatibility with the internal market, namely the market for very high-speed rolling stock (trains capable of speed equal to or above 300 km/h), at EEA and worldwide level.

6.2.1. The Parties' activities

(283) Alstom and Bombardier are both active in the supply of very high-speed rolling stock. Bombardier has not sold any high-speed platforms in the past 10 years in the EEA and at global level.

6.2.1.1. Alstom's activities

(284) Alstom's very high-speed rolling stock portfolio includes several very high-speed platforms.

---

300 The term 'contestable' as used in the CPL relates to tenders formally open to competition.

301 Non-contestable tenders under the CPL are usually for repeat orders of rolling stock already supplied by a certain manufacturer in execution of a prior contract.

302 As explained below, the Parties' activities do not overlap in the market for high-speed rolling stock (trains capable of speed between 250 and 300 km/h).

(285) Alstom's very high-speed offering is structured around three platforms (composing the Avelia solutions). These platforms include single-deck and double-deck trainsets, as summarised in the following table.

Table 1: Alstom's Very High-Speed Platforms

Platform	Max Speed	Number of Floors	Relevant Tech. Items	Country Operated
Euroduplex / Avelia double-deck ('Avelia DD')	320 km/h	Double-deck	Concentrated traction	In the EEA: Belgium, France, Germany, Luxembourg, Spain, Switzerland Outside the EEA: Morocco
Avelia Liberty	350 km/h	Single-deck	Concentrated traction; tilting	Outside the EEA: United States
AGV (Automotrice à Grande Vitesse)	360 km/h	Single-deck	Distributed traction	In the EEA: Italy

Source: Form CO, Chapter B.1, Table 1.

(286) Alstom's very high-speed platforms have been sold and operate in the EEA and in Morocco (ONCF – TGV Duplex) and the US (Amtrak – Liberty).[303]

(287) The TGV du Futur is the new generation of Alstom's Euroduplex double-deck platform and has a maximum speed of 320 km/h. In May 2016, Alstom won an open and competitive tender to enter into a '*Partenariat d'Innovation*' with SNCF aimed at developing a new generation of high and very high-speed rolling stock designed to specifically meet SNCF's requirements, such as high capacity, concentrated traction, a significantly lower selling price, and reduced operating costs, especially for energy consumption. SNCF placed an order for a customer-specific version of the TGV du Futur, named 'TGV 2020' in July 2018. The platform's name is 'Avelia Horizon'.[304]

(288) The Liberty is a US-specific single-deck platform, with a maximum speed of 350 km/h. The Liberty is fitted with tilting technology which allows the train to reach higher maximum speeds in curves. The Liberty is operated by Amtrak and runs between Boston and Washington, on the North-Eastern Corridor.[305]

(289) The AGV is a single-deck train with a maximum speed of 360 km/h. It was last sold to the Italian private operator NTV in 2008.[306]

---

303 Alstom also offers a high-speed platform, the Pendolino, with an authorised and operating speed of 250 km/h. In the Siemens/Alstom decision, the Commission indicated that Alstom won in 2018 a very high-speed call for tenders in Spain, organized by a private company (Intermodalidad de Levante, or "ILSA"), […]. […], ILSA eventually decided to enter a consortium with Trenitalia for the Adif tender. The ILSA/Trenitalia consortium therefore decided to procure very high-speed rolling stock from Bombardier-Hitachi (Form CO, Chapter B.1, paragraph 62). […] (Form CO, footnote 114).

304 The contract between Alstom and SNCF is a '*Partenariat d'Innovation*'. In July 2015, SNCF launched a tender for the production of the '*TGV 2020*' which Alstom won in May 2016. SNCF has explained that Alstom selection had followed the typical tendering process, through an open and competitive call for tender involving several contestants (Minutes of the call with SNCF, 16 April 2020). SNCF placed an order for the TGV 2020 in July 2018. The platform's name is '*Avelia Horizon*' (Form CO, Chapter B.3, paragraph 62). This order is one of the largest order of high-speed trains in the EEA in the past 10 years.[304]

305 Form CO, Chapter B.3, paragraph 62.

306 Form CO, Chapter B.3, paragraph 62.

6.2.1.2. Bombardier's activities

(290) Bombardier is active in very high-speed rolling stock where it operates through several consortia[307] with other suppliers.[308] Outside China, Bombardier's very high-speed train offering consists of the Zefiro V300, a very high-speed solution with a maximum speed of 360 km/h (operating at 300 km/h), which was jointly developed and produced with AnsaldoBreda (now Hitachi).[309]

(291) In 2010, the consortium Hitachi/Bombardier was awarded a contract with Trenitalia. Trenitalia places a repeat order for additional rolling stock in 2019[310] and two options for services in 2014 and 2017. In addition, the consortium Hitachi/Bombardier expects to be awarded a very high-speed project in Spain for the supply of 21 Zefiro V300 trainsets and 30 years maintenance to Intermodalidad de Levante, S.A. ('ILSA')/Trenitalia. Bombardier and Hitachi expect to sign the contract in 2020.[311]

(292) With respect to the Trenitalia contract, the rolling stock scope of the 2010 order has been delivered in its entirety. The outstanding work relates to maintenance and certain deliverables in terms of rolling stock performance. The rolling stock and maintenance scope of the 2019 repeat order [*Confidential information on Bombardier's contract with Hitachi and Trenitalia*]. The split of work for both the 2010 and 2019 Trenitalia orders and for the 2017 retrofit is c. […]% for Hitachi and c. […]% for Bombardier.

(293) In China, Bombardier offers the very high-speed platform CRH380 through a joint venture controlled by CRRC.[312]

6.2.2. Market shares

(294) The Parties combined position in the very high-speed rolling stock market is indicated in the following table.[313]

[307] Bombardier has bid on a standalone basis but has not won any very high-speed tender in the past 10 years in the EEA and outside the EEA.

[308] The Parties' activities strictly overlap in very high-speed rolling stock market only (and not in the high-speed rolling stock market, comprising trains capable of speed between 250 km/h and 299 km/h, since Bombardier did not bid in any high-speed rolling stock tender in the past 10 years).

[309] Form CO, Chapter B.1, paragraph 65. The cooperation between Bombardier and Hitachi takes the form of a temporary association of enterprises (Form CO, Chapter B.1, paragraph 72).

[310] The 2010 Trenitalia order and the 2019 option for 14 additional trainsets each include a 10-year maintenance period starting from the delivery of the first train (extendable by 5 year periods).

[311] Both Trenitalia and ILSA contracts include services: […] year maintenance and a […]-year extension option under the 2010 contract and […]-year maintenance under the 2019 repeat order (Form CO, Chapter B.1, paragraph 74)

[312] Form CO, Chapter B.1, paragraph 172. In addition, the consortium CRRC/Bombardier operates a high-speed platform in China, the CRH1 (maximum speed of 250 km/h).

[313] Market shares for consortia (including the consortium between Bombardier and Hitachi for the provision of the Zefiro V300) are attributed to the consortia members according to their respective share in the overall rolling stock contract. For projects in which suppliers acted as sub-suppliers to the contract winner, market shares are solely attributed to the respective prime contractor.

Table 2: Market Shares – 2010-2019 Order Intake (by value)

Competitor	Worldwide (excl. China, Japan, Korea) 2010-2019	EEA (incl. Switzerland) 2010-2019
Alstom	[40-50]%	[50-60]%
Bombardier	[5-10]%	[10-20]%
Combined	**[50-60]%**	**[60-70]%**
Siemens	[10-20]%	[10-20]%
Hitachi	[10-20]%	[10-20]%
Stadler	[0-5]%	[0-5]%
Talgo	[10-20]%	[5-10]%
CAF	[0-5]%	[0-5]%
CRRC	[0-5]%	[0-5]%
Others[314]	[5-10]%	[0-5]%
Total	100%	100%

Source: ROS, market share table provided by the Notifying Party

(295) Based on the market share figures, the Transaction will strengthen Alstom's leading position in the very high-speed market, both at worldwide and EEA level.[315] The two closest competitors' market share in very high-speed (Siemens and Hitachi) will be about 5 times inferior to the merged entity, both at worldwide and EEA level. In addition, Hitachi's market share exclusively stems from the very high-speed platform developed in consortium with Bombardier, i.e., the Zefiro V300.

6.2.3. Results of the market investigation and the Commission's assessment

6.2.3.1. The merged entity's position

(A) The Notifying Party's view

(296) The Notifying Party submits that Bombardier's sales in very high-speed rolling stock relate solely to its partnership with Hitachi (outside China). It indicates that Bombardier and Hitachi have only been awarded with two projects in the EEA to date, namely, as stated below, the 2010 Trenitalia project in Italy (including one option for additional rolling stock called in 2019 and two options for services called in 2014 and 2017) and the expected win of the ILSA project in Spain (for the supply of 21 Zefiro V300 trainsets and […] years maintenance to ILSA/Trenitalia).[316]

(297) The Notifying Party further states Bombardier's limited position in very high-speed rolling stock is demonstrated by the fact that all its stand-alone bids have been unsuccessful, as acknowledged by the Commission in *Siemens/Alstom*.

314 Kawasaki, JR East, Toshiba.

315 For the sake of clarity, in this present section, the term 'EEA' includes Switzerland and 'global' or 'worldwide' level exclude Japan, China and South Korea, in accordance with the market definition set out above.

316 Form CO, Chapter B.1, paragraph 74. Considering that the consortium Hitachi/Bombardier has not officially been awarded with the ILSA project, the sales value coming from the latter has not been included in the market share estimates indicated at paragraph (294) of this decision.

(298) The Notifying Party states that the joint bid with Hitachi in the context of the ongoing HS2 tender in the UK further illustrates that Bombardier depends on cooperation with other suppliers to submit competitive bids for very high-speed projects. Despite having pre-qualified on a stand-alone basis, Bombardier and Hitachi submitted a joint bid on 5 June 2019. The Notifying Party explains that Bombardier decided to enter into a consortium agreement primarily because its track record in very high-speed in the past 10 years strictly relies on its consortium with Hitachi.[317]

(299) In addition, the Notifying Party states that Bombardier's share, which was [10-20]% in the past 10 years in the EEA, dropped to only [0-5]% in the past five years and relates solely to the 2010 Trenitalia order for the jointly developed Zefiro V300 and a non-contestable follow-on order in 2019.[318]

(300) Finally, considering that Bombardier's presence in the market for very high-speed rolling stock relates to its consortium with Hitachi, the Notifying Party states that the market share increment in the very high-speed market is limited and therefore will not lead to any impediment of competition.[319] According to the Notifying Party, an assessment of the Transaction on the basis of the sole contestable tenders would further confirm its limited impact on the structure of the market.[320]

(B) The Commission's assessment

(B.i) Market shares and structural impact

(301) The Commission notes that, as set out in table 2 above, the Transaction, combining Alstom's and Bombardier's competitive position, would lead to very high market share for the merged entity in the market for very high-speed rolling stock at EEA and worldwide level.

(302) After the Transaction, the merged entity would represent [60-70]% of the very high-speed rolling stock market at EEA level (Alstom [50-60]%, Bombardier [10-20]%) and [50-60]% at global level (Alstom [40-50]%, Bombardier [5-10]%). Under paragraph 17 of the Horizontal Merger Guidelines, the merging parties' very large market shares constitute evidence consistent with the existence of a dominant market position.

(303) The main remaining competitor in the market for very high speed rolling stock would be Siemens, whose size will be about 1/6th of the new entity at EEA level and 1/5th at global level. In addition, besides Hitachi, whose competitive position will be further analysed below, Talgo will also be active but would represent a very modest share of the market ([5-10]%). The situation is comparable on the worldwide market, where the merged entity's market share will be 4 times higher than the second supplier, Talgo. Other competitors (CRRC, Japanese suppliers) have very limited sales outside of their domestic markets.[321].

317 Form CO, Chapter B.1, paragraphs 82-83.
318 Form CO, Chapter B.1., paragraph 217.
319 Form CO, Chapter B.1, paragraph 123.
320 Form CO, Chapter B.1., paragraph 120.
321 CRRC currently has no very high-speed trains in operation outside of China.

(304) As concerns Alstom's position, the Commission consider that, contrary to the Notifying Party's view, the calculation of Alstom's market share should include its '*TGV du Futur*' sales to SNCF.[322] In this respect, the Commission notes that, contrary to the Notifying Party's claims, this project was awarded to Alstom following a competitive tender for SNCF's '*Partenariat d'innovation*'. SNCF's project was therefore not reserved to Alstom. Rather, it was awarded following a European tender in the course of which SNCF discussed with several suppliers in order to assess the potential bidders' capacities to fulfil its requirements. In addition, the selection process followed a several steps process aiming to select the best offer under specific selection criteria. SNCF further confirmed that two other suppliers initially participated in the tender but ultimately did not submit offers.[323]

(305) As concerns Bombardier's position, despite the fact that the increment stemming from the Transaction amounts to [10-20]% at EEA level (and [5-10]% at worldwide level), the Commission considers that the structural impact on competition resulting from the Transaction will be significant. The Bombardier/Hitachi consortium's sales were generated by the Zefiro V300 platform, which was awarded two very high-speed projects in the EEA: a contract with Trenitalia (a subsidiary of Ferrovie dello Stato Italiane, 'FSI') in 2010 (the second largest very high-speed project at global level in the past 10 years[324]), with a follow-on order in 2019, and an expected forthcoming contract with ILSA. [*Market intelligence on the Parties' customers*]. However, the entry of Trenitalia in ILSA's shareholding[325] led to the selection of Hitachi/Bombardier's Zefiro V300 platform. In that regard, Trenitalia has explained to the Commission that the final selection of the Zefiro V300 platform stemmed from Trenitalia's choice to procure the same platform as the one it currently operates in Italy, and which it considers to be *'the best in class train at European level, in terms of operating performances.*'[326]

(306) As a result, the competitive position of the Bombardier/Hitachi consortium is significant and represents a significant part of the very high-speed market both at EEA and global level. The Zefiro V300 platform thus accounts for [20-30]% of the very high-speed market in the EEA (Hitachi [10-20]%, Bombardier [10-20]%) and [10-20]% of the market at global level (Hitachi [10-20]%, Bombardier [5-10]%). As explained in detail in section B.ii below, the significant competitive constraint represented by the Zefiro V300 platform would therefore be eliminated as a result of the Transaction, thus aggravating its structural impact.

(307) Finally, the Notifying Party's argument relating to Bombardier's limited position over the past 5 years does not change the conclusion of the competitive assessment.

---

322 This project is the largest order of very high-speed trains at worldwide level in the past 10 years. The Notifying Party explains that approximately [20-30]% of Alstom's worldwide very high-speed market share in the 2010-2019 period and approximately [30-40]% in the 2015-2019 period relates to the SNCF's TGV du Futur order (Form CO, Chapter B.1, paragraph 124.

323 Minutes of the call with SNCF, dated 16 April 2020.

324 The largest order of very high-speed rolling stock in the world in the past 10 years is the '*TGV du Futur*' tender, from SNCF, for a project value of almost EUR 2.8 billion. The tender has been awarded to Alstom in July 2018 (Form CO, Chapter B.1,paragraph 124).

325 Trenitalia has acquired joint control over ILSA (cleared by the Commission on February 11, 2020 (case M.9768)).

326 Reply of Trenitalia to RFI 13.

(308) As found in the *Siemens/Alstom* decision,[327] the market for very high-speed rolling stock is characterised by large and infrequent tenders. As in prior cases involving markets characterised by lumpy demand, market shares should be analysed over several years.[328] Calculating market shares based on a more limited length of time restricts the underlying number of tenders to very few, with the consequent risk of providing a very distorted view of each player's competitive position. In the present case, calculating market shares over the 2015-2019 period instead of the 2010-2019 period significantly reduces the number of worldwide tenders covered, from 9 to 4 closed tenders in very high-speed rolling stock (from 4 to 2 at EEA level, including Switzerland). In this context, because market share calculated over a short period of time are based on a very small sample of tenders, any individual win or loss inevitably results in a very significant impact, which does not however accurately reflect appropriately the competitive dynamics.

(309) In any case, the Commission notes that the structural impact of the Transaction remains particularly important when examining the Parties' market shares over the past 5 years. More precisely, over the past 5 years, the merged entity represents [80-90]% of the market at EEA level (Alstom [70-80]%, Bombardier [0-5]%) and [60-70]% at global level (Alstom [60-70]%, Bombardier [0-5]%). Furthermore, the Commission notes that Bombardier's market share is underestimated, since, as further explained below, it is in the process of signing an agreement with the railway operator ILSA in Spain for the delivery of several units of the Zefiro V300. Bombardier's position will therefore increase in the very short term.

(310) Moreover, the structural impact of the Transaction must be assessed by considering that it will eliminate the Zefiro as a competitive constraint, since Hitachi cannot maintain the platform on a standalone basis. As a result, the impact of the merger will be greater than the mere acquisition of Bombardier's market share. Accordingly, the Zefiro V300 accounts for around [10-20]% of the sales in the very high-speed market over the past 5 years both at EEA and global level. The Transaction will therefore have a significant impact on the structure of the market even if assessed over the past 5 years.

(311) As a consequence, the combination of the Parties' market share demonstrates the merged entity's very strong position in the market for very high-speed rolling stock.

(B.ii) The Transaction risks eliminating the Zefiro V300 platform from the market

(312) In the context of Trenitalia's contract, Bombardier's contribution to the Zefiro V300 platform accounted for c. […]%[329] of the scope of the platform. Bombardier and Hitachi each manufacture components and provide the services that belong to their respective scope of work of the joint platform.[330]

[327] Commission Decision in case M.8677 – *Siemens/Alstom* (2019), recitals 184 et seqq.

[328] See Commission decision in Case M.7278 – GE/Alstom (2015), Annex 1 - The Commission's Economic Analysis of Bidding Data, recital 189, page 55.

[329] […]% for Bombardier, […]% for Hitachi.

[330] Form CO, Chapter B.1, paragraph 76.

– With respect to rolling stock, Bombardier's scope covers [*Information on Bombardier's contracts with Hitachi*].[331]

– With respect to maintenance, Hitachi and Bombardier [*Information on Bombardier's contracts with Hitachi*].[332]

(313) The Notifying Party explains that the allocation of work between Bombardier and Hitachi will [*Information on Bombardier's contracts with Hitachi*] for the ILSA project. [*Information on Bombardier's contracts and ongoing contractual negotiations with Hitachi*].[333]

(314) Furthermore, the Notifying Party has indicated the currently envisaged split of work for the overall HS2 contract (including rolling stock and services) is […] between Bombardier and Hitachi. Bombardier's rolling stock scope of work is approximately […]% (including [*Information on Bombardier's contracts with Hitachi*]), and its maintenance scope of work is approximately […]%.[334]

(315) If follows from the above that Bombardier's contribution to the development of the Zefiro V300 platform is critical.

(316) As a consequence, Hitachi is dependent on Bombardier for the development of the Zefiro V300 and the iteration of the Zefiro platform offered to HS2 and would not be able, without Bombardier's contribution, to continue manufacturing and supplying the platform on a standalone basis.

(317) Indeed, absent a partnership with Bombardier, Hitachi would have to build out the capabilities that Bombardier currently deploys for producing its part of the Zefiro V300, which would take years and require significant costs. In that regard, Hitachi has indicated to the Commission that '*from Hitachi Rail's perspective, the Transaction could have drastic effects on the VHS* [very high-speed] *market by hampering both Hitachi Rail's possibilities to participate in new VHS rolling stock tenders as well as the ongoing production of the Zefiro platform and the provision of the related services, since, as stated above, this platform has been developed – and it is being offered - in partnership with BT [Bombardier]*.' The company further stated that '*If Hitachi Rail had to produce the Zefiro platform alone, it would have to build out the capabilities that BT currently deploys for producing its part of the platform, redesign and manufacture a new traction system and electronic switches* […]*'*.[335]

(318) In addition, as a consequence of Hitachi's sole involvement in the production of the Zefiro V300, the company would need to re-homologate the platform in view of the required redesign and manufacturing of a new traction system and electronic

---

331 Hitachi's scope covers [*Information on Bombardier's contracts with Hitachi*].

332 The 2010 Trenitalia order and the 2019 option for 14 additional trainsets each include a […]-year maintenance period starting from the delivery of the first train (extendable by […] year periods). The maintenance period started in […] when the first train from the 2010 order was delivered. Maintenance for the initial 2010 order will thus last until […]. The […]-year maintenance for the 2019 option was actioned in 2019 with the option and will therefore last until […]. Therefore, while maintenance is initially provided for […] years, the contracts provide […] potential […]-year extensions. Maintenance could therefore be provided for […] years (i.e., the whole lifecycle of the rolling stock).

333 Form CO, Chapter B.1, paragraph 77.

334 Form CO, Chapter B.1, paragraph 84.

335 Hitachi's submission to the Commission, dated 2 July 2020.

switches: '[T]*herefore,* [Hitachi] *would need to re-homologate the platform leading to unnecessary additional costs for operators who might decide to buy the platform. As the overall phase out timing from BT* [Bombardier Transportation] *to Hitachi Rail may likely require some years, the disruption of BT's partnership with Hitachi Rail could thus delay or even stop altogether the manufacturing of the Zefiro platform.*'[336]

(319) In that regard, the Notifying Party indicated that '*Alstom has no current plans to vary or discontinue any of Bombardier's partnerships or sub-contracting agreements with third parties post-Transaction. The Combined Entity is committed to pursue the cooperation with Hitachi/Ansaldo for ongoing projects, i.e., projects that are currently ongoing (Trenitalia) or for which bids are ongoing (ILSA, HS2 and new Trenitalia order).*'[337] However, the Notifying Party's intent in this respect is non-binding. Furthermore, nothing would prevent the Notifying Party from discontinuing the platform besides ongoing contracts. In any event, absent specific remedies, the Zefiro would cease to compete with Alstom on the very high-speed rolling stock market.

(320) As a result, the Transaction would eliminate competition from a [20-30]% market share supplier at EEA level and a [10-20]% market share supplier at global level.

(321) In addition, such lessening of competition would significantly reinforce Alstom's leadership in the market for very high-speed rolling stock, as it would eliminate a competing platform with a strong track record. Indeed, the Zefiro V300 boasts one of the strongest track record in the market for very high-speed rolling stock both at EEA and global level. The Trenitalia contract is the second most important order for very high-speed trains in the past 10 years, after SNCF's '*TGV du Futur*' project, won by Alstom.[338]

(322) As a result of the Transaction, the merged entity will thus hold the main very high-speed platforms with a proven track-record in the EEA and globally, with platforms operated in France, Italy, Spain, Belgium, Germany, Luxembourg, Spain, Switzerland, Morocco and the United States.[339] While Siemens' platforms are also operated in several countries (i.e. Belgium, China, France, Germany, Netherlands, Spain, Russia, Turkey and the UK), the Commission notes that Talgo's track record is limited compared to its two main competitors, since the company has not sold very high-speed trains outside of Spain, except in Saudi Arabia, where it won the SRO (Saudi Railways Organization) project in 2011.[340]

(323) Furthermore, the Transaction will be all the more detrimental to competition that the market for very high-speed rolling stock is, already prior to the Transaction, a concentrated market from the supply-side perspective. In this market, Alstom is the leading supplier by far ([50-60]% in the EEA and Switzerland), followed by the consortium Hitachi/Bombardier ([20-30]% in the EEA and Switzerland).

---

336 Hitachi's submission to the Commission, dated 2 July 2020.

337 Form CO, Chapter B.1, paragraph 159.

338 After Deutsche Bahn's order in 2011 for a value of almost €3.7 billion, won by Siemens, and SNCF's '*TGV du Futur*' project.

339 Even when excluding the Zefiro V300 from the merged entity's portfolio.

340 In that regard, Talgo signed a component sub-supply and maintenance agreement with Bombardier.

(324) The concentration of the market for very high-speed rolling stock is illustrated by the HHI levels pre- and post-merger. The HHI level, already largely higher than 2,000 before the Transaction ([2000-3000] at worldwide level and [3000-4000] at EEA level) will be considerably higher after the Transaction ([3000-4000] at worldwide level and [4000-5000] at EEA level), with a delta greatly above 250 ([0-1000] at worldwide level and [1000-2000] at EEA level).[341]

(325) It follows from the above that the structural impact of the Transaction will be very significant. It will remove Alstom's largest competitor from the very high-speed rolling stock market, both at EEA and global level, reinforcing Alstom's position significantly.

6.2.3.2. Closeness of competition

(A) The Notifying Party's view

(326) The Notifying Party argues that the Parties are not close competitors in the market for very high-speed rolling stock.

(327) First, the Notifying Party relies on the results of the market investigation in the Siemens/Alstom case, which indicated that Siemens, not Bombardier, was Alstom's closest competitor in the market for very high-speed rolling stock.[342] In that market, the Commission stated that '*competitors unanimously consider*[ed] *that* [Siemens and Alstom] *are each other's closest competitors*' and that customers '*also clearly consider*[ed] *that the Parties are close competitors, in particular in terms of technical capabilities.*'[343]

(328) Second, bidding data related to the Parties' participation in tenders would show that the Parties are not close competitors. Alstom competed twice more often against Siemens and Talgo ([…] and […] tenders respectively) than against Bombardier ([…] tenders, […] of which in the EEA[344]). It further states that, in the 2010-2019 period, the Parties overlapped in only [20-30]% of contestable tenders, versus [50-60]% for Alstom and Siemens, and that Alstom lost to Siemens ([…]) and Talgo ([…]) more often than to the Bombardier/Hitachi consortium ([…]).[345]

(329) Third, the Notifying Party states that the Parties' internal documents show that the Alstom and Bombardier are not close competitors. In that regard, the Notifying Party cites internal documents in which other competitors are identified as one of the Party's most important competitive threat in the context of tenders in the EEA and in Turkey.[346]

---

341 These estimates include Hitachi's market share in the very high-speed rolling stock market. Thus, the removal of Hitachi of the market would lead to an even higher concentration (above [5000-10000]).

342 Form CO, Chapter B.1, paragraph 111.

343 Form CO, Chapter B.1, paragraph 111, and Commission Decision in case M.8677 – *Siemens/Alstom* (2019), recitals 345 and 346.

344 The 2010 Trenitalia tender and the 2016 Renfe tender. The third one, outside the EEA, is the 2013 TCDD tender in Turkey.

345 Form CO, Chapter B.1, paragraph 113. The bidding data provided in the Form CO relate the overall market for high-speed rolling stock (comprising all trains capable of speed equal to or above 250 km/h).

346 Form CO, Chapter B.1, paragraphs 114-115.

(B) The Commission's assessment

(330) As stated in the *Siemens/Alstom* decision,[347] suppliers that bid in tenders in the market for very high-speed rolling stock compete on multiple parameters. An important parameter relates to the trainsets offered to customers. Customers issue technical specifications applying to the rolling stock they wish to procure that suppliers must match in order to be awarded supply contracts. Other parameters also apply and relate to the conditions of manufacturing and delivery of trains, a supplier's expertise, know-how and financial viability, supply-chain management, engineering and R&D capacity in case of specific developments and other factors.

(331) It follows that tender procedures for the procurement of very high-speed rolling stock aim at fostering competition not just for the supply of trainsets, but also on the basis of the supplying entity's ability to fulfil the requirements of a rolling stock project including, but not limited to, a supplier's competitiveness in rolling stock manufacturing, assembly and delivery, as well as its experience and viability.

(332) Consequently, the assessment of closeness of competition between the Parties cannot be limited to a comparison of the observable characteristics of their existing platforms, but must also take into account other overall factors (such as track-record, expertise, portfolio, manufacturing locations, ability to customise, etc.) that are relevant for customers when awarding tenders.

(333) It follows that the assessment of closeness of competition between the Parties should rely on an analysis of the closeness of their product portfolios as well as, more broadly, on the closeness of the Parties' overall positions as alternative suppliers in the market for very high-speed rolling stock.

(334) In that regard, the Commission considers that the Parties are particularly close competitors in the market for very high-speed rolling stock.

(335) First, the Commission notes that the Parties are among the few rolling stock suppliers able to provide very high-speed platforms in the EEA and at global level. As stated above, only four very high-speed suppliers are currently active in the EEA, i.e., Alstom, the consortium Hitachi/Bombardier, Siemens and Talgo. The very high-speed platforms offered by these suppliers are able to meet the customers' demand in trains operating at speed equal to or above 300 km/h. In that regard, the market investigation confirmed that customers regularly invite all or part of these four suppliers to submit bids and consider them as credible bidders in the context of very high-speed rolling stock tenders. The same consideration applies at global level, where the market shares of the remaining non-European competitors (such as CRRC) remain very limited compared to European suppliers and the merged entity in particular.[348]

(336) Among the suppliers for very high-speed rolling stock, the Parties have the strongest track-record, followed by Siemens, as illustrated by their respective market shares at EEA and global level. As confirmed by the market investigation and further

[347] Commission Decision in case M.8677 – Siemens/Alstom (2019), recitals 332 et seqq.

[348] The Commission notes that, in any event, concentration of the market for very high-speed rolling stock in the EEA (including Switzerland) necessarily leads to concentration of the market at global level, since the EEA (including Switzerland) represents [60-70]% of the demand in very high-speed

explained below, a strong track-record is considered to be one of the most important criteria for customers when selecting a very high-speed rolling stock supplier

(337) Second, the bidding analysis shows that the Parties exert a very important competitive constraint on each other in the context of the very high-speed tenders issued at EEA and global level, as they frequently bid for the same projects.

(338) Due to the infrequency of the tenders, the number of instances in which the Parties competed is necessarily limited. Nevertheless, the Commission notes that the Parties have competed head-to-head for most opportunities in the EEA and global level in the past ten years. In that regard, the Commission notes that, in the past 10 years, the Parties were simultaneously present in [60-70]% of the very high-speed projects issued in the EEA and [50-60]% of the projects at global level.[349] In the context of the limited number of suppliers active in the very high-speed market at EEA and global level and submitting bids to tenders, the Parties exert on each other very important competitive constraint in each tender in which they participate. Furthermore, the Commission notes that the competitive constraint exerted by Bombardier is particularly important on Alstom, as Bombardier systematically participated in [90-100]% tenders in which Alstom was also present at both EEA and global level in the past 10 years.

(339) In addition, examples of ongoing projects (ILSA and HS2) demonstrate the current closeness of competition between the Parties and illustrate the constraints that they exercise on one another.

(340) In the ongoing ILSA project, for which the Parties' platforms were successively chosen as the preferred solution. In 2017, the Spanish high-speed infrastructure manager (Adif AV) tendered slots for operation of the Spanish high-speed network. Six operators, Renfe, ILSA, Rielsfera (subsidiary of SNCF), Talgo Globalia alliance, Globalvía and Eco Rail) bid, each offering their own preferred rolling stock supplier. Adif awarded a slot to the ILSA/Trenitalia consortium in November 2019.[350]

(341) The Notifying Party explains that, as found in the *Siemens/Alstom* decision, ILSA initially selected Alstom's [*Information on Alstom's bidding strategy*]. [*Market intelligence on the Parties' customers*][351]. In that regard, Trenitalia has explained to the Commission that the final selection of the Zefiro V300 platform stemmed from Trenitalia's choice to procure the same platform as the one it currently operates in Italy, and which it considers to be *'the best in class train at European level, in terms of operating performances.*'[352]

---

[349] The list of the projects issued in the past 10 years is the following: Trenitalia (Italy, 2010), ONCF (Morocco, 2010), Eurostar (UK, 2010), Saudi Railways Organisation (2011, Saudi Arabia), TCDD (Turkey, one project in 2013 and another one in 2018), Renfe (Spain, 2016), SNCF (France, 2018), and the two ongoing HS2 and ILSA projects. Bombardier's bid in consortium and on a standalone basis have been included in the percentages.

[350] ILSA will operate 16 services (one train per hour per direction) on three corridors, namely (i) the corridor Madrid-Barcelona-French border, (ii) the corridor Madrid-Valencia/Alicante and (iii) the corridor Madrid-Seville/Málaga.

[351] Trenitalia has since acquired joint control over ILSA (cleared by the Commission on February 11, 2020 (case M.9768)).

[352] Reply of Trenitalia to RFI 13.

(342) It follows from the above that Alstom's and Bombardier's platforms were ILSA's two preferred solutions. Trenitalia's choice to favour the Zefiro V300 platform, after its involvement in ILSA, shows that the platform remains highly competitive.

(343) Moreover, the Parties are currently competing for the ongoing HS2 tender in the UK. HS2 is the public body in charge of developing and managing a new very high-speed railway (up to 360 km/h) linking up London, the Midlands and the North of England. Phase One will open between 2029 and 2033 and run from London to Birmingham. Phase Two will extend the route from Birmingham to Crewe and to Manchester and Leeds. A tender for the procurement of high-speed rolling stock for Phase One railway is currently ongoing. The tender is planned to be awarded by the end of 2020 or in early 2021 at the latest. In that regard, HS2 has indicated to the Commission that five bidders passed the prequalification stage and submitted tenders, namely Alstom, the consortium Bombardier/Hitachi, Siemens, CAF and Talgo. At the moment, all five offers remain in the procurement process.[353] As mentioned above, Alstom's, Siemens' and the consortium Hitachi/Bombardier's bids appear to be the most credible, given that CAF qualified as a bidder after a legal action and Talgo has never delivered very high-speed rolling stock in the EEA outside its domestic market (Spain).

(344) Third, the results of the market investigation largely confirmed that the Parties are particularly close competitors. A majority of customers indicated that Siemens and Bombardier are the closest competitors to Alstom in terms of product offering and technical capabilities.[354] Accordingly, Alstom and Siemens are considered by a majority of customers to be the closest competitors to Bombardier, either operating on a standalone basis and or in consortium with Hitachi.[355]

(345) In addition, customers have been asked to rank the very high-speed suppliers which should be considered as Alstom's or Bombardier's best alternative in terms of products, competitiveness, quality and innovation. The results show that Siemens is on average considered to be Alstom's closest competitor, closely followed by Bombardier (on a standalone basis or in consortium Hitachi).[356] Other competitors, such as Talgo, are ranked largely below Siemens and Bombardier. For instance, one major customer indicated that '[t]*he consortium between Bombardier and Hitachi is the best alternative* [to Alstom] *because it represents the fusion of high-level of know-how, techniques and production capacity.*' The same findings apply when customers are asked to rank Bombardier's closest competitors: Siemens is considered to be Bombardier's closest competitor, closely followed by Alstom.[357]

(346) Responses provided by competitors are in line with the customers' view, with a majority considering that Siemens and Bombardier (on a standalone basis or in consortium Hitachi) are Alstom's closest competitors.[358] For instance, a competitor stated that '*Siemens, Alstom and Bombardier (alone and/or in consortium with Hitachi/Ansaldo) are the only three credible players with proven platforms in the*

353 Minutes of the call with HS2, dated 29 April 2020.
354 Q2, replies to questions 21.1. and 21.2.
355 Q2, replies to questions 21.3., 21.4., 21.5. and 21.6.
356 Q2, replies to question 28.1.
357 Q2, replies to question 28.2.
358 Q1, replies to question 24.1.

EEA. The other manufacturers lack either a platform that is operational outside its home market, if operational at all, or have to rely on Bombardier as a consortium partner to be able to have an offering.' Accordingly, Siemens and Alstom and, to a lesser extent, Talgo, are considered to be Bombardier's closest competitors by a large number of very high-speed rolling stock suppliers.[359] A competitor indicated in that regard that '[i]*t can be checked that Very High Speed tenders in the EEA in the past years have been awarded in most cases to Alstom, Siemens, Bombardier/Hitachi, or Talgo. Outside of EEA, Rotem and Japanese holdings have very high speed Rolling stock in their portfolio, but not so closest* (sic) *to Bombardier product offering.*'[360] In addition, a competitor indicated that the Transaction will lead to the combination of the few companies with "*a track record of worldwide projects.*"[361]

(347) In addition, a majority of competitors indicated that the Parties, along with Siemens, have the best proven capability to innovate and to customise their platforms according to the customers' needs. They further pointed out the strong local footprint of manufacturing and services facilities owned by the Parties.[362]

(348) Fourth, the Commission notes that the excerpt of the Parties' internal documents in the context of five tenders issued in the EEA and outside the EEA quoted by the Notifying Party in the Form CO do not demonstrate the lack of competitive closeness between the Parties. Indeed, among the tenders concerned by these excerpts, the Commission notes that:

- Two tenders (2014 SBB (Switzerland), ongoing TCDD (Turkey)) concern high-speed rolling stock[363] (trains capable of speed below 300 km/h), for which the Parties' activities do not overlap due to the lack of Bombardier's sales in the past 10 years. The Commission further notes that Bombardier did not bid in the 2014 SBB tender;

- Two tenders (2013 TCDD (Turkey) and 2016 Renfe (Spain)) concern very high-speed rolling stock. However, the Commission notes that Bombardier bid as a standalone supplier in these tenders. As a consequence, Alstom's internal assessment related to the threat represented by Bombardier's bid did not concern Bombardier as a supplier offering a very high-speed platform in consortium with Hitachi;

- The fifth one (HS2 (UK)) is ongoing and the outcome of the tender remains unknown. There are currently five bidders in the tender, namely Siemens, Alstom, the consortium Hitachi/Bombardier, CAF and Talgo. However, the bids presented by Siemens, Alstom and the consortium Hitachi/Bombardier may be considered as the more credible, given that CAF qualified as a bidder after a threat of legal action and Talgo has never delivered very high-speed rolling stock in the EEA outside its domestic market (Spain).

[359] Q1, replies to question 24.2.
[360] Q1, replies to question 24.2.
[361] Q1, replies to question 33.2.
[362] Q1, replies to question 26.
[363] Form CO, footnote 237; CPL.

(349) It follows from the above that the Parties compete closely in the market for very high-speed rolling stock at EEA and global level.

6.2.3.3. Barriers to entry

(A) The Notifying Party's view

(350) The Notifying Party considers that barriers to entry are limited for very high-speed rolling stock at EEA and global level.

(351) At global level, the Notifying Party states that very high-speed customers do not face any significant barriers to switch rolling stock supplier. According to the Notifying Party, the large number of suppliers active in the market enable customers to purchase rolling stock from a wide range of alternatives. The Notifying Party provides several examples of customers who switched suppliers, including (i) the 2010 Eurostar tender, where Eurostar changed from Alstom to Siemens; (ii) SBB switching from Alstom to Stadler in 2014; and (iii) Spanish operator Renfe procuring rolling stock from various suppliers including Talgo, Alstom, Siemens, and a CAF-Alstom consortium. More generally, the number of bidders participating in contestable tenders demonstrates the possibility for customers to change rolling stock supplier. For instance, Renfe received applications from five suppliers for its 2016 tender (Alstom, CAF, Siemens, Talgo, and Bombardier) and CRRC, Hyundai Rotem, Siemens, Alstom, CAF, and Bombardier all competed in the pre-qualification phase of the 2018 TCDD tender in Turkey.[364]

(352) At EEA level, the Notifying Party considers that barriers to enter are not such to deter entry and expansion within the EEA for rolling stock suppliers for the following reasons.

(353) First, the Notifying Party considers that all competitors have sufficient technical and financial capabilities to enter or expand their position across the EEA. The Notifying Party considers that several suppliers are able to provide very high-speed rolling stock in the EEA, including Siemens, Talgo, Hitachi, CAF or CRRC. Regarding the latter specifically, the Notifying Party points out the fact CRRC is the largest global rolling stock player and has demonstrated its technical capabilities through its various complex projects around the world. It further states that CRRC has sufficient knowledge of the European technical standards, since the Chinese company has recently developed a high-speed train with maximum operating speeds of 280 km/h, a 250 km/h version of its EMU whose interior design is 'complying with TSI' and a 350 km/h version complying with international and EN 15 standards regarding safety and reliability.[365]

(354) Second, the Notifying Party states that tender process and bidding costs do not deter competitors from bidding across the EEA. This is evidenced by the high number of competitors participating in very-high-speed tenders. Very high-speed suppliers are able to recoup the bidding and development costs after the award. This reduces the bidders' financial exposure and keeps bidding costs low. More generally, suppliers active in the EEA are highly sophisticated players with significant financial resources and extensive experience in supplying rolling stock. They are therefore

364 Form CO, Chapter B.1, paragraph 206.
365 Form CO, Chapter B.1, paragraph 166.

well aware of the tender process and related costs and will participate in a tender when commercially attractive.

(355) Third, the Notifying Party considers that, contrary to the Commission's consideration in *Siemens/Alstom*, EEA-specific technical requirements do not constitute a barrier to entry in the EEA for non-European high-speed suppliers.

(356) The Notifying Party states that convergence of technical requirements at global level facilitates entry in the EEA. Technical requirements in and outside the EEA are increasingly similar and address the same issues. As such, there is no category of technical requirements existing only in the EEA and not in other countries. European standards have in fact often been the basis for other standards. In certain countries, technical standards are also more stringent than EEA ones, making it easier for foreign suppliers to comply with European requirements.[366] Therefore, non-European suppliers such as CRRC, Hyundai Rotem, Kawasaki, and Hitachi already comply with high standards which do not greatly differ from European requirements.[367]

(357) In addition, the Notifying Party states that the implementation of a single market for rail services (also called Single European Railway Area), notably via the Fourth Railway Package of 2016, has harmonized most of the technical requirements that apply to high-speed trains in Europe by means of TSIs. This harmonisation of technical requirements has facilitated the entry of non-European high-speed suppliers who now face standardised technical requirements and can more easily access and compete throughout the EEA.[368]

(358) Furthermore, according to the Notifying Party, as homologation is only obtained once a tender is won and it is not part of the bidding costs, it does not deter entry or expansion. Suppliers will bid for tenders without prior homologation if these are commercially interesting.[369]

(359) Finally, the Notifying Party explains that commercial references are not an insurmountable barrier to entry and are, contrary to the Commission's consideration in *Siemens/Alstom*, not required to enter the very high-speed market. While useful at first to assess a supplier's experience, commercial references (i.e., the track-record of previous supplies) are not relevant for the customer's ultimate decision during the bidding process. Multiple suppliers have already won tenders without prior commercial references at platform or national level. For instance, Talgo won the 2016 Renfe tender with its Talgo 350 platform without any reference in very high-speed.[370]

(B) The Commission's assessment

(360) Contrary to the Notifying Party's view, the market for very high-speed rolling stock is characterised by high barriers to entry. As stated in the *Siemens/Alstom* decision,

[366] For instance, in the U.S., manufacturers are required to make all cars and related toilets accessible by wheelchair users.

[367] Form CO, Chapter B.1, paragraph 222.

[368] Form CO, Chapter B.1, paragraph 222.

[369] Form CO, Chapter B.1, paragraph 224.

[370] Form CO, Chapter B.1, paragraph 224.

most of these barriers generally apply at EEA and global level. Some barriers are EEA-specific.

(361) With respect to the generally applicable barriers to enter, the Commission notes the existence of several barriers related to the level of technical knowledge, investment and prior experience required vis-à-vis the suppliers.

(362) First, a majority of respondents confirmed that the development of very high-speed rolling stock requires significant investment, technical capabilities and time. In particular, respondents to the market investigation stressed out the fact that the development of a very high-speed platform demand '*considerable*' technological and financial capabilities.

(363) Several reasons explain the required level of investments with respect to very high-speed platforms. For instance, a competitor explains that the strict safety regulatory requirements (e.g. sophisticated aerodynamic and dynamic aspects or crash) applicable to very high-speed platforms entail very important investments and technical developments. Testing a newly-developed platform also requires important investments. In that regard, a competitor explained that '*One of the main technical issues which arise when developing VHS trains is that there are no specific very high-speed circuits to test their units. Therefore, track tests need to be performed on tracks in service and during limited time periods to respect traffic restrictions (for instance, at night). In addition, manufactures need to negotiate agreements with infrastructure operators to carry out special tests.*'[371] This financial and technical barrier to enter the high-speed and very high-speed market is confirmed by a majority of customers. For instance, one of them indicated that '*The development of a high speed train, starting from conception phase to the final certification requires specific technical capabilities, as well as the financial one. Moreover, costs related to design and authorization processes can be very high, thus constituting a significant barrier to enter a new market.*' Another customer explained that the level of investment needed is linked to the long duration needed to develop a very high-speed platform: '*The development of a very high-speed product platform appears to require significant investment over a long period of time – perhaps in the region of 5 years.*' [372]

(364) In addition, the level of investment required to develop a very high-speed platform constitutes a barrier to enter for middle-sized rolling stock suppliers who do not have the financial capabilities to sustain such investments. As stated by a competitor, '[f]*inancial requirements are becoming difficult to fulfil for middle-size companies. This might be one of the reasons why some sector companies have been merged in order to be able to deal with this, leaving a less competitive scenario.*'[373]

(365) Second, another financial barrier to enter pointed by the respondents is the level of investments required to participate in tenders. A majority of respondents to the market investigation considered that investments such as bidding costs, pre-qualification costs and business development costs relating to adaptation of existing

[371] Q1, replies to question 19.3.1.
[372] Q2, replies to question 20.3.1.
[373] Q1, reply to question 19.3.1.

products to the customer's needs constitute a significant barrier to enter.[374] For instance, a competitor stated that '*It is also becoming common in tenders to have very demanding financial requirements in terms of capital and guarantees. This makes it difficult or even inaccessible for middle-size companies to compete in the tenders, independent of how competitive their proposal is. This goes in favour of very big multinationals. The cost of developing a very high-speed trains bid can reach several million euros, usually more expensive than a high speed trains bid.*'

(366) Third, the Commission notes that commercial references and a proven track-record constitute another significant barrier to enter. As stated in the *Siemens/Alstom* decision, when organising a tender for the procurement of very high-speed rolling stock customers require that prospective bidders demonstrate that they have a track-record of previous supplies. References provide customers with a confirmation that a given supplier has experience in executing similar projects and will thus be able to meet customers' requirements in similar projects.[375]

(367) In that regard, a large majority of customers explain that the bidders' track record in very high-speed constitutes a very important criteria taken into account in the bid assessment.[376] Indeed, customers usually require several references to qualify for a tender.[377] More specifically, respondents to the market investigation consider that having supplied other customers in the EEA or outside the EEA when bidding in very high-speed rolling stock tenders is a significant advantage.[378] Accordingly, a majority of customers consider that prior sales of a very high-speed platform competing in a tender constitute an important factor for the assessment of the bid.[379] As stated in the *Siemens/Alstom* decision, the Commission notes that references in the EEA are particularly important, because suppliers with such track-record are judged to be very competent, reliable and, therefore, more credible bidders.[380]

(368) In addition, the existence of a longstanding relationship with a very high-speed rolling stock supplier constitutes an important selection criterion.[381] In that regard, the results of the market investigation show that, from the perspective of customers, a bidder who previously supplied very high-speed rolling stock to the a given rail operator has an advantage due to its '[b]*etter knowledge of our requirements and well-know product reliability.*'[382] Competitors hold the same view.[383]

(369) With respect to EEA-specific barriers to entry, the results of the market investigation showed that authorisation under EEA technical and safety rules constitutes another barrier to enter the very high-speed market in the EEA. As stated in the *Siemens/Alstom* decision, very high-speed rolling stock cannot be placed in service in the EEA unless suppliers obtain regulatory authorisations at EU and Member

374 Q1, replies to question 19.2.1.; Q2, replies to question 20.2.1.
375 Commission decision in case M.8677 – *Siemens/Alstom* (2019), recital 463.
376 Q2, replies to question 20.4.1.
377 Q1, replies to question 19.4.1.3; Q2, question 20.4.1.3.
378 Q1, replies to questions 36.1. and 36.2.
379 Q2, replies to question 38.
380 Commission decision in case M.8677 – *Siemens/Alstom* (2019), recital 474; Q2, replies to question 38.
381 Q1, replies to question 34; Q2, replies to question 36.
382 Q2, reply to question 36.
383 Q1, replies to question 34.

State level. The authorisation process is primarily governed by the Interoperability Directive,[384] TSIs[385] and the Safety Directive.[386]

(370) It should be noted that, as stated by the Notifying Party, the number of national rules in the EEA is expected to decrease due to the extension of the scope of TSIs and the harmonisation of requirements.[387] Nevertheless, the majority of respondents to the market investigation, including competitors, have confirmed that the European certification and authorisation regime constitutes a barrier to entry.[388] For instance, a competitor indicated that '*HS train manufacturers must follow a long homologation process with a certification body, which may take up to 6 years. Delays in the certification process may be caused mainly by necessary adjustments required between the different interfaces of the manufacturer, the infrastructure operator and the certification body itself.*'[389]

(371) In addition, even if customers do not necessarily expect suppliers to offer a pre-certified solution, bidding for a contract with a fully authorised product under both European TSIs and the relevant national technical rules constitutes a significant advantage. In that regard, a competitor explains that '[a]*ll parties, Operators and Suppliers, are willing to reduce cost and time that comes from authorisation processes, which is always a lengthy and expensive process.*'[390]

(372) Furthermore, despite EU procurement rules prohibiting customers from disqualifying bidders that do not have local production assets (i.e., facilities located in the country in which the relevant customer is located), some respondents have indicated that customers do informally favour bidders that do or plan to invest in local facilities. According to respondents to the market investigation, having a local presence, even if not a formal requirement, can constitute an important aspect of a bid or a competitive advantage for the bidder.[391] For instance, a competitor indicated that '[t]*here are only four countries in EEA with very high-speed operations (Spain, France, Italy & Germany). In all those countries listed are rolling suppliers located. Thus, without having a home market the entry barrier is very high.*'[392]

(373) In that regard, competitors confirm that, post-Transaction, the merged entity will have a competitive advantage due to its larger manufacturing footprint for very high-speed rolling stock in the EEA. They explained that the merged entity's

---

384 Directive 2008/57/EC of 17 July on the interoperability of the rail systems within the Community, ('Interoperability Directive') [2008] OJL 191/1 (recast by Directive 2016/797/EU of 16 May 2016 on the interoperability of the rail system within the European Union [2016] OJL 138/44).

385 TSIs are developed by the EU Agency for Railways under the Interoperability Directive, the Commission Delegated Decision (EU) 2017/1474 of 8 June 2017 supplementing Directive (EU) 2016/797 of the European Parliament and of the Council with regard to specific objectives for the drafting, adoption and review of technical specifications for interoperability and the Agency's 2017 mandate.

386 Directive 2004/49/EC of 29 April 2004 on safety on the Community's railways, (Safety Directive) [2004] OJL 220/16 (recast by Directive 2016/798/EU of 11 May 2016 *on railway safety* [2016] OJL 138/102).

387 Q1, replies to question 14. For completeness, the Interoperability Directive 2008/57/EC and the Safety Directive 2004/49/EC have been amended by Directive (EU) 2016/797 and Directive (EU) 2016/798 giving a reinforced role to the European Union Agency for Railways to limit national rules.

388 Q1, replies to question 19.1; Q2, replies to question 20.1.

389 Q1, reply to question 19.1.1.

390 Q1, reply to question 29.1.

391 Q1, replies to question 20.1.

392 Q1, reply to question 20.1.

manufacturing footprint will be the largest in the EEA, which will provide it with a significant competitive advantage thanks to its closeness to the potential clients and the possible economies of scale. For instance, a competitor summarised the competitive advantages stemming from the merged entity's industrial footprint in those terms: '*Close access to local supply chain, sources of funding and clients; economies of scale, higher negotiating power with suppliers, subsegment specialization in each facility, reinforced R&D capabilities, (…).*'[393]

(374) Finally, as a result of the above mentioned EEA-specific barriers, the entry of new suppliers is highly unlikely in a foreseeable future in the EEA. In particular, the Notifying Party's argument that CRRC, the Chinese rolling stock manufacturer, is a credible likely entrant has not been supported by the market investigation.

(375) The existence of high barriers to enter the European market for very high-speed rolling stock has been confirmed by CRRC in the course of the investigation. CRRC confirmed that, contrary to the Notifying Party's assumption, it does not have a TSI compliant very high-speed platform in the EEA. On balance, CRRC considers that the lack of any track record in the EEA and the complexity of homologation requirements contribute to restraining its prospect of entry. The company explained that: '*there are high barriers to enter the European high speed and very high speed markets due to* [CRRC's] *lack of commercial references with European customers and the complex process for obtaining TSI homologation/certification. CRRC currently does not have a TSI-compliant high speed or very high speed platform in Europe. The Joint Venture between CRRC and Bombardier concerns high speed trains supplied only in the domestic Chinese market.*'[394]

(376) CRRC's difficulty to enter the European very high-speed market has been recently illustrated during the HS2 tender, in which the company tried to pre-qualify but failed to be qualified to participate in the tender's bidding process.[395]

(377) CRRC's lack of credibility in the European market for very high-speed has been further confirmed by the results of the market investigation. Competitors consider that CRRC is not currently a credible bidder in the EEA, and most of them indicated that a minimum period of 5 to 10 years should be necessary for the company to offer credible bids.[396]

(378) Competitors confirmed that CRRC's impediment to become able to bid for contracts in the EEA mostly relies in the investment and timeframe required to get a very high-speed platform authorised. A explained by a competitor, '[n]*or CRRC nor other Chinese company is currently present in the VHS trains segment in the EEA and the situation may be the same in the near future due to the existence of high barriers to entry into this segment in the EEA.* […] *Furthermore, in order to access this segment in the EEA, manufacturers need to go through subsequent phases, that take at least 12 years to complete, namely,: (i) design and construction; (ii) factory and track testing; (iii) validation; (iv) homologation; and (v) commercial service.*'[397] Customers evoke additional barriers to entry preventing CRRC from entering the

393 Q2, reply to question 33.2.
394 Minutes of the call with CRRC, dated 27 May 2020.
395 Minutes of the call with CRRC, dated 27 May 2020.
396 Q1, replies to questions 43 and 43.3.
397 Q1, reply to question 43.2.

European market for very high-speed rolling stock, such as the lack of market experience, proof of product quality as well as the language barrier.[398]

(379) The same considerations equally apply to other Asian suppliers such as Hyundai Rotem, Kawasaki and Toshiba, which face the same challenges to enter the overall European market for very high-speed rolling stock, as confirmed by the customers who responded to the market investigation.[399] Accordingly, an Asian supplied indicated that '[c]*onsidering huge necessary investments in order to comply with EEA technical requirements, to develop a manufacturing partner for rolling stock assembly, and to establish EEA-based production and assembly capacity, we do not have a plan to enter very high-speed rolling stock market in EEA* […].'

(380) It follows from the above that the market for very high-speed rolling stock are characterised by high barrier to enter in the EEA and at global level.

6.2.3.4. Countervailing buyer power

(A) The Notifying Party's view

(381) The Notifying Party states that very high-speed rolling stock customers are sophisticated and experienced, and choose their suppliers through highly structured and competitive tender procedures. The competitiveness of the very high-speed market is further safeguarded by the high number of bidders, the customer's ability to choose and switch suppliers and the resulting pressure for suppliers to offer technically advanced products at low prices.

(382) First, the Notifying Party also argues that sophisticated customers drive competition through highly structured tenders. Most customers are large, incumbent, public entities, backed by national governments, such as DB (Germany), Renfe (Spain), SNCF (France), or SNCB (Belgium). These sophisticated customers have longstanding experience with the procurement of very high-speed trains. This customer set-up, combined with the high commercial value of the projects, safeguard the customer's leverage powers.[400]

(383) Second, the Notifying Party considers that the significant number of bidders allows customers to compare offers and switch supplies. This was the case in the 2010 Eurostar tender, where Eurostar changed from Alstom to Siemens. The number of competitors participating in tenders and the customers' ability to switch supplier incentivises competitors to provide highly competitive offers. More importantly, according to the Notifying Party, customers will not have reduced options in upcoming tenders, as Bombardier has not won a very high-speed tender on a stand-alone basis in the past 10 years.[401]

(B) The Commission's assessment

(384) Under paragraph 64 of the Horizontal Merger Guidelines, countervailing buyer power consists in the bargaining strength that a buyer has vis-à-vis the seller in

[398] Q2, replies to question 46.2.
[399] Q2, replies to question 49.2.
[400] Form CO, Chapter B.1, paragraph 195.
[401] Form CO, Chapter B.1, paragraph 184.

commercial negotiations due to its size, its commercial significance to the seller and its ability to switch to alternative suppliers. Several elements concur to refute the existence of countervailing buyer power in the present case.

(385) The exercise of buyer power requires that customers have sufficient alternative options other than the Parties and can credibly switch or threaten to switch suppliers after the Transaction. In that regard, the Commission notes that the high-speed and very high-speed tenders are characterised by a low number of bidders, and that the Parties are among the suppliers, with Siemens, who participate the most in tenders.

(386) Out of [*a small number of*] very high-speed contestable tenders[402] in the period 2010-2019 in the EEA and Switzerland:

- [*Specific details based primarily on Alstom's bidding data and market intelligence in relation to customers, the number and the identities of bidders in very high speed tenders in the EEA and Switzerland in 2010-2019*];[403]
- […];
- […].

(387) Overall, there have been only 3 bidders on average in very high-speed rolling stock tenders in the EEA and 2.7 at the worldwide level in the 2010-2019 period. Alstom participated in [90-100]% [of] very high-speed rolling stock tenders in the EEA in the past 10 years, and Bombardier participated in [60-70]% of them. This means that, on average, options available to customers will significantly reduce in upcoming tenders, the merger either lowering the number of bidders, or reinforcing the position of the merged entity. This is all the more true that, as described above at paragraph (340), in a rare additional opportunity in the EEA, namely the ILSA procurement, the customer switched its procurement decision from Alstom to Bombardier/Hitachi, highlighting that the Zefiro V300 platform is *'the best in class train at European level, in terms of operating performances*' (paragraph (341) above). As a result, customers will be unable to counter the merged entity's increased market power. The impact is also significant at worldwide level, since Bombardier participated in [40-50]% of the […] tenders issued in the past 10 years (Alstom participated in [90-100]% of them).

(388) These results are consistent with the results of the market investigation. A majority of respondents qualified customers' buyer power for the procurement of very high-speed rolling stock as 'medium'[404] and dependent on the outcome of tendering processes put in place.

(389) As found by the Commission in *Siemens/Alstom*, the tendering process for rolling stock, including in tenders for very high-speed trains, is typically carried out in four phases:

a. An initial market engagement phase, during which customers collect information about manufacturers and available products and solutions;

---

402 Excluding the ILSA project.

403 Form CO, Chapter B.1., paragraph 130.

404 Q1, replies question 49; Q2, replies to question 54.

b. A pre-qualification phase, which typically follows the publication of a request for qualification ('RFQ') and consists in customers providing an overview of the tender (a Pre-qualification Pack, 'PQP') and issuing a pre-qualification questionnaire to assess prospective suppliers' track record and credentials. At the end of the process, customers select suppliers qualified to bid. Customers usually do not make the short-list of qualified suppliers public;

c. A bidding phase, which is marked by the issuance of a request for proposals ('RFP'), which describes the project's specifications, assessment criteria, grading scheme and formal conditions for submitting bids. Prospective suppliers prepare and submit bids on this basis. Tenders may have more than one bidding round, often involving the submission of best and final offers ('BAFOs');

d. A post-bidding phase, which involves the customers' evaluation of bids and award, as well as final exchanges with the supplier.

(390) This process, which typically takes several years, entails long preparation from the potential bidders as well as a long assessment period of the bids by the customers followed by negotiation between the railway operator and the participants. It aims to ensure a competitive dynamic throughout the tender in order to ultimately select the best offer on the basis of criteria defined by the customer.

(391) However, this process does not suffice alone to ensure the competitive dynamic leading to the selection of the best offer. As highlighted by respondents to the market investigation, a competitive outcome can only be obtained if a sufficient number of bidders participate in a tender. As stated by a competitor, '[b]*uyer power is relevant if rail operators have the option between several established and proven suppliers.*'[405]

(392) In that regard, respondents to the market investigation indicated that one of the main impediments to the customer's buyer power is the low number of bidders, due to the high level of concentration in the market for very high-speed in particular. Thus, in the course of the market investigation, customers explained that '[w]*e procure very high speed trains through competitive procurement procedures. The number of suppliers is limited.*' They confirmed the fact that '*the market is very concentrated and made up of large, international businesses with significant 'bargaining power' themselves.*'[406]

(393) Following the Transaction, as stated in section 6.2.3.1. above, the market for very high-speed rolling stock will become significantly more concentrated, thus further limiting the number of bidders in tenders and the customers' buyer power. This is confirmed by a majority of competitors who consider that Transaction will negatively impact the customers' bargaining strength in commercial negotiations

[405] Q1, reply to question 49.1.
[406] Q2, replies to question 54.1.

when purchasing very high-speed rolling stock,[407] due to the reduction of available alternatives and the position of the merged entity.[408]

(394) Finally, the Commission notes that, as found in *Siemens/Alstom*, certain customers' countervailing buyer power can be limited in the context of special relationships between these customers and suppliers.

(395) In particular, all tenders for very high-speed rolling stock organised by Deutsche Bahn, SNCF, Trenitalia, Renfe and SBB since 2008 have been awarded to each of the corresponding national supplier (respectively, Siemens, Alstom, Hitachi, Talgo and Stadler). Historically, SNCF and Deutsche Bahn procure trains that have been developed and designed specifically for them. As explained by the Notifying Party, '*ICx platform, with a maximum speed of 250 km/h, was developed for DB and operates in Germany*' and '*Alstom won the SNCF tender with a customer-specific version of the TGV du Futur, named TGV 2020.*'[409]

(396) These tailored developments limit the ability of those customers to exercise buyer power since they have limited options to effectively change suppliers. In that regard, a competitor stated that '[r]*ailway companies do not have countervailing power, particularly in the VHS trains segment. Customers of VHS trains are national railway companies, such as the SNCF in France, Deutsche Bahn in Germany, Renfe in Spain or Trenitalia in Italy; and private railway companies, such as Eurostar or NTV. However, these companies do not have buying power, in particular, given the close relationship between national railway operators and national champions and the existence of partnership agreements (such as the innovation partnership entered into by SNCF and Alstom in 2016). In fact, the SNCF has only acquired VHS trains from Alstom, Deutsch Bahn from Siemens and Trenitalia from Ansaldo* [Hitachi] *(in a consortium with Bombardier). Furthermore, Eurostar, which is run by a co-operation between French, UK and Belgian national railway companies, only invited Alstom and Siemens to bid for the supply of its new VHS trains.*'[410]

(397) It follows from the above that customers' buyer power is limited, in particular in the market for very high-speed rolling stock, and that the Transaction, by eliminating a significant supplier in very high-speed rolling stock, is likely to further decrease their countervailing buyer power.

6.2.3.5. Liberalisation

(A) The Notifying Party's view

(398) As explained by the Notifying Party, save for a few countries including Italy and Switzerland, high-speed rail operations are not yet open to competition but are instead performed by national incumbent operators as part of their 'public service' obligation. International traffic (i.e., traffic across different Member States) is typically done by partnerships between national operators such as Lyria (SNCF and SBB), Thalys (SNCF and SNCB), and Alleo (SNCF and DB).

---

[407] Q1, replies to question 50.

[408] Q1, reply to question 50.1.

[409] Form CO, Chapter B.1, paragraphs 62 and 134.

[410] Q1, reply to question 49.1.

(399) The Notifying Party explains that liberalisation of very high-speed operation entails an increase in the number of operators. For example, in Spain, the tender of Spanish high-speed infrastructure manager ADIF for operations across various corridors in Spain attracted bids from six operators. In the end, ADIF awarded concessions to three suppliers (Renfe, Rielsfera and ILSA), which plan to source trains from three different suppliers (Talgo, Alstom, and Bombardier (with Hitachi).[411]

(400) Pursuant to the Fourth Railway Package, national and regional authorities will be required (subject to a few exceptions) to publicly tender rail public service operation contracts, which represents an important change from the current situation where many such contracts are directly awarded without a tender. The Notifying Party states that the Fourth Railway Package is expected to be implemented in all Member States during the course of 2020 (with several Member States having already implemented it in 2019). The Fourth Railway Package is expected to increase competition for very high-speed operation across the EU.

(401) According to the Notifying Party, the ongoing liberalisation will create new opportunities for various very high-speed corridors across different Member States. It expects that these opportunities will attract interest from both national incumbent operators, public operators running private operation (such as Trenitalia in Spain and France (through its subsidiary Thello), SNCF and Italo), and purely private operators (such as ILSA, NTV, FlixBus/FlixTrain). The Notifying Party claims that the increase in the number of different operators will in turn increase competition for the supply of very high-speed rolling stock to the new operators.

(402) The Notifying Party claims that all suppliers will benefit from the liberalisation as it will lead to the emergence of new opportunities and new entrants seeking to purchase new very high-speed rolling stock.[412] According to the Notifying Party, most of these new customers have not previously purchased rolling stock and have a strong focus on the overall cost of the rolling stock solution. For private operator in particular, the price of the platform procured is of critical importance, because most of them have limited resources and seek to enter the very high-speed market following a disruptive low-cost strategy.[413]

(403) The Notifying Party therefore claims that liberalisation will render markets more competitive and increase price competition between the numerous rolling stock suppliers active in Europe.[414]

(B) The Commission's assessment

(404) The Fourth Railway Package is designed to complete the single market for rail services (also called Single European Railway Area).[415] It aims at boosting the

411 Form CO, Chapter B.1, paragraph 228.

412 For instance, the Parties faced CAF, Talgo, and Siemens for EcoRail's order in Spain (postponed) and expect to face at least those three suppliers in the upcoming [*Information based on market intelligence*] (Form CO, Chapter B.1, paragraph 239).

413 Form CO, Chapter B.1, paragraph 236.

414 Form CO, Chapter B.1, paragraph 240.

415 The Fourth Railway Package is a set of six legislative texts designed to complete the single market for Rail services. Its goal is to revitalise the rail sector and make it more competitive vis-à-vis other modes of transport. It comprises two pillars: (i) the "technical pillar" adopted in April 2016 and (ii) the "market

competitiveness of the railway sector by reducing costs and administrative burden for railway undertakings wishing to operate across Europe.

(405) However, the impact of the liberalisation of the railway sector on the structure of the market for the supply of very high-speed rolling stock remains uncertain. Contrary to the Notifying Party's view, several features of the markets for very high-speed rolling stock may particularly favour suppliers with a strong track in the context of liberalization.

(406) In that regard, examples of past awards indicate that suppliers offering very high-speed solutions with a strong track record, in particular the Parties, are the preferred suppliers of non-incumbent railway operators, whether these operators are public or private operators.

(407) First, public operators are involved in the operation of liberalised very high-speed corridors and bid, directly or through a dedicated subsidiary, for the attribution of new operational slots outside their historic footprint. Past examples show that public operators tend to foresee operations using trains that they already own or procure additional trains of the same type that they already have experience with in case of win.

(408) For example, as explained above, the Spanish high-speed infrastructure manager (Adif AV) awarded a slot for operation of the Spanish high-speed network to several operators, including ILSA. The Notifying Party explains that, after a simplified tendering process, ILSA initially chose Alstom's [*Confidential information on Alstom's bidding strategy*] as its preferred solution. However, before the signing of the contact with Alstom, the Italian operator Trenitalia acquired ILSA's joint control.[416] […], ILSA switched its procurement to the Hitachi/Bombardier's Zefiro V300 platform. Trenitalia explained that their choice was driven by the Zefiro V300 track-record and readiness to be operational. The Zefiro V300 is fully compliant with TSI and is already operating in Italy. Trenitalia further mentioned that the platform has a high-level reliability.[417]

(409) Likewise, Rielsfera, a subsidiary of SNCF, won another slot in the context of the same Adif tender. SNCF decided to rely on its existing fleet of Alstom Euroduplex trains and therefore asked Alstom to submit an offer to adapt these trains for operations in Spain.

(410) The sole example involving a private operator in the past 10 years lead to the same findings. In 2015, NTV issued a tender for the procurement of very high-speed trains for operations in Italy. Four bidders, namely Alstom, Hitachi, Talgo and Stadler

---

pillar" adopted in December 2016. The technical pillar notably create a "one-stop-shop" acting as a single entry point for the multiple applications in the case of operations beyond one single Member State, ensure that the European Traffic Management System (ERTMS) equipment is interoperable and reduce the number of remaining national rules. The market pillar establishes the general right for railway undertakings established in one Member State to operate all types of passenger services everywhere in the EU, lays down rules aimed at improving impartiality in the governance of railway infrastructure and preventing discrimination and introduces the principle of mandatory tendering for public service contracts in rail.

416 Trenitalia has since acquired joint control over ILSA (cleared by the Commission on February 11, 2020 (case M.9768)).

417 Reply of Trenitalia to RFI 13.

participated in the tender, which finally awarded Alstom. In addition, the Notifying Party explains that NTV previously issued another tender in 2006, also won by Alstom.[418]

(411) As a consequence, recent examples of tenders issued by railway companies acting in the context of liberalised operations tend to favour companies rolling stock suppliers with a track record, rather than new entrants.

(412) This is consistent with the results of the market investigation.

(413) Indeed, a majority of respondents consider that a prior track-record is one of the most important criteria for a private or public operator when selecting a supplier.[419]

(414) As a consequence, respondents to the market investigation consider that liberalisation of the railway sector will favour already strong very high-speed suppliers, in the foreseeable future. In that regard, a competitor indicated that '*Although the liberalisation of railway operations in the EEA might have an impact on the market for the supply of VHS trains in the long run, CAF does not expect any real impact in the next 2-3 years. Private operators that will enter the market will tend to acquire those existing trains that are manufactured following the technical and regulatory requirements of each country. This situation will reinforce the position of those train manufacturers that are now active in a particular country and will make even more difficult the entrance of new players.*'[420] Likewise, a private customer indicated that '*In the next few years, the VHS market could enlarge due to the potential entrance of new comers into different European countries, although, under a competitive point of view, there are still several barriers to entry related to the dominance of incumbent undertakings.*'[421]

(415) It follows from the above that the liberalisation of the railway sector is unlikely to materially change the competitive structure and functioning of the markets for the supply of very high-speed rolling stock.

6.2.4. Conclusion

(416) For the reasons set out in section 6.2, and in light of the evidence made available during the investigation, the Commission considers that the Transaction raises serious doubts as to its compatibility with the internal market as a result of horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in relation to the market for very high-speed rolling stock in the EEA (including Switzerland) and on a worldwide basis (excluding China, Japan and South Korea).

---

418 Form CO, Chapter B.1, paragraph 235.

419 Q1, replies to question 41; Q2, replies to question 43.

420 Q1, reply to question 51.

421 Q2, reply to question 56.

6.3. Mainline trains

6.3.1. Introduction

(417) The Transaction leads to horizontally affected markets in the overall market for self-propelled mainline trains and possible segmentations at the EEA-wide level (including Switzerland), and at the national level in France, Germany, Italy and Sweden.

(418) The Commission considers that the Transaction does not raise concerns with respect to the market for self-propelled trains (and possible segmentations) at the EEA-wide level, including Switzerland. While the Parties' combined market shares in the overall market for self-propelled trains (and possible segmentations) at the EEA-wide level will be high, the merged entity will continue to face competitors such as Stadler, Siemens, Hitachi, CAF, Skoda, Pesa, Newag, which have successfully expanded their activities outside of their home base and in several EEA Member States.

(419) The situation is markedly different at the national level, in particular in France and Germany, as explained in detail in the following sections.

6.3.2. The Parties' activities

6.3.2.1. Alstom's activities

(420) Alstom's main platform family for mainline transport is the Coradia. Alstom's Coradia platform family is used for commuter, regional, intercity and international traffic. Seven different Coradia platforms are offered in the EEA. They comprise EMUs (namely, Coradia Continental, Coradia Meridian, Coradia Nordic and Coradia Stream), a DMU (Coradia Lint) and a platform running on hydrogen fuel cells and Lithium-ion batteries (Coradia iLint). The Coradia Polyvalent/Liner platform is available in EMU and bimode.[422] While Alstom [*Confidential information on Alstom's business strategy and product development*].[423]

[422] Bimode trains operate on both electrified and non-electrified lines.

[423] Form CO, Chapter B.2, paragraph 46.

Table 3: Alstom's Coradia family

	Coradia Polyvalent/ Liner[424]	Coradia Continental	Coradia Meridian	Coradia Nordic	Coradia Lint	Coradia iLint[425]	Coradia Stream[426]
Maximum speed	160-[Confidential]	160 km/h	160 km/h	160-180 km/h	140 km/h	140-160 km/h	160-200 km/h
EMU / DMU	EMU and bi-mode EMU/DMU	EMU	EMU	EMU	DMU	Hydrogen fuel cell	EMU
Countries	France[427]	Germany	Italy[428]	Sweden	Denmark and Germany	Germany	Italy and Netherlands

Source: Form CO, Chapter B.2, Tables 1 and 2.

6.3.2.2. Bombardier's activities

(421) Bombardier's mainline portfolio includes several platforms as shown in Table 4 that run at speeds below 250 km/h. In the past 10 years, Bombardier has only sold EMU trains in the EEA.[429]

Table 4: Bombardier's mainline trains

	Talent 3	Zefiro Express	Aventra	Omneo	Twindexx	Spacium	ET490
Maximum speed	160 km/h	200 km/h	145-200 km/h	160-200 km/h	160-230 km/h	140 km/h	140 km/h
EMU / DMU	EMU[430]	EMU	EMU Bimode	EMU	EMU	EMU	EMU
Countries	Austria, Germany, Italy[431]	Sweden	UK	France	Switzerland (Austria and Germany)	France	Germany

6.3.2.3. Consortia

(422) Alstom and Bombardier act as joint suppliers in various consortia and sub-supply arrangements, including:

---

424 Coradia Polyvalent/Liner has been sold in France to SNCF, which has to date ordered 387 trains of the 1000 that fall under the scope of the agreement of 2009. Alstom's existing agreement with SNCF (concluded in 2009) does not have a specific speed specification and generally covers mainline EMUs and bimodes regardless of speed.

425 The Coradia iLint entered into German passenger service in September 2018 and can operate at speeds of up to 140 km/h. Coradia iLint has also successfully completed tests in the Netherlands.

426 Alstom's most recent EMU platform and has been sold at maximum speeds of 160 km/h (Italy) and 200 km/h (the Netherlands). Coradia Stream HC is a mixed train configuration EMU platform, combining single- and double-decker cars. The platform […]. The order is expected to be delivered as of […].

427 Including cross-border to Switzerland and Germany.

428 Coradia Meridian was sold in Italy in 2017, but has since been retired and replaced by the Coradia Stream.

429 Form CO, Chapter B.2, paragraph 48.

430 [*Information on Bombardier's business strategy and product development*].

431 Including cross-border to Italy.

- X'Trapolis CityDuplex: an EMU platform that can operate at speeds of up to 140 km/h. It is a hybrid platform combining single- and double-decker cars and is manufactured specifically for suburban operation on the Ile-de-France network in France (RER Lines D & E);[432]

- SNCB M7: an EMU platform that can operate at speeds of up to 200 km/h. This double-decker train was originally manufactured in response to the Belgian operator SNCB's 2015 tender;[433]

- ET430: an EMU platform that can operate at speeds of up to 140 km/h. This single-decker train was manufactured specifically for a 2009 Deutsche Bahn project in Germany;[434]

- MI 09: a double-deck EMU platform that can operate at speeds of up to 120 km/h. This train was manufactured in response to a 2009 project for the Paris Regional Express Network (RER);

- Rabe 525: an EMU platform that can operate at speeds between 140-160 km/h. This is a single-decker train sold in Switzerland.[435]

(423) The Notifying Party explains that Alstom does not have any other platforms developed in consortia or similar contractual arrangement with other suppliers. Similarly, Bombardier did not win any projects in consortium other than with Alstom.[436]

6.3.3. Market shares and methodology

6.3.3.1. Market shares

(A) EEA-wide level

(424) The Parties are the leading suppliers of self-propelled mainline trains in the EEA, a market in which the Transaction leads to overlaps. The Transaction does not lead to overlaps with regard to locomotives and DMUs. As stated above, Bombardier has not supplied any DMU trains in the EEA in the last 10 years.

---

[432] Alstom and Bombardier entered into a consortium agreement for this project on 31 January 2017. The agreement concerned the 2017 SNCF project with an order intake of approx. EUR […] and was concluded for such duration as is necessary to achieve its objectives. Form CO, Chapter B.2, paragraph 50.

[433] Alstom and Bombardier entered into a consortium agreement for this project on 14 September 2015. The agreement concerned the 2015 SNCB project with an order intake of approx. EUR […] and was concluded for such duration as is necessary to achieve its objectives. Form CO, Chapter B.2, paragraph 50.

[434] Although Alstom initially participated in the 2009 tender, organized by Deutsche Bahn for the supply of 83 EMU units for the suburban railway Stuttgart, in consortium with Bombardier, the Parties renegotiated their roles still during the tender phase, and ultimately signed the contract with Alstom acting as a sub-supplier to Bombardier. Form CO, Chapter B.2, paragraph 50.

[435] BLS AG ordered 13 trains in 2006135 and Bern S-Bahn ordered 4 trains in 2011.

[436] Form CO, Chapter B.2, paragraphs 52 and 53. In the past 10 years, Bombardier acted as a sub-contractor to Stadler in the context of the 2018 FGC project for […], which are part of Stadler's Class 115 contestable project for FGC, awarded in 2018. Bombardier's contract value was limited to […]% of the total order intake which amounted to approx. EUR 100 million.

(425) The following table presents the Parties' and their main competitors' market shares in the overall market for self-propelled mainline trains, including consortia and based on order intake (contestable and non-contestable market shares) (see section 6.3.3).

Table 5: Market shares – Self-propelled Mainline trains - EEA & Switzerland – Order Intake (2010-2019)

Competitor	Mainline trains overall
Alstom	[10-20]%
Bombardier	[20-30]%
Combined	**[40-50]%**
Stadler	[20-30]%
Siemens	[5-10]%
Hitachi	[10-20]%
CAF	[5-10]%
Pesa	[0-5]%
Newag	[0-5]%
Skoda	[0-5]%
CRRC	[0-5]%
Others	[0-5]%
Total	100%

Source: Market Share Table – 11 June 2020

(426) The following table presents the Parties' and their main competitors' market shares in the market for EMUs.

Table 6: Market shares – EMUs - EEA & Switzerland – Order Intake (2010-2019)

Competitor	EMUs
Alstom	[10-20]%
Bombardier	[30-40]%
Combined	**[50-60]%**
Stadler	[20-30]%
Siemens	[10-20]%
Hitachi	[5-10]%
CAF	[0-5]%
Pesa	[0-5]%
Newag	[0-5]%
Skoda	[0-5]%
CRRC	[0-5]%
Others	[0-5]%
Total	100%

Source: Market Share Table – 11 June 2020

(427) The Commission does not consider that the Parties' combined market share at the EEA-level raises doubts as its compatibility with the internal market due to the reasons set out in section 6.3.4, namely that the scope of credible competitors remaining post-Transaction will be sufficient to continue to exert a significant competitive constraint at the EEA-wide level. As explained in detail below,

however, the Parties overlap significantly in France and Germany, countries that are characterized by high barriers to entry and the existence of a limited number of competitors. The Transaction's impact at the national level is therefore examined in section B below.

(428) The following table presents the Parties and their main competitors market shares in the market for regional rolling stock.

Table 7: Market Shares – Regional trains – EEA & Switzerland – Order Intake (2010-2019)

Competitor	Regional
Alstom	[20-30]%
Bombardier	[20-30]%
Combined	**[40-50]%**
Stadler	[20-30]%
Siemens	[10-20]%
Hitachi	[5-10]%
CAF	[5-10]%
Pesa	[0-5]%
Newag	[0-5]%
Skoda	[0-5]%
CRRC	[0-5]%
Others	[0-5]%
Total	100%

Source: Market Share Table – 11 June 2020

(429) The following table presents the Parties' and their main competitors' market shares in the market for regional EMUs.

Table 8: Market Shares – Regional EMUs– EEA & Switzerland – Order Intake (2010-2019)

Competitor	Regional EMU
Alstom	[10-20]%
Bombardier	[30-40]%
Combined	**[40-50]%**
Stadler	[20-30]%
Siemens	[10-20]%
Hitachi	[5-10]%
CAF	[0-5]%
Pesa	[0-5]%
Newag	[0-5]%
Skoda	[0-5]%
CRRC	[0-5]%
Others	[0-5]%
Total	100%

Source: Market Share Table – 11 June 2020

(430) The following table presents the Parties' and their main competitors' market shares in the market for intercity trains.

Table 9: Market Shares – Intercity trains – EEA & Switzerland – Order Intake (2010-2019)

Competitor	Intercity
Alstom	[10-20]%
Bombardier	[30-40]%
Combined	**[40-50]%**
Stadler	[10-20]%
Siemens	--
Hitachi Rail	[30-40]%
CAF	[5-10]%
Pesa	--
Newag	--
Skoda	--
CRRC	--
Others	--
Total	100%

Source: Market Share Table – 11 June 2020

(431) The following table presents the Parties and their main competitors market shares in the market for intercity EMUs.

Table 10: Market Shares – Intercity EMUs – EEA & Switzerland – Order Intake (2010-2019)

Competitor	Intercity
Alstom	[10-20]%
Bombardier	[40-50]%
Combined	**[60-70]%**
Stadler	[10-20]%
Siemens	--
Hitachi Rail	[10-20]%
CAF	[5-10]%
Pesa	--
Newag	--
Skoda	--
CRRC	--
Others	--
Total	100%

Source: Market Share Table – 11 June 2020

(432) The Commission notes that while the Transaction leads to high market shares at the EEA-wide level, including Switzerland, the Parties' activities do not overlap with regard to intercity trains at national level. Bombardier holds a significant market share at the EEA-level (including Switzerland), due to sales in countries (notably by winning tenders in Switzerland and Sweden, as well as repeat orders in France) for which Alstom did not compete. Although Bombardier bid in tenders against Alstom in the UK and the Netherlands, it has remained unsuccessful. As a result, the bidding data shows that Bombardier does not exercise a material competitive constraint on

Alstom in intercity tenders before the Transaction. Therefore, the Commission considers that the Transaction will not eliminate a significant competitive constraint in the market for intercity trains at the EEA-wide level.

(B) National level

(433) At the national level, in terms of order intake, the Parties are both active in France, Germany, Sweden, and Italy. At national level, the Parties' activities do not overlap in intercity trains.

Table 11: Market shares in France

Competitor	France 2010-2019 Order Intake (by value)			
	Self-propelled mainline trains overall	**Regional**	**EMUs**	**Regional EMU**
Alstom	[30-40]%	[40-50]%	[20-30]%	[30-40]%
Bombardier	[50-60]%	[50-60]%	[60-70]%	[70-80]%
Combined	**[90-100]%**	**[90-100]%**	**[90-100]%**	**[90-100]%**
CAF	[5-10]%	--	[5-10]%	--
Total	100%	100%	100%	100%

Source: Market Share Table – 11 June 2020

(434) In France, the Transaction leads to a 3-to-2 situation in the overall market for self-propelled mainline trains and in the market for EMUs. The Parties' sole competitor in the country is CAF, who was awarded a single contract for intercity trains in 2019.[437] In regional trains, the merger will lead to a monopoly in France.

Table 12: Market shares in Germany

Competitor	Germany 2010-2019 Order Intake (by value)			
	Self-propelled mainline trains overall	**Regional**	**EMUs**	**Regional EMU**
Alstom	[20-30]%	[20-30]%	[10-20]%	[10-20]%
Bombardier	[20-30]%	[20-30]%	[30-40]%	[30-40]%
Combined	**[50-60]%**	**[50-60]%**	**[40-50]%**	**[40-50]%**
Stadler	[20-30]%	[20-30]%	[20-30]%	[20-30]%
Siemens	[10-20]%	[10-20]%	[20-30]%	[20-30]%
Pesa	[0-5]%	[0-5]%	--	--
Total	100%	100%	100%	100%

Source: Market Share Table – 11 June 2020

[437] CAF won a 2019 SNCF intercity project in France for the delivery of 28 trains. The contract also includes the option for the delivery of up to 75 more trainsets, with the total project size including the options expected to be in the range of EUR […] to EUR […]. In 2008, CAF acquired Chemins de Fer Départementaux, together with its manufacturing plant in Bagnères de Bigorre in France. See Form CO, Chapter B.2, paragraphs 84 and 86.

(435) In Germany, the Transaction will reduce the number of competitors from 4 to 3. The Parties will be almost twice the size of their competitors in the country: Stadler ([20-30]%) and Siemens ([20-30]%).

(436) The concentration of the market for self-propelled mainline trains in Germany is illustrated by the HHI levels pre- and post-merger. The HHI level, already largely higher than 2,000 before the Transaction ([2000-3000]) and will be considerably higher after the Transaction ([3500-4500]). The conclusion is similar for other segmentations: (i) in the market for EMUs the HHI coefficient is [2500-3500] before and [3000-4000] after the Transaction, (ii) in the market for regional trains it increases from [2000-3000] to [3500-4500] post-Transaction.

(437) Therefore, in accordance with paragraph 20 of the Horizontal Merger Guidelines, the Transaction results in a high concentration in the market for self-propelled mainline trains (and possible segmentations) in Germany.

Table 13: Market shares in Italy

Competitor	Italy 2010-2019 Order Intake (by value)			
	Self-propelled mainline trains overall	**Regional**	**EMUs**	**Regional EMU**
Alstom	[30-40]%	[30-40]%	[40-50]%	[40-50]%
Bombardier	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Combined	**[30-40]%**	**[30-40]%**	**[40-50]%**	**[40-50]%**
Stadler	[10-20]%	[10-20]%	[10-20]%	[10-20]%
Hitachi	[30-40]%	[30-40]%	[30-40]%	[30-40]%
CAF	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Newag	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Pesa	[0-5]%	[0-5]%	--	--
Firema	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Others	--	--	[0-5]%	[0-5]%
Total	100%	100%	100%	100%

Source: Market Share Table – 11 June 2020

(438) In Italy, the Commission notes that the increment added by Bombardier is very small ([0-5]%) under all plausible segmentations. The Transaction's impact on the competitive structure of the market will therefore be negligible. As a result, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market self-propelled trains and possible segmentations in Italy. The Commission will not further assess the market for self-propelled trains and possible segmentations in the remainder of this decision.

Table 14: Market shares in Sweden

Competitor	Sweden 2010-2019 Order Intake (by value)			
	Self-propelled mainline trains overall	Regional	EMUs	Regional EMU
Alstom	[40-50]%	[80-90]%	[40-50]%	[80-90]%
Bombardier	[20-30]%	[0-5]%	[20-30]%	[0-5]%
Combined	**[60-70]%**	**[80-90]%**	**[60-70]%**	**[80-90]%**
Stadler	[30-40]%	[10-20]%	[30-40]%	[10-20]%
Total	100%	100%	100%	100%

Source: Market Share Table – 11 June 2020

(439) In Sweden, the Transaction gives rise to overlaps only when considering the overall market for self-propelled mainline trains and the market for EMUs. The Parties' activities do not overlap in any other segments.

6.3.3.2. Market share methodology

(A) The Notifying Party's views

(440) The Notifying Party submits that historical market shares do not reflect suppliers' current position or technological achievements. Indeed, a supplier with a relatively small historical market share, but which has recently increased its bidding activities and invested significantly in product development and customer relationships, may well be better positioned to succeed in future qualification processes than a supplier with a greater share of historic sales.[438] With regard to intercity trains, the Notifying Party considers that the infrequency of intercity EMU projects renders historical market shares less informative. In a bidding market with infrequent orders, winning a single contract can overstate a supplier's competitive strength.[439]

(441) Furthermore, the Notifying Party argues that historic market shares overstate the impact of the Proposed Transaction for the following reasons.

(442) First, in the Notifying Party's view, market shares do not reflect the pro-competitive effects of the Transaction resulting from the combination of consortium partners. It argues that, with regard to the ongoing consortia in which Alstom and Bombardier participate, the Transaction will not lead to merger-specific effects for these consortia as the Parties already cooperate. The Notifying Party explains that existing consortia account for [0-10]% and [10-20]% of the Parties' combined shares for regional and intercity EMUs respectively.[440]

(443) Second, the Notifying Party considers that the inclusion of consortia in market shares overestimate the size of the impacted market. Excluding (or 'discounting') existing consortia with Bombardier in market share calculations would reduce Alstom's standalone share for regional EMUs to [10-20]% in the EEA, including Switzerland, well behind Stadler, and on par with Siemens in the past 10 years.

438 Form CO, Chapter B.2, paragraph 58.
439 Form CO, Chapter B.2, paragraph 58.
440 Form CO, Chapter B.2, paragraph 59.

Similarly, Bombardier's standalone share for regional EMUs is [30-40]%. The same holds true for intercity EMUs. Discounting the consortia-related market share shows that only [50-60]% of the intercity EMU market in the EEA, including Switzerland will be impacted by the Transaction in 2010-2019.

(444) Therefore, the Notifying Party considers that historical market shares should only be nuanced in light of other factors, including the strong competition exercised by numerous rivals and bidding data which provides an overview of competitive constraints exercised at project level.[441]

(445) Third, the Notifying Party argues that market shares calculated by only taking into account sales from contestable tenders (thus excluding 'non-contestable repeat orders from the Parties' customers) show that the Parties have been less successful at winning new regional EMU projects. According to the Notifying Party, by combining non-contestable repeat orders with new contestable projects, the market shares do not adequately reflect the most recent competitive strengths of the Parties, nor of their competitors. It argues that a review of contestable regional EMU tenders would show that the Parties have been struggling to secure new orders. By contrast, Stadler, Hitachi, and CAF have won new projects.[442]

(446) Fourth, according to the Notifying Party, the Parties have experienced significant competitive constraints from various competitors in the past two years. The Notifying Party argues that while their combined market share appears significant over a ten-year period ([40-50]% regional EMUs and [60-70]% intercity EMUs), these shares do not adequately reflect the significant competitive pressure that the Parties have experienced over time and in particular, over the past two years. This is especially true for new contestable projects where the Parties have experienced fierce competition and which the Notifying Party considers to be a better reflection of competition post-Transaction than historic market shares. The Notifying Party argues that the Parties faced significant competition from the market leader Stadler, as well as Siemens, Hitachi, Skoda, Pesa, and Newag. While there are fewer intercity EMU tenders, the same development appears to hold true, with the Parties only accounting for [30-40]% of all order intake, and Alstom does not appear to have won any contestable regional intercity tender.[443]

(447) Fifth, the Notifying Party submits that it is challenging for Bombardier to exert significant competitive constraints due to (i) the significant financial challenges befalling the company over the past years and (ii) critical project-execution problems concerning the delivery of several mainline platforms.[444] The Notifying Party asserts

441 Form CO, Chapter B.2, paragraph 60.

442 Form CO, Chapter B.2, paragraphs 61-62. In particular, the Parties together account for only [30-40]% of the contestable-only projects for regional EMUs in the past 10 years, compared to [40-50]% for all (contestable and non-contestable) projects. In contrast, Stadler is the market leader for new projects, with a market share of [20-30]%. Combined shares for contestable projects are even lower in the past two years, with the Parties accounting for only [20-30]% of the contestable projects in 2018-2019, well behind Stadler at [30-40]%.

443 Form CO, Chapter B.2, paragraph 64.

444 Form CO, Chapter B.2, paragraphs 66 and 67.

that contestable market shares show that Bombardier struggled to secure new contracts in the past two years.[445]

(B) The Commission's assessment

(448) As a preliminary point, in accordance with the Commission's Horizontal Merger Guidelines,[446] market shares are used as the starting point of the present competitive assessment. Furthermore, as the Commission already found in *Siemens/Alstom*, market shares do have value in assessing competitive positions in bidding markets.[447] The Court's case-law thus recognises that the mere fact that a merger takes place on a bidding market, '*does not mean that market shares are of virtually no value in assessing the strength of the various manufacturers* […]*, especially where those shares remain relatively stable or reveal that one undertaking is tending to strengthen its position*'.[448]

(B.i) Timeframe for the Commission's assessment

(449) First, with regard to the appropriate timeframe for the assessment of the Transaction, the Notifying Party argues that calculating market shares over a period of 10 years overstates the Parties' competitive position and does not reflect recent developments relevant for assessing the competitive dynamics in the market for mainline rolling stock (and possible segmentations). However, calculating market shares based on a more limited length of time restricts the underlying number of tenders to very few, with the consequent risk of providing a very distorted view of each players' competitive position. As established in previous Commission's decisions, in markets characterised by lumpy demand, market shares should be analysed over several years.[449]

(450) In the present case, assessing the Transaction over a shorter period of time, i.e., 5 years, would result in the exclusion of a large proportion of projects. The Commission thus considers that such an approach would not adequately reflect the structural impact that the Transaction brings about in the market for mainline rolling stock and possible segmentations because it excludes nearly half of the underlying number of tenders and repeat orders.

(451) In particular, the Commission observes that the market size in terms of order intake over a period of 5 years (2015-2019) represents [50-60]% of the market size in the period 2010-2019 in the overall market for mainline trains at the EEA-wide level (including Switzerland). The proportion is similar when considering possible segmentations of the overall market for self-propelled mainline trains: (i) [50-60]%

445 Form CO, Chapter B.2, paragraph 70.

446 Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraph 14.

447 Commission decision in case M.8677 – *Siemens/Alstom* (2019), recital 179.

448 Judgement of 14 December 2005, *General Electric* v *Commission*, T-210/01, EU:T:2005:456, paragraphs 149 and 150.

449 Commission decision in case M.8677 – *Siemens/Alstom* (2019), recital 185.

in the possible market for EMUs and (ii) [50-60]% in the possible market for regional trains at the EEA-wide level.[450]

(452) At the national level, the proportion is comparable. In France, the value of order intake over a 5-year period in the overall market for self-propelled mainline trains is [60-70]% of the market size of the overall market for self-propelled trains over a 10-year period ([60-70]% in the possible market for EMUs and [50-60]% in the possible market for regional trains).

(453) The Commission draws similar conclusions with regard to the market for mainline rolling stock (and possible segmentations) in Germany. The proportion of the value of order intake in the period 2014-2019 is [50-60]% of the overall market for self-propelled mainline trains, [60-70]% and [50-60]% of the market size over 10 years in the market for EMUs and regional trains, respectively.

(454) At the same time, as stated in paragraph 15 of the Horizontal Merger Guidelines, '*changes in historic market shares may provide useful information about the competitive process and the likely future importance of the various competitors, for instance by indicating whether firms have been gaining or losing market shares*'. Therefore, the assessment should verify whether the relevant markets were affected by structural changes that may otherwise be diluted when examining a longer period of time.

(455) The following table sets out the Parties' and their competitors' market shares for the 2015-2019 period, as suggested by the Parties.

Table 15: Market shares, EEA & Switzerland, 2015-2019, Order intake (by value)

Competitors	All	Regional	Intercity	EMU	Regional EMU	Intercity EMU
Alstom	[20-30]%	[20-30]%	[10-20]%	[10-20]%	[10-20]%	[20-30]%
Bombardier	[20-30]%	[20-30]%	[30-40]%	[30-40]%	[20-30]%	[40-50]%
Combined	[40-50]%	[40-50]%	[50-60]%	[50-60]%	[40-50]%	[60-70]%
Stadler	[20-30]%	[20-30]%	[10-20]%	[20-30]%	[20-30]%	[20-30]%
Siemens	[5-10]%	[10-20]%	--	[10-20]%	[10-20]%	--
Hitachi	[10-20]%	[5-10]%	[20-30]%	[5-10]%	[5-10]%	[0-5]%
CAF	[5-10]%	[5-10]%	[10-20]%	[5-10]%	[0-5]%	[10-20]%
Pesa	[0-5]%	[0-5]%	--	[0-5]%	[0-5]%	--
Newag	[0-5]%	[0-5]%	--	[0-5]%	[0-5]%	--
Skoda	[0-5]%	[0-5]%	--	[0-5]%	[0-5]%	--
CRRC	[0-5]%	[0-5]%	--	[0-5]%	[0-5]%	--
Others	[0-5]%	[0-5]%	--	[0-5]%	[0-5]%	--
Total	100%	100%	100%	100%	100%	100%

Source: Market Share Table – 11 June 2020

[450] As regards intercity trains, the market size over the period 2014-2019 is [60-70]% of the value of order intake over a 10-year period. However, as the Notifying Party states, the number of intercity projects is much more limited than regional projects. Therefore, the Commission considers that any considerations regarding the distorting effect of limiting the time period for the assessment to less than 10 years are even more valid. As established in *Siemens/Alstom*, market shares calculated over a short period of time and based on a very small sample of tenders or orders means that any individual win or loss inevitably results in very significant impact, which does not however accurately reflect the competitive dynamics.

(456) The market shares at the EEA-wide level, including Switzerland, in the past 5 years demonstrate that the Parties' market shares do not materially differ from their market shares in the last 10 years. While Bombardier's market share slightly decreased (from [20-30]% to [20-30]%), Alstom's market share slightly increased (from [10-20]% to [20-30]%) in the overall market for self-propelled mainline trains. In the market for intercity or intercity EMUs, the same trend can be observed and the Parties' combined market share is higher in the period 2015-2019. The same is true for other competitors. For example, Hitachi's market share in the market for regional trains increased from [5-10]% to [5-10]% but it decreased from [30-40]% to [20-30]% for intercity trains. Its market share in the overall market for self-propelled trains remained stable. CAF's market share in the overall market for self-propelled trains increased from [5-10]% to [5-10]% and remained the same for regional trains. Stadler's market share also increased from [20-30]% to [20-30]% in the overall market for self-propelled trains and a similar increase can be observed in other segmentations. However, the Commission notes that the market shares of Central and Eastern European suppliers have in fact slightly decreased.

(457) Therefore, the Commission considers that calculating the Parties' and their competitors market shares over a period of 5 years does not change the competitive assessment regarding the Parties' position in the market for self-propelled trains and possible segmentations and the competitive position of other players.

(458) The same conclusion holds for the competitive assessment in the market for self-propelled mainline trains in France (and possible segmentations). The Parties' combined market share in the overall market for self-propelled trains decreased from [90-100]% to [90-100]% for the period 2015-2019 and in the market for EMU from [90-100]% to [80-90]% in the last 5 years. The Parties' market share did not change in the market for regional trains and regional EMU. This change in the market shares results from CAF's single win of an intercity tender with SNCF in 2019. Nevertheless, the Commission notes that the Parties' combined market share for a period of 5 years is consistent with a dominant position.

(459) In Germany, the Parties' market shares over a period of 5 years are demonstrated in the table below.

Table 16: Market shares in Germany (10 years and 5 years, order intake)

Competitors	All	Regional	EMU	Regional EMU
Alstom	[20-30]%	[20-30]%	[10-20]%	[10-20]%
Bombardier	[10-20]%	[10-20]%	[10-20]%	[10-20]%
Combined	**[40-50]%**	**[40-50]%**	**[30-40]%**	**[30-40]%**
Stadler	[20-30]%	[20-30]%	[20-30]%	[20-30]%
Siemens	[30-40]%	[30-40]%	[40-50]%	[40-50]%
Total	100%	100%	100%	100%

Source: Market Share Table – 11 June 2020

(460) In contrast with other geographic scope examined above, the Parties' market shares are materially lower over the past 5 years compared to the full 2010-2019 period. However, that variation does not, per se, prove a decrease in Bombardier's competitiveness. In this regard, the Commission first notes that win and share

fluctuations over time are a normal feature of the market for mainline rolling stock, and do not necessarily constitute evidence of durable trends. In the present case, based on the Parties' bidding data, the evolution of Bombardier's sales appears to be a result not of any decreasing competitiveness, but of Deutsche Bahn's cyclical procurement. Rolling stock have a long life-cycle, spanning several decades, and therefore lend themselves to cyclical demand as required by the gradual needs for the replacement of fleets. Indeed, Deutsche Bahn, the German market's main customer, procured twice as many trains in the 2010-2014 period than in the subsequent 5 years. Bombardier represented […]% of all Deutsche Bahn contracts over the 2010-2014 period.

(461) Over the past 5 years, the biggest winner of Deutsche Bahn contracts has been Alstom. Competitors appear to have been more successful with customers other than Deutsche Bahn. However, the time period examined (5 years) is too short to draw any conclusions as to any durable trend on the market. On the contrary, as per the Commission's precedents in bidding markets, the assessment must be conducted on a longer time period to avoid erroneous analysis of evolution of the competitive significance of various bidders.

(462) Moreover, the Commission considers that, contrary to the Notifying Party's suggestion, a competitive assessment of the Transaction over an even shorter period of time (2 years) unduly impairs any meaningful conclusions as to the Parties' and their competitors' market position. The value of order intake calculated over the period 2018-2019 represents [20-30]% of the value over of a period of 10 years in the overall market for self-propelled trains (and [10-20]% in the market for EMUs, [20-30]% in the market for regional trains, [30-40]% in the market for intercity trains) at the EEA-wide level, including Switzerland. In France, the market size over a period of 2 years is [20-30]% of the market size for the period 2010-2019 in the overall market for self-propelled trains ([20-30]% in the market for regional trains and [20-30]% in the market for EMUs). In Germany, the proportion is comparable ([10-20]% in the market for EMUs, [20-30]% in the overall market for self-propelled trains and in market for regional trains).

(463) Given the lumpy nature of demand, long lifecycle of rolling stock products and cyclical nature of the procurement patterns of market's the main customers, an assessment of competitive positions over a mere two years period cannot be considered sufficiently representative and risks, on the contrary, rely on a grossly distorted overview of the Parties' and their competitors' position. Therefore, the Commission will base its assessment on the Parties' and their competitors' market shares over the period 2010-2019.

(B.ii) Contestable and non-contestable orders

(464) The Notifying Party argues that market shares based on contestable shares represent the competitive dynamics in the market for mainline rolling stock and the increasing competitive pressure that the Parties' competitors exert more accurately. However, as already found by the Commission in *Siemens/Alstom*, orders that were awarded to a given supplier by a customer via a repeat order (thus without going through a competitive tender) provide an important insight into the Parties' competitive strength. Disregarding non-contestable/repeat orders would unduly favour the Parties and underestimate their competitive position in the market for self-propelled rolling stock and possible segmentations.

(465) As established in previous decisions, the Commission considers that non-contestable orders contribute to a supplier's competitive position. They contribute to establishing a supplier's track-record of manufacturing and delivering certain types of trains and therefore constitute references which suppliers can leverage in other calls for tenders. Furthermore, they contribute to supporting large investment in R&D, engineering, development and manufacturing capacity which are important contributors to a supplier's strength when bidding for tenders. Therefore, non-contestable awards do reflect a position in relation to a long-standing customer relationship, often initially obtained in a competitive process.[451]

(466) The advantages resulting from long-standing customer relationships are relevant to the competitive assessment. In this regard, the Commission notes that the Parties have the largest installed base in the EEA, including Switzerland, as well as in France and Germany and have been long standing suppliers of some of the national rail operators in these countries, namely SNCF and Deutsche Bahn. A quantitative assessment reinforces the conclusion that non-contestable/repeat orders generate a significant competitive advantage for the Parties and are a strong evidence of their leading market position.

(467) Non-contestable/repeat orders represent a significant proportion of the total market size. At the EEA-wide level, including Switzerland, non-contestable/repeat orders represent [30-40]% of the total demand in the market for EMUs and [30-40]% in the overall market for mainline rolling stock in the period 2010-2019. Furthermore, the Parties benefit from more non-contestable/repeat orders than their competitors. At the EEA-wide level, including Switzerland, the Parties account for [60-70]% of all non-contestable/repeat orders in the market for EMUs and [60-70]% in the overall market for mainline trains, well ahead of their competitors (Stadler: [20-30]%, Siemens: [0-5]%, Hitachi: [5-10]%, CAF: [0-5]%, Newag: [0-5]%).[452] As a result, a competitive assessment solely focused on contestable market shares would underestimate the Parties' competitive strength and disproportionately inflate their competitors' market position.

(468) The Commission considers that non-contestable/repeat orders have a significant effect of entrenching the Parties' established position and raising barriers to entry in France and Germany. In France, the proportion of repeat orders out of the total order intake is [70-80]% in the overall market for self-propelled mainline trains and the Parties account for all of them. In the market for EMUs in France, non-contestable/repeat orders account for [70-80]% (and [70-80]% in the market for regional trains) of the total order intake and the Parties were awarded [90-100]% of the repeat orders (and all repeat orders in the market for regional trains). In the market for regional EMUs, the proportion of repeat/non-contestable orders is similar ([70-80]%) and the Parties accounted for all of them.

(469) In Germany, non-contestable/repeat orders constitute [10-20]% of the overall market for mainline rolling stock, the market for regional trains and the market for regional EMUs and [20-30]% of the market for EMUs. The Parties accounted for the vast

[451] Commission decision in case M.8677 – *Siemens/Alstom* (2019), recitals 216-220.

[452] In the market for EMUs at the EEA-wide level in the period 2010-2019. The figures in the overall market for mainline rolling stock are comparable: Stadler: [20-30]%, Siemens: [0-5]%, Hitachi: [5-10]%, CAQ: [0-5]%, Newag: [0-5]%.

majority of such orders ([90-100]% in the market for EMUs and [90-100]% in the overall market for self-propelled trains, and in the markets for regional trains and regional EMUs).

(470) Therefore, the Commission considers that calculating market shares on the basis of total order intake is informative because it allows taking into account the significant competitive advantages that the Parties' installed base and longstanding customers relationships confer.

(B.iii) Bombardier's financial difficulties and their impact on its ability to compete

(471) The Notifying Party argues that assessing the competitive effects of the Transaction over a shorter period of time, instead on the basis of historical market shares also demonstrates that it is challenging for Bombardier to exert significant competitive constraints as indicated above.

(472) Pursuant to the Horizontal Merger Guidelines, *'In assessing the competitive effects of a merger, the Commission compares the competitive conditions that would result from the notified merger with the conditions that would have prevailed without the merger'*.[453] Therefore, when assessing the competitive constraint exerted by Bombardier, in the context of recent financial difficulties or project execution problems concerning the delivery of several mainline platforms, the Commission has to take into account the counterfactual scenario absent the merger.

(473) In assessing the competitive impact of a concentration, of particular relevance may be the issue of whether, without the concentration, the relevant business and assets would exit the market. In that context, '*the Commission may decide that an otherwise problematic merger is nevertheless compatible with the* [internal] *market if one of the merging parties is a failing firm. The basic requirement is that the deterioration of the competitive structure that follows the merger cannot be said to be caused by the merger. This will arise where the competitive structure of the market would deteriorate to at least the same extent in the absence of the merger.*[454]

(474) According to the Horizontal Merger Guidelines and the relevant case law, three criteria are especially relevant in determining whether an entity is to be regarded as a 'failing firm':

i. First, the allegedly failing firm would in the near future be forced out of the market because of financial difficulties if not taken over by another undertaking (first criterion);

ii. Second, there is no less anti-competitive alternative purchase than the notified merger (second criterion);

iii. Third, in the absence of a merger, the assets of the failing firm would inevitably exit the market (third criterion).

---

[453] Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings, paragraph 9.

[454] Horizontal Merger Guidelines, paragraph 89. See also: judgment of 31 March 1998, *France and Others v Commission (Kali & Salz)*, C-68/94 and C-30/95, EU:C:1998:148, paragraph 110.

(475) It is for the Notifying Party to provide in due time all the relevant information necessary to demonstrate that the expected deterioration of the competitive structure that follows the merger would not be caused by the merger.[455]

(476) The Commission notes that the Notifying Party does not seek to rely on the failing firm defence set out in Section VIII of the Horizontal Merger Guidelines. In particular, the Notifying Party has not argued nor presented specific evidence that the three criteria, mentioned above are met.

(477) The Notifying Party rather argues that, absent the Transaction Bombardier's financial situation may deteriorate and adversely affect its ability to compete. The Commission notes that, to be able to preclude competition concerns, the alleged possible exit of Bombardier would have to meet the criteria referred to in paragraph (474), with all the relevant information to be provided by the Parties.

(478) The Commission thus assesses the Transaction under the premise that Bombardier would not in the near future be forced to exit the market due to financial difficulties and competition will continue under current conditions. For the purpose of this decision, and absent a failing firm defence invoked by the Notifying Party, the Commission considers that Bombardier's mainline rolling stock assets must be considered viable. The Commission thus concludes that, absent the Transaction, Bombardier will either continue to compete on a stand-alone basis or it would be acquired by another market player. This would result in preserving and reinforcing Bombardier's current assets, contracts, products in development and its competitive position on the market. Therefore, for the purpose of the present assessment the Commission assesses the competitive constrain exerted by Bombardier in view of its market shares and competitive position on the market for self-propelled mainline trains and possible segmentations.

(B.iv) Consortia

(479) In line with the approach adopted in *Bombardier/ADTranz* and *Siemens/Alstom*, the Commission considers that market shares including consortia are indicative of the Parties' competitive position. In *Bombardier/ADTranz*, the Commission noted that '*in many cases companies submit bids as part of consortia. In the case of consortia, this decision regards the prime contractor as the winner of the contract; but market shares are attributed to the other members of the consortium according to their share in that consortium*'.[456]

(480) Following this approach, the Commission considers that, for the purpose of this decision, market shares should be allocated based on the contribution of each consortium partner. Therefore, in the remainder of this decision, unless otherwise indicated, the Commission refers to market shares of the Parties and their competitors calculated on this basis.

(481) The Commission nevertheless also notes that the Parties' market shares including and excluding consortia do not materially differ such that market shares excluding consortia would lead to a different conclusion regarding the Parties' combined market shares as demonstrated below.

---

[455] Horizontal Merger Guidelines, paragraph 91.

[456] Commission decision in case M.2139 - *Bombardier/ADTranz*, (2001), paragraph 41.

Table 17: Market shares, EEA and Switzerland, 2010-2018, order intake, excluding consortia

	Overall mainline	EMUs	Regional EMUs	Intercity	Intercity EMU
Including consortia	[40-50]%	[50-60]%	[40-50]%	[40-50]%	[60-70]%
Excluding consortia	[40-50]%	[40-50]%	[40-50]%	[40-50]%	[50-60]%

Source: Market Share Table – 11 June 2020

(482) In France, the Parties' combined market share in the overall market for self-propelled mainline trains is [90-100]% (including consortia) and [90-100]% (excluding consortia); in the market for EMUs in France: [90-100]% (including consortia), [90-100]% (excluding consortia). The Parties' market shares in Germany remain the same because they are not active in consortia.

6.3.4. Results of the market investigation and the Commission's assessment

6.3.4.1. The merged entity's main competitors

(A) The Notifying Party's views

(483) The Notifying Party argues that the Transaction will not give rise to competitive concerns on the market for mainline trains or any segmentations.

(484) The Notifying Party argues that the mainline market attracts fierce competition from at least 11 suppliers. These include well-established players such as Siemens, Stadler, Hitachi, CAF, and Talgo. In addition, Skoda, Pesa, Newag, and to a lesser extent CRRC, exert strong competitive constraints due to their lower cost structures and general agility. According to the Notifying Party, all these competitors are bidding in and winning tenders across Europe. In the past years, Stadler, CAF, and Hitachi have made significant inroads, becoming well-established suppliers that effectively constrain historically larger players such as Siemens, Alstom, and Bombardier. They won significant and strategic orders across Europe and continue developing their portfolio.

(485) The Notifying Party further considers that there is significant potential for further entry and expansion for existing rolling stock suppliers. In addition to expansion throughout the EEA and Switzerland and into other rolling stock segments (CAF's recent intercity win in France), there has also been recent evidence of entry to the mainline train market from existing rolling stock suppliers such as Talgo.[457] Furthermore, the Notifying Party submits that there are no insurmountable barriers to entry for non-European players such as CRRC.

[457] Form CO, Chapter B.2, paragraph 13.

(B) The Commission's assessment

(486) Based on the market shares presented in section 6.3.2.1, the Parties' main competitors are the following.

(487) Stadler is the 2nd largest mainline train supplier in the EEA. It has two regional platforms, called GTW and Wink. Stadler has two platforms that operate as both regional and intercity trains, called Flirt and Kiss. In the EEA, Stadler has sold regional trains in Austria, Czechia, Estonia, Germany, Hungary, Italy, Luxembourg, the Netherlands, Poland, Slovenia, Spain, Sweden, Switzerland, and the UK. In addition, Stadler received repeat orders in Finland and Norway based on initial contracts awarded before 2010.[458]

(488) Siemens is the 4th largest mainline train supplier at the EEA-wide level, including Switzerland, and in Germany. Siemens offers two main train platforms for mainline transport: Mireo and Desiro. The Desiro family includes four EMU platforms. Siemens' EMUs include two platform specifically designed for the UK market, called Desiro City and Desiro Verve. Its other EMUs are called Desiro ML and HC.[459] Siemens has sold trains in Germany, UK, Austria and Hungary.[460]

(489) Hitachi is the 5th largest mainline train supplier and 2nd largest in the UK. Hitachi has regional platforms, called Caravaggio and TSR, and intercity platforms, called AT300 and AT200. In the EEA, Hitachi has sold intercity trains in the UK and Italy.[461]

(490) CAF is the 6th largest mainline train suppliers and 4th largest supplier of regional DMUs. It has a regional platform, called Civity with 5 declinations (UK, Nordic, Duo, XL, and Max). In the EEA, CAF's trains have been sold in France, Italy, the Netherlands, and the UK. CAF also markets another Civity platform capable of a maximum speed of 200 km/h, which has been sold in the UK. Its intercity platform is Comfort 200.[462]

(491) Skoda is the largest supplier in Czechia. It has two regional platforms (InterPanter and CityElefant), and an intercity platform, called RegioPanter. Skoda also has won projects in Latvia, Lithuania, and Slovakia and has bid for projects in Germany, Hungary, and Slovenia.

(492) Other Eastern European manufacturers Pesa (Poland) and Newag (Poland) are mostly active in regional rolling stock (Pesa has three regional platforms, respectively, and Newag has two).

(493) Talgo is a recent entrant in the regional EMU market with its platform VitTal. Its bidding activities include tenders in Spain and Latvia.[463] Talgo has not won any contracts with its EMU platform yet.

---

458 Form CO, Chapter B.2, paragraph 73 and table 9.

459 Form CO, Chapter B.2, table 11.

460 Parties' CPL. According to its non-confidential submission of 21 April 2020, Siemens sold regional trains in Austria, Belgium, Denmark, Germany, the Netherlands and the UK. See footnote 31.

461 Form CO, Chapter B.2, table 13 and Parties' CPL.

462 Form CO, Chapter B.2, table 12 and Parties' CPL.

463 Form CO, Chapter B.2, paragraphs 94-95.

(494) Finally, Asian manufacturers have a negligible presence in Europe. CRRC has been awarded a contract for 3 regional trains by the Czech private operator Leo Express in 2016, albeit not through an open tender procedure. CRRC has had limited and unsuccessful bidding activities since then (2016 Ferrovie Nord Milano tender). Hyundai Rotem has unsuccessfully bid for three contestable regional EMU projects in the EEA in the past 10 years.

(495) The Commission notes that at the EEA-wide level, suppliers are active in several of countries outside of their home base. Some suppliers such as Stadler and Siemens expressed the view that they could participate in a tender for self-propelled mainline trains in any country of the EEA. [464]

(496) Siemens bid for mainline rolling stock contracts in Germany, Austria, the UK, the Netherlands, Switzerland, Italy, Hungary, Denmark and Belgium. The geographic scope of Stadler's activities is wider, with participations in tenders in Switzerland, Germany, France, Italy, Spain, the UK, the Netherlands, Austria, Poland, Hungary, Slovakia, Slovenia, Estonia, Luxembourg, Sweden and Norway. In its response to the market investigation, Hitachi also stated that it can participate in tenders across the EEA as it '*can rely on the availability of self-propelled mainline product platforms with limited design evolution able to meet the specific EEA market requirements*'.[465] However, as evidenced by Hitachi's participation over the last 10 years, it appears that in fact it bid in tenders in a limited number of countries.[466]

(497) The Commission notes that in the last 10 years Stadler won contracts in Germany, Austria, Hungary, Poland, Slovenia, Estonia, Italy, Spain, the UK, Sweden, Finland, the Netherlands, Switzerland, Luxembourg; Siemens in Germany, Austria, and the UK; CAF in Spain, UK, Italy, the Netherlands, France (1 project); Hitachi in Italy and the UK. Talgo, for its part, has so far not succeeded in entering the market for regional trains or EMUs despite bidding in several countries.[467]

(498) The bidding analysis shows that while in recent years competitors such as Stadler, Hitachi, and CAF have increased their market shares, they win fewer tenders in countries where the Parties are active and high barriers to entry have been identified (i.e., France and Germany).

(499) In France, CAF participated in 3 (out of 5) contestable tenders. As specified in section 6.3.4.3, CAF succeeded in winning […] with SNCF for the supply of intercity trains (a market where the Parties' activities do not overlap) more than a decade after acquiring a manufacturing site in France. Stadler participated in a single tender held by the Hello Paris consortium, which was ultimately awarded to Alstom with the Coradia Polyvalent platform in 2019.[468] Based on the Parties' CPL, Siemens and Hitachi did not take part in any tenders in the last 10 years.

---

464 Q3, replies to question 37.

465 Hitachi's response to Q3, question 37.

466 Hitachi participated in tenders in the last ten years in Italy, the UK, Norway Austria. See Hitachi's response to Q3, question 36. According to the Parties' CPL, Hitachi also participated in a tenders in Germany.

467 The Parties' CPL.

468 The Parties' CPL.

(500) With regard to Germany, Hitachi and CAF, which have increased their market shares in other countries of the EEA, were not successful in winning any contestable tenders. Hitachi participated in 1 tender in Germany for a regional EMU trains but lost to Bombardier and CAF bid in 3 tenders and lost to Alstom, Bombardier and Stadler, respectively. The only players that achieved wins in Germany are the Parties, Stadler and Siemens.

(501) Central and Eastern European suppliers are currently unable to surpass barriers to entry in Western European countries, including France and Germany. Suppliers such as Skoda, Pesa and Newag rarely compete in Western Europe due to higher technical and financial requirements, while the Parties do not compete in countries where these suppliers are very active (Central and Eastern Europe). Based on the Parties' CPL data, Alstom and Bombardier [*Information on the Parties' sales data*] i.e., countries in which the Central and Eastern European suppliers have a strong foothold. By contrast, the bidding analysis demonstrates that Skoda won contracts in the last 10 years in Czechia, Slovakia, Latvia and Lithuania; Pesa in Poland, Czechia, and a DMU project in Germany; Newag in Poland and Italy.

(502) Central and Eastern European suppliers are nevertheless expanding their activities. For instance, over the past 10 years, Newag won two contracts in Italy. Skoda, for its part, placed bids in five EMU tenders in Germany (including once in consortium with Alstom), but lost all opportunities to Alstom, Bombardier and Siemens. Pesa placed four unsuccessful bids in Italy and two bids in Germany in the same period.

(503) To this date, Central and Eastern European suppliers have managed to achieve a few sales in lower end mainline rolling stock products in Germany. In 2013 and 2014, Deutsche Bahn ordered Pesa Link regional train under a framework agreement for 470 trains. However, due to difficulties in acquiring the necessary authorisations, Deutsche Bahn only ordered 73 trains and cancelled the larger part of the framework agreement. Deutsche Bahn ordered trains from Alstom to compensate for the shortfall.[469]

(504) For its part, Skoda explains having won a Deutsche Bahn / DB Regio contract for six locomotive-hauled intercity trains in 2014 in Germany (against Siemens and Bombardier). Skoda notes that '[a]*lthough it is usually very hard for a medium-sized supplier like Skoda to sell rolling stock in Germany (due to German homologation requirements and herewith connected need for pre-development)), for this tender Deutsche Bahn set out specific customisation requirements and quantity, so that only a limited number of suppliers were interested to participate. Skoda considers that the special conditions of this tender allowed Skoda to enter the German market*.'[470]

(505) However, the Commission does not consider that these sales can be construed as evidence that Newag, Pesa or Skoda are likely entrants in the market for EMUs in France or Germany. Both Pesa's and Skoda's experience in Germany illustrate the fact that complex homologation requirement in combination with high upfront investment borne by the supplier pending homologation constitutes a barrier to enter the German market. It is therefore similarly unlikely that these suppliers will succeed

469 Non-confidential submission of Siemens, 22 April 2020, paragraph 32.

470 Minutes of conference call with Skoda of 6 May 2020.

in entering the French market characterised by high barriers to entry (and where these players did not participate in any tenders).

(506) This conclusion is supported by the results of the market investigation. Competitors do not consider that Eastern European suppliers (Skoda, Pesa, and Newag) can currently successfully bid in large EMU tenders elsewhere in the EEA.[471] This is due to, among other things, complex technical requirements and demanding engineering capabilities, authorisation requirements, and the lack of commercial references.[472] For example, according to Siemens, '*it is not foreseeable that CEE suppliers will become competitive in France'*.[473]

(507) This is confirmed by customers, the majority of which do not consider that Skoda, Pesa and Newag can currently compete with the Parties.[474] Alpha Trains (which operates in Germany and France) confirms that this is due to barriers to entry relating to timely homologation, technical standards and compliance with *'Western European market demands'*.[475] For its part, NS (the Dutch national rail operator) indicated that these suppliers currently lack of ability to supply the requested volumes in a tender.[476]

(508) Respondents estimated that it will take Central and Eastern European competitors more than 3 years to become credible bidders elsewhere in the EEA.[477] As a result, Central and Eastern European suppliers will be not able to compensate for the loss of competition generated by the Transaction within a time period compatible with the protection of effective competition. This is particularly true for countries where high barriers to entry have been identified that Central and Eastern European suppliers are unlikely to be able to overcome given current market conditions (France and Germany).

(509) Finally, Talgo has bid with its recently introduced EMU platform in Spain, Latvia and Lithuania but has not yet successfully entered the market for EMU or regional trains.[478] In 2019, Talgo was awarded a frame contract with Deutsche Bahn in 2019 for push pull trains to operate at speed above 160 km/h. Even though it has participated in tenders and established local manufacturing facilities in Germany, until 2019 it did not succeed in winning any other tenders. Talgo's very limited activities in the markets for EMUs and regional trains demonstrate that it is not currently a credible competitive constraint in these markets. Similarly, to Skoda and Pesa, Talgo's difficulties in entering the German market demonstrate that there are high barriers to entry.

(510) Finally, Asian suppliers such as CRRC or Hyundai Rotem do not exercise material competitive constraints in the EEA (and therefore in any country in the EEA). As far as CRRC is concerned, the Chinese supplier only has a negligible presence in

471 Q3, replies to question 41.

472 Q3, replies to question 41.1.

473 Siemens' response to Q3, question 41.1.

474 Q4, replies to 30.6-30.9.

475 Alpha Trains' response to Q4, question 31.1.

476 NS' response to Q4, question 31.1.

477 Q3, replies to question 41.2; Q4, replies to question 31.2.

478 Talgo was initially awarded the order in a tender for regional EMUs in Latvia but the order was later overturned on appeal by Skoda.

Czechia where its market share stems from a single win in September 2019 for the supply of Regional EMUs to the Czech private operator Leo Express. However, CRRC faces significant barriers to entry and expansion in other countries in the EEA due to complex homologation process (and complying with TSI and national certification requirements), lack of commercial references, and customer preferences. According to CRRC, *"having achieved homologation in Czechia would not aide CRRC's participation in tenders in other European countries because the homologation process is very different in each tender/project/country*".[479] In CRRC's view, this is also evidenced by the fact that it has not and is not currently participating in any other tenders/projects for the supply of mainline trains in Europe.[480] The Commission however notes that based on the Parties' CPL, CRRC participated in tenders in the UK and Austria.[481]

(511) Customers that expressed a view stated that CRRC was either not a candidate in their tenders or it attempted to pre-qualify but was not successful.[482] SBB explained that *'CRRC are not capable yet to offer products which comply with the European regulation and / or national requirements in combination with a European reference project'*.[483]

(512) Suppliers considered that it will take CRRC more than 5 years to become a credible bidder for self-propelled mainline train tenders in other countries than Czechia in the EEA.[484] CRRC estimates that it will take a very long time (more than 10-20 years) before it can credibly compete for rolling stock projects (both high speed and mainline trains) elsewhere in Europe.[485]

(513) For its part, Hyundai Rotem is currently not active in the EEA.[486] The results of the market investigation also demonstrated that Hyundai Rotem is currently not perceived as a credible competitor in the EEA and did not participate in the tenders organised by responding customers.[487] Hyundai Rotem faces the same barriers to entry as other non-European suppliers such as CRRC.

(514) In view of the above, the Commission considers that at the EEA-wide level, including Switzerland, the number of suppliers remaining after the Transaction will be sufficient to maintain effective competition post-Transaction. Thus at the EEA-wide level, post-Transaction the Parties will continue to face significant competitive constraints from Stadler, Siemens, Hitachi, CAF, and the Central European players (Skoda, Pesa and Newag).

---

479 Non-confidential minutes of conference call with CRRC, 27 May 2020, paragraph 4. The Commission notes that CRRC entered the market for shunting locomotives in Germany already before its acquisition of the German company Vossloh (by obtaining a contract with Deutsche Bahn). Thus, the acquisition of Vossloh and establishing local presence did not in any way facilitate CRRC's entry in the German market for locomotives. However, CRRC would not be able to leverage its activities in locomotives to win contracts in other mainline rolling stock mainly because Vossloh's activities and resources are limited to shunting locomotives.

480 Non-confidential minutes of conference call with CRRC, 27 May 2020, paragraph 4.

481 Parties' CPL.

482 Q4, replies to question 45.

483 SBB's response to Q4, question 45.1.

484 Q3, replies to question 59.4.

485 Non-confidential minutes of conference call with CRRC, 27 May 2020, paragraph 6.

486 Non-confidential email of 29 June 2020.

487 Q4, replies to question 29.6.

(515) By contrast, in France, the number of credible competitors is very limited, i.e., to the Parties and CAF. The Commission however notes that CAF only won a 2019 contract with SNCF under which it has not yet delivered the rolling stock.

(516) In Germany, the credible competitors in the market for self-propelled trains (and possible segmentations) are limited to a small group of suppliers. While a number of smaller competitors participated in few tenders (e.g., Hitachi, CAF, Skoda, Pesa), the only suppliers that achieved any wins are the Parties, Stadler and Siemens. Therefore, the Commission considers that the Transaction will eliminate the particularly significant competitive constraint existing between the Parties, while barriers to entry are likely to prevent that loss from being offset by the prospect of a timely entry able to maintain effective competition in the market for self-propelled mainline trains.

(517) Furthermore, according to the results of the market investigation, the Transaction will negatively impact competitors' ability to win contracts or will affect their incentive to participate in tenders against the Parties, thus reducing the overall competitive outcome of tenders in countries where the Parties have a strong competitive position such as France and Germany.[488]

(518) Suppliers' decision to participate in tenders depends not only on their existing products and perceived competitiveness in a given tender but also on the participation of competitors. Competitors almost unanimously indicated that their decision to participate in tenders is influenced by the identity of the competitors they are facing. The market investigation confirms that competitors may decide not to participate in tenders if competing suppliers have significant advantages in terms of local manufacturing footprint or long-standing customer relationships.[489] In particular, the participation of Alstom and Bombardier discourages rivals from competing in tenders in countries where they are established and have a significant presence.[490] By that measure, the merged entity will have significant advantages in future tenders due to combined a wider range of homologated platforms and larger manufacturing footprint, thus making it more difficult for other suppliers to compete in France and Germany.

(519) The Commission thus considers that the Transaction will prevent competitors from expanding their activities or entering the market for self-propelled mainline trains (and possible segmentations) in France and Germany.

6.3.4.2. Closeness of competition

(A) The Notifying Party's views

(520) The Notifying Party considers that both participation data and the win/loss analysis show that the Parties have not most frequently faced (or lost to) each other in contestable mainline EMU tenders. Instead, each faced and was more constrained by the presence of other rivals. The Notifying Party therefore argues that the

488 Q3, replies to questions 56 and 56.3

489 Q3, replies to questions 56 and 56.1.

490 Q3, replies to question 56.2.

Transaction will not remove each Party's closest competitor but that the merged entity will continue to be constrained by a range of well-established competitors.[491]

(B) The Commission's assessment

(521) Bidding data shows that, in mainline rolling stock, Alstom and Bombardier belong to a small group of close competitors and the Parties are among the top 2 or 3 bidders in tenders in which they participated.

(522) This is particularly true at the national level. In terms of tender participation, the Commission noted the following:

(a) In France, Alstom's most frequent competitor in the overall mainline rolling stock market is CAF ([50-60]%), with Bombardier in second position ([20-30]%). In regional EMUs, Alstom's most frequent competitor was Bombardier, participating in [60-70]% of tenders, followed by CAF ([30-40]%) and Stadler ([30-40]%) in the period 2010-2019. With regard to intercity trains, Alstom competed against CAF (Bombardier did not bid) in the only contestable tender awarded to CAF;

(b) In Germany, in all tenders for regional EMUs, Alstom most often competed against Stadler ([70-80]%), Bombardier ([50-60]%), and Siemens ([30-40]%), and CAF ([30-40]%), and to a lesser extent Skoda ([10-20]%), Pesa ([0-10]%). Bombardier most frequently competed against Alstom ([70-80]%), followed by Stadler ([60-70]%), Siemens ([40-50]%), and CAF ([30-40]%). In very few tenders where Bombardier competed also Hitachi ([0-10]%), Skoda ([0-10]%), and Pesa ([0-10]%) participated. However, in tenders held by Deutsche Bahn, the only bidders are the Parties, Stadler and Siemens.

(523) Although participation provide useful indications, when conducting this type of analysis, as the Commission explained in Siemens/Alstom, a firm that participates often but never wins is less credible as a competitive alternative and thus exercises less significant constraint than a firm that participates and wins.[492] Winning statistics show that the Parties constitute each other's most significant competitive constraint or are among a small group of close competitors:

(a) In France, the Parties lost no tenders to any supplier other than CAF (in intercity rolling stock, a market in which the Parties' activities do not overlap);

(b) In Germany, the Parties most often lost against Stadler. Alstom lost more tenders to Siemens than Bombardier, while Bombardier lost more tenders to Alstom than to Siemens. Moreover, the Commission notes that the Parties won the majority of contestable tenders organized by Deutsche Bahn in the last 10 years (Alstom - […] and Bombardier – […], out of […]). In addition,

491 Form CO, Chapter B.2, paragraph 117.

492 Siemens/Alstom, at paragraph 408.

Bombardier accounts for nearly […] repeat orders placed by Deutsche Bahn in the period 2010-2014.[493]

(524) As a result, the bidding analysis confirms the strong competitive constraints that the Parties currently exert on one another in France. Despite their participation in tenders against Alstom, no competitor other than Bombardier has had any success, with the sole exception of CAF. CAF won […] against Alstom, in the intercity market segment, in which Bombardier did not participate. CAF represents no more than [5-10]% of the French market for mainline trains, the rest being in the Parties' hands. It follows that Alstom and Bombardier are particularly close competitors in France.

(525) In Germany, bidding data shows that the Parties only face two other credible bidders that have won contracts in Germany: Stadler and Siemens. Even if other suppliers participated in tenders, they have not been successful and do not currently exercise a significant competitive constraint in Germany. Furthermore, the number of bidders in the large-scale, complex tenders held by Deutsche Bahn is limited to the Parties, Stadler and Siemens. The Parties are thus among the top 2-3 bidders in Germany and form part of a small group of four close competitors. More specifically, in regional EMUs (the only type of EMU procured in Germany over the past 10 years), Alstom currently exercises a particularly significant competitive constraint on Bombardier. Out of all Deutsche Bahn tenders in the 2010-2019 period, Alstom and Stadler were Bombardier's most frequent competitors (participating in [60-70]% of tenders in which Bombardier participated). Out of the tenders in which Bombardier participated, it most often lost tenders to Alstom and Siemens (c. [30-40]% of Bombardier's lost tenders, respectively). As a result, Alstom represents the highest combined participation and win rate against Bombardier. Together, the Parties represent […]% of the value of Deutsche Bahn tenders for regional EMUs in the 2010-2019.

(526) Deutsche Bahn's procurement further confirms that the Parties remain very competitive in larger projects (both evidenced by winning rates in contestable tenders and repeat orders), well ahead of Stadler and Siemens s. As a result, they exercise a particularly important competitive constraint on one another. The Transaction therefore reduces the number of credible competitors in Germany from 4 to 3 in a market where high barriers to entry were identified and will eliminate the particularly close competitive relationship existing between the Parties.

(527) According to the results of the market investigation, on an EEA-wide basis, the majority of respondents either confirmed that the Parties are each other's main competitors or part of a group of close competitors that mainly also includes Stadler and Siemens as well as, in certain instances, CAF and Hitachi.[494]

(528) Accordingly, customers indicate that the participation of Alstom in past or current tenders had an impact on their ability to obtain better condition from Bombardier, Stadler, Siemens and, to a lesser extent, CAF and Hitachi. Similarly, customers indicate that the participation of Bombardier in past or current tenders had an impact

[493] As stated in Section 6.3.3.2, Deutsche Bahn, the German market's main customer, procured twice as much trains in the 2010-2014 period than in the subsequent 5 years. Bombardier represented […]% of all Deutsche Bahn contracts over the 2010-2014 period.

[494] Q3, replies to question 40.1; Q4, replies to question 28.2.

on their ability to obtain better condition from: Alstom, Siemens, Stadler, CAF and Hitachi.[495]

(529) Therefore, the Commission considers that at the EEA-wide level, the Parties, face Stadler, Siemens, CAF and Hitachi. In light of the results of the bidding data, the scope of close competitors is significantly smaller in France and Germany. In France, the merging Parties are the closest competitors. Indeed, they are the sole competitors in regional rolling stock and face fringe competition from CAF in intercity rolling stock. In Germany, the merging Parties are the closest competitors in relation to Deutsche Bahn, the country's rail operator. On the global German market, they are part of a group of four close competitors, that also includes Stadler and Siemens. No other supplier exercises a material competitive constraint on the Germany market.

6.3.4.3. Barriers to entry

(A) The Notifying Party's views

(530) The Notifying Party submits that any barriers to entry do not prevent expansion within the EEA for existing rolling stock suppliers active in other markets. In the Notifying Party's view, the EEA-wide markets for regional and intercity EMUs are fast-growing and, as such, attract various entry and expansion both from existing European players such as Talgo and CAF and from Asian players that likely to enter and expand their position.[496]

(531) The Notifying Party submits that suppliers have ample technical and financial capabilities. In the Notifying Party's view, as illustrated by the numerous projects won, all competitors have sufficient technical and financial capabilities to expand their position across the EEA. Even smaller competitors such as Newag, Pesa, and Skoda, have sufficient technical and financial capabilities to compete in different Member States across the EEA.[497]

(532) According to the Notifying Party, tender processes and bidding costs do not deter competitors from bidding across the EEA. While the Notifying Party acknowledges that tender processes can be costly and time-consuming, it also argues that bidding costs are not insurmountable and in any event only one of the factors that competitors evaluate before their decision to bid and do not deter competitors.[498]

(533) In the Notifying Party's view, homologation does not deter entry or expansion because national technical rules and homologation processes do not affect a rolling stock supplier's incentive to participate in tenders for rolling stock in the EEA. According to the Notifying Party, while there are still some differences between national technical rules due to legacy infrastructure, the Commission's Railway Packages and TSIs are increasingly removing such divergences.[499] The Notifying Party refers to a drop in the number of national rules applicable in addition to the

[495] Q4, replies to questions 29 and 30.
[496] Form CO, Chapter B.2, paragraphs 154-157.
[497] Form CO, Chapter B.2, paragraph 157.
[498] Form CO, Chapter B.2, paragraph 157.
[499] Form CO, Chapter B.2, paragraph 157.

TSIs[500] and considers any effects that national rules would have on suppliers' incentives to bid has significantly decreased in the past five years and is expected to further decrease in the future. In the Notifying Party's view, a suppliers' incentives to participate in a tender are based on the assessment of its commercial attractiveness and probability of success rather than existing homologation or experience in a country.[501] The Notifying Party provides a list of competitors that bid in various countries without prior homologation. Furthermore, European TSIs are increasingly harmonising the divergent national rules. Therefore, in the Notifying Party's view, the extent that national differences constituted a hypothetical barrier to entry in the past, they will become increasingly less relevant in the future.

(534) The Notifying Party considers that commercial references are also not an insurmountable barrier to entry.[502] The Notifying Party submits that while commercial references may be relevant in pre-qualification stage, they are not relevant for the customer's ultimate decision during the bidding process as evidenced by examples of competitors that have won tenders without prior customer references such as CAF in France, CRRC in Czechia and Stadler in Slovenia and Spain.[503]

(535) The Notifying Party further argues that suppliers win projects across the EEA regardless of their footprint and there is no correlation between the presence of a rolling stock production or assembly facilities and success at national level. The absence of a correlation is underpinned by, among others: (i) the historical growth of rolling stock suppliers from national players supported by national governments to truly EEA-players bidding and winning projects across the EEA, (ii) the decentralised approach to manufacturing; and (iii) the explicit prohibition of localisation requirements in the EEA.[504] The Notifying Party provides examples of competitors who win projects in countries where they are not located or where their capacity is limited.[505]

(B) The Commission's assessment

(B.i) Barriers to entry

(536) The Commission considers that there are high barriers to entry and expansion in the market for self-propelled mainline trains. However, there are significant differences at national level, whereby barriers to entry are very high in France and Germany,

[500] The Notifying Party explains that the ERA has been tasked in 2016 with "cleaning-up" unnecessary national rules in order to ensure a single European Railway Area.359 In June 11, 2019, ERA reported that the number of national rules applicable in addition to the TSIs has dropped from 14,312 in 2016 to 1,026 in 2019. See Form CO, Chapter B.2, paragraph 157.

[501] Form CO, Chapter B.2, paragraph 157.

[502] Form CO, Chapter B.2, paragraph 157.

[503] Form CO, Chapter B.2, paragraph 157.

[504] Form CO, Chapter B.2, paragraph 42.

[505] Form CO, Annex B.2.12. The Notifying Party refers to the following examples of competitors who won projects despite not having production plants capable of producing or assembling mainline rolling stock in these countries: (i) Stadler in Austria, Czech Republic, Estonia, Finland, Luxembourg, the Netherlands, Norway, Poland, Slovenia, Sweden, and the UK, (ii) Siemens in Hungary and the UK, (iii) CAF in Italy and the Netherlands and with little production capacity in France, (iv) Skoda in Latvia, Lithuania, and Slovakia (Skoda did not win any mainline projects in Hungary and Finland despite having production facilities in these countries), (v) Pesa in the Czechia, Germany, Italy, and Lithuania, (vi) Newag in Italy, and (vii) CRRC in Czechia.

while other countries are characterised by lower barriers to entry and expansion (such as Sweden).

(537) First, mainline trains – similarly to other rolling stock – cannot be placed in service in the EEA without first obtaining a regulatory authorisation at both EEA level and in the Member State in which the rolling stock is intended to be operated. The requirement for EEA and national regulatory authorisation (due to country-specific requirements) makes the process complex and can prevent competitors from expanding their activities across the EEA and in particular in countries where they do not already have homologated trains. Due to the persisting country-specific requirements in this regard, the Commission's assessment takes into account the relevant differences at national level.

(538) The results of the market investigation indicated that suppliers generally seek to obtain authorisation under national rules in parallel of the bidding process or after having been awarded a contract in a specific country. This may depend on the technical specifications, delivery times, and investment required.[506] Furthermore, the lack of authorisation under TSIs and NRDs in a specific country may affect a supplier's incentives to participate in a tender in that country.[507] Skoda expressed the view that '[l]*arge difference in the authorisation process in different EEA countries are often the reason for no participation in a tender'*.[508]

(539) While some customers may accept that homologation be obtained after a tender is awarded to a given supplier, it is nevertheless a significant advantage for suppliers to be able to offer, at the moment of the tender, a fully authorised product compliant with both TSI and national requirements.[509] This criterion is important for customers that seek to ensure that delivery times will be respected. For example, Alpha Trains, having its operations in France and Germany, explained that *'[s]uch compliance generally reduces the homologation risk'*.[510] For suppliers, the ability to offer homologated rolling stock limits the related costs, provides an advantage in terms of delivery times, increases customers' trust and represents a lower project execution risk.[511] Skoda thus explains that having a fully authorised product at the moment of the tender '*cut*[s] *the costs, lead time and increase*[s] *customer trust*'.[512]

(540) As previously stated, obtaining homologation in France and in Germany is a very complex process, which deters entry from suppliers not already having homologated trains. In particular, homologation in Germany is seen as a risk factor for timely and successful delivery both by public and private operators. In addition, the complex homologation process in combination with strict financial and technical requirements imposed by Deutsche Bahn renders implausible the entry of suppliers not already active in Germany. As evidenced by the example of Pesa, the lack of authorisation, even when the supplier has been awarded a contract, can effectively prevent the prospect of durable entry in Germany.

---

506 Q3, replies to questions 44 and 44.1.
507 Q3, replies to question 45.
508 Skoda's response to Q3, question 32.1.1.
509 Q4, replies to question 26.6.
510 Alpha Trains' response to Q4, question 26.6.1.
511 Q3, replies to question 46.1.
512 Skoda's response to Q3, question 46.1.

(541) Second, mainline trains are usually purchased through a sophisticated tender process, participation in which is costly, which is likely to limit the number of participants in each tender. Bidding costs provided by the Parties indicate that participating in tenders is material. Alstom's bidding costs for tenders for mainline rolling stock amounts to an average of EUR […] per tender.[513]

(542) Although the Notifying Party claims that tender costs do not deter entry, it also recognises that it is one (of several) factors taken into account by prospective suppliers before deciding to bid for an opportunity. The results of the market investigation demonstrate that there is a difference between established players such as Siemens and other players or new entrants in that respect. While costs related to participation in tenders may be less of a deterring factor for larger players, they are still considered as an 'entry costs' and a 'criticality' for certain projects by other suppliers. The extent to which tender-related costs deter entry also depends on the complexity and scope of the tender. In Hitachi's view, '[f]*or instance, pre-qualification specifications and bids are necessary conditions for entering the tendering processes, and they come with financial costs which constitute barriers to entry. Furthermore, large tenders may require financial securities such as bonds, constituting, as well, a barrier to entry'*.[514] New entrants such as Transmashholding ('TMH') also explained tender-related costs are substantial, especially given that established players already have the advantage of scale and resources and previous bids with the same customers.[515]

(543) The Commission also notes that large scale tenders are typically characterised by lower (or no) participation from smaller competitors that are unable to meet the strict financial requirements and tender-related costs (in addition to other factors such as inability to comply with requested volumes).[516] This is especially the case in France and in Germany for SNCF's and Deutsche Bahn's tenders.

(544) Third, the market investigation provided mixed views as to whether technical and financial capabilities constitute a barrier to entry. Established suppliers such as Siemens considered that such capabilities may play a role *'if customers require technical features not already integrated in a supplier's platform'*.[517] A majority of customers expressed the view that technical and financial capabilities do not deter entry. The Commission considers that this is true at the EEA-wide level, where competitors' participation in tenders in different countries demonstrates that they indeed have the technical and financial capacity to comply with project requirements.

(545) However, as previously stated, the Commission considers that such stringent technical and financial requirements to participate and in tenders, most notably organised by Deutsche Bahn in Germany, deter entry from smaller suppliers not already having a homologated platform in operation and not being able to bear the financial cost of the investment required during the period (of up to 4 years in Germany).

---

513 Form CO, Annex RFI 2 Q 4, table 3.

514 Hitachi's response to Q3, question 32.2.

515 TMH's response to Q3, question 32.2.

516 For example, Siemens lists a number of tenders (organised by SNCF in France, NS in the Netherlands, Abellio in the UK) in which only the Parties, Stadler, Siemens (and to a lesser extent CAF) participated.

517 Siemens' response to Q3, question 32.3.

(546) Fourth, to be eligible for pre-qualification in a tender, customers require prospective bidders to present prior commercial references. A majority of responding competitors and customers considered that the commercial references required in tenders constitute a barrier to entry.[518] As previously stated, the requirement for an established track record and commercial references represents an important factor deterring entry in France. Customers generally indicated that commercial references from outside the EEA are less relevant.[519] The requirement for prior references obtained in an EEA Member State thus constitutes a high barrier to entry especially for non-European suppliers of mainline rolling stock.

(547) Furthermore, as confirmed by the results of the market investigation, the Commission considers that holding prior EEA references as well as references in the country where the tender is held represents a significant competitive advantage.[520]

(548) The Commission notes that customers rely on references to assess a supplier's credibility in relation to key tender requirements and thus limiting risks when procuring from certain suppliers. This means that established suppliers with more rolling stock in operation are perceived as more credible.

(549) This is confirmed by the results of the market investigation. The majority of customers who expressed an opinion thus indicated that suppliers with more mainline rolling stock currently in operation in the EEA than their competitors are more credible bidders.[521] Therefore, it follows that post-Transaction the Parties will combine commercial references, homologation certificates and established customer relationships which confers a strong competitive advantage upon the merged entity.

(550) Fifth, as stated in section 5.2.2, the Commission considers that there is a correlation between having a manufacturing presence in France and Germany and the ability to win contracts. The need for local manufacturing footprint in France and Germany constitutes a barrier to entry as evidenced by the fact that no supplier was able to enter the market in a meaningful way in both countries without local presence.

(551) The Commission considers that any correlation between having a manufacturing site and being able to secure contracts is less prevalent in other EEA countries. As demonstrated by the Notifying Party, suppliers win contracts in the Nordic countries without having a manufacturing facility. For example, Stadler won contracts in Sweden, Finland, and Norway without having local manufacturing assets in these countries. Similarly, Alstom does not have manufacturing presence in Denmark but generated sales in the country. Such a correlation also appears to be less strong in Eastern Europe. Stadler succeeded in selling mainline rolling stock in e.g., Czechia, Estonia, Slovenia without local manufacturing presence. The same applies to Skoda, Pesa and Newag that expanded their activities outside of their home countries in other Central and Eastern European countries without establishing manufacturing facilities.[522]

---

518 Q3, replies to question 32.4; Q4, replies to question 26.4.

519 Q4, replies to question 26.4.1.3.

520 Q4, replies to question 44.

521 Q4, replies to question

522 Form CO, Annex B.2.12, Table 1.

(552) In particular, with regard to Sweden, where the Parties combine a high market share in the overall market for mainline rolling stock, the Commission submits that barriers to entry are low.

(553) In the Commission's view, there is no correlation between winning contracts and having local presence. Neither Alstom nor Bombardier have any manufacturing sites in Sweden which has not prevented them from winning tenders and generating sales. This is confirmed by customers. For example, AB Transitio having railway operations in Sweden expressed the view that a bidder does not need to have *'a prior track record or local manufacturing and/or servicing capabilities in Sweden or in the Nordic countries to be selected'*.[523] It selected Stadler without having previous sales of EMUs in Sweden (just a limited presence in passenger traffic).[524]

(554) Furthermore, AB Transitio also considered that there are sufficient alternative suppliers of mainline rolling stock in Sweden. This customer has a frame contract with three suppliers, namely Bombardier, Stadler and CAF. This frame contract sets out AB Transitio's general needs regarding regional trains. When AB Transitio has new needs for rolling stock, it runs a competitive tender among the suppliers included in the frame contract. Even if CAF was not yet selected in a competitive tender, it is still considered as a credible alternative supplier.[525]

(555) The results of the market investigation did not provide any further elements demonstrating any particular difficulties in terms of homologation, complex tender requirements or stringent financial and technical requirements that would amount to high barriers to enter the Swedish market.

(556) The Commission further notes that this conclusion holds true also for other EEA countries that are characterised by low barriers to entry and a higher number of alternative suppliers. For example, in Italy, the Commission observes that in addition to Alstom (and Bombardier to a very limited extent), other suppliers include Hitachi, Stadler, CAF, and smaller players such as Newag and Firema. In addition, in the countries in Central and Eastern Europe, the Commission also notes that not only Skoda, Pesa and Newag succeeded in expanding their activities outside of their home countries but also other players such as Stadler, Siemens, CAF, and Talgo compete and win tenders.

(557) It results from the above that there are high barriers to entry and expansion in the market for self-propelled mainline trains (and possible segmentations) in France and Germany. This results from a combination of factors, including the need for local presence, product development, bidding costs, certification of rolling stock under European and national rules and the requirement that prospective bidders hold sufficient references of prior sales in the EEA.

(B.ii) New entry

(558) Similarly to the conclusion as regards very high-speed rolling stock, the Commission considers that the above mentioned barriers make the entry of non-European suppliers in the market for self-propelled mainline trains in the EEA, including

523 Non-confidential minutes of conference call with AB Transitio, 29 May 2020, paragraph 6.

524 Non-confidential minutes of conference call with AB Transitio, 29 May 2020, paragraph 5.

525 Non-confidential minutes of conference call with AB Transitio, 29 May 2020, paragraphs 4 and 5.

Switzerland, and in particular in EEA countries such as France and Germany, highly unlikely in a foreseeable future.

(559) With regard to mainline rolling stock, Asian suppliers such as CRRC and Hyundai Rotem are not expected to become credible players in the EEA, including Switzerland, (or any country in the EEA) in the next 2-5 years.

(560) Furthermore, the Commission notes that the TMH (the largest rail rolling stock manufacturer and services provider in Russia and the CIS region) is also not currently able to credibly compete in tenders for mainline rolling stock in the EEA, including Switzerland due to the lack of homologation certificates and an established track record. According to the results of the market investigation, it will take TMH 3-5 years before it could enter the market for mainline rolling stock in the EEA.[526]

(561) Therefore, the Commission considers that entry from suppliers from outside the EEA (that could potential exercise a competitive constraint on the merged entity) is not likely in the foreseeable future.

6.3.4.4. Structural competitive advantages

(562) First, the Commission considers that even if local manufacturing presence is not a prerequisite to win contracts in all EEA countries, having a large geographic footprint still represents a significant competitive advantage for the merged entity.

(563) The bidding data, the Parties' and their competitors' market shares generally demonstrate that having a local manufacturing presence in some countries results in a stronger market position. For example, Hitachi's market position in terms of market shares is stronger in Italy, Spain and the UK where it also has manufacturing presence. The same is true for CAF in Spain, Italy, Siemens in Germany and Austria, Stadler in Switzerland, Germany and Hungary, Skoda in Czechia, Pesa and Newag in Poland.

(564) Therefore, the Commission considers that having local manufacturing footprint represents a competitive advantage. This is confirmed by the majority of competitors and customers which consider that local presence in terms of local manufacturing and/or servicing capabilities is advantageous when suppliers participate in a tender for self-propelled mainline trains.[527]

(565) In that regard, the Commission considers that the merged entity will have the largest manufacturing footprint in the EEA, ahead of all competitors. While the Parties will combine manufacturing sites in twelve countries, their competitors will have manufacturing presence, at most, in five countries.[528]

(566) The merged entity will combine homologation certificates and commercial references allowing it to participate in tenders requiring national homologation without incurring additional costs. Respondents to the market investigation share this view. For example, SNCF expressed the view that *'[t]he catalog of off-the-shelf platforms of the merged entity will be enlarged and will allow it to position itself*

[526] Q3, replies to question 42.2.
[527] Q4, replies to question 40.
[528] Non-confidential submission of Siemens, 21 April 2020, paragraph 18.

more easily by better controlling the costs of adapting the platforms to the specifics of each call for tenders'.[529] NS explained that a larger manufacturing footprint gives '*the merged entity the possibility to bid for more and larger tenders by using the different strengths and competing against at least one competitor less'*.[530]

(567) Second, in the Commission's view, the merged entity will also benefit from its large installed base and long-term customer relationships.

(568) The Parties will combine the largest installed base in France and Germany. This endows the merged entity with a competitive advantage because having a large installed base is significant for winning future tenders, provides valuable customer references, potential for modernisation and upgrades, as well as revenues from the provision of maintenance and other services.[531] Indeed, as confirmed by the results of the market investigation, a large installed base translates into a competitive advantage in the aftermarket for the provision of maintenance and related services potentially for a long period of time over the lifecycle of the rolling stock (compensating for the lumpiness of rolling stock orders).[532]

(569) With regard to longstanding commercial relationships, all competitors that expressed a view indicated that the existence of a longstanding commercial relationship with the train supplier represents an important selection criterion for a customer of self-propelled mainline trains.[533] By contrast, customers do not consider that having previously procured mainline rolling stock from a given supplier constitutes an important factor in future (contestable) tenders.[534] The reason is that each supplier must fulfil the criteria at the time of the specific tender.[535]

(570) However, while some customers hold tenders for the procurement of self-propelled trains, in some instances they chose to instead place repeat orders to their incumbent suppliers. Customers that placed repeat orders in the last ten years explained that the advantages of repeat orders from the same supplier include shorter time to market, homogeneity of the fleet, reduced staff training costs, operational flexibility, similar maintenance requirements etc. [536] According to NS, *'from an operational/logistical cost perspective it is more beneficial to exercise such additional order, for instance due to not having to educate staff again, not having to adjust equipment and facilities, being able to couple the trains of the additional order to the existing trains to gain operational flexibility'*.[537]

(571) As stated in section 6.3.2, repeat orders account for a significant proportion of the market and are thus important evidence of suppliers' competitive strength. This favours the Parties more than other suppliers because they benefit from the largest proportion of repeat orders placed at in France and Germany (where nearly all repeat orders benefitted the Parties). The Commission considers that this represents a

529 SNCF's response to Q4, question 41.1.
530 NS' response to Q4, question 41.1.
531 Siemens' response to Q3, question 64.1.
532 Q3, replies to question 64.1.
533 Q3, replies to question 53.
534 Q4, replies to question 42.
535 Q4, replies to question 42.1.1.
536 Q4, replies to question 43.1.
537 NS' response to Q4, question 43.1.

competitive advantage entrenching the Parties' established positions and further raising barriers to entry.

(572) Therefore, the Transaction will have an important structural impact (beyond the Parties' high market shares) in the market for self-propelled trains (and possible segmentations) in France and Germany further reinforcing the Parties' competitive position.

6.3.4.5. Countervailing buyer power

(A) The Notifying Party's views

(573) The Notifying Party argues that rolling stock customers are highly sophisticated buyers (i.e., mainly public national incumbent operators) with decades of experience in procuring rolling stock.[538] In the Notifying Party's view, the Parties face significant countervailing buyer power from their customers and will continue doing so post-Transaction because (i) customers customise their tenders to ensure the desired level of participation, (ii) procurement methods, including frame contracts[539] and repeat orders[540], ensure flexibility, (iii) customers face limited switching costs and engage in multi-sourcing.

(B) The Commission's assessment

(574) As stated in section 6.2.3.4, the exercise of buyer power requires the existence of sufficient credible alternative suppliers such that customers can switch or threaten to switch to the Parties' competitors post-Transaction.[541] Furthermore, according to paragraph 67 of the Horizontal Merger Guidelines, *'it is not sufficient that buyer power exists prior to the merger, it must also exist and remain effective following the merger. This is because a merger of two suppliers may reduce buyer power if it thereby removes a credible alternative'*.

(575) The bargaining power of customers is thus dependent on the number of participants in a tender.

---

538 Form CO, Chapter B.2, paragraph 140.

539 Framework agreements allow customers to pre-select a number of suppliers based on estimated future procurement needs and requirements. Once they have framework agreements in place, customers only proceed with procurement once the demand materializes. Framework agreements thus allow customers to receive competitive bids for future demands well ahead of the process. Most notably, as framework agreements are not exclusive, they encourage further competition between the pre-selected suppliers. In addition, as customers are not bound by framework agreements, they may organize contestable tenders should they consider that the terms of the framework agreements are no longer competitive. See Form CO, Chapter B.2, paragraph 140.

540 According to the Notifying Party, options/repeat orders allow customers to purchase additional rolling stock based on the specifications of the initial tender. Sales from repeat orders are not obtained in "tenders." Instead, repeat orders are non-contestable call-offs based on a contract for which competition took place at an earlier stage. Before executing a non-contestable repeat order, customers may consider if the option available as part of their existing contract is still attractive in light of prevailing market conditions or in case of non-satisfaction during the execution of the original order. If it is no longer attractive, a customer may opt not to call-off the option but instead to organize a new contestable tender that is open to competition. See Form CO, Chapter B.2, paragraph 140.

541 Horizontal Merger Guidelines, paragraph 65.

(576) As regards France and Germany, where high barriers to entry have been identified, pre-Transaction, the number of credible bidders is currently very limited, i.e., to 3 in France and 4 in Germany. The number of average bidders per tender in France is 2 (in the overall market for self-propelled mainline trains) and in Germany 2.7 (both in the overall market for self-propelled mainline trains and for regional trains). Following the Transaction, the market for self-propelled mainline trains, and possible segmentations, in France and Germany will become significantly more concentrated which further limits the number of credible bidders in France from 3 to 2 and in Germany from 4 to 3. This is confirmed by the majority of competitors who consider that the Transaction will negatively impact customers' bargaining power, most notably in markets where the Parties are the two main competitors and which are characterised by high barriers to entry. [542]

(577) The results of market investigation show that there is a difference in the existing buyer power between large national railway operators and and smaller ones. A majority of customers however indicate that the Transaction will have no impact on their bargaining power, including national railway operators such as Deutsche Bahn, SNCF, Ferrovie dello Stato, and SBB. By contrast, a significant number of customers, mostly smaller operators (such as Alpha Trains Europa, Lokltrafik but also the national railway operator SNCB), express the view that the Transaction will weaken their bargaining power.[543] In that regard, these respondents point out the fact that the loss of one bidder will have a negative impact on their buyer power.[544]

(578) Pursuant to paragraph 67 of the Horizontal Merger Guidelines, '*Countervailing buyer power cannot be found to sufficiently off-set potential adverse effects of a merger if it only ensures that a particular segment of customers, with particular bargaining strength, is shielded from significantly higher prices or deteriorated conditions after the merger*'. Therefore, the fact that some national railway operators may have bargaining power that will not be significantly impacted by the Transaction does not change the conclusion that the Transaction raises serious doubts as to its compatibility with the internal market due to the reduction of available alternatives and the strong competitive position of the merged entity post-Transaction.

(579) Therefore, the Commission considers that the Transaction is likely to decrease customers' buyer power in the market for self-propelled mainline trains, and possible segmentation in France and Germany, which are characterised by high concentration and barriers to entry and expansion.

542 Q3, replies to questions 66 and 67.

543 Q4, replies to question 52.

544 Q4, replies to question 52.1.

6.3.4.6. Liberalisation of the railway industry

(A) The Notifying Party's views

(580) The Notifying Party submits that over the past few years, EU efforts for railway liberalisation[545] have significantly shifted the competitive landscape for all rolling stock markets, including for regional EMUs and intercity EMUs.[546]

(581) In the Notifying Party's view, the liberalisation of the railway industry has led to the emergence of private operators (including national incumbents acting outside their territory)[547] and leasing companies employing business models that tend to be more driven by short-term profit incentives given their temporally limited concession rights. By contrast, national incumbents have historically enjoyed long-term monopoly on routes and have enjoyed significant support from governments, allowing them to focus more on long term profits, which has for example translated in them procuring and owning custom-made trains or paying specific attention to long-term costs and maintenance. The Notifying Party explains that the prevalence of private operators at national level varies depending on the existing level of railway liberalisation.[548]

(582) In the Notifying Party's view, customers procuring tenders for private operation ('private operators') put more emphasis on price-related criteria compared to customers procuring for public operations. According to the Notifying Party, private operators tend to lease existing versatile platforms which are considered 'low-risk' instead of owning their own trains. The Notifying Party explains that private operators typically have smaller fleets compared to incumbent public operators, they typically pay less focus on long term maintenance considerations compared to public operators with larger fleets.[549]

(583) The Notifying Party submits that the emergence of this new customer group has facilitated the entry and expansion of suppliers with standardised and affordable platforms including Stadler, CAF, and to an increasing extent CRRC. This has in turn allowed such competitors to successfully participate in the highly structured tenders organised by state-owned railway operators. In the Notifying Party's view, the change in the customer landscape has, in turn, placed significant constraints on historical players.[550] Even in the interim (i.e., until 2023), more and more lines are

[545] The Notifying Party explains that since 2011, the European Union has undertaken significant effort to liberalise domestic passenger services in an attempt to reduce, with the aim of enabling privately owned train operators to access the market on a competitive basis. These efforts culminated in the adoption of the Forth Railway Package in 2016, imposing, among others, measures to sever the close relationship between train operators and infrastructure managers in efforts to open the rail operation market to entry from private players. As of 2023, the Fourth Railway Package also requires all subsidized railway passenger services in Europe to be tendered. See Form CO, Chapter B.2, footnote 310.

[546] Form CO, Chapter B.2, paragraph 142.

[547] The Notifying Party explains that with reference to the distinction between public and private operators, instead of segmenting customers based on their ownership and funding structure (i.e., receiving public funds or purely private company), it is more appropriate to assess whether the line that an operator bid for is liberalised, i.e., whether it was open to competition. The Commission follows this approach throughout the present decision. See Form CO, Chapter B.2, paragraph 144.

[548] Form CO, Chapter B.2, paragraph 142 and footnote 311.

[549] Form CO, Chapter B.2, paragraph 146.

[550] Form CO, Chapter B.2, paragraph 143.

being tendered for private operation across the EEA, including in countries with strong national incumbents, such as France.

(B) The Commission's assessment

(584) The Commission considers that while the liberalisation of the European railway industry may increase competition in the market for self-propelled mainline trains, any effects from the liberalisation will not be such that the structural impact of the Transaction can be offset for the following reasons.

(585) First, the results of the market investigation are mixed as regards the expected impact of liberalisation on the demand for self-propelled mainline trains. Several customers and competitors expect a slight increase in demand in the next 2-3 years as a result of liberalisation but others do not expect the liberalisation of railway operations to have any significant impact on competition for the supply of mainline trains.[551]

(586) In the Commission's view, and according to the results of the market investigation, private operators, albeit more price-oriented, select suppliers on the basis of the same criteria as public operators, including technical characteristics, an established track record, and suppliers' reputation. The Commission further considers that private operators have a strong preference for standard platforms, manufactured in compliance with technical and regulatory requirements and already in operation in a specific country.[552] According to Stadler, private operators *'prefer off-the-shelf solutions'*, while Siemens considers that they *'prefer train with high quantities in operation to look to a supplier's prior track record to ensure project execution'*.[553] Keolis, a private operator active among others in Germany, explains that *'[t]he criteria for selecting suppliers include: (i) price, (ii) track record and previous experience in cooperating with a supplier, (iii) delivery time, (iv) technical features, including maintainability'*.[554]

(587) Therefore, any increase in demand as a result of the liberalisation of the railway industry is expected to benefit established players rather than to facilitate the entry of new suppliers. In CAF's view, '*[l]iberalisation will reinforce the position of manufacturers already active in a particular country*'.[555]

(588) The Commission further submits that even if railway liberalisation would facilitate entry and expansion (quod non), any additional demand stemming from private operators is not expected to have a significant impact on the competitive conditions in the market for mainline trains (and possible segmentations), especially in countries where the merged entity has a significant competitive position and which are characterised by high barriers to entry. This is because, as confirmed by the results of the market investigation, private operators procure small volumes.

(589) Fourth, liberalisation has not yielded the same results in all EEA countries and is accordingly not expected to have the same impact across the EEA in the next 2-3

[551] Q3, replies to question 33.
[552] Q4, replies to question 38.
[553] Q3, replies to question 35.1.
[554] Non-confidential minutes of conference call with Keolis, 23 June 2020, paragraph 6.
[555] Q3, replies to question 33.

years. In line with the Notifying Party's arguments, the railway industry in some Member States is more open to competition (e.g., the UK or Sweden) than in others. While the liberalisation of national railway operations has started years ago (e.g., more than 20 years ago in the UK), other countries such as France are only now starting the liberalisation process. The Commission also notes that there are several private operators in Germany but their presence has not contributed to the entry of suppliers not already active in Germany.

(590) This is confirmed by the results of the market investigation. Private operators expressed the view that in Germany, as stated above, the lengthy and complex homologation process is still seen as a barrier to entry which limits the number of credible suppliers. According to Transdev, '*in Germany, currently the credible suppliers for regional EMUs are Stadler, Siemens, Alstom, and Bombardier. […] Transdev could consider a proposal coming from a supplier that has no homologated trains in Germany but it is uncertain if a supplier will be able to obtain homologation during the construction period. But there are currently no credible alternative bidders in Germany or France in that regard'*.[556]

(591) The Commission thus concludes that the impact of the liberalisation is not such that it will remove or reduce the barriers to entry identified in France and Germany in a significant way in the next 2-3 years.

6.3.5. Conclusion

(592) For the reasons set out in section 6.3., and in light of the evidence made available during the investigation, the Commission considers that the Transaction raises serious doubts as to its compatibility with the internal market as a result of horizontal non-coordinated effects, in relation to the market for self-propelled mainline trains and in the narrower possible segmentations for regional trains, EMUs, and regional EMUs in France and Germany.

6.4. Urban Rolling stock

(593) The Parties' activities overlap in the supply of steel wheel metros (automated and conventional) and steel wheel trams/LRVs (low floor and high floor).

6.4.1. Metros

6.4.1.1. The Parties' activities

(A) Alstom

(594) Alstom is active in the supply of metros in the EEA through its Metropolis platform and tailor-made projects. The Metropolis platform is a steel-wheel metro platform which can be configured in automated or conventional mode, and supplied in high, medium, or low capacity versions. Alstom also offers tailor-made metro solutions in response to specific customer requirements, which can be based on either steel-wheels or rubber tires.[557]

[556] Non-confidential minutes of conference call with Transdev, 4 June 2020, paragraph 6.
[557] Form CO, Chapter B.3., paragraph 41.

(595) In addition, Alstom holds a […]% controlling stake[558] in the company TMH, the holding company of Russian rolling stock supplier Transmashholding Group. In the EEA, TMH offers conventional steel wheel metros.[559]

(B) Bombardier

(596) Bombardier is active in the EEA-wide market for metros with its Movia platform. Movia is a steel-wheel metro platform which can be upgraded to provide driverless operation. Bombardier also offers tailor-made steel-wheel metro solutions in response to specific customer requirements.[560]

(C) Consortia

(597) In addition to their stand-alone activities, Alstom and Bombardier participate together in several consortia:

- MF19: In November 2019, the Alstom and Bombardier consortium was awarded the contract for the design and manufacture of the new generation of metros for Île-de-France Mobilités and RATP;[561]

- MF 2000: Alstom, Bombardier, and Areva[562] were awarded a contract for the replacement of up to 40% of the RATP fleet on three lines of the Paris metro in 2001. RATP exercised options for additional trains in 2006, 2011, and 2014;[563]

- DT5: Alstom and Bombardier won the 2006 project for tailor-made conventional steel-wheel trains for the Hamburg metro in consortium. The customer placed additional orders in 2013, 2015, 2016, 2018 and 2019.[564]

(598) Alstom does not have any other platforms developed in consortia or similar contractual arrangements with other suppliers for steel-wheel metros except for the aforementioned arrangements in the past 10 years. Bombardier did not win any projects in consortia with other suppliers in the past 10 years.

---

558 As part of its interest, Alstom has certain veto rights, including [*Information on Alstom's veto rights over TMH*]. Under the Jurisdictional Notice, Alstom considers these rights to amount to the exercise of "decisive influence" over the "strategic commercial behavior" of TMH. Therefore, the Notifying Party considers that Alstom likely jointly controls TMH. TMH is globally active in the manufacturing and supply of locomotives, mainline trains, passenger, freight, and specialized railcars, rail buses, trams and metros.

559 Reply to RFI 48. Therefore, the order intake and market shares provided for Alstom include the order intake and market shares for TMH (Form CO, Chapter B.3, paragraph 44).

560 Form CO, Chapter B.3, paragraph 46.

561 The customer sought a "driverless ready" platform to be initially operated at GoA 2 but with the possibility of an upgrade to GoA 4. The contract also includes the option for the purchase of GoA 4 directly for Line 13 (without the initial GoA 2 level operation). The firm order was worth €[…], with an option for up to 410 trains (Form CO, Chapter B.3, paragraph 47).

562 Areva's command and control transportation have been acquired by Alstom in 2014.

563 Form CO, Chapter B.3, paragraph 47.

564 Form CO, Chapter B.3, paragraph 47.

6.4.1.2. Market shares

(599) The Parties' activities in metro overlap in steel-wheel metros (including the possible narrower segments for automated and conventional) in the EEA including Switzerland.

(600) The Parties combined position in the overall market for metros and possible market segmentations are indicated in the following table. The market shares include sales from the consortia between the Parties.

Table 18: Market Shares – 2010-2019 Order Intake (by value)

Competitors	EEA (including Switzerland)			
	Overall	**Steel wheel (conventional and automated)**	**Steel wheel conventional[565]**	**Steel wheel automated[566]**
Alstom	[20-30]%	[10-20]%	[10-20]%	[20-30]%
Bombardier	[10-20]%	[10-20]%	[5-10]%	[10-20]%
Combined	**[30-40]%**	**[30-40]%**	**[20-30]%**	**[30-40]%**
CAF	[10-20]%	[10-20]%	[10-20]%	[10-20]%
Siemens	[20-30]%	[20-30]%	[5-10]%	[40-50]%
Hitachi	[5-10]%	[10-20]%	[10-20]%	[5-10]%
Stadler	[10-20]%	[10-20]%	[20-30]%	[0-5]%
Skoda	[0-5]%	[0-5]%	[5-10]%	-
Firema	[0-5]%	[0-5]%	[5-10]%	-
Newag	[0-5]%	[0-5]%	[0-5]%	[0-5]%
Total	100%	100%	100%	100%

Source: ROS, market share table provided by the Notifying Party

6.4.1.3. The Notifying Party's view

(601) The Notifying Party considers that the Transaction will not give rise to competitive concerns in the market for steel wheel metros (and possible segmentations) for the following reasons.

(602) First, the Notifying Party states that the merged entity will face competition constraints, regardless of the market segmentation, from Siemens, which has significantly improved its position in automated metros in the past five years, CAF, Stadler (mainly in conventional metros) or Hitachi.[567]

(603) Second, the Notifying Party considers that the inclusion of the Parties' consortia overestimates the impact on the concentration of the market stemming from the Transaction. It explains that Bombardier has won only one steel-wheel automated metro tender on a stand-alone basis in the past 10 years.[568] Discounting consortia and

[565] GoA1 to GoA3. The Parties' and their competitors' market share does not materially differ when considering GoA1 and GoA2 only (Alstom [10-20]%, Bombardier [5-10]%, Stadler [20-30]%, Hitachi [10-20]%, CAF [10-20]%).

[566] GoA4. The Parties' and their competitors' market share does not materially differ when considering GoA3 and above (Alstom [10-20]%, Bombardier [10-20]%, Siemens [30-40]%, CAF [10-20]%).

[567] Form CO, Chapter B.3, paragraphs 54, 66 and 70.

[568] The 2013 Sweden project for automated metros (Form CO, Chapter B.3, paragraph 62).

regardless of the market segmentation, the Parties' activities in the market for metros do not overlap in the past five years and their market share is significantly lower for the period 2010-2019.

(604) In addition, the Notifying Party states that the market shares do not take into account the pro-competitive effects of the Transaction resulting from the combination of consortium partners. It explains in that regard that the existence of several Alstom and Bombardier consortia indicate that the Parties engage in complementary services. The Notifying Party indicates that the Parties' integration will allow the merged entity to offer lower prices and decrease transaction costs and allow for a better co-ordination in terms of product design, the organization of the production process, and the way in which the products are sold.[569]

(605) Third, the Notifying Party states that contestable-only market shares illustrate that the Parties have been less successful at winning new projects. For instance, the Parties together account for only [20-30]% of the contestable-only steel wheel projects in the past 10 years, compared to [30-40]% for contestable and non-contestable projects.[570] The Parties' difficulty to win new projects is particularly obvious for automated steel wheel metros, for which only Alstom won a new tender in the past 10 years (accounting for [0-5]% of the market).[571]

(606) Fourth, the Notifying Party states that the Parties are not close competitors in the EEA. The bidding data for steel wheel metros ([…] contestable projects in the past 10 years) indicate that Bombardier has only participated in […] steel wheel metro projects in the past 10 years ([20-30]% of all tenders), of which three in consortia with other suppliers, which makes it an infrequent bidder. In addition, among the […] contestable projects in the past 10 years, the Parties only overlapped in […] or [0-10]% of these projects, with Bombardier bidding in consortia in [all such] tenders.[572]

(607) Furthermore, the Notifying Party argues that Parties are significantly more constrained by the presence of rivals than by each other, because the Parties lost more to competitors than to each other. While the Parties have never lost any steel wheel metro projects to each other, Alstom has lost […] each to CAF and Siemens and […] to each Newag (in consortia with Siemens), Škoda and Stadler. Bombardier, in turn, has lost […] to each of Stadler, CAF, and Siemens.[573]

(608) Fifth, the Notifying Party indicates that the market for steel-wheel metros is characterised by strong countervailing customer buyer power exerted by Public Transport Authorities ('PTAs') operating under stringent budget constraints which lead them to carefully balance price-related criteria (such as acquisition price and life cycle costs) against non-price related considerations (including performance, and adherence to contractual terms and considerations). As a result, customers are increasingly shying away from expensive and tailored products in favour of low-risk

569 Form CO, Chapter B.3, paragraph 61.
570 Form CO, Chapter B.3, paragraph 64.
571 Form CO, Chapter B3, paragraph 68.
572 Form CO, Chapter B.3, paragraphs 103 and 105.
573 Form CO, Chapter B.3, paragraphs 108-109.

standardized platforms. This has benefitted low-risk suppliers with highly customizable platforms, including Stadler, CAF, and Škoda.[574]

(609) Sixth, the Notifying Party states that EEA-wide market for steel-wheel metros is fast-growing market which attracts European and non-European suppliers. For instance, the Notifying Party explains that CRRC is significantly increasing its bidding activities for steel-wheel metros in the EEA, with bids in Portugal, the UK, Romania and Spain.[575]

(610) Finally, the Notifying Party argues that Bombardier's market share overstates its position because the company is facing financial difficulties and has encountered critical project-execution problems concerning the delivery of several platforms, including the 2013 SL order for automated steel-wheel metros in Sweden (Stockholm). As a consequence, the Notifying Party considers that Bombardier has weakened its position in the market for metros.[576]

6.4.1.4. The Commission's assessment

(611) The merged entity will hold a large market share, especially in the overall market for metros, in which the Transaction will reinforce Alstom's market position pre-merger ([20-30]%) by [10-20] points and confirm its market leading position. The merged entity will also become the market leader in the possible market for steel wheel metros and its market position will be reinforced in the possible markets for steel wheel automated and conventional metros.

(612) However, the Commission considers that, for the reasons set out below, the Transaction does not raise serious doubts as a result of possible horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in steel-wheel metros in the EEA.

(613) First, in the overall market for metros, the merged entity will face the competitive constraint exerted by important competitors, in particular Siemens ([20-30]%) and, to a lesser extent, CAF ([10-20]%), Stadler ([10-20]%) and Hitachi ([5-10]%). The merged entity's market share will be significantly lower when considering the possible market for steel wheel metro (Alstom [10-20]%, Bombardier [10-20]%). Even if the merged entity will become the market leader, it will be closely followed by Siemens ([20-30]%) and will also face competition from important suppliers such as CAF ([10-20]%), Stadler ([10-20]%) and Hitachi ([10-20]%).

(614) When sub-dividing the steel wheel market between automated and conventional metros, the Transaction, although it will reinforce Alstom's position ([20-30]% in conventional steel wheel metros, [30-40]% in automated steel wheel metros),[577] will not materially change the structure of the markets. Alstom will remain the second supplier behind Stadler ([20-30]% in conventional steel wheel metros) and Siemens ([40-50]% in automated steel wheel metros). In addition, the merged entity will face

---

574 Form CO, Chapter B.3, paragraphs 111-112.

575 Form CO, Chapter B.3, paragraph 116.

576 Form CO, Chapter B.3, paragraphs 55 to 59.

577 As stated in the footnote 566 of this decision, the Parties' and their competitors' market share does not materially differ when including GoA3 and GoA4 in the market for automated steel wheel metros.

the competitive constraint exerted by important suppliers such as CAF and Hitachi (in both automated and conventional steel wheel metros) or Skoda (in conventional steel wheel metros).

(615) Second, as stated above at paragraphs (465) et seqq., in respect of mainline rolling stock, the Commission considers that a competitive assessment solely focused on contestable market shares would underestimate the Parties' competitive strength and disproportionately inflate their competitors' market position, particularly in circumstances where non-contestable orders represent a material portion of the market. As far as metros are concerned, non-contestable (repeat) orders represent […]% of the total market. Accordingly, restricting the assessment on contestable-only tenders would lead to excluding more than a quarter of the market. In any event, as such assessment is unnecessary for the purpose of the present assessment, there is no need to take a view as to the appropriateness of the assessment of contestable-only portion of the market.

(616) Third, for same reasons as applicable to mainline rolling stock, market share calculations do not exclude consortia. For the purpose of this decision, market shares have been allocated based on the contribution of each consortium partner. There is no reason to depart from this approach in urban rolling stock.

(617) Fourth, the results of the market investigation indicated that, according to a majority of respondents, Siemens is considered by competitors and customers to be Alstom's or Bombardier's closest competitor. Some respondents also cite CAF, Siemens, Hitachi or Stadler as the Parties' closest competitors.[578] The bidding data confirms that other suppliers exercise more significant competitive constraints on the Parties than each other. In the market for steel wheel metro and possible sub-markets for automated or conventional steel wheel metros, CAF is the by far most regular bidder (its participation rate is comprised between [60-70]% and [80-90]%, according the market envisaged), followed by Siemens, Alstom or Stadler, depending on the segmentation envisaged. Bombardier is significantly less active on all these conceivable markets.[579]

(618) More generally, the results of the market investigation confirm that the market for metros in the EEA is less concentrated than other rolling stock markets. Indeed, a large number of competitors interrogated identified themselves as close competitors to the Parties for the supply of metros on their respective market segment.[580] For instance, a supplier indicated that '[t]*here is not much differences between Alstom and other rolling stock manufacturer*.'

(619) In addition, unlike the Commission's findings regarding other rolling stock markets such as very high-speed and mainline trains, a majority of competitors consider that the competitive pressure exerted by the Chinese company CRRC may increase in a foreseeable future. In that regard, some respondents indicated that, even if the company is still missing a track-record and homologated platforms in the EEA, CRRC is considered by most respondents to be currently or soon able to submit

578 Q8, replies to questions 42.1. and 42.2 ; Q9, replies to questions 39.1. and 39.2. and to questions 43.1. and 43.2.

579 CPL provided by the Notifying Party.

580 Q8, replies to question 40.

credible bids in metro tenders in the EEA.[581] For instance, competitors indicate several projects where CRRC recently bid in the EEA, such as the contract to support track renewal and maintenance activities on the London Underground network (which was won by CRRC) or the supply of rolling stock and the modernization of the Lisbon metro signalling system.[582]

(620) Fifth, a majority of respondents consider that customers have a medium or strong buyer power in metro projects, which allows them, according to a customer, to challenge submissions from bidders in tenders in order to obtain more competitive offers.[583] The majority of customers further consider that the Transaction will not weaken their buyer power, in particular because a sufficient number of competitors will remain after the Transaction.[584]

(621) Finally, overall, the very large majority of customers did not raise concerns related to the supply of metros, regardless of the possible segmentation, by the merged entity.[585] Some customers expect efficiencies resulting from the Transaction through the mutualisation of the Parties' internal costs.[586]

(622) Based on the above, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market as a result of horizontal non-coordinated effects, in particular through the creation or strengthening of a dominant position, in the market for the supply of metros (and possible segmentations).

6.4.2. Trams/LRVs

6.4.2.1. The Parties' activities

(A) Alstom

(623) Alstom supplies three trams/LRVs platforms in the EEA: (i) the Citadis platform, which is a low-floor, steel wheel platform available in a broad range of configurations and lengths. In the past 10 years, the Citadis has been sold to France, Germany, Greece, Ireland, the UK and Spain; (ii) the Citadis Dualis, which is a low-floor steel wheel platform. The Citadis Dualis is multimodal solution which allows the platform to switch between conventional rail networks (mainly in suburbs of large cities) and tramway tracks (mainly in city centres). The Dualis operates in France; and (iii) the Translohr STE and SP Prime trams are both low-floor, rubber tire trams in 2012. In the EEA, the trams have been sold in France and Italy.

(B) Bombardier

(624) Bombardier supplies trams/LRVs with its Flexity family platforms within the EEA: (i) the Flexity Classic platform, which a low-floor tram running on steel wheels. It operates in Germany, Austria, Sweden and Poland; (ii) the Flexity Swift, running on

581 Q8, replies to question 55.1.
582 Q8, replies to question 55.1.
583 Q9, replies to question 60 ; Q9, replies to question 58.
584 Q9, replies to questions 60 and 60.1.
585 Q9, replies to question 99.
586 Q9, replies to question 100.1.

steel wheels, which exists as low-floor or high-floor solution. The Flexity Swift operates in Germany, the Netherlands, Portugal, Sweden and the UK; (iii) the Flexity 2, running on steel wheels, is a customisable low-floor tram with a universal design. It operates in Germany, Belgium, Switzerland and the UK, as well as in Australia.

(625) The Notifying Party explains that Bombardier used to offer a rubber-tire tram solution but has discontinued the production and delivered its last orders in 1998.[587]

(C) Consortia

(626) Alstom and Bombardier have not entered into any common consortia with each other for the development of tram/LRV projects in the last 10 years in the EEA.[588] In the last 10 years in the EEA, Alstom has entered into a consortium agreement with Kiepe Electric, a subsidiary of Knorr Bremse, for the supply of steel wheel high-floor trams to Üstra in Hannover (Germany) in 2011. Bombardier has entered into consortia agreements with Kiepe Electric for the delivery of trams/LRVs in Austria, Germany, Poland, Sweden and the UK.[589]

6.4.2.2. Market shares

(627) The Parties' activities overlap in steel-wheel trams/LRVs (including the possible narrower segments for high-floor and low-floor) in the in the EEA (including Switzerland).

(628) The Parties combined position in the overall market trams/LRVs and possible market segmentations are indicated in the following table.

[587] Form CO, Chapter B.3, paragraph 135.
[588] Form CO, Chapter B.3, paragraph 136.
[589] Form CO, Chapter B.3, paragraphs 137-138.

Table 19: Market Shares – 2010-2019 Order Intake (by value)

Competitors	EEA (including Switzerland) 2010-2019 Order Intake (by value)			
	Overall	**Steel wheel (high and low floor)**	**Steel wheel high-floor**	**Steel wheel low-floor**
Alstom	[10-20]%	[10-20]%	[0-5]%	[10-20]%
Bombardier	[20-30]%	[20-30]%	[40-50]%	[20-30]%
Combined	**[30-40]%**	**[30-40]%**	**[40-50]%**	**[30-40]%**
Siemens	[5-10]%	[5-10]%	--	[5-10]%
Stadler	[10-20]%	[10-20]%	[20-30]%	[10-20]%
Hitachi	[0-5]%	[0-5]%	--	[0-5]%
CAF	[10-20]%	[10-20]%	--	[10-20]%
Skoda	[10-20]%	[5-10]%	--	[5-10]%
Pesa	[5-10]%	[5-10]%	--	[5-10]%
Knorr-Bremse	[0-5]%	[0-5]%	[10-20]%	[0-5]%
Hyundai-Rotem	[0-5]%	[0-5]%	--	[0-5]%
Others	~[5-10]%	~[5-10]%	~[5-10]%[590]	~[5-10]%[591]
Total	100%	100%	100%	100%

Source: ROS, market share table provided by the Notifying Party

6.4.2.3. The Notifying Party's view

(629) The Notifying Party considers that the Transaction will not give rise to competitive concerns in the market for trams/LRVs (and possible segmentations) for the following reasons.

(630) First, the Notifying Party submits that the Parties' and their competitors' market shares estimated over the past 10 years do not reflect the suppliers' current positions. In that regard, the Notifying Party explains that the Parties have experienced increased competitive pressure from various competitors in the recent years, such as Stadler, Škoda, CAF, Hyundai Rotem and Siemens. More generally, the Notifying Party considers that the market for trams/LRVs is dynamic with various and strong suppliers competing in projects across the EEA.[592]

(631) In that regard, the Notifying Party explains that rolling stock suppliers do not face significant barriers to enter the tram/LRV market, as reflected by the expansion of European and non-European suppliers in the recent years. According to the Notifying Party, trams/LRVs are less complex vehicles than other rolling stock. Rolling stock suppliers active in other product markets can easily enter the tram/LRV market without incurring significant costs.[593]

(632) For instance, the Notifying Party submits that Stadler has successfully leveraged its leading position in Switzerland to expand its presence in the EEA in the past years in all rolling stock markets.[594] The Notifying Party further indicates that Eastern

590 Including Modertrans ([0-5]%), Heiterblick ([0-5]%).

591 Including Hyundai Rotem ([0-5]%), Durmazlar ([0-5]%), Heiterblick ([0-5]%), Modertrans ([0-5]%), others ([0-5]%).

592 Form CO, Chapter B.3., paragraphs 147 et seqq.

593 Form CO, Chapter B.3, paragraph 149.

594 Form CO, Chapter B.3, paragraph 149.

European suppliers, such as Newag, have been continuously expanding as they offer very good responses to customer needs at low costs.[595] Finally, the Notifying Party points out the recent competitive constraint exerted by non-European suppliers. For instance, Asian suppliers such as CRRC and Hyundai Rotem have been expanding their tram/LRV businesses in the EEA.[596]

(633) Second, the Notifying Party claims that the assessment of the Parties' market shares based contestable-only projects shows that the Parties have been less successful at winning new contestable tenders. For instance, the Parties together account for only [20-30]% of the contestable-only projects in the past 10 years, compared to [30-40]% for all (see table 19), contestable and non-contestable projects. Combined shares for contestable projects are even lower in the past two years, with the Parties accounting for only [20-30]% of the contestable projects in 2018-2019.[597]

(634) Third, the Notifying Party considers that the Parties are not close competitors. Participation data shows that the Parties face most competitive constraint from rivals. In the past 10 years, Alstom faced CAF ([60-70]% of all Alstom bids) and Stadler ([30-40]%) more frequently than Bombardier (10-20]%). Similarly, Bombardier faced Alstom ([20-30]% of all Bombardiers bids) less frequently than Stadler ([60-70]% of all Bombardiers bids), Siemens ([…] bids, [40-50]%), CAF ([40-50]%), and Škoda ([20-30]%).[598] In addition, the Parties lost more to competitors (CAF and Stadler) than to each other.[599]

(635) Fourth, the Notifying Party indicates that the market for steel-wheel trams/LRVs is characterised by strong countervailing customer buyer power. Similarly to metros, tram/LRV customers are often local or regional public entities who tend to be financially constrained and are thus highly price sensitive. Structured tender procedures allow customers to procure rolling stock under extremely competitive conditions.[600]

(636) Fifth, the Notifying Party states that the tram/LRV market is characterised by a continuous price pressure, which leads customers to increasingly seek out offers from lower-cost-base suppliers, including Asian and Eastern European players. According to the Notifying Party, the pricing pressure is reflected in the margins generated in the tram/LRV segment, which are significantly lower than in other rolling stock segments.[601]

595 Form CO, Chapter B.3, paragraphs 219-220.

596 Form CO, Chapter B.3, paragraph 218.

597 Form CO, Chapter B.3, paragraphs 143 to 145.

598 Form CO, Chapter B.3, paragraphs 200-201.

599 Form CO, Chapter B.3, paragraph 203.

600 Form CO, Chapter B.3, paragraph 215.

601 Form CO, Chapter B.3, paragraphs 221-222. For instance, Alstom estimates that its average gross margin for trams/LRVs in the past three years was in the range of […]% compared to […]% for metros and regional trains. Similarly, Bombardier estimates that its average gross margin for trams/LRVs in the past three years was in the range of […]% compared to […]% for metros.

6.4.2.4. The Commission's assessment

(637) The merged entity will hold a large market share on all conceivable markets for trams/LRVs, especially in the segments for steel-wheel trams/LRVs (and possible segmentation between high-floor and low-floor).

(638) However, the Commission considers that, for the reasons set out below, the Transaction does not raise serious doubts as a result of possible horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for the supply of trams/LRVs and possible sub-segments thereof.

(639) First, the merged entity will face the competitive constraint exerted by important competitors. In the overall market for trams/LRVs, the merged entity will in particular face the competitive constraint exerted by Stadler ([20-30]%) and CAF ([10-20]%) and Skoda ([10-20]%). The same applies in the possible market for steel wheel trams/LRVs and the possible sub-market for steel wheel low-floor trams/LRVs (on both markets, Stadler holds a market share above [10-20]% and CAF and Skoda around [10-20]%).

(640) The Parties' combined market share will be the highest in the market for steel wheel high-floor trams/LRVs, in which the merged entity's market share will amount to [40-50]%. However, the increment stemming from the Transaction is very limited ([0-5]%) and the merged entity will face competition from two competitors with significant market shares (Stadler [20-30]% and Kiepe Electric (Knorr Bremse)[602] [10-20]%).

(641) Second, as stated above, the calculation of market shares on the basis of contestable tenders only risk leading to a distorted view of competitive positions to the extent that non-contestable orders represent a large portion of the relevant market, as is the case in trams/LRVs, where non-contestable (repeat) orders amount to [30-40]% of the total market size.

(642) Third, the results of the market investigation indicate that, other competitors, such as Siemens, Stadler, CAF, Skoda or CRRC are considered to be credible bidders and suppliers[603]. Accordingly, a large number of competitors interrogated identify themselves as close competitors to the Parties for the supply of trams/LRVs on their respective market segment.[604] This assessment is confirmed by the bidding data, which indicates that Stadler and CAF are the most active bidders in the market for steel wheel trams and the possible sub-market for low-floor steel wheel trams/LRVs (their participation rate is comprised between [20-30]% and [30-40]% according the envisaged market). In the market for high-floor steel wheel trams/LRVs, Bombardier and Stadler are the most frequent bidders (participation rate at [40-50]% each), followed by Knorr Bremse and Siemens). In addition, a majority of competitors consider that non-European suppliers for trams/LRVs (such as CRRC, Hyundai Rotem, Bonzakaya, Durmalar) have the technical knowledge to submit credible bids

602 Kiepe Electric was previously Vossloh Kiepe and was taken over by the Knorr-Bremse Group in 2017 (Form CO, Chapter B.3, footnote 235).

603 Q9, replies to questions 75.1. and 75.2.

604 Q8, replies to question 73.

in tenders organised by EEA customers, even if their presence remains limited in the EEA.[605]

(643) More generally, similarly to metros, the results of the market investigation suggest that the market for trams/LRVs in the EEA is less concentrated than other rolling stock markets, due in particular to lesser technical barriers to entry. Trams/LRVs are indeed less complex vehicles than other types of rolling stock, which allows suppliers to enter market with less incurring costs. In that regard, most of customers consider that regulatory authorisation processes or investments required to participate in tenders do not constitute barriers to enter the trams/LRVs market.[606] For instance, a customer indicated that trams/LRVs are often standard products which require '*much lower investment* […] *as for metro.*' Likewise, another customer indicated that most suppliers '*have standardized tram/LRV vehicle platforms that can be adapted to the individual needs of the contracting Entity.*'[607] The lack of particularly high barriers to entry, including for non-European suppliers, is confirmed by most competitors. An Asian competitor indicated that '*Nowadays usually suppliers follow the international standards*'.[608]

(644) Fourth, the large number of competitors allows customers to exercise countervailing buyer power, as confirmed by the results of the market investigation.[609] In addition, a majority of customers consider that the transaction will have no impact on their bargaining strength, in particular because a sufficient number of competitors will remain after the Transaction.[610] Competitors generally consider that countervailing buyer power depends on the number of suppliers active in the market.[611]

(645) Finally, overall, the very large majority of customers did not raise concerns related to the supply of trams/LRVs, regardless of the possible segmentation, by the merged entity.[612] Some customers expect efficiencies resulting from the Transaction through the mutualisation of the Parties' internal costs.[613]

(646) Based on the above, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market as a result of horizontal non-coordinated effects, in particular through the creation or strengthening of a dominant position, in the market for the supply of trams/LRVs (and possible segmentations).

6.5. Maintenance and refurbishment

6.5.1. The Notifying Party's view

(647) The Notifying Party submits that the Transaction will not give rise to competitive concerns for the following reasons.

---

605 Q8, replies to question 80.
606 Q9, replies to questions 70.1. and 70.2.
607 Q9, replu to question 71.1.1.
608 Q8, reply to question 80.2.
609 Q8, replies to question 85; Q9, replies to question 91.
610 Q9, replies to question 93.
611 Q8, replies to question 85.1.
612 Q9, replies to question 104.
613 Q9, replies to question 105.1.

(648) First, the Notifying Party explains that a significant part of the market for maintenance services (around [60-70]% in Europe) is not accessible to third party maintenance service providers because maintenance services are supplied by the customers' in-house maintenance capabilities.[614] The Notifying Party explains that the extent to which rail operators can perform rolling stock maintenance and refurbishment services in-house primarily is likely to depend on the size and level of skills of the operators' technical team and the size of its fleet; conversely, it does not depend on the type of rolling stock.[615]

(649) Second, the vast of majority of maintenance services not performed in-house by customers is supplied by the rolling stock supplier as rolling stock and maintenance tenders are carried out simultaneously and typically awarded to the same entity.[616] The Notifying Party estimates that up to [30-40]% of the total yearly outsourced rolling stock maintenance services in the EEA are tendered simultaneously with the new rolling stock vehicles.[617] The Notifying Party explains that it is rare for OEMs to provide maintenance services for rolling stock vehicles manufactured by another OEM. Specifically, maintenance services for third-party rolling stock represents c. [10-20]% and below [5-10]% respectively of Alstom's and Bombardier' total maintenance business in the EEA.

(650) The Notifying Party therefore argues that the competitive effects in the market for maintenance services are derivative of the principal rolling stock markets. The Notifying Party refers to *Knorr Bremse/Vossloh*, where the Commission found that the independent after-market (which includes the service and maintenance of trains) mirrored the original equipment market and focused its competitive assessment on the effects the transaction in the original equipment market. In that decision, the Commission noted that the Parties' shares were similar, or even lower than in the related rolling stock market, and accordingly considered that its competitive assessment would not differ if it looked at the aftermarket separately to or together with the related rolling stock market.[618] The Notifying Party submits that the same approach should be applied in the present case. The Parties' estimated shares in maintenance and refurbishment services (provided below) are similar to or lower than their shares in most rolling stock markets where they overlap, including very high-speed rolling stock, mainline rolling stock, and trams/LRVs.[619]

(651) Third, according to the Notifying Party, the Parties will continue to face competition from a large number of competitors, including (i) experienced railway operators often carrying out rolling stock maintenance and refurbishment services in-house or even offering maintenance services to rival operators, (ii) rival OEMs such as Siemens, CAF, Stadler, Hitachi, Talgo, Newag, Pesa, and Skoda, (iii) independent

---

614 The Notifying Party refers to railway operators, such as Deutsche Bahn (via its subsidiary Arriva), SNCF (via Keolis), Ferrovie dello Stato Italiane (via its overseas subsidiaries), NS (via Abellio), MTR Corporation etc., further strengthens the share of these railway operators in the overall maintenance and refurbishment market since, in general, their international subsidiaries carry out their own maintenance services. See Form CO, Chapter D, paragraph 119.

615 Form CO, Chapter D, paragraphs 120-122.

616 Form CO, Chapter D, paragraphs 124-126.

617 Form CO, Chapter D, paragraphs 106. The Notifying Party explains that customers that such an approach include PKP, NTV, and HS2.

618 Commission decision in Case M.7358 – *Knorr Bremse/Vossloh* (2015), recital 36.

619 Form CO, Chapter D, paragraphs 129-130.

providers[620], and (iv) engineering companies (for refurbishment services). Furthermore, according to the Notifying Party, the market for rolling stock maintenance and refurbishment services has become more fragmented in recent years as a result of the deregulation and liberalisation of the rail passenger market.[621]

6.5.2. The Commission's assessment

6.5.2.1. The Parties' activities

(652) The Parties offer a range of customised rolling stock maintenance services, including light and heavy maintenance and refurbishment services.[622] The Parties' maintenance activities are mainly focused on their own rolling stock fleets. The supply of maintenance services for third party rolling stock represents [10-20]% of Alstom's total maintenance business in the EEA and less than [5-10]% of Bombardier's maintenance business in the EEA.

6.5.2.2. The Commission's assessment

(A) Horizontal assessment

(653) The Parties' activities overlap in light maintenance, heavy maintenance and refurbishment both at the EEA-wide level, including Switzerland, and national level.

(654) Market data provided under this section are based on the Parties' estimates of the overall market for maintenance services in the EEA and at national level, i.e., the market for maintenance services including maintenance carried out in-house (around [60-70]% of the total market as estimated by the Notifying Party) and outsourced by customers to third parties, including rolling stock suppliers. The Notifying Party provided market data for the period 2015-2019.[623]

(655) Table 16 sets out the market share of the Parties and their competitors in the overall market for maintenance and refurbishment.

---

620 Independent providers include Euromaint (Scandinavia), MWG (Germany), ATI Francesco Ventura Srl Costruzioni Ferroviarie/Esperia Srl (Italy), Desarrollos de Tecnologia Avanzada (DTA) (Spain), ZNTK Mińsk Mazowiecki S.A (Czechia and Poland). See Form CO, Chapter D, paragraphs 131-133.

621 Form CO, Chapter D, paragraphs 135.

622 Form CO, Chapter D, paragraphs 92-102.

623 The market share data is based on the Notifying Party's best estimates. However, the Notifying Party explains that due to the absence of reliable market data, these share estimates are based on significant assumptions and may not be accurate for the following reasons in particular: (i) as UNIFE does not provide a split between light and heavy maintenance, the Parties relied on an Alstom's estimate of the total size of these two segments ([…]%), (ii) the Parties' maintenance sales are not reported for light, heavy maintenance and refurbishment services separately. The Parties therefore had to estimate their maintenance sales for these three segments, (iii) the Parties are not aware of any reports that estimate competitor sales for maintenance services overall, nor at the sub-segment level, and therefore provided the Parties' best estimates. See response to RFI 25 of 3 July 2020, paragraph 4.3.

Table 20 – Market share for maintenance and refurbishment services, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[5-10]%
Bombardier	[Confidential]	[5-10]%
Combined	**[Confidential]**	[10-20]%
Operators (in-house services)	[Confidential]	[60-70]%
Siemens	[Confidential]	[5-10]%
CAF	[Confidential]	[0-5]%
Stadler	[Confidential]	[0-5]%
Hitachi	[Confidential]	[0-5]%
Talgo	[Confidential]	[0-5]%
Pesa, Skoda, Newag	[Confidential]	[0-5]%
Specialised suppliers	[Confidential]	[10-20]%
Total	[Confidential]	100%

Source: Form CO, Chapter D [table 7].

(656) Table 21 sets out the market share of the Parties and their competitors in the market for light maintenance.

Table 21 – Market share for light maintenance services, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[5-10]%
Bombardier	[Confidential]	[10-20]%
Combined	**[Confidential]**	**[20-30]%**
Operators (in-house services)	[Confidential]	[60-70]%
Siemens	[Confidential]	[5-10]%
CAF	[Confidential]	[0-5]%
Stadler	[Confidential]	[0-5]%
Hitachi	[Confidential]	[0-5]%
Talgo	[Confidential]	[0-5]%
Pesa, Skoda, Newag	[Confidential]	[0-5]%

Supplier	Order Value (in EUR million)	Market share
Specialised suppliers	[Confidential]	[0-5]%
Total	[Confidential]	100%

Source: Parties' response to RFI 25, question 4 [table 1].

Table 22 – Market share for heavy maintenance services, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[5-10]%
Bombardier	[Confidential]	[10-20]%
Combined	**[Confidential]**	**[20-30]%**
Operators (in-house services)	[Confidential]	[60-70]%
Siemens	[Confidential]	[5-10]%
CAF	[Confidential]	[0-5]%
Stadler	[Confidential]	[0-5]%
Hitachi	[Confidential]	[0-5]%
Talgo	[Confidential]	[0-5]%
Pesa, Skoda, Newag	[Confidential]	[0-5]%
Specialised suppliers	[Confidential]	[0-5]%
Total	[Confidential]	100%

Source: Parties' response to RFI 25, question 4 [table 2].

Table 23 – Market share for refurbishment services, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[10-20]%
Bombardier	[Confidential]	[20-30]%
Combined	[Confidential]	**[30-40]%**
Operators (in-house services)	[Confidential]	[50-60]%
Specialised suppliers	[Confidential]	[10-20]%
Total	[Confidential]	100%

Source: Parties' response to RFI 25, question 4 [table 3].

(657) The Notifying Party is unable to provide reliable market shares estimates at national level but submitted that, based on the Commission's approach in *Knorr*

Bremse/Vossloh, the competitive effects in the market for maintenance services are derivative of the principal rolling stock markets and the Parties' market shares are similar or lower than in the related rolling stock market.[624]

(658) The Parties provided their best estimates for market shares in the market for the provision of maintenance services segmented by train type as shown in the tables below.

Table 24 – Market share for maintenance services for high speed/very high speed rolling stock, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[30-40]%
Bombardier	[Confidential]	[0-5]%
Combined	**[Confidential]**	**[30-40]%**
Operators (in-house services)	[Confidential]	[40-50]%
Siemens	[Confidential]	[10-20]%
CAF	[Confidential]	[0-5]%
Hitachi	[Confidential]	[0-5]%
Talgo	[Confidential]	[0-5]%
Total	[Confidential]	100%

Source: Response to RFI 25 of 3 July 2020

[624] Response to RFI 25, paragraph 4.5.

Table 25 – Market share for maintenance services for mainline rolling stock, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[5-10]%
Bombardier	[Confidential]	[10-20]%
Combined	**[Confidential]**	**[20-30]%**
Operators (in-house services)	[Confidential]	[40-50]%
Siemens	[Confidential]	[10-20]%
CAF	[Confidential]	[30-40]%
Stadler	[Confidential]	[5-10]%
Hitachi	[Confidential]	[0-5]%
Talgo	[Confidential]	[0-5]%
Pesa, Skoda, Newag	[Confidential]	[0-5]%
Total	[Confidential]	100%

Source: Response to RFI 25

Table 26 – Market share for maintenance services for metros, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[20-30]%
Bombardier	[Confidential]	[5-10]%
Combined	**[Confidential]**	**[20-30]%**
Operators (in-house services)	[Confidential]	[30-40]%
Siemens	[Confidential]	[20-30]%
CAF	[Confidential]	[10-20]%
Hitachi	[Confidential]	[0-5]%
Talgo	[Confidential]	[0-5]%
Pesa, Skoda, Newag	[Confidential]	[0-5]%
Total	[Confidential]	100%

Source: Response to RFI 25

Table 27 – Market share for maintenance services for trams/LRVs, EEA and Switzerland (2015-2019)

Supplier	Order Value (in EUR million)	Market share
Alstom	[Confidential]	[10-20]%
Bombardier	[Confidential]	[10-20]%
Combined	**[Confidential]**	**[20-30]%**
Operators (in-house services)	[Confidential]	[60-70]%
Siemens	[Confidential]	[5-10]%
CAF	[Confidential]	[5-10]%
Hitachi	[Confidential]	[0-5]%
Pesa, Skoda, Newag	[Confidential]	[0-5]%
Total	[Confidential]	100%

Source: Response to RFI 25

(659) The validity of thee approach according to which competitive effects in the market for maintenance services are derivative of the principal rolling stock markets and thus reflect the Parties' market shares in those markets is supported by the results of the market investigation. In particular, respondents indicate that any strong position held by the Parties will stem from their position in the primary market for the supply of rolling stock. The Commission further notes that the Parties' activities primarily focus on their own installed base and the provision of maintenance services on rolling stock supplied by rivals is limited to [10-20]% and below [5-10]% respectively of Alstom's and Bombardier' total maintenance business in the EEA. Furthermore, as confirmed by respondents that participated to the market investigation, a number of railway operators carry out maintenance services in-house rather than outsourcing to the rolling stock supplier. This conclusion applies to all types of rolling stock.

(660) Therefore, the Commission's considers is that the Parties' market position in the market for the supply of maintenance services (and possible segmentations) reflects their combined position in the markets for rolling stock, as assessed in this decision. The Commitments offered by the Notifying Party address competitive concerns in the primary markets for the supply of rolling stock. Therefore, the Commission concludes that the Transaction as modified by the Commitments will not lead to any serious doubts as to its compatibility with the internal market as a result of horizontal non-coordinated effects, in relation to the aftermarket for the provision of maintenance services.

(B) Vertical and conglomerate assessment

(661) Two respondents indicated that, in the UK, the provision of maintenance services is linked to the availability of maintenance depots. Alstom and Bombardier operate

maintenance depots in the UK.[625] A respondent to the market investigation indicated that rivals' ability to compete for maintenance contracts would depend on gaining access to the Parties' depots. This would especially be the case for smaller fleet for which it would not be economical to build a new depot.

(662) This concern amounts to a vertical input foreclosure concern and would therefore require a showing that the merged entity will have the ability and incentive to foreclose access to its maintenance depots.

(663) The merged entity cannot be considered to have the ability of foreclosing access to maintenance depots in the UK. The UK's Railways Act 1993 ensures that prospective beneficiaries can obtain access to a light maintenance depot on terms that are open, fair and transparent. Access to the Parties' maintenance depots in the UK is therefore regulated in the following way: (i) if the Parties have capacity in a maintenance depot and a train operator or a rival OEM wants to use it, the operator/OEM can apply to use the depot; in case of a refusal of access despite available capacity, the rail regulator for Great Britain (the Office of Rail and Road, 'ORR') may ask Alstom or Bombardier to grant access to the depot. The ORR also oversees the terms of access, and has the power to ensure that they are not unreasonable or discriminatory.

(664) Furthermore, based on the Notifying Party's submission, there are no recent instances where rolling stock OEMs have sought to gain access to the maintenance depots of rival rolling stock suppliers. Typically, rolling stock OEMs use their own depots or the train operators' depots in some cases. In addition, there are recent examples of rolling stock OEMs building new depots after having won a tender to supply and maintain a new fleet of trains.[626] Therefore, the Transaction will not result in any change in the merged entity's incentives such that there will be negative effects on competition in the market for the provision of maintenance services in the UK.

(665) As regards possible conglomerate effects, the Commission considers that the Transaction does not give rise to any conglomerate effects between rolling stock and maintenance services due to the absence of a merger-specific impact. The results of the market investigation generally confirm that already before the Transaction customers (that do not carry out maintenance in-house) often procure rolling stock together with maintenance services at the same time and from the same supplier. In addition, the Parties are mainly focusing on providing maintenance services on their own rolling stock.

(666) Therefore, the Commission considers that the Transaction, as modified by the Commitments, would not significantly impede effective competition in the internal market or in the EEA by giving rise to horizontal non-coordinated effects, in

---

625 Alstom has nine active maintenance depots in the UK: two depots in London (Morden and Golders Green) and one depot in each of Nottingham, Wembley, Wolverhampton, Chester, Manchester, Liverpool, and Glasgow. Bombardier has 14 sites across the UK where it can carry on maintenance services: four in London (East Ham, Neasden, New Cross Gate, and Old Oak), two in Ilford, and one in each of Asfordby, Central Rivers, Crewe, Crofton, Derby, Ramsgate, Reading, and Harlesden. See Response to RFI 43 of 20 July 2020, paragraph 1.2.

626 According to the Notifying Party, Hitachi built a new depot in Kent after winning the Javelin project. See Response to RFI 43 of 20 July 2020, paragraph 2.1.

particular through the creation or strengthening of a dominant position, in the market for the supply of maintenance services (and possible segmentations, including the possible markets for light, heavy maintenance and refurbishment or the market for the provision of maintenance services segmented by type of rolling stock).

6.6. Components and spare parts

6.6.1. The Notifying Party's views

(667) As regards components, the Notifying Party explains that the Transaction does not lead to an overlap in the Parties' activities in the sale of rolling stock components in the EEA. Alstom's standalone sales of components are limited to bogies, dampers, and switchgears, while Bombardier's only sells traction converters in the EEA.[627]

(668) The Notifying Party explains that the Transaction creates a limited number of potential vertical relationships between the upstream market for standalone rolling stock components and the downstream markets for rolling stock.

(669) The Notifying Party submits that the Transaction will not result in input foreclosure because the merged entity will not have the ability or incentive to foreclose downstream competitors or to increase their costs. According to the Notifying Party, Alstom and Bombardier have very limited sales of standalone components and accordingly the Parties have no market power in any upstream market for the supply of components. In addition, post-Transaction, there will be numerous alternative suppliers of components in the EEA which will be able to supply the Parties' downstream competitors, including Siemens, Hitachi, Hyundai-Rotem, Skoda, CRRC and Talgo, as well as specialist component suppliers such as ABB, Wabtec, and Knorr-Bremse. The Notifying Party states that in any event, rival rolling stock suppliers typically produce components internally. Any attempt to foreclose downstream competitors or to increase prices for standalone components would therefore be ineffective.[628]

(670) The Notifying Party argues that the merged entity will not have the ability or incentive to engage in customer foreclosure or to increase its downstream competitors' costs. The Notifying Party explains that the Parties produce their components internally, and neither Party has purchased any bogies, dampers, switchgears, or traction converters on the open market (including from each other) in the past three years. Accordingly, the Transaction will not decrease the demand for upstream suppliers.[629] Moreover, several customers of rolling stock components

---

627 Form CO, Chapter D, paragraphs 72 and 73. For completeness, the Notifying Party submits that even in an overall market including all rolling stock components, the Transaction does not give rise to competition concerns because (i) the Parties' have very limited standalone sales of rolling stock components in the EEA, (ii) there are many suppliers, including other rolling stock suppliers and specialist component suppliers, and (iii) competitive effects in the market for components stem from the principal rolling stock markets.

628 Form CO, Chapter D, paragraphs 74-76.

629 A supplier of wireless communications solutions for railways active in France expressed the view that post-Transaction, the merged entity will be able to exclusively rely on Alstom's subsidiary Nomad Digital for such digital technology, while Bombardier is procuring such solutions from another component supplier. The market participant considers that the Transaction will create a monopoly in France and thus will prevent Nomad Digital's competitors from selling their offerings to a sufficient customer base. However, the Commission notes that the market for the supply of components for rolling stock is EEA-

(including all major rolling stock operators) will remain accessible to competing suppliers post-Transaction.[630]

(671) With regard to components that Alstom produces internally and Bombardier purchases from external suppliers (switchgears and dampers), the Notifying Party submits that Bombardier will have no ability or incentive to cease purchasing these components as a result of the Transaction. The Notifying Party estimates that Bombardier represents a modest proportion (and materially less than 30%) of the overall EEA demand for such components. The Notifying Party considers that Bombardier will not have an incentive to cease purchasing switchgears and dampers from external suppliers as a result of the Transaction. These are largely commoditised products and represent a negligible portion (e.g., less than [0-10]%) of the overall production cost of a trainset. There would therefore be little to no financial gain from sourcing such components exclusively from Alstom, even assuming it would be marginally cheaper to do so.[631]

(672) As regards spare parts, the Notifying Party submits that there is no overlap between the Parties' sales of spare parts in the EEA. Alstom had no sales of spare parts to other rolling stock suppliers in the EEA (and only minimal worldwide sales), and Bombardier only re-sells minor quantities of third-party spare parts in the EEA.[632]

(673) The Notifying Party also states that the Transaction will not result in input foreclosure because the merged entity will not have the ability or incentive to foreclose downstream competitors or to increase their costs.

(674) As regards ability, Alstom does not have any standalone sales of spare parts in the EEA, and Bombardier only re-sells minor quantities of third party spare parts in the EEA. In addition, the Parties typically supply spare parts directly to rolling stock operators as part of maintenance services and do not sell spare parts to other rolling stock suppliers. Furthermore, according to the Notifying Party, to the extent that there are opportunities for standalone sales to other rolling stock suppliers, downstream competitors can source from a number of other suppliers, including rolling stock supplier or from specialist spare parts suppliers, including market leaders Knorr-Bremse and Wabtec Faiveley, as well as Valdune, THH, and national

---

wide and that post-Transaction there will remain alternative rolling stock suppliers that will continue to purchase components. Furthermore, the Notifying Party explained that each of the Parties produces wireless communications solutions as part of their signalling solutions for railways (of which there are many kinds) but typically in collaboration with third-party suppliers of radio or 4G wireless technology. Therefore, neither of the Parties fully produces wireless communication solutions internally. The Parties are also not aware of other rolling stock suppliers that fully manufacture wireless technologies internally. On that basis, the Commission considers that the Transaction does not give rise to any customer foreclosure concerns with regard to the supply of wireless communication solutions.

630 Form CO, Chapter D, paragraph 77.

631 Response to RFI 35 of 8 July 2020, paragraph 5.4.

632 Form CO, Chapter D, paragraphs 78-79. The Parties' sales at the world-wide level are very limited, i.e., Alstom and Bombardier's worldwide sales would account for c. [0-5]% and [0-5]% respectively (and [0-5]% combined) based on UNIFE's data and Parties' estimates. For completeness, in the Notifying Party's view, the Transaction will also not give rise to competition concerns in a potential market for spare parts for the following reasons: (i) most rolling stock spare parts are commodities, (ii) there is no competition for captive spare parts that must be sourced from the OEM because other suppliers do not have the necessary IP or because their spare parts are not compatible with the platform, (iii) the Parties focus on their own installed base and are not close competitors, (iv) sophisticated buyers exert significant countervailing buyer power. See Form CO, Chapter D, paragraph 80.

or regional spare part suppliers such as ZNTK Mińsk Mazowiecki (Czech Republic, Slovakia, Poland, and Baltics), Vialis (Netherlands), and Mantena (Norway and Sweden).

(675) As regards incentive, the Notifying Party also explains that spare parts for rolling stock only represent a negligible cost of rolling stock project because the cost of standalone spare parts required over a vehicle lifecycle typically represent less than c. 1% of the overall value of a rolling stock project. Therefore, the merged entity will not have an incentive for a hypothetical price increase of rolling stock spare parts.[633]

(676) The Notifying Party also states that the Transaction will not result in customer foreclosure because the merged entity will not have the ability or incentive to engage in customer foreclosure or to increase its downstream competitors' costs. This is because in the Notifying Party's view, opportunities for sales of spare parts to other rolling stock suppliers are rare and spare parts are typically supplied directly to rolling stock operators. In the EEA, Alstom and Bombardier do not sell spare parts to other rolling stock suppliers.

6.6.2. The Commission's assessment

6.6.2.1. Components

(A) The Parties' activities

(677) Alstom's sales of components to third-party rolling stock manufacturers (outside of a consortium or sub-supply agreement)[634] in the EEA are limited to bogies, dampers, and switchgears. The majority of Alstom's standalone component sales in the EEA are switchgears (sold to Hitachi in the UK). Sales of bogies derive from one project only.[635] For completeness, Alstom also has minimal EEA (re)sales of pumps purchased from third-party suppliers.[636] Alstom's external sales of bogies in the period 2017-2019 accounted for less than [0-5]%; its sales of dampers for [10-20]% and its sales of switchgears for [5-10]% (on an order intake basis).

(678) Bombardier's standalone component sales in the EEA are limited to traction convertors in the EEA.[637] Bombardier's external sales in the EEA in the period 2017-2017 accounted for less than [0-10]%.[638]

---

633 Form CO, Chapter D, paragraphs 81-82.

634 Alstom's scope of work under consortium agreements with other rolling stock suppliers sometimes involves the supply of components, such sales are not considered as standalone component sales where the overall scope of work of the consortium is the delivery of trains (as such activities are already counted towards Alstom's shares in the relevant rolling stock market). For instance, Alstom sells bogies [*Confidential information on an Alstom consortium arrangement*]. These sales amounted to EUR […] in FY 2018/19.

635 In March 2018, Montreux-Oberland Bahn (MOB) ordered a fleet of 20 gauge-changing coaches from Stadler, which sourced gauge-changing bogies from Alstom. The first car will be delivered in spring 2020.

636 These sales amounted to less than EUR […] annually over the past three years.

637 The Notifying Party explains that while Bombardier supplies stand-alone traction motors and bogies, it has only done so outside the EEA in the past five years. These sales amounted to c. EUR […] in 2019. See Form CO, Chapter D, paragraph 56.

638 Response to RFI 35, paragraph 4.4.

(B) The Commission's assessment

(679) The Commission notes that the Transaction does not give rise to any horizontal overlaps in the supply of components in the EEA.[639] Based on the Notifying Party's submission, Alstom's sales of components on a stand-alone basis are limited to bogies, dampers, and switchgears and Bombardier' to traction converters.

(680) The Commission also investigated whether post-Transaction, the merged entity will increase its buyer power for the purchase of components from third party suppliers and whether this would have a negative impact on them.

(681) The market investigation provided mixed views as to whether the Transaction will endow or reinforce the Parties' buyer power.[640] Nevertheless, the Commission notes that the Parties' combined share of third-party purchases for components, including bogies, dampers, switchgears, traction converters, body shells do not exceed 30% in the EEA. With regard to dampers and switchgears, Alstom estimates that it accounts for a negligible portion of purchases from third party suppliers because it manufactures dampers and switchgears internally. Bombardier purchases these components from third party suppliers but estimates that it accounts for less than 30% of purchases of such components.[641] In addition, the Commission considers that post-Transaction, there will remain other major purchasers of these components in the EEA such as Stadler, CAF, Hitachi, Pesa, Newag, Skoda, and Talgo.

(682) Furthermore, the Commission considers that the Transaction does not give rise to any vertical effects for the following reasons.

(683) As regards input foreclosure, the Commission considers that the merged entity will not have the ability or incentive to foreclose rival rolling stock OEMs from access to components. The Parties' market share in the supply of each separate component at the EEA-wide level, including Switzerland, is well below 30%. The Commission also notes that there are alternative suppliers for all components that the Parties currently supply to third parties, including rolling stock OEMs such as Siemens, Hitachi, Hyundai-Rotem, Skoda, CRRC and Talgo, as well as specialist component suppliers such as ABB, Wabtec, and Knorr-Bremse. Therefore, the Transaction does not give rise to any input foreclosure concerns.

(684) Second, with regard to customer foreclosure, the Commission similarly considers that the merged entity will not have the ability or incentive to engage in customer foreclosure.

(685) With regard to ability, as indicated at 682, the Parties and their competitors manufacture the major part of their components internally for captive use. Based on the Notifying Party's submission, the Parties also source a number of other more standardised components from third parties. The Parties have also identified two components that are manufactured by Alstom (switchgears and dampers) which Bombardier purchases from external suppliers. Alstom is not aware of any

639 The Transaction only creates a theoretical horizontal overlap with regard to bogies. However, Bombardier's bogies sales exclusively relate to the ICx project and [*Information on Bombardier's ICx contract with Siemens*].

640 Q10, replies to questions 16 and 17.

641 Response to RFI 43, paragraph 3.1.

component that Bombardier produces which it currently purchases from external suppliers. The results of the market investigation did not provide any information to contradict this statement. According to Knorr-Bremse, in the short-term it will not be possible for the merged entity to completely cease procuring components from external suppliers. Knorr-Bremse also explains that in addition to this not being possible or a likely scenario, it has not been the '*communicated plan*'.[642]

(686) The merged entity will similarly not have an incentive to stop purchasing components from third party suppliers. Post-Transaction, the merged entity is likely to continue purchasing components not already manufactured internally for captive use due to product differentiation and the need to incorporate various components in the trainset. Components that Alstom produces internally and Bombardier purchases from third party suppliers (switchgears and dampers) represent a negligible proportion (less than [0-10]%) of the production costs of a trainset such that any hypothetical gain from ceasing to purchase components from third parties is immaterial.

(687) The Commission further considers that, in any event significant demand for these components will remain post-Transaction from the Parties' competitors in the downstream market such that the Transaction will not lead to any negative effects as a result of customer foreclosure.

6.6.2.2. Spare parts

(A) The Parties' activities

(688) Alstom's sales of spare parts in the EEA are limited for use in its own trains and it does not sell spare parts for use on third-party platforms (unless as part of maintenance services contracts). In the EEA, Alstom sells spare parts only to its own installed base. Alstom also licences the intellectual property for certain components to rolling stock operators, who can then manufacture spare parts.[643]

(689) Bombardier does not actively sell rolling stock spare parts on a standalone basis in the EEA. Bombardier almost exclusively supplies spare parts in the context of providing other aftermarket services, such as overhauls, retrofit, repair, maintenance, and modernisation solutions.

(B) The Commission's assessment

(690) The Commission considers that the Transaction does not lead to any horizontal overlaps between the Parties' activities with regard to spare parts because Alstom has no stand-alone sales to other rolling stock suppliers in the EEA and Bombardier only acts as a reseller of minor quantities of third party spare parts.

---

642 Knorr-Bremse's response to Q10, question 14.1.

643 In some cases, Alstom has also licensed its IP rights to enable rolling stock customers to manufacture the spare parts themselves or in partnership with a third party, or to source directly from Alstom' sub-suppliers. For completeness, in 2018, Alstom created Station One, an online marketplace allowing third-party spare parts suppliers and customers to trade spare parts. Alstom recently began using this as a sales channel for its own spare parts. However, Station One is still at a nascent stage of development, and generated negligible sales of less than EUR […] in 2019. See Form CO, paragraphs 50-53.

(691) The Commission further considers that any vertical effects of the Transaction can also be excluded. The Parties have very limited, if any, spare parts sales to other rolling stock OEM. The Parties and other rolling stock suppliers typically sell spare parts directly to train operators. The results of the market investigation confirmed that customers typically procure spare parts from the supplier of rolling stock, in any event during the warranty period.

(692) In addition, to the extent that spare parts for a given train type are not protected by any IP rights, there are alternative suppliers for 'non-critical' spare parts, including Knorr-Bremse and Wabtec Faiveley, as well as Valdune, THH and other regional or national suppliers.

(693) Therefore, the Commission considers that the Transaction does not raise serious doubts as to its compatibility with the internal market as a result of horizontal non-coordinated effects or vertical effects, in relation to the markets for rolling stock components and spare parts in the EEA (and Switzerland).

6.6.2.3. Sub-supply agreement with Siemens for the supply of ICx components

(694) In 2011, Siemens was awarded a tender to supply Deutsche Bahn up to 300 high-speed ICx trains.[644] On 3 May 2011, Siemens entered into a supply agreement with Bombardier, whereby Siemens sub-contracts to Bombardier around […]% of the scope of its contract with Deutsche Bahn (the 'Supply Agreement'). As part of the Supply Agreement, Bombardier supplies Siemens with [*Confidential details of Bombardier's scope of work under the Supply Agreement*] related to the ICx trains ordered by Deutsche Bahn in the frame of its contract with Siemens.

(695) Deutsche Bahn's orders to Siemens for the provision of the ICx trains amount to a total value of €[…], of which Bombardier's scope in these orders amounts to €[…].[645]

(696) In the course of the market investigation, Siemens submitted that the merged entity's incentives to deliver quality inputs on time under the Supply Agreement will significantly deteriorate due to the Transaction. In that regard, it explained that the merged entity would benefit from Siemens' weakened reputation as a high-speed and very high-speed supplier, and vis-à-vis Deutsche Bahn in particular. According to Siemens, Alstom is its main competitor for Deutsche Bahn's upcoming high-speed and very high-speed tenders. Therefore, weakening Siemens' reputation vis-à-vis the customer would directly translate into softer competition in future Deutsche Bahn tenders to Alstom's benefit. Moreover, according to Siemens, the Supply Agreement is insufficient to ensure on time delivery of quality inputs in case of change of control of Bombardier, because the agreement was drafted for a scenario of Bombardier remaining a stand-alone player and having strong incentives to deliver quality inputs in a timely manner. As a consequence, pursuant to the Supply

644 The ICx train is a high-speed platform with a maximum speed of 250 km/h. It is only operated in Germany by Deutsche Bahn. To date, Deutsche Bahn has ordered 137 trains, of which Siemens has delivered 44.

645 Form CO, Chapter B.1, paragraph 100.

Agreement, Bombardier bears only a small share of the adverse effects (including penalties) triggered by delays or quality issues.[646]

(697) Siemens' claims in this respect amount to asserting a vertical foreclosure concern, whereby the merged entity will have the ability and incentive to degrade Bombardier's compliance under the Supply Agreement. However, contrary to Siemens' assertions, a breach of Bombardier's contractual obligation would lead to significant financial damages and lost income for the merged entity, which would not be offset by profits or other benefits resulting from a potential total or partial input foreclosure vis-à-vis Siemens in the context of its contract with Deutsche Bahn.

(698) First, the Supply Agreement contains several provisions which expose Bombardier to substantial damages in case of failure in relation to quality and delays.

(699) The Supply Agreement sets out performance obligations aiming at preventing Bombardier deteriorating or delaying the performance of its obligations. It contains [*Information on Bombardier's ICx contract with Siemens*].[647]

(700) In addition, , the Supply Agreement sets out that, should Deutsche Bahn holds Siemens liable for any issues with Bombardier's scope of work, Siemens has the contractual right to seek redress from Bombardier and seek for significant financial compensation. In that regard, the Supply Agreement contains provisions related to [*Information on Bombardier's ICx contract with Siemens*]. Specifically, the Supply Agreement provides that, if Deutsche Bahn claims financial compensation from Siemens related to delays caused by Bombardier, [*Information on Bombardier's ICx contract with Siemens*].[648] Furthermore, under the Supply Agreement, if, for reasons imputable to Bombardier, Deutsche Bahn terminates its contract with Siemens, [*Information on Bombardier's ICx contract with Siemens*].[649] In addition, if Deutsche Bahn withholds payment to Siemens for reasons imputable to Bombardier, [*Information on Bombardier's ICx contract with Siemens*].[650]

(701) Second, as explained above, the total value of the ICx contract is €[…] based on the exercised call-off of 137 trains ordered to date. As of March 2020, the outstanding value of Bombardier's scope of work was c. €[…]. The Commission notes that the merged entity stands to receive the vast majority of the outstanding value, since so far only […] of a potential 300 trains have been delivered to Deutsche Bahn.[651] Therefore, revenues that the merged entity can reasonably expect after the Transaction from the delivery of Bombardier's obligations with respect to the Supply Agreement are substantial.

---

646 Siemens' submission, 21 April 2020.

647 Section 6.1.4 of the Supply Agreement.

648 Section 6.1.1 of the Supply Agreement. In addition, if requirements related to Bombardier's scope of work are not met, Bombardier is obliged to [*Information on Bombardier's ICx contract with Siemens*]. If Deutsche Bahn claims that there has been improper performance of the project which is related to Bombardier's scope of work, and if Bombardier is unable or unwilling within a reasonable period to remedy such claims (e.g., to repair the defects identified), [*Information on Bombardier's ICx contract with Siemens*].

649 Section 11.3.1 of the Supply Agreement.

650 Section 11.3.2 of the Supply Agreement.

651 Form CO, Annex D.1, paragraph 33.

(702) Third, the merged entity's commercial opportunities in relation to the potential sale to third parties suppliers of components that are currently delivered by Bombardier to Siemens appear limited. In that regard, the Supply Agreement states that Bombardier [*Information on Bombardier's ICx contract with Siemens*].[652] In addition, the potential demand for such components outside the ICx is unlikely, since, as indicated by the complainant itself in relation to [*Components covered by Bombardier's scope*], the concerned components are specifically tailored to Deutsche Bahn's specifications and intend to meet this specific customer's needs in relation to the ICx train.

(703) Fourth, a partial or total input foreclosure strategy would significantly harm Alstom's reputation, notably vis-à-vis Deutsche Bahn, which has a right to carry out quality checks in Bombardier's facilities during the manufacturing process. Such a strategy would necessarily damage Alstom's credibility in the context of future tenders issued by Deutsche Bahn.

(704) Finally, the Commission notes that the Notifying Party indicated in the Form CO that, in relation to Bombardier's obligation vis-à-vis Siemens in the frame of the Supply Agreement, '*Alstom is fully committed to executing the ongoing subcontracting agreement.*'[653]

(705) It follows from the above that the merged entity will not have the ability or incentive to implement a partial or total input foreclosure strategy vis-à-vis Siemens for the supply of the exterior design, the production and design of the steel car bodies, the manufacture of the trailer bogies, and the final assembly of end coaches and some intermediate coaches related to the ICx trains ordered by Deutsche Bahn.

7. MARKET DEFINITION - MAINLINE SIGNALLING

7.1. Introduction

(706) Rail signalling systems provide safety controls on rail networks. At their most basic level, these systems avoid collisions by preventing two trains from meeting on the same section of track. Rail signalling systems comprise both trackside[654] and on-board elements.

(707) The rail signalling industry is characterised by the following key elements:

(a) On the supply side, it is a concentrated industry with a limited number of players and high barriers to entry.

(b) On the customer side, on-board signalling equipment is purchased by rolling stock manufacturers or train operators (depending on whether intended for installation on new trains or on existing train fleets), while the track-side signalling equipment is purchased by infrastructure managers (for mainline

652 Section 5.6 of the Supply Agreement, which provides that [*Information on Bombardier's ICx contract with Siemens*].

653 Form CO, Chapter B.1 paragraph 140.

654 Trackside and wayside are used interchangeably in this Decision. Narrowly defined, trackside elements are specifically those elements located immediately beside the track, while wayside elements also include those elements located at a slightly greater distance from the track and the train.

signalling). The deregulation of rail markets has resulted in additional small (or smaller than traditional players) private operators in certain Member States.

(708) The signalling industry has developed in the context of national standards for signalling systems (referred to as 'conventional', 'legacy' or 'class B' systems). New signalling technologies have been developed at European level to harmonise the various national systems (see below, section 7.1.5). However, the adoption of harmonised standards has been slower than planned and the installed base in the EEA still consists mostly of legacy signalling technology.

(709) Finally, rail signalling involves multiple elements, both installed on-board and on railroad tracks, which must interoperate, together with the rolling stock running on the network.

(710) Signalling equipment can be divided into mainline signalling which equips the national railway networks and urban signalling which equips the local railway networks such as metro and light rail. The present section and section 8 will focus on the mainline signalling markets. Urban signalling is assessed in sections 9 and 10.

(711) Mainline signalling refers to signalling systems that provide safety and controls on mainline railway networks (including dedicated high-speed lines).

(712) The various elements of mainline signalling systems, or sub-systems, consist of interlockings, Automatic Train Protection ('ATP') systems and Operation and Control Systems ('OCS'). Interlockings and ATP systems constitute the safety level of mainline signalling, while OCS represents the control level. [655]

7.1.1. Interlockings

(713) Interlockings are the core safety component of mainline signalling systems. Interlocking systems are wayside systems that protect and set routes for the safe movement of trains by controlling and preventing access to sections of the track to avoid collisions, including side-impact, rear and head-on collisions. The interlocking system is composed by a set of signal apparatus that prevents trains from conflicting movements by only allowing trains to receive authority to proceed, when routes have been set, locked and detected in safe combinations.

(714) Interlockings in mainline signalling systems typically work on a principle of splitting a track up into sections or 'blocks'. These blocks can be as short as 200m to 800m in stations and as long as several kilometres on open tracks. Interlockings ensure that no more than one train enters a block at any one time. Interlockings must interface with adjacent or intersecting interlockings, and with other signalling systems such as ATP and OCS systems.

(715) Interlockings work by (i) receiving information from wayside sensors (track circuits and/or axle counters) about whether a specific block is vacant or occupied by a train; (ii) calculating safe routes for trains based on that information; (iii) controlling machines that move the rail at junctions to allow trains to transfer from one track to

655 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 566 and Form CO, Chapter C.1.a, paragraph 5.

another; and (iv) issuing movement authorities to trains to allow them to travel, i.e. instructing through signals the train drivers how to proceed, e.g. to continue, to reduce speed, or to stop.

(716) Broadly speaking there are two types of interlockings: older, non-electronic ones (most commonly relay interlockings) and modern, electronic interlockings, which are a combination of hardware and software and are implemented through computers rather than older technologies (computer-based interlocking or 'CBI').[656]

7.1.2. ATP systems

(717) Train protection systems were developed to reduce the risk that train drivers fail to respond to signalling commands and ignore track restrictions such as gradients or speed. ATP systems are designed to protect each individual train by ensuring that the train obeys the movement authority granted by the interlocking and the appropriate line speed of a track section. ATP systems include both on-board units ('OBUs') and wayside systems.

(718) The ATP wayside system receives the signalling commands from the interlocking and transmits this information either:

- to a balise or transponder,[657] which then transmits signalling information to the train via an antenna ('intermittent ATP system'); or
- to a wayside encoder transmitting information, via cable or radio, to the train ('continuous ATP system').

(719) The ATP OBU receives the signalling information from the antenna and implements safety procedures, such as sending warnings to the driver, or stopping or slowing the train. Different levels of ATP systems provide different levels of protection. A basic ATP system may cause an alarm to sound in the train cabin where the driver failed to obey a signal, a more advanced ATP system can intervene where a train driver fails to modify the train's behaviour by applying the emergency brake, and an even more advanced ATP system can control the speed of a train by applying the brakes of a train in response to a signal from the interlocking or based on maximum track speed information programmed into the system. [658]

7.1.3. OCS

(720) OCS are IT solutions designed for the overall management of railway networks and operate at a higher level than the other subsystems that form part of a signalling project, such as interlockings and ATP systems. OCS have monitoring components for signalling sub-systems and command components controlling signalling sub-systems. The core OCS functionalities respond to safety requirements, i.e. OCS operate networks of interlockings and integrate the information generated by

656 Commission Decision in Case. M.4508 – *Alstom UK/Balfour Beaty/JV* (2007), paragraph 16; Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 567-569 and Form CO, Chapter C.1.a, paragraphs 6-8.

657 A balise is an electronic beacon or transponder placed between the rails of a railway as part of an ATP system. Balises provide localisation information whenever a train passes over them.

658 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 570-572 and Form CO, Chapter C.1.a, paragraphs 9-13.

interlockings and their field elements and ATP systems. Thereby, OCS can be connected to different ATP systems and a diversity of connected interlockings in a national or regional infrastructure according to the signalling rules and the operational context defined by the railway infrastructure manager. These functions may be referred to as operational or control-level functions. Additional functionalities, without safety requirements, that are used for the overall management of the railway to increase network efficiency are often also included in OCS. These may include automatic conflict detection and conflict resolution support, timetable management, decision support, and dispatching. These functions are often referred to as dispositive, or management-level functions.

(721) The operational (or control-level) functionalities of OCS operate networks of interlocking, and the OCS is connected to the installed interlockings by means of interfaces. These may be proprietary to the suppliers of the OCS and/or the interlockings or, in the alternative, they may be standardised. The interlockings-OCS interface manages a list of controls and indications, relevant for OCS. Similarly, an interface may also be required between the OCS and the ATP systems.[659]

7.1.4. Certification and authorisation

(722) Each subsystem requires certification and authorisation, which is typically needed for the signalling components included in the system and for the signalling subsystem in its entirety, including the functionality of the subsystem and the interfaces between the various signalling systems or components in the network. The term 'authorisation' is used to describe the whole process, covering both (i) the certification by an independent body, both at EU level and at Member State level (for all signalling systems and components), that the signalling system complies with the relevant required technical standards, and (ii) the authorisation at Member State level by the National Safety Authority ('NSA') to place the component or system in service. Authorisation occurs at the national level only after the certification has been completed.[660]

7.1.5. Interoperability and standardisation

(723) Interoperability among the various signalling subsystems and interoperability with the rolling stock have to be ensured. Mainline signalling projects typically require installation of systems compatible with the signalling system on the wider network. Most countries have national operational rules and technical requirements for mainline signalling with which any project in that country must comply.[661]

(724) The mainline signalling industry is characterised by a standardisation process, in particular at European level. Measures have been taken to improve the interoperability and safety of national networks and to encourage the development of an integrated rail system leading to a single European rail area, as outlined in the

---

659 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 573-574 and Form CO, Chapter C.1.a, paragraphs 14-15.

660 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 575.

661 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 576 and Form CO, Chapter C.1.a, paragraphs 19-20.

2011 transport white paper.[662] With the adoption and implementation of the 4th Railway Package[663] the period of structural changes in the railway sector should be concluded. The technical pillar of the 4th Railway Package[664] has reviewed and optimised the regulatory framework on interoperability and safety and strengthened the role of the European Railway Agency ('ERA'). However non-standardised national systems will remain on parts of the network for many years, and non-standardised national equipment for rolling stock will remain necessary.

(725) There are more than 50 legacy ATP systems across Europe, including multiple systems within some individual Member States. Each legacy system is standalone and cannot interoperate with other legacy systems. In order to travel, a train must have an ATP OBU that is compatible with each wayside ATP system it will encounter. For example, a train running from Genoa to Rotterdam would have to be equipped with at least three legacy ATP on-board systems, to enable it to receive information from legacy wayside ATP systems in Italy, Germany and the Netherlands. The requirement that a train must have an OBU compatible with each country it enters raises operating and maintenance costs for cross border traffic: the installation of additional OBUs is costly and takes up space in the train cabin, and switching operating standards at national borders (or within a country to the extent there are multiple national systems) adds to travel time and requires train drivers to be familiar with the respective national signalling rules and 'signalling language'.

(726) The European Rail Traffic Management System ('ERTMS') is the European standard for the ATP. It has been developed to address the interoperability issues caused by legacy systems and enhance cross-border railway traffic, lower costs and promote competition between signalling suppliers. It allows a train equipped with an ERTMS on-board device made by any supplier to run on track sections equipped with ERTMS devices made by other suppliers.

(727) ERTMS is a control, command, signalling and communication system. It is composed of (i) the European Train Control System ('ETCS')[665] and the (ii) Global System for Mobile Communications – Railways ('GSM-R').

(728) ETCS is an ATP that continuously ensures that the train does not exceed the safe speed and distance. In addition, it provides the relevant information to support the task of the train driver.

(729) GSM-R is the European radio communications standard for railway operations.

---

662 Whiter paper – Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, 28 March 2011, COM(2011)0144 final.

663 The 4th Railway Package is a set of 6 legislative texts designed to complete the single market for rail services (single European railway area). Its overarching goal is to revitalise the rail sector and make it more competitive vis-à-vis other modes of transport. It comprises a 'technical pillar' and a 'market pillar'.

664 The 'technical pillar', which was adopted by the European Parliament and the Council in April 2016, includes Regulation (EU) 2016/796 on the European Union Agency for Railways and repealing Regulation (EC) n° 881/2004; Directive (EU) 2016/797 on the interoperability of the rail system within the European Union (Recast of Directive 2008/57/EC); and Directive (EU) 2016/798 on railway safety (Recast of Directive 2004/49/EC).

665 For the purpose of the assessment of the Transaction, the terms ERTMS and ETCS will nevertheless be used interchangeably.

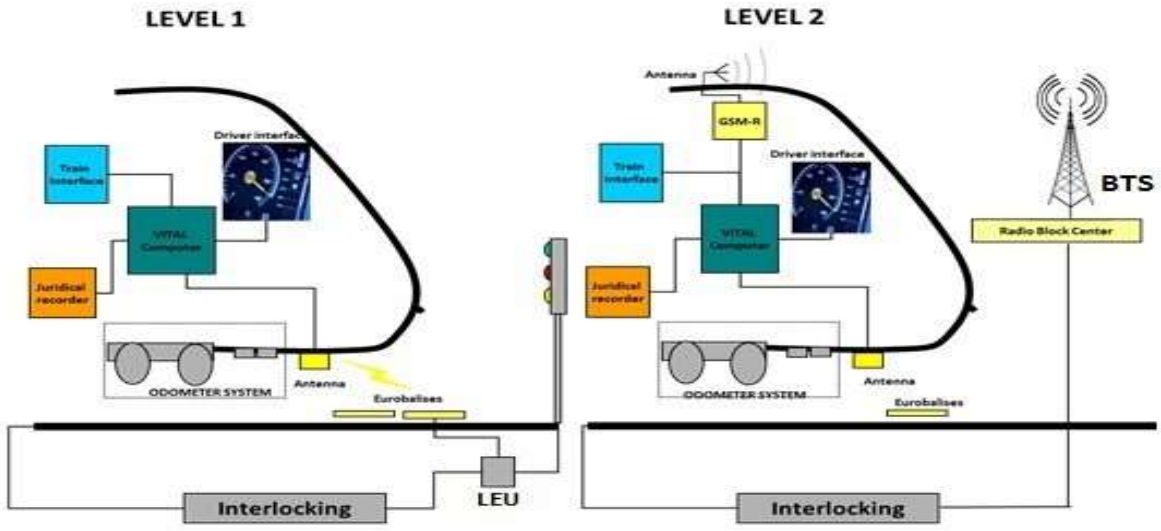
(730) ETCS is divided into 2 subsystems: on-board and trackside. On-board components include: the ETCS on-board unit ('OBU'); the Driver Machine Interface ('DMI'), i.e. the interface between the driver and the ETCS; and the train interface, i.e. the interface that allows the ETCS to exchange information and issue commands to the rolling stock. Trackside components include: the Euro-balises[666], i.e. balises which comply with the ETCS specification (also called 'ETCS balises'); the Lineside Electronic Unit ('LEU'), i.e. the interface between the Euro-balise and the interlocking; and the Radio Block Centre ('RBC'), i.e. a device acting as a centralised safety unit which, using radio connection via GSM-R, receives train position information and sends movement authorisation and further information required by the train for its movement.

(731) ETCS systems have different 'Baselines' and 'Levels':

(a) ETCS Baselines: Baseline is a stable kernel in terms of system functionality, performance and other non-functional characteristics. Any system needs to evolve, and new functions and corrections might be needed. ETCS 'Baseline 2''is the first complete set of requirements, considered as interoperable, and to be adopted at European level. ETCS 'Baseline 3' is a controlled evolution of Baseline 2 that includes new additional functions and backward compatibility with Baseline 2.

(b) ETCS Levels: ETCS Levels are defined based on how the wayside is equipped and based on how the information is transmitted to the train.

Figure 1: Overview of ETCS (Level 1 and Level 2)



Source: Form CO, Chapter C.1.a, Figure 1

(732) ETCS Level 1 includes a LEU that encodes or 'translates' the signalling information received from the interlocking for standardised transmission to the Euro-balise, and then to the train. This signal aspect is then read by the European Vital Computer

666 A Euro-balise is a passive device that lays on the track, storing data (fixed or switchable, i.e. with the possibility of changing information content) related to the infrastructure, such as speed limits, position references, gradients, etc..

('EVC'), and is displayed on the driver's cab. ETCS Level 1 also requires some other equipment on the train (such as a radar, EVC and the juridical recording unit, which is the equivalent of an aircraft's 'black box'). Level 1 also includes a safe output to the braking system to ensure the train obeys the signalling information.[667]

(733) ETCS Level 2 uses GSM-R, the developed standard for radio based communication for trains in Europe, to provide continuous transmission of signalling information to a train equipped with on-board ERTMS equipment. Encoding of interlocking information takes place via the RBC. The shift to radio based communication means that there is no need for either visible wayside signals or LEUs. As a result, the wayside infrastructure can be reduced when ETCS Level 2 signalling is installed. One benefit of this is that it is possible to increase the capacity on a line at lower cost: the line can be divided into shorter blocks (which may allow for shorter distances between trains) without needing to install signal lights at each block. ETCS Level 2 requires some additional equipment on the train, e.g. a GSM-R mobile radio device, including an antenna. Euro-balises are still used in Level 2 systems, but only for positioning information.[668]

(734) There are proposals to introduce a third ETCS level. ETCS Level 3, like ETCS Level 2, would be based on a radio solution. The main difference is that, in ETCS Level 3, train integrity would be evaluated by a train-borne system, rather than wayside sensors, further reducing wayside equipment and simplifying interlockings. The train's position, as in ETCS Levels 1 and 2, would be determined based on information received from Euro-balises (or satellite positioning) and combined with accurate train-borne odometry. As in ETCS Level 2, the train's position would be reported back to the RBC continuously. This constant updating of train integrity, position and speed would allow following trains to run closer to the one in front by adjustment of the movement authority information displayed to the driver. Some constituents required for ETCS level 3, such as train integrity monitoring devices are currently under development. In addition, an intermediate level, Hybrid Level 3 – combining level 2 and level 3 – is being specified. Some infrastructure managers have already placed contracts for deploying Hybrid level 3, and next expected trackside tenders will require the same. There is no clear timeline for the roll-out of 'pure' ETCS Level 3. ETCS Level 3 aspects such as train integrity should be included the next time the ERTMS standards are updated, in 2022 and any roll-out of the technology in Member States will be after that date.[669]

(735) ERTMS originated with a 1989 working group of European transport ministers who suggested developing an interoperable ATP system for Europe. In order to develop and implement an interoperable system, it was necessary to create technical specifications supporting interoperability. The ERTMS specifications were ultimately developed by the Union signalling industry ('UNISIG'), a group of European signalling companies (at the time, Alstom, Bombardier, CSEE, Invensys, Siemens and Thales) under the leadership of the Union and the ERA[670] as the system

667 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 585 and Form CO, Chapter C.1.a, paragraphs 30-31.

668 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 586 and Form CO, Chapter C.1.a, paragraphs 32-35.

669 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 587 and Form CO, Chapter C.1.a, paragraph 36.

670 ERA is in charge of management, change and production of the specifications related to ERTMS.

authority and in close cooperation with railway stakeholders and the GSM-R industry.

(736) The main benefits of ERTMS include interoperability between different national rail networks (for example an ETCS OBU on a French train can interoperate with the wayside ETCS equipment in Belgium), supporting interoperability between the equipment of different suppliers (for example an ETCS OBU from Bombardier can interoperate with wayside equipment installed by Alstom); and providing a common safety platform for taking steps towards further benefits (such as ATO, autonomous driving, moving block, satellite positioning, and harmonised braking behaviour of trains).[671]

(737) The Technical Specifications of Interoperability for Control Command and Signalling ('TSI CCS'), a Commission Regulation[672], is the legal basis of ERTMS specification. It includes the definition of the essential requirements, the subsystem and interface functional and technical specifications, and also determines the necessary list of constituents and interfaces and procedures for their assessment. ETCS systems must respect these specifications in order to meet the essential requirements and to ensure the interoperability of the Union's rail systems. National technical rules, in part driven by legacy signalling requirements, can produce national specificities in the deployment of ERTMS. [673]

(738) At the end of September 2019, around 5.750 km of core network corridor[674] lines were operational with ERTMS and some 13,800 vehicles were equipped or contracted with ETCS in the EU, a substantial part of which has been supported by the EU funding. The current ERTMS European Deployment Plan (EDP) has the following deployment goals: 51 000 km of core network corridors and 66 700 km of the wider core network for 2030, and 123 000 km of comprehensive network for 2050.[675] Figure 2 shows the value of ERTMS contracts in the 2012-2017 period.

---

671 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 582 and Form CO, Chapter C.1.a, paragraph 27.

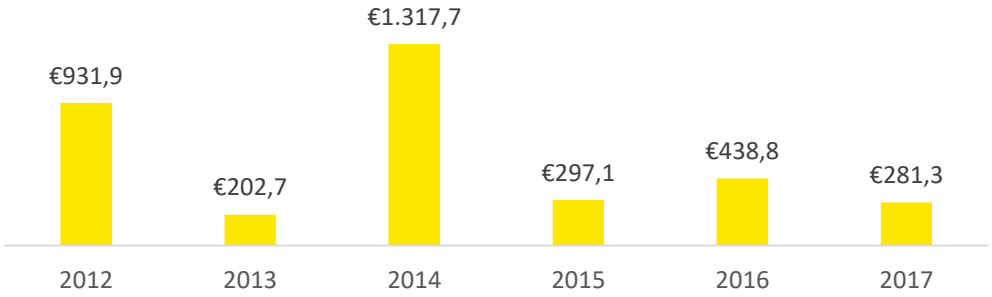
672 Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union.

673 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 583 and Form CO, Chapter C.1.a, paragraph 28.

674 As defined in Article 2(14) of Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010 (OJ L 348, 20.12.2013, page 129).

675 Form CO, Chapter C.1.a, paragraph 39; Commission Implementing Regulation (EU) 2017/6 of 5 January 2017 on the European Rail Traffic Management System European Deployment plan.

Figure 2: ERTMS Europe market size, contract value (EUR million)



Source: Form CO, Chapter C.1.a, Figure 2

(739) Concerning interlockings, EULYNX is a European initiative by 13 infrastructure managers to standardise interfaces between components of an interlocking and between interlockings and other signalling subsystems, for example ATP.[676] The project aims to create a system architecture for interlockings, including standardised interfaces, with the ultimate goal of reducing lifecycle costs up to 50%, by the so-called 'Reference Implementations', which allow for standardisation and digitalisation of interlocking interfaces and the possibility of implementation of different subsystems by different suppliers. Compared to ERTMS/ETCS, the EULYNX project is significantly less advanced.[677]

7.2. Relevant markets

(740) Both Alstom and Bombardier have a broad product portfolio covering essentially all types of mainline signalling.

(741) The Parties' activities lead to horizontally affected markets (i) in mainline signalling projects, specifically interlockings, ETCS wayside ATP, ETCS OBUs and OCS (see section 8.2.1) and (ii) in mainline signalling products, specifically track circuits, legacy OBUs, interlocking equipment, relays and Euro-balises (see section 8.3.1 below).

(742) The Transaction also leads to vertically affected markets in the supply of track circuits and relays as an input for the downstream markets for mainline wayside signalling projects (namely interlocking projects and ETCS ATP wayside re-signalling projects) (see section 8.3.2 below).

(743) In the following section, the Commission analyses the product and geographic market definition for:

- mainline signalling projects, namely: (i) standalone interlocking projects; (ii) ETCS ATP wayside overlay projects[678] (standalone ETCS ATP wayside);

[676] Bane NOR (NO), CFL (LU), DB Netze (DE), Infrabel (BE), Liikennevirasto (FI), Network Rail (UK), ProRail (NL), RFI (IT), SBB (CH), SNCF (FR), Slovenske Zeleznice (SI), OBB (AT) and Trafikveket (SE).

[677] Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 588-589 and Form CO, Chapter C.1.a, paragraph 40.

[678] Overlay projects designate projects that are put on top of existing mainline signalling systems. In an ETCS wayside ATP overlay project, an ETCS wayside ATP system is laid on top of existing

(iii) ETCS ATP wayside re-signalling projects[679] including ETCS ATP wayside and interlockings; (iv) ETCS OBU projects; (v) legacy OBU projects; (vi) OCS; and

– mainline signalling products.

7.2.1. Product market definition

7.2.1.1. Segmentation between mainline signalling and urban signalling

(A) The Notifying Party's views

(744) In line with Commission's precedents, the Notifying Party considers urban and mainline signalling projects separately for the purpose of the assessment of the Transaction.

(B) The Commission's decisional practice

(745) In previous cases, the Commission considered whether the market for railway signalling could be further subdivided according to the rail network type.[680]

(746) In *Siemens/Invensys Rail*, the Commission found that the technology required for railway signalling projects for mainline was more sophisticated than the technology for urban transit and that, therefore, the projects for mainline were more expensive.[681] The exact market delineation of the relevant product market(s) was ultimately left open as the notified operation did not raise serious doubts under any plausible market definition.[682]

(747) In *Siemens/Alstom*, the Commission found that the two types of signalling systems served different needs, were based on different technologies and standards, required different technical solutions and were sold to different customers. These differences ruled out demand-side substitutability as urban customers could not or needed not use mainline signalling solutions in urban transport and mainline customers could not or needed not use urban solutions in mainline transport.[683] Further, even though most suppliers were present in both fields, the differences between the two fields were substantial and thus excluded supply-side substitution. Therefore, the Commission concluded that there was a distinction between mainline signalling and urban signalling. [684]

---

interlockings. The ETCS supplier must, therefore, develop an interface between the ETCS wayside ATP system and the existing interlockings.

679 Re-signalling projects designate installation of new mainline signalling systems. In an ETCS wayside ATP re-signalling project, the ETCS wayside ATP system and new interlockings are installed together.

680 Commission Decision in Case M.4337 – *Thales/Alcatel Divisions Transport et Systèmes* (2006), recitals 14 and 19; Commission Decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recital 12; Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recital 11.

681 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recital 11.

682 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 19 and 23.

683 One potential intersection is suburban lines that are not closed loop. In these cases the signalling solution needs to be interoperable with the entire network but due to the density of traffic CBTC can also be deployed. However, even in this case, the two types of systems are used together as opposed to substitutes.

684 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 614-617.

(C) Results of the market investigation and the Commission's assessment

(748) The results of the market investigation broadly confirm the Notifying Party's views with regard to the segmentation based on rail network type.

(749) All respondents indicated that mainline signalling and urban signalling should be distinguished from one another.[685] Respondents considered several factors that differentiate the two sectors: different rail network type, different types of technology, different customers (national or regional railway operators, large infrastructure managers or railway undertakings, for mainline, vs. local operators for urban signalling) and different customers' requirements. Moreover, mainline projects are more complex technologically (large, open networks with complex junctions compared to mass transportation projects), more expensive, awarded in more burdensome tender procedures and more challenging for suppliers because mainline signalling has to be compatible with a wider network. [686]

(750) Therefore, the Commission concludes that there is a distinction between mainline signalling and urban signalling.

7.2.1.2. Segmentation between mainline signalling projects and mainline signalling products and services

(A) The Notifying party's views

(751) In line with Commission's precedents, the Notifying Party considers signalling products separately from signalling projects. In relation to signalling services (i.e. maintenance), the Notifying Party explains that signalling services are typically only supplied by the Parties as part of a warranty agreement included in a signalling project. Neither Party provides services for third party signalling systems to any material extent and, as a result, neither is active in the merchant market for signalling services. Therefore, the Notifying Party considers that the exact market delineation of the relevant product market(s) can be left open as the Transaction would have no impact on the market for the provision of signalling services.

(B) The Commission's decisional practice

(752) In previous cases, the Commission distinguished signalling projects from signalling products.[687]

(753) The Commission considered that railway signalling projects are comprehensive solutions involving project-specific engineering, development and project management, procurement of the necessary equipment, installation, testing and, in most cases, maintenance. For their part, railway signalling products are signalling components used in railway signalling projects.[688] The exact market delineation of the relevant product market(s) was ultimately left open as the notified operation did

685 Questionnaire 5 addressed to competitors in mainline signalling ("Q5"), replies to question 5; Questionnaire 6 addressed to customers in mainline signalling ("Q6"), replies to question 4.

686 Thales' response to Q5, question 3.1.

687 Commission Decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recitals 10 and 14; Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recital 6.

688 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 7 and 20.

not raise serious doubts as to its compatibility with the internal market under any plausible market definition.[689]

(754) In *Siemens/Alstom*, the Commission found that mainline signalling projects and mainline signalling products belong to separate relevant markets: in contrast to sales of mainline signalling products, the mainline signalling purchased on a project basis include not only the equipment itself, but also the system adaptation, engineering, project management, and other services required to install, validate and put the system into operation. Infrastructure managers are interested in a signalling solution in which each element works seamlessly together as a whole. The building up of such a well-functioning mainline signalling system entails significant risk that customers are not willing to bear and prefer leaving to the mainline signalling supplier. The project management capabilities of a supplier are, in fact, a key factor used in evaluating bids. [690]

(C) Results of the market investigation and the Commission's assessment

(755) The results of the market investigation broadly confirm the Notifying Party's view that mainline signalling projects should be considered separate from mainline signalling products.

(756) The vast majority of respondents indicated the relevance of this distinction, in light of the existence of a specific demand for such products, as spare parts, in addition to purchases incurred in the context of signalling projects.[691] It has been submitted that the large majority of mainline signalling systems in the EEA are purchased on a project or frame-contract basis rather than on a product basis. Projects include the system adaptation, engineering, project management, and other services required to install, validate and put the system into operation. Conversely, products are sold without supporting services such as engineering and project management. [692]

(757) The Commission's therefore concludes that mainline signalling projects and mainline signalling products belong to separate relevant markets.

(758) The majority of the participants to the market investigation also confirmed that maintenance services and/or spare parts are generally supplied together with mainline signalling projects.[693] The results of the market investigation showed that mainline signalling services are generally purchased for a fixed period of time and the duration for which they are provided depends on the customer's requirements. [694]

(759) In any event, since neither Party supplies signalling services to third parties, the question whether there is a distinct market for services can be left open as the Transaction will have no impact on the merchant market for the provision of signalling services.

---

689 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 19 and 23.

690 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 622.

691 Q5, replies to question 4; Q6, replies to question 5; Questionnaire 7 addressed to customers in OBU signalling ("Q7"), replies to question 4.

692 Siemens' response to Q5, question 4.1.

693 Q5, replies to question 13; Q6, replies to question 14.

694 Q5, replies to question 13.1; Q6, replies to question 14.1.

7.2.1.3. Segmentation by mainline signalling sub-systems

(A) The Notifying Party's views

(760) In line with Commission's precedents, the Notifying Party identifies the following sub-segments within the mainline signalling sector: legacy OBU projects; ETCS OBU projects; legacy ATP wayside projects; standalone ETCS ATP wayside (so-called overlay) projects; standalone interlocking projects; OCS projects; and ETCS ATP wayside re-signalling projects (bundles of ETCS ATP wayside and interlockings).

(761) Although in general the Notifying Party agrees on the market segmentation mentioned in the previous paragraph, it submits that the distinction between ETCS ATP wayside overlay and re-signalling adopted by the Commission in previous cases would not be warranted.

(762) According to the Notifying Party, the Commission's finding seems to be based on the existence of a specific customer demand for re-signalling projects, and on the fact that ETCS ATP systems and interlockings would form an 'inseparable bundle' when tendered together by a customer. Nevertheless, a customer's decision to opt for a re-signalling project instead of an overlay project reflects the customer's procurement strategy rather than a demand for re-signalling projects that is distinct from overlay projects. For example, a customer may prefer to always procure the sub-systems separately in order to preserve the technical and economic advantages of the individual systems..

(763) According to the Notifying Party, several factors plead in favour of an overall market for ETCS projects. In particular:

(a) On the demand side, the decision between whether to tender an overlay project or a re-signalling project would not be necessarily clear cut. The decision will rest not only on the age of the installed interlockings (and whether they are newly-installed or nearing the end of their lifecycle), but also other customer preferences such as preferred procurement size, preferred number of incumbent suppliers, budget, and other strategic considerations.

(b) On the supply side, most suppliers offer both ETCS ATP wayside and interlockings, and these suppliers are equally able to deliver re-signalling projects (that is, projects that include wayside ATP ETCS combined with interlockings) or ETCS overlay projects. Whether procured as an overlay project and a standalone interlocking project or as a re-signalling project it is the exact same products that are at stake. As a result, a narrow focus on order intake shares on the (much smaller) overlay segment would ignore the fact that competition for overlay projects will include constraints from suppliers that have significant activities in re-signalling.

(c) Overall, essentially the same players would be active in both overlay and re-signalling. While the need for interlockings could in theory limit the set of competitors able to compete for re-signalling (although even here they have the option for re-signalling contracts to be fulfilled by consortia of ETCS and interlocking suppliers) – there is nothing that would limit suppliers of re-signalling projects from also being competitors for overlay projects.

(764) In any event, the Notifying Party submits that for the purpose of the Transaction, the exact delineation of the relevant product market can be left open, because the Transaction will not give rise to competitive concerns, regardless of the precise market definition adopted.

(B) The Commission's decisional practice

(765) In *Siemens/Invensys Rail*, the Commission considered the market for railway signalling projects and explained that it included four key systems, namely: (i) interlocking systems consisting of signals, trackside sensors, point machines, and electronic interlockings; (ii) ATP, consisting of both conventional and ETCS ATP systems; (iii) OCS; and (iv) level crossing systems.[695]

(766) The Commission also analysed whether the market should be further subdivided according to the rail network type (mainline/urban), the (interlocking) technology applied (non-electronic/electronic), and the size of the project.[696] However, the exact definition of the relevant product market was ultimately left open.[697]

(767) In *Siemens/Alstom*, the Commission concluded that mainline signalling projects should be further segmented, with the following separate relevant product markets defined: (i) legacy OBU projects; (ii) ETCS OBU projects; (iii) legacy ATP wayside projects; (iv) standalone ETCS ATP wayside (so-called overlay) projects; (v) standalone interlocking projects; (vi) ETCS ATP wayside re-signalling projects (bundle of ETCS ATP wayside and interlockings).[698]

(C) Results of the market investigation and the Commission's assessment

(768) The Commission considers that mainline signalling projects should be further segmented by subsystem, namely ATP, interlockings, and OCS. For ATP systems, a distinction should also be made between OBUs and wayside ATP, between legacy and ETCS technology, and between overlay and re-signalling projects. A re-signalling ATP project covers not only ETCS wayside ATP but also interlockings. Each of these (sub-)segmentations constitutes a separate product market.

(769) The vast majority of the participants to the market investigation consider that mainline signalling projects should be segmented by subsystem, namely ATP, interlockings, and OCS.[699] It has been submitted that the mentioned subsystems include different products and technologies and have different functionalities. Moreover, although in general the main signalling suppliers would have in their portfolio all of them, there would also be signalling suppliers which could offer only

695 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recital 8.

696 In case *Alstom UK/Balfour Beatty/JV* (2007), the Commission considered a possible segmentation of railway signalling projects by project size, with three categories: small (value below EUR 8 million), medium-size (value between EUR 8 million and EUR 75 million) and large (value above EUR 75 million) projects. In *Siemens/Invensys Rail* the Commission also considered that a segmentation based on size could be justified and reflected in different prices and technical complexity required for small, medium and large projects; see Commission Decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recital 12 and Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recital 19.

697 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 9, 19.

698 Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 699.

699 Q5, replies to question 5; Q6, replies to question 6; Q7, replies to question 5.

part of them. [700] Another competitor submitted that from the demand perspective, a substantial number of customers buys ATP, interlockings and OCS separately. From the supply perspective, each sub-system is highly complex and fundamentally different.[701]

(C.i) ATP

a) ATP wayside and OBU projects

(770) The Commission considers that ATP projects should be sub-segmented between ATP wayside and OBU projects, each constituting a separate product market, consistently with the market definition adopted in *Siemens/Alstom*.[702]

(771) With regard to ATP, the market investigation confirms that wayside ATP and on-board ATP equipment should be treated separately.[703] The two are not substitutable neither from the demand or supply side; they have different functionality, are purchased by different customers, and can be supplied by different suppliers on a given network.

(772) OBUs and wayside ATP perform different functions. While wayside ATP receives information from the interlocking and communicates this information to the passing trains, the OBU receives this information and transmits it to the train driver.

(773) OBUs and wayside ATP are generally procured separately from one another by different customers.

b) Legacy and ETCS projects

(774) The Commission considers that, as found in *Siemens/Alstom*,[704] ATP wayside and OBU projects should be segmented into legacy and ETCS projects, each constituting a separate product market.

(775) The vast majority of the respondents to the market investigation also confirm that ATP projects, both wayside ATP and OBUs, should be further segmented between conventional/legacy systems and ETCS systems.[705]

(776) Such segmentation is justified because legacy systems are essentially local and cannot fulfil interoperability functionalities required by ETCS systems. ETCS present functionalities absent in legacy systems: continuous communications with the train, supervision of braking curves, in-cab signalling whereas legacy is more dependent on wayside equipment.[706] ETCS and legacy standards are not interoperable and thus require different wayside and on-board equipment. As the underlying technology is different, there is no supply-side substitution.[707] Moreover,

700 GCF Generale Costruzioni Ferroviarie's response to Q5, question 5.1

701 Siemens' response to Q5, question 5.1.

702 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 660-665.

703 Q5, replies to question 6; Q6, replies to question 7; Q7, replies to question 6.

704 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 666-669.

705 Q5, replies to question 7; Q6, replies to question 8; Q7, replies to question 7.

706 Thales' response to Q5, question 7.1.

707 Siemens' response to Q5, question 7.1.

the approval procedures are different: while ETCS requires a Notified Body certification of ERTMS equipment, legacy (national) systems are approved in a national process. Further, for legacy (national) systems, there is usually no approval process for individual products. ETCS, being a new technology, is subject to a much more sophisticated testing process to get the system up and running. [708]

c) Re-signalling and overlay projects – ATP wayside projects

(777) The Commission considers that, as found in *Siemens/Alstom*[709] and contrary to the Notifying Party's view, ATP wayside projects should be distinguished in overlay and re-signalling projects, each constituting a separate product market.

(778) The vast majority of the respondents to the market investigation support such segmentation, due to complexities associated to the development of the interface to ensure compatibility of the system in overlay projects.[710] The results of the market investigation show that overlay ATP projects have more complex interfaces and can be executed also by signalling suppliers which have not developed interlockings for the specific market. [711] Moreover, tenders for overlay projects confer a significant incumbency advantage on the supplier with the installed base. Competing in an overlay project is much more costly for a competitor that does not have the installed base advantage. On the contrary, such incumbency advantage does not exist for re-signalling projects.[712]

(779) However, respondents to the market investigation have also indicated that, from a technical point of view, signalling solutions for re-signalling or overlay projects do not differ much as the main components of the system remain the same and suppliers that are able to provide re-signalling projects can also offer overlay projects. As a result, the competitive conditions are similar for re-signalling and overlay projects with the same set of suppliers bidding for and winning both re-signalling and overlay projects. The main differentiator is a significant higher degree of complexity in overlay projects due to the interfacing needs to the existing equipment installed.[713]

(780) In this respect, the Commission notes that the largest mainline signalling suppliers in Europe, including the Parties, are actively pursuing both types of projects. Their capacity to do so does not disprove, however, the differences between the two types of projects, in particular in terms of technical requirements for interfaces and overall technical complexity, or the specific customer demand for one or the other type of project, not least in view of the interface risk that procuring interlockings and ETCS ATP wayside separately entails for the customer.

708 Deutsche Bahn's response to Q6, question 8.1.

709 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 670-677.

710 Q5, replies to question 8; Q6, replies to question 9.

711 GCF Generale Costruzioni Ferroviarie's response to Q5, question 8.1

712 Progress Rail's response to Q5, question 8.1

713 Siemens' response to Q5, question 8.1.

d) OBUs for new rolling stock and OBUs for retrofitting existing rolling stock

(781) The Commission does not consider that a segmentation of OBUs into separate product markets based on installation, i.e. new rolling stock or retrofitting existing rolling stock,[714] is warranted, as already found in *Siemens/Alstom*.[715]

(782) The vast majority of competitors consider that OBU projects should not be further segmented between (i) retrofitting rolling stock (i.e. replacing the OBU on an existing train) and (ii) installing OBU for new rolling stock, on the basis that both types of project cover the same products. [716] A respondent submitted that retrofit and installation on-board new rolling stock projects are addressed with the same products, for the same customers.[717]

(783) Similarly, customers confirmed that OBU projects should not be further segmented between (i) retrofitting rolling stock and (ii) installing OBU for new rolling stock, as the OBU products are largely independent of installation conditions and can generally be used both for retrofit and in new rolling stock.[718]

(784) However, respondents to the market investigation explained that certain elements of differentiation exist. In particular:

(a) for new rolling stock, OBUs are generally purchased as part of the rolling stock to be delivered and, thus, often selected by the rolling stock OEM. Conversely, the ability of a rolling stock operator to choose between the products of different suppliers when retrofitting its existing fleet with OBU depends very much on the accessibility of technology and information that facilitate interfacing with other signalling sub-systems and train control equipment;[719]

(b) in retrofitting projects, there is a significant dependence from the original supplier of the rolling stock, who can effectively frustrate a third party ETCS supplier. Hence, the market for retrofitting existing rolling stock would have other requirements for the supplier than the market for OBUs for new rolling stock.[720] Another competitor referred to the exceptional situation arising from the technological and regulatory shift to the ERTMS standard that is the reason for ETCS OBU retrofit projects: since each train platform is specific, the integration work will differ depending on the type of platform and the

---

714 Retrofit projects are organised by a rail operator to enable existing rolling stock to operate on routes with ETCS wayside signalling equipment. This requires the retrofitting (i.e. the installation) of an ETCS OBU on the train. A retrofit project does not involve the installation of a legacy OBU as the train is already equipped with it. However it may involve replacing the legacy OBU by a special transmission module ("STM"). This is provided by the legacy supplier. For new build rolling stock the ETCS supplier will need to purchase the legacy equipment and the relevant documentation, or alternatively an STM, from the legacy supplier (see Form CO, Annex C.1.a – II.B.1 and retrofit analysis provided by Siemens on 11 May 2020). For more details see section 8.2.2 below.

715 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 678-682.

716 Q5, replies to question 9.

717 Thales' response to Q5, question 9.1.

718 Q6, replies to question 10; Q7, replies to question 8. Banedanmark's response to Q7, question 8.1.

719 Deutsche Bahn's response to Q6, question 10.1.

720 Stadler's response to Q5, question 9.1.

rolling stock supplier must be closely involved in retrofit projects because of the need to integrate a new element into an existing design. Therefore, for the purposes of non-horizontal analyses of retrofit projects, the supplier offering to retrofit the existing train with ETCS OBUs will need the cooperation of the original rolling stock supplier.[721]

(785) In this respect, the Commission considers that those elements, although relevant, are not sufficient to contradict the clear result of the market investigation that a distinction between OBUs projects for new rolling stock and OBUs projects for retrofitting activities is not warranted. The Commission considers in particular that for both new rolling stock and retrofitting activities, suppliers, customers and products generally coincide. Nevertheless, the Commission acknowledges that in retrofitting activities there is a specific element – connected to the necessary interface of the OBU to be installed with the rolling stock to be retrofitted – that can have a certain impact on the competitive conditions. Although this does not seem to warrant the identification of a specific, distinct market, the Commission will consider this aspect in the competitive assessment of the market of ETCS OBUs.

e) Segmentation by ETCS level

(786) The Commission considers that, as found in *Siemens/Alstom*,[722] there is no need to define separate product markets for ETCS wayside ATP and ETCS OBU projects based on ETCS level (namely ETCS Level 1, ETCS Level 2 and ETCS Level 3).

(787) The vast majority of the participants to the market investigation, both competitors and customers, submitted that ETCS wayside ATP and ETCS OBU projects based on different ETCS levels form part of the same market, in light of similar conditions for competition and supply-side substitution.[723] The results of the market investigation also show that even though ETCS level 1 on the one hand and ETCS levels 2 and 3 on the other hand have different architectures, there are some similarities: (i) all pursue the same purpose: interoperability between systems; (ii) interfaces have similar complexity to handle; (iii) all three do answer to the same customers; and (iv) all suppliers are able to provide an ETCS level 1 and 2 and are working on the development of ETCS level 3. Furthermore, being incumbent on ETCS level 1 appears to be a competitive advantage when upgrading to level 2, as the supplier has the knowledge of the interfaces with existing systems.[724]

f) Segmentation by project size

(788) The Commission considers that there is no need to define separate product markets for ATP wayside overlay and re-signalling by project size, consistently with the market definition adopted in *Siemens/Alstom*.[725]

(789) In the market investigation, the majority of the competitors submitted that a distinction of the mentioned projects by size would not be necessary.[726] It has been

721 Siemens' response to Q5, question 9.1.
722 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 683-686.
723 Q5, replies to question 10; Q6, replies to question 11; Q7, replies to question 9.
724 Thales' response to Q5, question 10.1.
725 Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 699.
726 Q5, replies to question 11.

argued that although the projects may vary in size, the market would be the same and that to quantify which one is a small project and which one a large project would be subjective to the clients view and any arbitrary value used to distinguish such projects would be unlikely to consider the specific complexities of an individual project.[727] The difficulty to set a precise threshold is confirmed by the fact that the only two participants to the market investigation in favour of a distinction between small and large projects, mentioned two very different thresholds (20 and 100 million Euro).[728]

(790) With respect to customers, none of them considered it necessary to define separate product markets for ATP wayside overlay and re-signalling by project size.[729]

(C.ii) Interlockings

(791) The Commission considers that, as found in *Siemens/Alstom*,[730] standalone interlocking projects constitute a separate product market, distinct from re-signalling projects involving the supply of both ETCS ATP wayside systems and interlockings.

(792) The majority of competitors that responded to the market investigation, submitted that standalone interlocking projects constitute a separate product market, noting in particular that standalone interlocking projects can be undertaken by separate suppliers in a wider market than re-signalling projects as there are generally more suppliers with the relevant expertise available to a client for these works.[731] The result was mixed with respect to customers.[732]

(793) There exists, in fact, a distinct demand for standalone interlocking projects. The tender data submitted by the Parties indicates that in the period 2010-2019, a significant number of standalone interlocking projects were tendered in a series of EEA countries.[733]

(794) The Commission also considers that there is no need to define separate product markets for standalone interlockings projects based the type of technology used. The Commission has not received indications that the market for standalone interlocking projects should be further segmented between non-electronic technology and computer-based technology. The Commission notes, however, that non-electronic interlockings are becoming an outdated technology.

(795) The Commission also considers that there is no need to define separate product markets for standalone interlockings based on project size, in line with the arguments presented in paragraphs (788)-(789).

(C.iii) OCS

(796) The Commission considers that OCS projects constitute a separate product market.

---

727 Ferrovial's response to Q5, question 11.1.

728 Thales' and Progress Rail's responses to Q5, question 11.1.

729 Q6, replies to question 12.

730 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 687-691.

731 Q5, replies to questions 12 and 12.1.

732 Q6, replies to question 13.

733 Form CO, Annex C.1.a –V.C.5.a.

(797) There exists a distinct demand for OCS projects. The tender data submitted by the Parties indicates that in the period 2010-2019, a significant number of OCS projects were tendered in a series of EEA countries.[734]

(798) Furthermore, the results of the market investigation did not indicate that the market for OCS projects should be further segmented according to the different levels of OCS (sometimes referred to as 'operational' or 'control level' and 'dispositive' or 'management level'). As a result, no further market segmentation based the type/level of OCS is warranted.

(799) The Commission also considers that, at this stage, there is no need to define separate product markets for OCS projects based on project size, in line with the arguments presented in paragraphs (788)-(789).

7.2.1.4. Mainline signalling products

(A) The Notifying Party's views

(800) As mentioned in paragraph (751), the Notifying Party considers mainline signalling products separately from mainline signalling projects, for the purpose of the assessment of the Transaction.

(801) Furthermore, the Notifying Party has treated each type of signalling product as a separate product market.[735] Concerning Euro-balises, the Notifying Party has considered a separate market for Euro-balises as the narrowest plausible product segment.

(B) The Commission's decisional practice

(802) In *Siemens/Invensys Rail*, the Commission referred to the distinction between interlocking equipment and point machines and identified other products that may constitute separate mainline signalling product markets, namely track circuits, track signals, conventional OBUs, relays, and balises. Regarding balises specifically, the market investigation suggested that 'ETCS balises and conventional balises belong to different markets' due to lack of substitutability and 'significant investment and/or lead time' required for switching from the production of conventional balises to ETCS balises. The Commission ultimately left the product market definition open with regard to all signalling products.[736]

(803) In *Siemens/Alstom* the Commission considered that the different signalling products are not substitutable to each other, as each product is used for a different purpose by the customer.[737] For the purpose of that specific case, it considered a separate product market for interlocking equipment.[738]

---

734 Form CO, annex C.1.a –V.C.5.a.

735 Form CO, Chapter C.4.

736 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 20-23.

737 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 1201.

738 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 1204.

(C) The results of the market investigation and the Commission's assessment

(804) The majority of respondents to the market investigation, both competitors and customers, have confirmed that the segmentation considered in Siemens/Alstom between mainline signalling projects and mainline signalling products remains valid.[739]

(805) The results of the market investigation did not depart from the Notifying Party's views and the Commission's most recent decisional practice according to which each signalling product constitutes a separate market.

(806) The Commission further considers that there is no demand-side substitutability for the different signalling products since each is used for a different purpose. Moreover, there are different suppliers for different signalling products.

(807) Therefore, for the purposes of the present decision the Commission considers that each signalling product constitutes a separate product market.

(808) Regarding balises specifically, the Commission considers that, the reasons justifying a segmentation between conventional and ETCS ATP systems (see paragraph (776)) are equally applicable, as Euro-balises are an ERTMS component involving demanding performance requirements, high safety targets and a stringent authorisation procedure. The Commission, therefore, considers that conventional balises and Euro-balises belong to different markets.

7.2.1.5. Conclusions on product market definitions in mainline signalling

(809) For the purpose of the assessment of the Transaction, the Commission's view is that mainline signalling and urban signalling are separate markets. Within mainline signalling, signalling projects and products constitute separate markets.

(810) In addition, mainline signalling projects should be further segmented, with the following separate relevant product markets defined:

- Legacy OBU projects;
- ETCS OBU projects;
- Legacy ATP wayside projects;
- Standalone ETCS ATP wayside (so-called overlay) projects;
- Standalone interlocking projects;
- ETCS ATP wayside re-signalling projects (bundle of ETCS ATP wayside and interlockings);
- OCS.

[739] Q5 – Mainline signalling – Questionnaire to competitors, question 4; Q6 – Mainline signalling – Questionnaire to customers, question 5.

(811) Finally, each mainline signalling product constitutes a separate market, with a further segmentation in conventional balises and Euro-balises being considered for the purposes of the present decision.

7.2.2. Geographic market definition

7.2.2.1. Mainline signalling projects

(A) The Notifying Party's views

(812) As regards ETCS OBUs projects and ETCS wayside projects, the Notifying Party submits that there would be a number of factors that plead in favour of a market including EEA and Switzerland:

(a) Switzerland has also adopted the ETCS standard. Switzerland was an early adopter of ERTMS, committing to an ERTMS strategy as early as 2000. More than 1000 trains are currently fitted with ERTMS to operate on the national network, and today ETCS on-board units are required for network access with Level 2 mandatory on certain lines;

(b) Participation in tenders in Switzerland concerns broadly the same set of competitors as in the EEA.

(813) In any case, the Notifying Party submits that the exact delineation of the relevant geographic market can be left open because the Transaction would not give rise to competitive concerns, regardless of the precise market definition adopted for ETCS OBUs projects and ETCS wayside projects (i.e. EEA-wide or EEA with Switzerland).

(814) With respect to interlockings, the Notifying Party submits that the exact delineation of the relevant geographic market can be left open because the Transaction would not give rise to competitive concerns, regardless of the precise market definition adopted (i.e. EEA-wide or national).

(815) As regards OCS, the Notifying Party submits that several factors plead in favour of a EEA-wide market:

(a) Although OCS systems require adaptation to national specificities (each country having its own operational rules which need to be taken into account by control and management systems), network operators usually seek to ease the entry of new suppliers in their respective national markets by organizing international tenders with flexible requirements, when possible, for developing the national specifications. In some cases, countries even choose to swap to nation-wide OCS, thereby replacing the old infrastructure, which allows new players to enter with innovative solutions quite easily and at fair conditions.

(b) From a supply-side substitutability point of view, the same Baseline of OCS systems developed by the respective suppliers are used in each Member State after adaptation.

(c) Market share data for OCS systems tenders across the EEA reveals the same set of competitors who typically have orders in a number of EEA countries.

(d) The Canonical Data Model ('CDM') standardization initiative developed under Shift2Rail is expected to lower the cost of entry and expansion for new OCS suppliers. The CDM initiative aims to enable interoperability between different services on the Traffic Management and Control level and facilitating market entry.[740]

(816) The Notifying Party further submits that there would not be national barriers to entry or national homologation that would prevent an OCS supplier with a particular solution competing in new countries in the EEA:

(a) Prior homologation is not necessary to win or bid in OCS projects, as authorization typically takes place at a project level;

(b) Suppliers have solutions that allow them to compete throughout the EEA. They bid and win in multiple countries across the EEA;

(c) Smaller or up and coming players have a demonstrated ability to expand outside of their home countries;

(d) Customer requirements vary within a standard range of typical functions they would like within their OCS;

(e) Variable shares across countries are not an indication of very different competitive conditions in Member States, but a reflection of the increasing trend for single national OCS systems leading to one or two suppliers having solutions in place at any given time.

(817) The Notifying Party adds that the need to communicate with other signalling systems, notably interlockings, is not a barrier to entry at the national level and suppliers can and do, bid and win, in countries where they do not have interlocking installed:

(a) OCS-interlockings interfaces will be more and more standardized;

(b) Numerous examples show that suppliers can, and do, bid and win OCS projects without being the incumbent interlocking or OCS supplier;

(c) Network operators can require standard OCS-interlockings interfaces or requiring that access to the interface specification is given to the OCS supplier;

(d) Network operators can also attract entry by organizing large projects covering the entire country. Such projects attract new entry and competition from all major EEA signalling players.

(818) In any case, the Notifying Party submits that the exact delineation of the relevant geographic market can be left open because the Transaction would not give rise to competitive concerns, regardless of the precise market definition adopted for OCS (i.e. EEA-wide or national).

[740] See also the Notifying Party's response to RFI 20, question 1.

(819) With respect to legacy ATP wayside and legacy OBU projects, the Notifying Party submits that the relevant markets are national in scope.

(820) From demand-side perspective, customers cannot easily switch to suppliers located elsewhere in the short term and at a negligible cost. In particular, national infrastructure managers do not purchase legacy systems used in another Member State, as they rely on different technology and are not interchangeable.

(821) From a supply-side perspective, a number of factors would suggest that markets should be defined at a national level. In particular:

(a) Legacy systems are only available from specific suppliers (or often only a single supplier), largely due to historical reasons. The signalling principles and technology underlying legacy systems vary between countries, so that one is not typically substitutable for the other.

(b) Suppliers offer different legacy systems across the EEA. Legacy systems show strong variations in between countries and are not interoperable and are built on proprietary technology.

(c) Suppliers cannot easily switch from one Member State to another in the short term without incurring significant additional cost or risk. A legacy solution used in one EEA Member State cannot be used in another EEA Member State since each state has its own rules and technical specifications.

(B) The Commission's decisional practice

(822) In *Thales/Alcatel Divisions Transport et Systèmes*, the Commission considered the geographic scope of a product market that comprised both mainline and urban signalling. The Commission noted that the market investigation suggested that the geographic scope of this unified market for urban and mainline signalling projects was at least EEA-wide but ultimately left the precise geographic market definition open.[741]

(823) In *Alstom UK/Balfour Beatty/JV*, the Commission considered the geographic scope of a unified market for urban and mainline rail signalling projects. In that case, the parties argued that the relevant geographic market was national because, in particular in the UK, standards are set by the national safety and standards authority. The Commission noted that, on the other hand, the market investigation in a previous case (*Thales/Alcatel*) suggested the relevant geographic scope was European-wide and ultimately left the precise geographic market definition open.[742]

(824) In *Siemens/Invensys Rail*, the Commission considered the geographic scope of a united product market comprising urban and mainline signalling projects. The Commission noted that during the market investigation some participants considered that railway signalling projects are comparable in the EEA or even worldwide due to similar technologies, comparable safety requirements, progressing standardisation and exchange of information between customers. Other respondents however

741 Commission Decision in Case M.4337 – *Thales/Alcatel Divisions Transport et Systèmes* (2006), recitals 21-24.

742 Commission decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recitals 22-23

indicated that customer preferences, national technical specifications, national safety standards and national authorisation processes were often mentioned in the market investigation as barriers to entry. The precise geographic market definition was ultimately left open.[743]

(825) In *Siemens/Alstom*, the Commission considered that the relevant geographic markets for ETCS OBU projects, ETCS ATP wayside overlay projects (standalone) and ETCS ATP wayside re-signalling projects (bundle of ETCS ATP wayside and interlockings) were EEA-wide, noting in particular that the adoption of EU-wide authorisation procedures and standards, and in particular of ERTMS, was developing homogeneous conditions for competition between mainline signalling suppliers within the EEA. From a supply-side substitutability point of view, the same Baseline ETCS platforms developed by the respective suppliers were used in each Member State after adaptation. The use of standard platform/products in tenders across different EEA countries provided an indication that competitive conditions were similar across the EEA.

(826) Conversely, the Commission considered that the markets for interlockings and legacy OBU projects were national in scope. In particular, with regard to interlockings, the Commission noted that while some factors pointed to an EEA-wide geographic market for standalone interlocking projects, such as the use of similar platforms across countries, entrants bidding and winning and the presence of the same suppliers across a large number of EEA countries, other factors pointed to a national geographic scope, such as a more important presence of local suppliers in some EEA countries, the absence of EEA-wide standardisation with the exception of the EULYNX initiative and a higher share of national adaptation costs relative to project value. [744]

(C) Results of the market investigation and the Commission's assessment

(C.i) ETCS OBUs projects

(827) The vast majority of the participants to market investigation, both customers and competitors, confirmed that the market for ETCS OBUs projects should be considered EEA-wide in scope.[745] ETCS projects respond to European standards and pan-European safety rules and can be considered to be EEA wide. ETCS OBU products are interoperable at the European level.[746] Several participants also pointed to the possibility of a market larger than EEA, as the ETCS standard would have been adopted also by countries outside EEA (notably, Switzerland).[747]

(828) The Commission therefore considers that the relevant geographic market for ETCS OBU projects is at least EEA-wide. As for the inclusion of Switzerland, the question can be left open, as the competitive assessment would not change irrespective of the inclusion of Switzerland in the relevant geographic market.

---

743 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 24-27.

744 Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recitals 721-834.

745 Q5, replies to question 14; Q6, replies to question 15; Q7, replies to question 11.

746 CAF's response to Q7, question 11.1.

747 Siemens', GCF Generale Costruzioni Ferroviarie's and Stadler's responses to Q5, question 14.1; Ferrovie dello Stato's response to Q6, question 15.1; SBB's response to Q7, question 11.1.

(C.ii) Legacy OBU projects

(829) The results of the market investigation confirm the Notifying Party's view that the relevant geographic market for legacy OBUs systems is national in scope.

(830) The vast majority of the participants to market investigation, both customers and competitors, confirmed that the market for legacy OBUs projects should be considered national in scope[748] It has been submitted that national markets would present strong barriers to entry: (i) adaptation costs to meet the country specific operating rules; (ii) sufficient volume to cover the cost of country adaptation; and (iii) homologation processes. Furthermore, the results of the market investigation show that legacy OBUs are not standardized, as they would differ from one country to another.[749]

(831) The Commission therefore considers that the relevant geographic market for legacy OBU projects is national.

(C.iii) Interlockings

(832) All respondents to the market investigation confirmed that the relevant geographic market for standalone interlockings is national in scope.[750] Notably, a customer submitted that the market is national because of unique demand-side considerations, such as installed base, accreditation, the need for a significant local workforce and premises and different technical/engineering requirements.[751] The market investigation shows that interlockings must be adapted to conform to national systems and signalling rules vary to some extent between countries. Authorization processes are also national. Moreover, different technology generations (mechanical, electro-mechanical, electrical, electronic and software / cloud based types) of interlocking would be rolled out and operate in parallel. The degree of digitalization within the different countries would be very different.[752]

(833) The Commission therefore considers that the relevant geographic market for standalone interlockings projects is national.

(C.iv) ETCS ATP wayside overlay projects (standalone)

(834) The majority of the participants to the market investigation, both customers and competitors, submitted that the market for ETCS ATP overlay projects is EEA-wide in scope.[753] Respondents again referred to European standards and pan-European safety rules, noting that requirements for ETCS are specified within EU Regulation and the TSIs which apply across the EEA.[754]

(835) However, the results of the market investigation also highlighted factors pointing towards national markets, including the fact that suppliers of ETCS systems need to create an interface to the installed interlockings and homologate their ETCS systems.

748 Q5, replies to question 15; Q6, replies to question 16; Q7, replies to question 12.
749 Thales' response to Q5, question 15.1.
750 Q5, replies to question 16; Q6, replies to question 17.
751 Network Rail's response to Q6, question 17.1.
752 Siemens' response to Q5, question 16.1.
753 Q5, replies to question 17; Q6, replies to question 18.
754 Ferrovial's response to Q5, question 17.1.

Moreover, in the case of overlay projects where the infrastructure manager chooses to keep the existing interlockings, the ETCS supplier must develop a (national specific) interface between the existing interlockings and the ETCS system.[755]

(836) Nevertheless, on balance, on the basis of the observations in paragraph (827) above and in line with the results of the market investigation, the Commission considers that the relevant geographic markets for ETCS ATP wayside overlay projects is EEA-wide.

(C.v) ETCS ATP wayside re-signalling projects (bundle of ETCS ATP wayside and interlockings)

(837) The majority of competitors and all customers taking part to the market investigation submitted that the relevant geographic market for ETCS ATP re-signalling projects (bundle of ETCS ATP wayside and interlockings) is EEA-wide in scope, for the same reasons mentioned with respect to ETCS ATP wayside overlay projects (standalone).[756] It has been added that most suppliers can provide both interlocking and ETCS ATP wayside solutions across the EEA. [757] Similarly to ETCS ATP wayside overlay projects (standalone), a competitor submitted that certain factors point towards national markets, e.g. that the supplier has to homologate and customise their interlocking to comply with the applicable national standards which vary significantly between countries.[758]

(838) The Commission notes that the need to interoperate with existing interlockings in a given country's mainline network is limited, as in re-signalling projects the interlockings are also replaced and hence only the interface between neighbouring interlocking needs to be developed. In this respect the Commission considers that any advantage to existing suppliers arising from being already supplying interlockings in a given country is surmountable and therefore not leading to national geographic markets. Adaptation costs that are country specific (e.g. interfacing with interlockings) can be surmountable, as they represent a relatively low share of the project's total value. For re-signalling projects, adaptation costs are even lower than for ETCS ATP wayside overlay projects or standalone interlockings projects if considered as a share of the overall value of the projects, as re-signalling projects are typically larger.[759]

(839) Therefore, on balance, on the basis of the observations in paragraph (827) above and in line with the results of the market investigation, the Commission considers that the relevant geographic markets for ETCS ATP wayside re-signalling projects is EEA-wide.

(C.vi) Legacy ATP wayside projects

(840) The results of the market investigation confirm the Notifying Party's view that the relevant geographic market for legacy wayside projects is national in scope.

---

755 Siemens' response to Q5, question 17.1.

756 Q5, replies to question 18; Q6, replies to question 19.

757 Progress Rail's response to Q5, question 18.1.

758 Siemens' response to Q5, question 18.1.

759 Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 807 and 810.

(841) Most competitors and all customers responding to the market investigation submitted that the relevant geographic market for legacy ATP wayside projects is national in scope.[760] It has been submitted that there is no standardization of legacy ATP systems, they differ from one country to another.[761] Legacy wayside systems would be purchased only by infrastructure managers and other national customers within a relevant country and are supplied by different suppliers.[762]

(842) The Commission therefore considers that the relevant geographic market for legacy wayside projects is national.

(C.vii) OCS

(843) The results of the market investigation do not fully confirm the Notifying Party's view that the market for OCS is EEA-wide.

(844) The results of the market investigation are contrasted. According to about half of competitors that contributed to the market investigation, the market for OCS is worldwide in scope, while the rest submitted that it is national in scope[763]:

(a) Competitors pointing to a worldwide dimension submitted that OCS systems could be quite easily adapted to any customers' specifications and that functionalities are generally similar in every country.[764] One competitor stated that each nation may have their own technical requirements, but it still considered that the market is worldwide as these systems are used across the globe. [765]

(b) Competitors in favour of a national dimension submitted that there would not be any standard in human/machine interface: functionalities, operations and information displayed are very different from one country to another, based on the operator and infrastructure manager choices. Adaptation times and costs are significant.[766] Another competitor submitted that OCS systems require adaptation to national specificities and different national customers have different strategies for OCS roll-out.[767]

(845) Customers also hold similarly contrasted views, claiming that the market's geographic scope could be worldwide[768] or national. Most customers nevertheless point to a national dimension because OCSs need to be integrated with interlockings.[769]

(846) As a result, the market investigation remains inconclusive. From a supply-side perspective, although suppliers tend to use the same Baseline OCS systems in each

760 Q5, replies to question 19; Q6, replies to question 20.
761 Thales' response to Q5, question 19.1.
762 Siemens' response to Q5, question 19.1.
763 Q5, replies to question 20.
764 GCF Generale Costruzioni Ferroviarie's response to Q5, question 20.1.
765 Ferrovial response to Q5, question 20.1.
766 Thales' response to Q5, question 20.1.
767 Siemens' response to Q5, question 20.1.
768 Ferrovie dello Stato's response to Q6, question 21.1.
769 Trafikverket's response to Q6, question 21.1.

Member State, this common Baseline requires a specific adaptation, also including in connection with interlockings, a product which relevant geographic market is national in scope.

(847) Furthermore, market share data for OCS tenders across the EEA reveals a certain number of competitors active in different Member States, but whose respective market shares differ substantially across countries, suggesting the possibility of different competitive conditions and of national specificities. Although these differences could depend on the fact that few tenders are organized for OCS in each countries, as submitted by the Notifying Party, at this stage it cannot be excluded that other factors, linked to specificities in each single country, determine this differentiation in the competitive conditions.

(848) Finally, the ongoing standardization initiative (see above at paragraph (815)(d)) is still at an early stage and could not lead to substantial results in the short/medium term.

(849) With respect to a possible worldwide dimension, the Commission does not consider that a worldwide market for OCS can be granted, as the competition conditions differ substantially in different continents and outside of the EEA a series of different competitors are active, at local and international level.

(850) In sum and in light of the results of the market investigation, while several relevant factors point to an EEA-wide geographic market for OCS, other elements point to a national geographic scope. The Commission therefore considers that at this stage of the investigation it is not possible to definitively conclude on the exact geographic market definition and will assess the effects of the Transaction in the market for OCS at both EEA-wide and national level.

7.2.2.2. Mainline signalling products

(A) The Notifying Party's views

(851) The Notifying Party submits that data should be provided on a national basis due to the country-specific product characteristics, as well as authorization and homologation processes which take place at national level.[770]

(852) Regarding specifically Euro-balises the Notifying Party submits that the following considerations plead in favour of an EEA-wide market for ETCS products (including Euro-balises): (i) the products have to comply with the ERTMS standardization and as such, they are authorized at the EU level and can be sold to customers across the EEA, without any need for prior authorisation or homologation at national level; and (ii) the same ETCS products developed by a signalling supplier are used in each Member State.[771]

(B) The Commission's decisional practice

(853) In *Alstom UK/Balfour Beatty*, the Commission concluded that, whereas importation of railway signalling products, in particular point machines, is possible and

[770] Form CO, Chapter C.4.
[771] Replies to RFIs 18 and 36.

apparently occurs to a limited extent, in the heavy rail segment the market for these machines appears to be national. However, the precise geographic market definition was left open.[772]

(854) In *Siemens/Invensys Rail*, the Commission could not exclude that the geographic scope of the market for railway signalling products should be considered national, given that obtaining national authorisation for the railway signalling products is not easy since the authorisation processes are different in different Member States and can be time consuming. The Commission left the exact geographic market definition open.[773]

(855) In *Siemens/Alstom*, the Commission considered the market for interlocking equipment as national in scope, in particular because of the country-specific authorisation/homologation processes and the fact that the interlocking equipment is country-specific involving non-negligible investments and costs.[774]

(C) The results of the market investigation and the Commission's assessment

(856) The responses to the market investigation in relation to the relevant geographic scope of the supply of mainline signalling products were mixed.

(857) The majority of the customers consider that the appropriate market definition is national, while some of the customers consider the scope of the market to be EEA-wide or even worldwide.[775] The majority of the competitors consider that the market for signalling products is worldwide.[776]

(858) For the purposes of the present decision, the Commission will carry out its competitive assessment at the narrowest national level, with the exception of Euro-balises.

(859) Regarding Euro-balises specifically, the Commission considers that the following factors point to an EEA-wide scope of the relevant market for these products:

(a) A Euro-balise is an ERTMS component complying with the ETCS standard; and, as a result, the same reasons pointing to an EEA-wide market for ETCS OBU and ETCS wayside projects (i.e. the adoption of EU-wide authorisation procedures and standards, resulting in homogeneous conditions for competition between mainline signalling suppliers within the EEA) are equally applicable;

(b) A Euro-balise can be used in various European countries on the basis of the same specification;

(c) Euro-balises manufactured in one EEA country are being sold in other EEA countries.

---

[772] Commission Decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recitals 24-26.
[773] Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 28-30.
[774] Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recital 1209.
[775] Q6, question 23.
[776] Q5, question 22.

(860) A competitor also notes in this respect that '*Eurobalises are products fulfilling European standard requirements and are compliant and compatible with all ERTMS subsystems from all the suppliers*';[777] similarly another competitor highlights that a Euro-balise '*is a standard product belonging to a system architecture of a European wide standard ETCS' and 'is used in various European countries on the basis of the same specification*'.[778]

(861) For the purposes of the present decision, the Commission therefore considers that the geographic scope of the market for Euro-balises is EEA-wide.

8. COMPETITIVE ASSESSMENT – MAINLINE SIGNALLING

8.1. Framework for the competitive assessment

(862) As regards the assessment of horizontal overlaps, reference is made to paragraphs (269) to (273).

(863) As regards the assessment of vertical relationships, the Commission Non-Horizontal Merger Guidelines distinguish between two main ways in which mergers between undertakings active on vertically related relevant markets may significantly impede effective competition, namely through input or customer foreclosure. Input foreclosure occurs where the merger is likely to raise the costs of downstream competitors by restricting their access to an important input. Customer foreclosure occurs where the merger is likely to foreclose upstream competitors by restricting their access to a sufficient customer base.

(864) According to paragraph 25 of the Non-Horizontal Merger Guidelines, '*The Commission is unlikely to find concern in non-horizontal mergers, be it of a coordinated or of a non-coordinated nature, where the market share post-merger of the new entity in each of the markets concerned is below 30% and the post-merger HHI is below 2* 000'.

8.2. Mainline signalling projects

8.2.1. Horizontal unilateral effects

(865) The Parties are both active in the EEA with offerings covering a range of mainline signalling projects.

(866) Alstom's mainline signalling offering includes:

(a) ETCS OBU: Alstom is active in the ATP ETCS OBU segment with its Atlas ETCS on-board solutions.

(b) ETCS wayside: Alstom is active in the ATP ETCS wayside segment with its Atlas trackside range solutions, including Atlas 100, 200, 400, and 500.

[777] Reply to RFI 29.
[778] Reply to RFI 28.

(c) Interlockings: Alstom portfolio includes the Smartlock 400, VPI, and ElectrologiX.

(d) OCS: Alstom is active in OCS through ICONIS Mainline, RailEdge, and SSA.

(e) Legacy OBUs: Alstom supplies on-board equipment for Legacy ATP systems in Belgium (TBL / TBL1+ / ATBL), France (KVB Autonom/STM), Netherlands (ATB / ATBL-NL), Italy (SSC / SCMT), and the UK (TASS and TBL/GWML [*Confidential information on Alstom's suppy arrangements*]). Alstom is also developing [*Information on Alstom's R&D activities*].

(f) Legacy wayside: Alstom supplies wayside equipment for legacy ATP systems in Belgium, France, Netherlands, Italy, and the UK.

(867) Bombardier's mainline signalling offering includes:

(a) ETCS OBU: For ETCS OBU systems, Bombardier offers one major product within the EEA: EBI CAB 2000.

(b) ETCS wayside: Bombardier is active through its Interflo solutions. In particular, Bombardier offers three major products within the EEA: INTERFLO 250 (ETCS Level 1), 450 (ETCS Level 2), and 550 (ERTMS Regional/High Density).

(c) Interlockings: Bombardier offers the EBI LOCK R4 950, a computer-based interlockings system in the EEA.

(d) OCS: Bombardier is active in OCS through its EBISCREEN platform.

(e) Legacy wayside: Bombardier offers wayside equipment for Legacy ATP wayside systems in Bulgaria (ATC), Portugal (ATC/Convel), France (ATC/KVB - licensing of balise technology to Alstom for delivery for a national rollout), Sweden and Norway (ATC2), Finland and Spain (EBI Link 900), and Italy (SCMT).

(f) Legacy OBU: Bombardier has standalone legacy systems (no STMs) in Bulgaria, Portugal, and Finland. Bombardier developed the following STMs in Europe: PZB/LZB, LZB/ES, ATB, SHP, TBL1+, and ATC-2, currently offered in Germany, Austria, the Netherlands, Poland, Spain, Belgium (in partnership), and Sweden.

(868) According to the market data provided by the Notifying Party, the Transaction gives rise to the following horizontally affected markets in the mainline signalling projects sector:[779]

[779] The parties' overlaps in the remaining mainline signalling projects markets do not give rise to horizontally affected markets. With particular reference to legacy OBUs projects, there are only two countries where both Parties' products are homologated, Belgium and Netherlands (homologation overlap). However, the Transaction will not give rise to any actual (order intake share) overlap. This is because in Belgium in the 2010-2019 period Alstom is the sole supplier to have won legacy OBU projects and Bombardier did not bid in the Netherlands in the last ten years. As most legacy OBUs are sold as products, they will be

Table 28: mainline signalling projects – horizontally affected markets

Product Market	Geographic market
ETCS OBUs	EEA
ETCS wayside (re-signalling)	EEA
ETCS wayside (overlay)	EEA
Interlockings	Italy, The Netherlands, Spain
OCS	Denmark, Italy, Sweden

(869) In the following paragraphs, the Commission will assess each horizontally affected market in the mainline signalling projects sector, within the framework already described in previous section 6.1 concerning rolling stock. Non-horizontal aspects will be assessed in the following sections 8.2.2. and 8.3.2.

(870) As a general introduction, the Notifying Party submits that mainline signalling, particularly ETCS, is a growing and attractive segment, which will increase suppliers' incentive to expand their activities in the EEA. All European countries are now planning the roll out of ERTMS. In particular:

(a) European standardization and digitalization of the mainline signalling systems incentivizes new entry and expansion.

(b) The transition towards clean and smart mobility in the EU is expected to favour rail transport, as the most environmental-friendly mode of transport.

(871) According to the Notifying Party, suppliers face significant countervailing buyer power from their customers in mainline signalling markets in the EEA. This is due to several factors, including (i) the fact that demand for mainline signalling systems is concentrated, as mainline signalling projects are usually tendered by national railway infrastructure managers, of which there is typically only one per country; (ii) the fact that customers have spent years acquiring, operating, and maintaining signalling systems and have a deep knowledge of the industry in addition to being subject to strict monetary constraints; (iii) the tendency for customers to often consciously restrict the number of their suppliers, focusing on two or three suppliers, which they believe will provide competitive outcomes; and (iv) the ability of customers to sponsor the entry of new suppliers whenever they consider it in their interest, which constrains incumbents. To promote entry, customers can increase the size of their projects, tender framework contracts for exclusive supply over several years, and publish plans for future projects, thus increasing the total expected return on investment for suppliers.

assessed in section 8.3 on mainline signalling products. Similarly, for legacy wayside projects, the Parties have one homologation overlap (Italy) but the Transaction will not give rise to any actual (order intake share) overlap.

8.2.1.1. ETCS OBUs

(A) The Notifying Party's view

(872) The Notifying Party submits that the Transaction will not give rise to competition concerns in the market for ETCS OBUs projects in the EEA, for the following reasons:

(a) The Transaction will not eliminate a significant player in the EEA. In *Siemens/Alstom* the Commission acknowledged that Bombardier is a limited constraint on the market, being at considerable distance from the market leaders (Siemens and Alstom) in terms of bidding frequency and facing technical difficulties.

(b) Approximately […]% of Bombardier's sales are internal, dedicated to its own new rolling stock and generally non-contestable. Bombardier's primary focus is to supply its own internal requirements, while external sales and retrofitting non-Bombardier rolling stock is only a subsidiary activity. As a result, Bombardier's market share of external supplies of ETCS OBUs are limited.

(c) Bombardier is essentially a small local player with most of its external sales concentrated in Sweden, a country where it has a historical presence and where it does not compete head-to-head with Alstom. Moreover, most of Bombardier's sales in Sweden are from non-contestable tenders. Sweden, Poland and Norway are the only countries in which Bombardier was successful in equipping new non-Bombardier rolling stock with its own OBUs and even there, Bombardier's wins represent a very small proportion of contestable projects.

(d) Absent the Transaction, there is no reason to believe that Bombardier could have become an effective constraint on Alstom throughout the EEA. Bombardier's ETCS OBUs have been plagued by technical difficulties, as noted by the Commission in the *Siemens/Alstom* decision. Bombardier's share of Baseline 3 projects (the future of ETCS OBUs) is small and again, largely concentrated in Sweden.

(e) The merged entity will continue to face strong ETCS OBU rivals in the EEA: Siemens, Hitachi, CAF, Thales, Stadler and Mermec. Moreover, the threat of new entry/expansion in the ETCS OBUs segment by Asian players will continue to exist.

(B) The Commission's assessment

(873) Table 29 below provide an overview of the Parties' and their main competitors' market shares in the market for ETCS OBUs projects in the EEA, including internal sales.

Table 29: ETCS OBUs – Share Order Intake (value) – EEA

	2010 - 2019	2015 - 2019
Alstom	[40-50]%	[40-50]%
Bombardier	[10-20]%	[10-20]%
Combined	**[50-60]%**	**[50-60]%**
Siemens	[30-40]%	[30-40]%
CAF	[0-5]%	[0-5]%
Hitachi	[0-5]%	[0-5]%
Mermec	[0-5]%	[0-5]%
Thales	[0-5]%	[0-5]%

Source: Form CO

(874) Post Transaction, the merged entity would be the market leader, with a market share in excess of [40-50]%. The market share increment resulting from the Transaction is superior to [5-10]%. The other significant competitor would be Siemens, with a market share superior to 30%. Other minor suppliers will remain active in the market.

(875) The Notifying Party has provided market shares also on the basis of external sales only (i.e. excluding internal sales):[780]

Table 30: ETCS OBUs – Share Order Intake (value) – EEA

	2010 - 2019	2015 - 2019
Alstom	[50-60]%	[50-60]%
Bombardier	[5-10]%	[5-10]%
Combined	***[60-70]%***	***[60-70]%***
Siemens	[30-40]%	[30-40]%
CAF	[0-5]%	[0-5]%
Hitachi	[0-5]%	[0-5]%
Mermec	[0-5]%	[0-5]%
Thales	[0-5]%	[0-5]%

Source: Form CO

[780] Internal sales refer to ETCS OBUs internally supplied by a company, to be used by its own rolling stock business. On the contrary, external sales refer to ETCS OBUs supplied to a third party's rolling stock business or to an end customer.

(876) Post-Transaction, considering external (merchant) sales only, the merged entity would be the market leader, with a market share between [50-60] and [60-70]%. However, the market share increment resulting from the Transaction would be limited, at about [5-10]%. Again, the main competitor would be Siemens, with a market share between [30-40]% and [40-50]%. Other minor suppliers will remain active in the market.

(877) The Notifying Party has provided market data also for the geographic market including EEA and Switzerland:

(a) Including internal sales, in the period 2010-2019 Alstom has a market share of [30-40]% and Bombardier of [10-20]% (combined [40-50]%). The main competitors are Siemens ([40-50]%), Hitachi ([0-5]%), CAF ([0-5]%), Mermec ([0-5]%) and Thales ([0-5]%);

(b) Excluding internal sales, in the period 2010-2019 Alstom has a market share of [50-60]% and Bombardier of [0-5]% (combined [50-60]%). The other competitors are Siemens ([30-40]%), Hitachi ([0-5]%), Mermec ([0-5]%)% and Thales ([0-5]%).

(878) Those market data show that the competitive situation does not change substantially in case Switzerland is included in the relevant geographic market. For simplicity, in the following analysis the Commission will refer to the EEA, but all conclusions are to be referred also to a hypothetical geographic market including EEA and Switzerland.

(879) The market data show that Alstom is the clear market leader and that this position will be reinforced by the Transaction. However, the data also confirms that Bombardier is primarily focused on supplies to its own rolling stock and has a limited role in sales to third parties. In this respect its position is comparable to those of other minor players, in particular Hitachi.

(880) The result of the market investigation has been mixed with respect to the impact of the Transaction on the market for ETCS OBUs projects in the EEA.

(881) Several competitors submitted that the Transaction would create competition concerns in an EEA-wide market for ETCS OBUs projects by significantly enhancing Alstom's market leading position by adding Bombardier's ETCS OBU business:

(a) Siemens submitted that Bombardier is the most frequent bidder and winner after Alstom and Siemens. Bombardier is also the second most frequent bidder and winner in contestable bids where Siemens or Alstom participated (after Alstom and Siemens, respectively). Bombardier won seven projects in 2018 and 2019, including several projects for Baseline 3 ETCS OBUs. However, Siemens' estimation confirmed that about […]% of Bombardier sales for ETCS OBUs are installed on Bombardier's rolling stock (internal sales).[781]

[781] Siemens' submission of 21 April 2020, pages 79-80. See also Siemens' response to Q5, question 60.1.

(b) Stadler submitted that the Transaction would lead to increased market concentration and would pose a significant threat to competition in the emerging ETCS OBU markets. It will decrease the number of suppliers which have successfully completed the ETCS homologation process, leaving only three players that can offer homologated ETCS OBUs in a significant number of European countries. Given the market shares of the competing players, only Siemens might be able to exert any meaningful competitive constraint on the Combined Entity regarding ETCS OBUs, factually leading to a duopoly. In addition, the Parties may, based on their dominant market position, exert disproportionate influence in the UNISIG to achieve anticompetitive standard setting.[782]

(c) Hitachi submitted that the transaction will grant the merged entity significant market power in the ETCS-OBU market at EEA and national level, in particular in Northern Europe. At EEA-level, the merged entity would benefit from a combination of dominant and monopolistic positions it could leverage by optimizing its pricing for exclusionary and entry-deterring purposes.[783]

(882) Conversely, other participants, both competitors and customers, submitted that the Transaction would not have negative effects in this market, in particular considering the limited role of Bombardier and its recent technical and commercial difficulties. Several competitors acknowledged that Bombardier's position has been decreasing as, in recent years, it has faced competition not just from the market leaders (Alstom and Siemens) but also from smaller competitors that are increasingly considered equals (Hitachi, Thales, CAF, Stadler/Mermec).[784] As a result, Bombardier has lost contracts in countries in which it held historical positions (Sweden). Finally, Bombardier appears to be lagging against its competitors [*Confidential information on Bombardier's R&D activities*]. On balance, competitors submit that, even if the Transaction will reinforce the merged entity's market presence, this would not significantly alter competition on the OBU market, given the Bombardier's structural lack of competitiveness and given its focus on captive sales.[785]

(883) These views are confirmed by several customers, for example:

(a) DSB - Danske Statsbaner, the Danish railway operator, submitted that it does not consider Bombardier a strong supplier of ETCS OBUs as they have less references and face certain issues with their deliveries (for example in Germany). Siemens and Alstom are currently considered the most important suppliers. Other players are emerging as credible suppliers in the market, such as CAF that has already developed its own ETCS OBUs and Stadler that

782 Stadler's submission of 4 May 2020, pages 11-12. See also Stadler's response to Q5, question 61.1 and Minutes of the call of 24 March 2020.

783 Hitachi's response to Q5, question 61.1. See also Hitachi's submission of 2 July 2020.

784 The increasing role of competitors other than Siemens is confirmed by the Notifying Party, that refers to the recent progresses in this market by CAF (active in UK, Spain, and the Netherlands), Thales (that won a first project in 2016), and Stadler/Mermec (that in 2019 was already executing seven projects in six European countries) (Form CO, Chapter C.1.a, paragraphs 93-95).

785 Responses to Q5, question 26.3 and 63.1.

has started developing OBUs. DSB thus considers that a competitive market for ETCS OBUs will remain available after the Transaction.[786]

(b) The Belgian railway operator, SNCB, submitted that the competition with other existing suppliers is sufficient to maintain a competitive market for the time being.[787]

(c) NS Reizigers, the Dutch railway operator, submitted that Bombardier is already a minor player in the market and that its place could be taken by other suppliers.[788]

(d) Similarly, Deutsche Bahn, the German railway operator, submitted that in their opinion the Transaction will not have a material impact on the OBU markets.[789]

(884) In general, most OBUs customers submitted that the Transaction would not have negative impacts on their activity in the procurement of OBUs.[790]

(885) The more limited role currently played by Bombardier in the ETCS OBUs projects market and the technical difficulties it is facing are confirmed by its limited market shares in the latest baseline of ETCS OBUs (baseline 3)[791], namely [5-10]% at EEA level. Taking into account only contestable sales, its market share drops at [0-5]%. Moreover, all of Bombardier's external sales for new rolling stock are concentrated in Sweden. Excluding Sweden, Bombardier's external sales lead to a market share of less than [0-5]%, regardless of the metric (contestable vs. non-contestable, all sales vs. external sale only).[792]

(886) Siemens also acknowledges that Bombardier is behind its main competitors in the latest specification of ETCS OBUs, as Bombardier currently does not offer a Baseline 3 Release 2 ETCS OBU and does not yet have a Baseline 3 ETCS OBU in operation, unlike other providers such as Alstom or Siemens. In addition, some customers have a preference for Siemens' or Alstom's ETCS OBUs. Moreover, Bombardier would not be able supply to the Baseline 3 ETCS OBU with an ATO (Automated Train Operation) functionality.[793]

(887) Banedanmark confirmed that, in terms of development, Alstom and Siemens are close to the same maturity, while Bombardier is less advanced in the delivery of Baseline 3 OBUs.[794] Railpool also submitted that Bombardier is struggling with keeping the system constantly upgraded.[795]

---

786 DSB, minutes of the call of 24 April 2020.
787 SNCB's response to Q7, question 29.1.
788 NS Reizigers' response to Q7, question 63.1.
789 Deutsche Bahn's response to Q7, question 63.1.
790 Q7, replies to question 62.
791 For Baselines see paragraph (731).
792 Notifying Party's response to RFI 20, 26 June 2020, question 12, tables 2 and 3.
793 Siemens'submission of 21 April 2020, page 87.
794 Banedanmark response to Q7, question 18.1.1.
795 Railpool's response to Q7, question 18.2.1.

(888) In terms of closeness of competition, most respondents to the market investigation submitted that Siemens is Alstom's closest competitor, as the two companies are perceived as the clear market leaders. In general, at EEA level, in terms of product offering and technical capabilities Alstom, Siemens, Thales, Hitachi and Bombardier are considered all close competitors, as they all have similar technical capabilities and offer the full range of signalling subsystems and can participate on their own in tenders for integrated signalling projects.[796]

(889) Participation and win/loss analysis confirm that in ETCS OBUs projects Bombardier is not Alstom's closest competitor and that in any case other significant suppliers are active in the market:

(a) During the 2010–2019 period, a total of […] contestable ETCS OBU tenders took place in the EEA and the Parties both bid on only […] of these projects ([10-20]%). The Parties did not overlap in about [80-90]% of contested OBU projects in the EEA.

(b) Other players competed with Alstom more frequently than or as frequently as Bombardier: of the […] contestable projects on which Alstom bid, Bombardier was present in only […], compared to […] for Siemens, and […] for Hitachi. Thales was also present in […] of the contestable projects on which Alstom bid.

(c) In all tenders in which both Parties participated, at least […] other rivals were present. In the […] instances in which Alstom did face Bombardier in contestable ETCS OBU tenders, at least […] other rivals (apart from the Parties) were also present.[797]

(890) The finding that Bombardier exercises a limited competitive constraint in the ETCS OBU projects market in the EEA, and the issues of its offering, is consistent with the conclusion reached in *Siemens/Alstom*, where it was observed that Siemens and Alstom were the closest competitors and that Bombardier could not be considered a strong competitor of Siemens and Alstom, due to the lack of competitiveness of Bombardier's platform and its low market share and bidding activity.[798]

(891) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation or strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for ETCS OBUs projects in the EEA.

8.2.1.2. ETCS Wayside

(A) The Notifying Party's view

(892) The Notifying Party submits that the Transaction would not give rise to competition concerns in ETCS wayside projects. Since, according to the Notifying Party, the relevant market consists in a single product market for ETCS wayside (including

[796] Q5, replies to questions 24-27: Q7, replies to question 18.

[797] Form CO, chapter C.1.a, paragraph 89.

[798] Commission Decision in Case M.8677 – *Siemens/Alstom* (2019), recitals 864 and 870.

both overlay and re-signalling projects), the Notifying Party provides a single assessment for the whole ETCS wayside sector. The Notifying Party also provided market data for ETCS wayside (overall) and for overlay and re-signalling separately.

(893) According to the Notifying Party, the Transaction would only result in a modest combined share in the EEA, with a relatively small market share increment attributable to Bombardier. These market shares are even lower at the EEA level, including Switzerland. Post-Transaction, important competitors will hold significant market shares and continue to exert a significant competitive constraint.

(894) With regard to overlay projects, the Notifying Party submits that the Parties' market shares also overstate the Parties' position, as Bombardier's market share in ETCS overlay largely results from projects in Poland, for which Alstom did not compete. The Notifying Party argues that the Transaction is likely, if anything, to increase competition, as at present, Siemens and Thales are ahead of the other players in the market and the merged entity is more likely to be an effective competitor against these two large wayside players, notably in a series of Member States.

(895) Moreover, the Notifying Party submits that the overlay sub-segment is small, with infrequent tenders, leading to significant share distortions resulting from winning a small number of projects. A focus on overlay projects would not reflect likely future competitive dynamics in ETCS wayside signalling, as customers are expected to increasingly undertake re-signalling projects in future.

(896) Moreover, the Notifying Party considers that the market data suggests that Thales, Siemens, and Hitachi are closer competitors to Alstom than Bombardier. In particular, the Parties' geographic footprint within EEA largely differs: at national level, the Parties' activities, in terms of order intake, only overlap in […] Member States. In *Siemens/Alstom*, the results of the market investigation also supported the view that Siemens and Alstom, together with Thales, were the three main signalling players. The Notifying Party explains that this conclusion is supported by participation and win/loss analysis, which demonstrate that Alstom and Bombardier have rarely faced or lost to each other in ATP wayside tenders, including for ATP wayside overlay projects.

(897) Finally, the Notifying Party notes that the merged entity will continue to face strong ETCS wayside players in the EEA.

(B) The Commission's assessment

(B.i) ETCS wayside (overlay)

(898) Table 31 below provides an overview of the Parties' and their main competitors' market shares in the market for ETCS wayside overlay projects in the EEA.

Table 31: ETCS wayside overlay projects – Share Order Intake (value) – EEA

	2010 - 2019	2015 - 2019
Alstom	[10-20]%	[10-20]%
Bombardier	[5-10]%	[5-10]%
Combined	***[20-30]%***	***[20-30]%***
Siemens	[20-30]%	[30-40]%
Thales	[20-30]%	[10-20]%
Azd Praha S.R.O	[10-20]%	[0-5]%
Hitachi	[10-20]%	[10-20]%
CAF	[5-10]%	[0-5]%
Mermec	[0-5]%	[0-5]%
Others	[0-5]%	[5-10]%

Source: Form CO

(899) Post-Transaction, the merged entity would have a relatively modest market share, in any case below 30%, with the Transaction resulting in a market share increment below [5-10]%.

(900) While the merged entity will become the second largest supplier of ETCS wayside overlay projects in the EEA, Siemens will remain the market leader with a market share at about [20-30]% or [30-40]% for the years 2015-2019. Significant competitors, like Thales and Hitachi will also continue to provide viable supply alternatives to customers.

(901) The results of the market investigation confirm that the Parties are each other's closest competitors and that, after the merger, Alstom will face competitive constraints from other suppliers of mainline signalling wayside projects, such as Siemens, Alstom, Hitachi, Thales, who have similar product offerings and technical capabilities.[799] Only one customer out of four has ranked Bombardier as the best alternative to Alstom, in terms of products, product ranges, competitiveness, quality, and innovation.[800]

(902) Tender participation and win/loss analysis confirm that, in ETCS wayside overlay tenders, the interaction between the Parties is limited, as the Parties did not compete against each other in more than [80-90]% of the projects in the period 2010-2019 (the Parties faced each other in only […] projects out of […]).[801]

[799] Q5, replies to questions 26.1 and 26.2; Q6, replies to questions 26.1 and 26.2.
[800] Q5, replies to questions 26.1 and 26.2; Q6, replies to questions 26.1 and 26.2.
[801] Form CO, Chapter C.1.b, paragraph 41.

(903) Moreover, the majority of the participants to the market investigation submitted that the Transaction would not have any negative impact on the mainline signalling markets and those who submitted that the Transaction would have a negative impact either on their activity or on the mainline signalling markets referred to signalling markets other than the market for ETCS wayside overlay projects in the EEA.[802]

(904) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation or strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for ETCS wayside overlay projects in the EEA.

(B.ii) ETCS wayside (re-signalling)

(905) Table 32 below provides an overview of the Parties' and their main competitors' market shares in the market for ETCS wayside re-signalling projects in the EEA.

Table 32: ETCS wayside re-signalling projects – Share Order Intake (value) – EEA

	2010 - 2019	2015 - 2019
Alstom	[10-20]%	[5-10]%
Bombardier	[5-10]%	[5-10]%
Combined	**[20-30]%**	**[10-20]%**
Siemens	[30-40]%	[50-60]%
Thales	[30-40]%	[20-30]%
Hitachi	[0-5]%	[5-10]%
CAF	[0-5]%	[0-5]%
Others	[0-5]%	[0-5]%

Source: Form CO

(906) Post-Transaction, the merged entity will have a relatively limited market share, at about [20-30]% (which is even lower, at [10-20]%, if the last five years are considered). The increment brought about by the Transaction is below 10%.

(907) The merged entity will become the third largest supplier of ETCS wayside re-signalling projects, behind the market leader Siemens, with a market share of about [30-40]%, and Thales, with [30-40]%. Other competitors, like Hitachi and CAF, will also remain in the market.

(908) The results of the market investigation confirm that the Parties are not each other's closest competitors and that, after the merger, Alstom will face competitive constraints from other suppliers of mainline signalling wayside projects, such as

[802] Q5, replies to questions 60 to 62; Q6, replies to questions 53 to 56.

Siemens, Alstom, Hitachi, Thales and Bombardier, who have similar product offerings and technical capabilities.[803] Only one customer out of four has ranked Bombardier as the best alternative to Alstom, in terms of products, product ranges, competitiveness, quality, and innovation. [804]

(909) Tender participation and win/loss analysis confirm that, in ETCS wayside tenders, the interaction between the Parties is limited, as the Parties did not compete against each other in over [70-80]% of the projects (including both overlay and re-signalling): the Parties faced each other in only […] projects out of […] and participated jointly in a consortium in further […] projects in the period 2010-2019.[805]

(910) It can be added that the majority of the participants to the market investigation submitted that the Transaction would not have any negative impact on the mainline signalling markets and those who submitted that the Transaction would have negative impact either on their activity or on the mainline signalling markets referred to signalling markets other than the market for ETCS wayside re-signalling projects in the EEA.[806]

(911) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal effects, either through the creation or strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for ETCS wayside re-signalling projects in the EEA.

8.2.1.3. Interlockings

(A) Italy

(A.i) The Notifying Party's view

(912) The Notifying Party submits that the Transaction would not have any negative effects in the Italian market for interlockings, for several reasons: (i) the merged entity will have a moderate market share; (ii) Bombardier is a marginal player in Italy, with a modest market share; (iii) the merged entity will continue to face several strong competitors, as the Italian market is very competitive with many homologated suppliers; (iv) Hitachi will remain the market leader, with a significant market share and the merged entity will also continue to face the competition from several other

803 Q5, replies to questions 26.1 and 26.2; Q6, replies to questions 26.1 and 26.2.

804 Q5, replies to questions 26.1 and 26.2; Q6, replies to questions 26.1 and 26.2.

805 Form CO, Chapter C.1.b, paragraph 40 and figure 3.

806 Q5, replies to questions 60 to 62; Q6, replies to questions 53 to 56. One competitor submitted that the Transaction will turn a relatively competitive market into a more concentrated one as, collectively, the market leading competitors – the merged entity, Siemens, and Thales – would hold over 90% of the market, with market shares symmetrically distributed across these three competitors. Moreover, the merged entity will achieve significant market shares in certain countries, in particular in Sweden and in the Scandinavian region (Hitachi's submission of 2 July 2020, pages 20-21). The Commission notes that, besides the three main players, at least two other competitors will continue to be active in the EEA market and to take part in tenders for ETCS wayside re-signalling projects. Moreover, the relevant market has an EEA-wide dimension, in accordance with the results of the market investigation. Therefore, any possible market share at national level is not *per se* indicative of particular market power. Finally, no local wayside signalling customer has expressed any particular concern in this respect.

growing players; and, finally, (v) bidding data confirm that the Parties are not particularly close competitors, as they rarely face each other in contestable tenders and Hitachi competes with Alstom more frequently than Bombardier.

(A.ii) The Commission's assessment

(913) Table 33 below provides an overview of the Parties' and their main competitors' market shares in the market for interlockings in Italy.

Table 33: Interlockings – Share Order Intake (value) – Italy

	2010 - 2019	2015 - 2019
Alstom	[20-30]%	[10-20]%
Bombardier	[5-10]%	[5-10]%
Combined	***[30-40]%***	***[20-30]%***
Hitachi	[30-40]%	[40-50]%
Sirti	[5-10]%	[10-20]%
Progress Rail	[5-10]%	[10-20]%
Eredi Mercuri	[5-10]%	[0-5]%
Site	[0-5]%	[0-5]%
Esim	[0-5]%	[0-5]%
CGF	[0-5]%	[0-5]%
Mermec	[0-5]%	[0-5]%
Others	[0-5]%	[0-5]%

Source: Form CO

(914) Post-Transaction, the merged entity will have a market share amounting to about [30-40]% ([20-30]% considering the 2015-2019 period). The increment brought about by the Transaction is limited, at [5-10]% ([5-10]% considering the 2015-2019 period).

(915) The merged entity will become the second largest supplier of interlockings, behind the market leader Hitachi that has a market share between [30-40] and [40-50]%. There will be two other important competitors with market shares in the range of [10-20]% and a series of minor players. In total, in Italy there are eleven homologated suppliers, five of which are homologated for electronic interlockings.[807] Therefore, it appears that post-Transaction a sufficient level of competition will remain in the market.

[807] Form CO, chapter C.1.b, paragraph 51.

(916) Tender participation and win/loss analysis confirm that, in interlockings tenders in Italy, Hitachi is Alstom's closest competitor: during the 2010–2019 period, a total of […] contestable tenders for standalone interlockings projects took place in Italy and the Parties both bid on […] of these projects (less than [40-50]%). Conversely, Hitachi competed with Alstom more frequently than with Bombardier: of the […] contestable projects on which Alstom bid, Hitachi was present in […], compared to […] for Bombardier.[808]

(917) Data on participation in interlockings tenders in Italy also confirm that other competitors consistently bid and even win interlocking projects. In the […] contestable tenders in years 2010-2015, Hitachi bid in […] of them (winning […]), Progress Rail bid in […] of them (winning […]), Sirti bid in […] of them (winning […]), Eredi Mercuri bid in […] of them (winning […]). In the same period Bombardier bid in […] tenders (winning […]). In […] tenders there were three or more competitors.[809]

(918) [*One Customer*] expressed some general concerns with respect to wayside signalling in Italy, including interlockings, explaining that it has a series of ongoing projects with both Alstom and Bombardier (with different technologies), referring to the possibility that one of the major technologies in use could disappear and suggesting the adoption of safeguards aiming to protect the investments already realized. In light of this, it submits that it has concerns that the Transaction would lead to a considerable reduction of competition for wayside systems and technologies.[810] In this respect, the Commission notes that several competitors will remain active in Italy after the Transaction, in particular in the interlockings market, although arguably using different technologies.

(919) As for the technologies currently in use, the market investigation provided no evidence that the Transaction's competitive effects may give the Parties an incentive to discontinue wayside signalling technologies supplied to FSI. Moreover, the Commission takes note of [*Information on the Parties' future business strategy*].[811]

(920) Finally, no other participant to the market investigation – including competitors of the Parties in Italy – submitted that the Transaction would have any negative impact on their activity or in the market for interlockings in Italy.[812]

(921) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation or strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for interlockings in Italy.

808 Form CO, chapter C.1.b, Table 5, figures 5 and 6.

809 Elaboration on Form CO, chapter C.1.b, Table 5.

810 Ferrovie dello Stato's response to Q6, question 56 and Minutes of the call of 3 April 2020.

811 [*Document containing information on the Parties' future business strategy*].

812 Q5, replies to questions 60 to 62; Q6, replies to questions 53 to 56.

(B) The Netherlands

(B.i) The Notifying Party's view

(922) The Notifying Party submits that the Transaction would not have any negative effects in the market for interlockings in the Netherlands, for the following reasons: (i) the merged entity will have a moderate market share ; (ii) market shares are not be representative of competitive conditions in the future in the Netherlands since there have only been a very small number of interlockings orders in the Netherlands in the past 10 years, because the national infrastructure manager has been waiting to conduct a broad-scale ETCS roll out via re-signalling that will involve the replacement of interlockings; (iii) the expected ETCS roll-out across the Netherlands will attract intense competition and substantially change the competitive landscape for interlockings in the Netherlands. Siemens and Thales will be particularly well-placed to compete in this environment, whereas Alstom would not have a specific technical capability in this respect; (iv) Bombardier is a marginal player in the Netherlands, active only on minor projects and would not have a material advantage in relation to the expected roll-out; (v) the Dutch market would be particularly competitive and open to new suppliers, also due to the infrastructure operator's (ProRail) open technology approach.

(B.ii) The Commission's assessment

(923) Table 34 below provides an overview of the Parties' and their main competitors' market shares in the market for interlockings in the Netherlands.

Table 34: Interlockings – Share Order Intake (value) – The Netherlands

	2010 - 2019	2015 - 2019
Alstom	[30-40]%	[30-40]%
Bombardier	[5-10]%	[5-10]%
Combined	***[30-40]%***	***[40-50]%***
Hima	[30-40]%	[30-40]%
Siemens	[20-30]%	[10-20]%
Movares	[5-10]%	[0-5]%

Source: Form CO

(924) Post-Transaction, the merged entity will have a [30-40]% market share ([40-50]% considering 2015-2019). The increment brought about by the Transaction is limited, at [5-10]% ([5-10]% considering 2015-2019).

(925) The merged entity is already the leading supplier of interlockings in the Netherlands and the merger will marginally increase its position. Two other important competitors are active in the market, Hima (with market shares comparable to those of the merged entity) and Siemens (with a market share at about [20-30]%).

(926) The limited role of Bombardier in this market is confirmed by the fact that during 2010-2019 it won only […] minor projects, one of which was non-contestable.[813] The Commission also notes that in the 2010-2019 period orders for interlockings in the Netherlands have been limited (for a total value of about […] Euro) and this lack of demand explains how Bombardier has a [5-10]% market share with just […] minor orders.

(927) Furthermore, the Commission notes that the Dutch infrastructure manager (ProRail) launched a tender procedure for wayside ERTMS equipment in April 2020. A negotiated procedure will follow and the intention is to have a signed contract by the end of 2021. The objective of this tender is to have one supplier for the main components of the wayside ERTMS system (including interlockings), for a period up to 12 years depending on planning and possible extensions. During this period, ProRail will source these systems for ERTMS from this single supplier. ProRail has confirmed that Alstom, Bombardier, Siemens and Hima supply this technology and that incumbent suppliers can have a certain advantage in the process.[814] In this respect the Commission notes that a tender procedure for ETCS re-signalling projects (that includes interlockings) could also attract competition from other large players active in the EEA (see previous table 32) and therefore competitive conditions in the Netherlands are in the process of being significantly contested.

(928) Finally, no respondent to the market investigation – including competitors of the Parties in the Netherlands – submitted that the Transaction would have any negative impact on their activity in the Netherlands or in the market for interlockings in the Netherlands.[815]

(929) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation or strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for interlockings in the Netherlands.

(C) Spain

(C.i) The Notifying Party's view

(930) The Notifying Party submits that the Transaction would not have any negative effects in the Spanish market for interlockings, for the following reasons: (i) the merged entity will have a moderate share with a small increment brought by Alstom; (ii) Alstom is a small player in Spain. Moreover, a number of Bombardier's wins in Spain were in any event in consortia with other players, and those consortia partners would have the know-how to bid independently in the future; (iii) The merged entity will continue to face several strong competitors, as the Spanish market is competitive, with six active interlockings suppliers; (iv) bidding data confirms that the Parties are not particularly close competitors and that Siemens competes with Alstom more frequently than Bombardier.

---

813 Form CO, chapter C.1.b, paragraph 63.

814 Reply to RFI 19, 1 July 2020.

815 Q5, replies to questions 60 to 62; Q6, replies to questions 53 to 56.

(C.ii) The Commission's assessment

(931) Table 35 below provides an overview of the Parties' and their main competitors' market shares in the market for interlockings in Spain.

Table 35: Interlockings – Share Order Intake (value) – Spain

	2010 - 2019	2015 - 2019
Alstom	[5-10]%	[10-20]%
Bombardier	[20-30]%	[10-20]%
Combined	***[30-40]%***	***[20-30]%***
Siemens	[30-40]%	[30-40]%
Thales	[20-30]%	[30-40]%
CAF	[0-5]%	[5-10]%
Enyse	[0-5]%	[0-5]%

Source: Form CO

(932) Post-Transaction, the merged entity will have a [30-40]% market share ([20-30]% considering 2015-2019). The increment brought about by the Transaction is limited, at [5-10]% ([10-20]% considering 2015-2019).

(933) The merged entity will be the leading supplier of interlockings in Spain, alongside Siemens, with a similar market share during the 2010-2019 period and a higher share in 2015-2019. Thales has a comparable market position. Two other local suppliers are also active in the market, with minor but increasing shares. Therefore, it appears that, post-Transaction, a sufficient level of competition will remain in the market. This appears particularly true considering the period 2015-2019, where the position of the Parties decreased substantially in favour of all their competitors.

(934) Tender participation and win/loss analysis confirm that, in interlockings tenders in Spain, the Parties face substantial competition from the other players in the market: during the 2010–2019 period, a total of […] contestable standalone interlockings tenders took place in Spain. Alstom took part in […] of them and Bombardier in […] (Siemens in […] and Thales in […]). Of the […] contestable projects on which Alstom bid, Bombardier and Siemens were both present in […], CAF and Thales were both present in […] and Enyse in […]. In total Bombardier won […] tenders, Siemens […], Thales […], CAF […] and Enyse […], while Alstom […]. In all tenders in which both Parties participated, at least three other rivals were present, except for […] tenders which were ultimately won by Siemens.

(935) Finally, no participant to the market investigation – including competitors of the Parties in Spain – submitted that the Transaction would have any negative impact on their activity in Spain or in the market for interlockings in Spain.[816]

816 Q5, replies to questions 60 to 62; Q6, replies to questions 53 to 56.

(936) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation or strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for interlockings in Spain.

8.2.1.4. OCS

(937) Preliminarily, the Commission notes that the EEA-wide market for OCS is not horizontally affected, as the Parties have a [10-20]% combined market share at that level (Alstom [5-10]%; Bombardier [0-5]% (2010-2019, share order intake)). The Parties hold a similar market share ([10-20]%) in the period 2015-2019.

(938) At the national level, the Transaction leads to affected OCS markets in Denmark, Italy and Sweden.

(A) Denmark

(A.i) The Notifying Party's view

(939) The Notifying Party submits that the Transaction would not give rise to any competition concerns in OCS projects in Denmark.

(940) In this respect, the Notifying Party argues that the Parties' very high combined market share for 2010-2019 period would be an overstatement of the Parties' actual market power and it should be considered alongside a number of other factors: (i) there is no overlap between the Parties in the last five years, and the overlap only concerns […] projects over the last ten years, for which at least […] other major players bid; (ii) Alstom's sales resulted from a follow-on order from an ETCS re-signalling project (undertaken by both Thales and Alstom) which included an OCS part that has not been taken into account in the market share calculation. When including the OCS part of this ETCS re-signalling project, the combined share of the Parties would drop significantly (as also Thales' share should be considered), with a minimal increment due to the Transaction; (iii) the Parties' offerings are highly differentiated. According to the Notifying Party, [*Confidential explanation on why the Parties' respective solutions do not closely compete*].[817]

(A.ii) The Commission's assessment

(941) Table 36 below provide an overview of the Parties' market shares in the market for OCS in Denmark.

[817] See the Notifying Party's reply to RFI 20, 26 June 2020, question 2.

Table 36: OCS – Share Order Intake (value) – Denmark

	2010 - 2019	2015 - 2019
Alstom	[80-90]%	[90-100]%
Bombardier	[10-20]%	[0-10]%
Combined	**[90-100]%**	**[90-100]%**

Source: Form CO

(942) Considering the 2010-2019 period, the Parties were the only two players with sales in the Danish market for OCS. However, considering the 2015-2019 period, Bombardier had no sales and therefore there would not be any overlap between the Parties. In any case, the overlap and the Parties' market shares should be considered alongside a series of additional factors.

(943) First, the Parties' high combined market shares are generated by wins in a very limited number of tenders: in 2010-2019, only […] minor projects in OCS in Denmark were tendered, [*Confidential information on the Parties's bidding data*]. In case of infrequent tenders, high market shares are not necessarily evidence of market power and large variations in market shares can be expected. In this respect, the participation of other significant competitors is informative on the scope of possible competitive constraints existing on the relevant market:

(a) In […] two other players […] placed bids, in addition to the Parties;

(b) In […] three major players bid, in addition to the Parties […].

(944) Second, the Parties' offerings in OCS are differentiated. In particular, as explained by the Notifying Party, Bombardier's solution is [*Confidential explanation on why the Parties' respective solutions do not closely compete*]. OCS solutions comprise different functionalities which may be more or less developed, depending on each supplier's solution. In that regard, the functionalities and interfacing capabilities of Bombardier's solution are [*Confidential explanation on why the Parties' respective solutions do not closely compete*][818].

(945) With particular reference to Denmark, Bombardier's solution [*Information on Bombardier's production / process secrets and business strategy*].

(946) Bombardier's minor role in Denmark is confirmed by the limited value of the tender it was awarded in 2012 (less than […] Euro). It can be added that an ETCS re-signalling project won by Thales and Alstom in 2012 also included an OCS part (Siemens and Hitachi also bid). When including the OCS part of this ETCS re-signalling project (assigning an additional order intake to Alstom and Thales), Bombardier's market presence would be substantially diluted and as a consequence the increment brought about by the Transaction would be marginal, at [0-5]%.

[818] Centralized Traffic Control ("CTC") and Traffic Management System ("TMS") are functions of Operational Control Systems.

(947) The results of the market investigation confirm the absence of competitive concerns. Notably, Banedanmark, the Danish infrastructure manager, confirmed that the offers received by Alstom and Bombardier were technically on a different level (in particular, that the Bombardier system platform was less advanced). Moreover, Siemens, Thales and Cactus were all identified as credible bidders for a full scope OCS solution. In the opinion of Banedanmark, post-Transaction the OCS market in Denmark would not be substantially changed and separate tenders for OCS would be expected to face unchanged competition.[819]

(948) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for OCS in Denmark.

(B) Italy

(B.i) The Notifying Party's view

(949) The Notifying Party submits that the Transaction would not give rise to any competition concerns in OCS projects in Italy.

(950) In this respect, the Notifying Party argues that the Parties' very high combined market share for 2010-2019 period are an overstatement of the Parties' actual market power. The Notifying Party further argues that: (i) when considering contestable projects, the Parties market shares drop significantly in Italy and there is no overlap between the Parties in the last five years; (ii) Bombardier's market share in Italy reflect only […] projects, the largest of which being non contestable; (iii) other major players regularly bid and win contracts in Italy; (iv) the Parties' offerings is highly differentiated.

(B.ii) The Commission's assessment

(951) Table 37 below provide an overview of the Parties' market shares in the market for OCS in Italy.

[819] Banedanmark, submission of 7 July 2020.

Table 37: OCS – Share Order Intake (value) – Italy

	2010 - 2019	2015 - 2019
Alstom	[60-70]%	[90-100]%
Bombardier	[0-5]%	[0-5]%
Combined	**[70-80]%**	**[90-100]%**
Hitachi	[20-30]%	[0-5]%
Mermec	[5-10]%	[0-5]%
Others	[0-5]%	[0-5]%

Source: Form CO

(952) Alstom is the clear market leader and [*Confidential information based on the Parties' market intelligence*] in the period 2015-2019. However, Bombardier appears a marginal supplier and the increment brought about by the Transaction is negligible.

(953) Bombardier's marginal role is confirmed by the fact that during the period 2010-2019, Bombardier's market share only stems from […]. Bombardier did not win contestable tenders during the 2010-2019 period.

(954) Moreover, other significant competitors are active in Italy. In particular, three or more competitors (up to five) participated in […] of the […] contestable tenders organized in 2010-2019. Considering only contestable tenders, Alstom's market share is [40-50]% and its main competitors are Mermec ([30-40]%), Hitachi ([10-20]%) and Sirti ([0-5]%).

(955) The market data also shows that the Parties are not the market's closest competitors. Alstom did not lose any project to Bombardier in the 2010-2019 period and other players competed with Alstom more frequently than, or as frequently as, Bombardier: of the […] contestable projects in which Alstom placed a bid, Hitachi was present in […], Bombardier in […], Esim, Mermec and Sirti in […].[820]

(956) Furthermore, the Parties' offerings in OCS are differentiated, as explained above in paragraph (944). With particular reference to Italy, [*Information on Bombardier's R&D and commercial strategy*][821] [822]

(957) The results of the market investigation confirm the absence of competitive concerns. The results of complementary investigations on the Italian market broadly confirmed the existence of sufficient post-Transaction competitive constraints and the limited role played by Bombardier in Italy.[823]

---

820 Notifying Party's submission of 9 July 2020.

821 A multi-station system enable the extension of controls from a single control centre over a whole railway line with several stations.

822 Bombardier's e-mail dated 10 January 2020, attached to the Notifying Party's e-mail to the Case Team of 14 July 2020.

823 RFI, submission of 7 July 2020.

(958) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for OCS in Italy.

(C) Sweden

(C.i) The Notifying Party's view

(959) The Notifying Party submits that the Transaction would not give rise to any competition concerns in OCS projects in Sweden. In this respect, the Notifying Party argues that the Parties' very high combined market share for 2010-2019 period overstate the Parties' actual market power. The Notifying Party further argues that: (i) the Parties did not overlap in contestable tenders in Sweden in the 2010-2019 period; (ii) the Swedish infrastructure manager (Trafikverket) tendered a large project for an OCS covering most of the country in 2015. Alstom won that project and is therefore the incumbent supplier but its position could be contested by several alternative credible suppliers; (iii) Bombardier would likely not be competitive in Sweden, […]. In Sweden, [*Confidential information on Bombardier's OCS solution and its bidding strategy*].

(C.ii) The Commission's assessment

(960) Table 38 below provide an overview of the Parties' market shares in the market for OCS in Sweden.

Table 38: OCS – Share Order Intake (value) – Sweden

	2010 - 2019	**2015 - 2019**
Alstom	[50-60]%	[50-60]%
Bombardier	[20-30]%	[20-30]%
Combined	**[80-90]%**	**[80-90]%**
Cactus Uniview	[10-20]%	[10-20]%
Others	[0-5]%	[0-5]%

Source: Form CO

(961) Alstom is the market leader and Bombardier the second largest supplier in Sweden. The merged entity would have a market share amounting to about [80-90]%, with no comparable competitors in terms of dimension in Sweden. However, the overlap and the Parties' market shares must be nuanced in light of the following factors.

(962) First, the Parties' do not compete closely in Sweden. Bombardier's order intake results from small non-contestable projects related to its own legacy system, while Alstom's market share primarily results from a single contestable national OCS program aiming at replacing the legacy system in 2015. Bombardier took part to this tender [*Information on Bombardier's bidding strategy*].

(963) in the only […] contestable projects tendered in Sweden in 2010-2019, the Parties' faced each other only in […] of them for a standalone OCS project, […], and in that occasion two other bidders were present (Siemens and Hitachi). The other […] contestable tenders were awarded to Cactus and the Parties did not face each other. Bombardier has not won any single contestable tender in the last ten years.

(964) Second, the Parties' offerings in OCS are differentiated, as already explained above in paragraph (944). With specific reference to Sweden, [*Confidential information on Bombardier's OCS offering and business strategy*].[824]

(965) The result of the market investigation has confirmed the absence of competitive concerns. Notably Trafikverket, the Swedish Transport Administration, submitted that in general they purchase OCS, interlockings and train protection systems within the same frame contract. In general, Trafikverket has identified a series of credible bidders and considers that post-Transaction, the remaining OCS suppliers would suffice to ensure that future tenders have a competitive outcome, particularly after the EULINX standard would be introduced.[825]

(966) In light of the above, the Commission concludes that the Transaction does not give rise to serious doubts with regard to its compatibility with the internal market as a result of possible horizontal non-coordinated effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for OCS in Sweden.

8.2.2. Non-horizontal effects

8.2.2.1. Introduction

(967) As regards non-horizontal effects, two broad types of mergers can be distinguished: vertical mergers and conglomerate mergers. Vertical mergers involve companies operating at different levels of the supply chain. Conglomerate mergers are mergers between firms that are in a relationship that is neither horizontal (as competitors in the same relevant market) nor vertical (as suppliers or customers).

(968) The Commission guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings (the 'Non-Horizontal Guidelines')[826] indicate that while in the majority of circumstances conglomerate mergers will not lead to any competition problems, in certain circumstances they can lead to anticompetitive effects. One such example is when the combination of products in related markets would give the merged entity the ability and incentive to leverage a strong market position in one of the markets to the other market by means of tying or bundling. Where tying or bundling is likely to lead to a reduction in actual or potential rivals' ability or incentive to compete it may reduce competitive pressure on the merged entity, allowing it to increase prices.[827]

---

824 Form CO, annex C1b.III.B.8.

825 Trafikverket, submission of 6 July 2020.

826 Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, adopted on 28 November 2007 (OJ C265, 18.10.2008, p.6).

827 Non-Horizontal Guidelines, paragraph 93.

(969) The main conglomerate concerns in the present case relate (i) to the required joint operation of rolling stock on the one hand, and of ETCS OBUs on the other hand, and (ii) to the required joint operation of ETCS OBUs on the one hand, and legacy systems on the other hand. In this respect, some participants to the market investigation have submitted that:

(a) the significant market share of the merged entity in the installed base of rolling stock will likely be leveraged into the market for ETCS OBU, in particular in retrofit tenders for existing fleets because rolling stock OEMs would have an advantage in cost and time when offering a retrofit to its own rolling stock.

(b) access to legacy OBU systems would be key to equip any rolling stock with homologated ETCS OBU systems. Alstom and Bombardier would combine two of the largest legacy OBUs portfolios in Europe which are moreover highly complementary. Therefore, the merged entity would have the ability and the incentive to profitably engage in an anti-competitive tying and/or bundling strategy to foreclose its competitors in the ETCS OBU market.

8.2.2.2. The Notifying Party's views

(970) The Notifying Party submits in general that the Transaction will not increase the merged entity's ability or incentive to engage in foreclosure in relation to the supply of ETCS OBUs (or legacy OBUs/STMs) to suppliers of new rolling stock.

(971) With respect to the interface between ROS and OBU, the Notifying Party refers to the following factors:

(a) both Alstom and Bombardier are already vertically integrated and active in both rolling stock and mainline signalling;

(b) Bombardier will not materially strengthen Alstom's position in either ETCS or legacy OBUs. Bombardier would be a marginal player in ETCS OBU, overwhelmingly focused on internal supply;

(c) Similarly, there would only be limited overlaps in the Parties' legacy on-board activities. In almost all countries where the Parties are present, there are alternative suppliers of ETCS OBUs / STMs;

(d) Many rolling stock players already have their own ETCS and/or legacy OBUs and relatively few rolling stock suppliers purchase ETCS OBUs from the Parties;

(e) Strategic behaviour could be counteracted via various means of retaliation.[828]

(972) With respect to interface between ETCS OBUs and legacy systems, the Notifying Party explains that:

(a) Depending on the integration scenario, ETCS OBU suppliers do not necessarily need to access interface information: standalone legacy OBUs

[828] Form CO, annex C.1.a – V.C.1.

and ETCS OBUs may operate in parallel. Under this scenario, the legacy OBU either does not need to be connected to the ETCS OBU or only requires basic connection to activate/deactivate the legacy system when needed.

(b) An alternative scenario involves equipping a train with a device called an STM ('specific transmission module') as well as an ETCS OBU. The STM allows the ETCS OBU to understand legacy signalling systems.[829] Under this scenario, the STM provider typically delivers the STM equipment including special tools and documentation as well as the associated engineering support (commissioning) and trainings, where relevant. Regardless of the type of project, the STM supplier should provide the relevant interface details to the ETCS supplier. This scenario would be commonly the preferred scenario in new build projects, where an STM is readily available.

(c) In another scenario, a train is equipped with a combined ETCS OBU and legacy system (integrated solution). In cases of combined solutions the role of the combined OBU supplier would be limited to basic integration support to the rolling stock supplier/operator.

(d) There is no direct correlation between having access to the legacy system and shares in supplying ETCS OBUs. According to the Notifying Party, this is demonstrated by the fact that suppliers commonly win ETCS OBU projects in countries where they are not the incumbent legacy system supplier, and, conversely, legacy suppliers often fail to win ETCS OBU projects.[830]

(973) In any case, the Notifying Party submits that the merged entity will not have any increased ability or incentive to deny access to STMs or legacy systems interfaces to its rivals, nor to engage in any other exclusionary practices, for the following reasons:

(a) Both parties already offer both ETCS OBUs and legacy OBUs/STMs. Alstom's position would therefore not be appreciably strengthened as a result of the Transaction.

(b) Alternative suppliers are available in almost every country where even one of the Parties has a legacy solution. The only EEA Member State where the Parties are the sole suppliers at present would be the Netherlands, where ProRail developed its own STM, which can be licensed to any supplier who requests it.

(c) In EEA Member States where one of the Parties is the only supplier of the legacy systems, there would not be any merger-specific effects;

(d) If the merged entity were to attempt to engage in exclusionary conduct, customers and rival suppliers would be able to counter that strategy. In particular: (a) infrastructure managers (i.e., the Parties' principal customers) have the ability and legal responsibility to make legacy specifications

[829] The Notifying Party explains that an STM is not an interface between ETCS OBUs and legacy OBUs. Rather, it is an additional equipment that can be installed on a train together with an ETCS OBU in order to allow the train to communicate with legacy wayside systems.

[830] Form CO, annex C.1.a – II.B.1, pages 1-9 and annex to RFI 10 Q 2.1.

available; (b) rival signalling suppliers could retaliate by refusing access to their systems; and (c) rival suppliers can, and do, develop their own legacy STMs.

(974) As regard the issue connected with retrofitting the parties' installed fleet with ETCS OBU, the Notifying Party explains that ETCS OBU has to interface with the Train Control and Management System ('TCMS'), which is responsible, to varying extents, for tasks such as controlling traction and brakes on a train. TCMS can be developed by rolling stock suppliers, third parties OEM or equipment suppliers.

(975) With respect to retrofit projects, the Notifying Party submits that it is necessary to distinguish between two scenarios, namely (i) the scenario where the TCMS uses a specific standardized 'subset' and (ii) the scenario where interface information with the TCMS is the proprietary technology of a supplier. Between these two extreme scenarios, there would be other cases where modifications of the TCMS are more limited and do not necessarily involve the cooperation of the original rolling stock supplier. The Notifying Party further explains the following:

(a) Where TCMS interfaces are standardized (scenario (i)), ETCS OBU using the so-called subset 119 can, in principle, 'plug and play' with a TCMS complying with the same standard interface. Therefore, the ETCS OBU complying with this subset will be able to immediately interface with any TCMS using the same subset. Where compliance is not fully in place on both sides, additional works may be required;

(b) Where TCMS interfaces are not standardized (scenario (ii)), some engineering commonly has to be done to modify or to re-configure the TCMS in order to interface correctly with the ETCS OBU. This can be done in three main ways:

– The customer may tender the TCMS modification separately;

– The ETCS OBU supplier may sub-contract this work to the rolling stock supplier. Such modification would typically take from […] months for the development and adaptations and an additional period of […] months for [re]-certification and would involve traditional engineering activities;

– The ETCS OBU supplier may perform the modifications itself. In this regard, older 'analog' TCMS systems would be more easily modified, without specific support or intervention from the original rolling stock supplier. Moreover, the need for TCMS modifications could be reduced by the use of an intermediate gateway: no (or minimal) modification would be required from the rolling stock supplier.[831]

(976) For new-build rolling stock, rolling stock and ETCS OBU providers define the solution together and agree on a TCMS interface specification at the design phase. Standardized interfaces exist and can be adopted. In particular:

[831] Form CO, annex C.1.a – II.B.1, pages 9-13.

(a) Subset 034 defines the list of signals to be exchanged between the train and ETCS OBU.

(b) Subset 119 standardizes the form of these signals, by setting a clearly defined format through which information will be provided. An ETCS OBU supplier can then directly interface with a TCMS that would be compliant to subset 119. TCMS equipped with this interface can seamlessly interface with any OBU compliant with that subset. The use of subset 119 means that access to rolling stock suppliers' proprietary technology is not required to do a retrofit project. Adaptations from the rolling stock OEM will not be required on any rolling stock equipped with TCMS using subset 119.

(977) In any case, the Notifying Party submits that the merged entity will not have any increased ability or incentive to engage in exclusionary practice with respect to access to TCMS interfaces, for the following reasons:

(a) Both Alstom and Bombardier already have rolling stock and signalling businesses. The Transaction will not bring about any change in this respect.

(b) With regard to new rolling stock, interfaces between ETCS OBUs and TCMS are agreed at the design stage.

(c) With regard to retrofit projects, for non-computerized TCMS (installed on older rolling stock), interfaces could be readily achieved without the collaboration of the rolling stock supplier. Moreover, non-computerized TCMS are often modified over the years so that the original rolling stock manufacturer would likely not have a competitive advantage as they would need to conduct the same reviews / physical inspections in order to interface with the TCMS.

(d) For computerized TCMS, there would be a number of factors limiting the merged entity's ability or incentive to engage in foreclosure:

– Rivals have an incentive to co-operate, since they would face retaliation if they attempted to engage in strategic behaviour, as ETCS OBU retrofit projects are typically 'mixed-fleet'. This is illustrated with data from Alstom's own activities, showing that [80-90]% of Alstom's ETCS OBU retrofit wins include retrofitting rivals' rolling stock;

– Customers would also be able to counteract any attempted strategic behaviour. In particular, the customer may choose to tender the TCMS modification separately;

– If a rolling stock supplier were to make it harder for its TCMS system to interface with rivals' ETCS OBUs it would likely significantly harm customer relationships.

8.2.2.3. The Commission's assessment

(A) Introduction

(978) Interoperability is required between the various subsystems (on-board, wayside and control systems) of a signalling system, both in mainline and in urban signalling. For the purposes of the present case, interoperability requirements may arise where the rolling stock and the OBU manufacturers are not the same.

(979) The procurement of signalling on-board equipment is normally part of the same tender as the rolling stock.[832] In tenders for rolling stock, interested suppliers are requested to offer a product which includes OBUs compatible both with conventional systems and ETCS and it is the responsibility of the rolling stock supplier to ensure that the on-board signalling works seamlessly with the wider signalling solution deployed on the network. As a result, suppliers offering both the rolling stock and the ETCS OBU enjoy an advantage over competitors offering only one of the two products, as they have full control of the integration process.[833]

(980) In this respect, the Commission notes that the merged entity will have a significant market share in the EEA in the ETCS OBUs market, amounting to about [50-60]% (see section 8.2.1.1). However, Bombardier's contribution to that market share is limited (about [10-20]%) and a series of competitors, both integrated and not integrated, will remain active in the market.

(981) In addition, both Parties are vertically integrated already pre-merger and, in tenders including both rolling stock and on-board signalling, are able to supply (and generally supply) an integrated solution including both rolling stock and OBUs. This is particularly true for Bombardier, which is active in the ETCS OBUs projects market mainly for its internal purposes, i.e. to provide its rolling stock with OBUs, for participation in integrated tenders (see section 8.2.1.1).

(982) The result of the market investigation was mixed in this respect. In particular, although some participants submitted that the merged entity will have the ability (and the incentive) to require rolling stock customers to purchase both its rolling stock and signalling solutions (in particular OBUs), it was confirmed that integrated players already have this ability and in general offer bundled packages.[834] It was also submitted that this will not be a constraint but rather a benefit in terms of cost reduction and homologation time reduction.[835]

(983) These considerations are also applicable when considering a pure supplier/customer relationship between signalling and rolling stock suppliers (vertical aspects). In this respect – and without prejudice to the interoperability issues explained below – the Commission considers that the Transaction does not appear to cause competitive concerns, as:

---

832 Q1, replies to question 56, Q2, replies to question 60; Q3, replies to question 69: Q4, replies to question 54; Q5, replies to question 55.1; Q7, replies to question 56.1.

833 Q7, replies to questions 51.1 and 51.1.1.

834 Q1, replies to question 55, Q2, replies to question 61; Q3, replies to question 70: Q4, replies to question 55; Q7, replies to question 56.1.

835 NTV response to Q2, question 61.1;

(a) With respect to a possible input foreclosure scenario, as confirmed in previous section 8.2.1.1 following the Transaction several producers of ETCS OBUs will remain active in the market to supply rivals rolling stock operators (most of which are, in any event, already vertically integrated). Moreover, already today Bombardier is principally focussed on internal supplies and has only limited sales to third parties. With respect to legacy OBUs, the Transaction does not appear to cause any change in legacy OBU projects, as the Parties do not overlap. The Parties only overlap in legacy OBU products in the Netherlands, and competitive effects in this regard are addressed in following section 8.3.1.2 and the related commitment.

(b) With respect to a possible customer foreclosure scenario, both Parties are already vertically integrated and do not constitute relevant customers for OBUs suppliers.

(984) However, several respondents to the market investigation raised concerns with respect to retrofitting existing rolling stock with OBUs and in general with respect to the necessary interfaces between ETCS OBUs and other systems (legacy or train control systems). It was submitted that the mere fact that the rolling stock OEM might have an incentive and the ability to equip new vehicles with its own OBUs is not an issue in itself, as it does not limit the customer's ability to purchase OBUs from different suppliers at a later stage for the purposes of retrofitting/modernizing. However, this ability is limited in practice, as long as there are no standardized interfaces and/or obligations to disclose information and technology. Customers only have limited means to address these issues.[836] Similarly, it was submitted that for new trains the situation should not change substantially following the Transaction, but with respect to the later implementation of the latest on-board signalling equipment in existing fleets the choice would be limited (with adverse effects on pricing) if the manufacturer only supports its own equipment (as for re-homologation purposes the rolling stock OEM is usually required to be involved).[837]

(985) Therefore, the assessment of non-horizontal effects will focus on the two specific conglomerate issues raised in the course of the market investigation: the risk of foreclosure of rival ETCS OBUs suppliers' through practices related to (i) the interface between ETCS OBUs and rolling stock (notably the TCMS) in retrofit projects, and (ii) the interface between ETCS OBUs and legacy systems.

(B) ETCS OBU interoperability with legacy OBUs and rolling stock (notably TCMS)

(986) Interoperability issues can emerge in ETCS retrofit projects, where existing rolling stock has to be equipped with ETCS OBUs that need to communicate and interact with both the legacy on-board system and the train control systems (e.g. traction, power and brakes). However, interoperability with legacy OBUs can emerge also in projects involving new rolling stock.

836 Deutsche Bahn's response to Q7, question 58.1;

837 Alpha Trains Europa's response to Q4, question 55.1;

(B.i) Interoperability with TCMS

(987) In order to perform its tasks, an ETCS OBU must connect to the train control systems and thus to the rolling stock itself. The connection to the train interface and integration with the rolling stock is necessary for the OBU to perform its safety-critical functions and comprises a number of distinct interfaces between the existing train systems and the ETCS system.

(988) As the existing train interfaces are proprietary and not designed for interoperating with ETCS OBUs, the installation of ETCS OBUs requires adaptations on the software and hardware side. For this reason, the ETCS OBU cannot simply be 'plugged into' a socket on the train since the train does not provide for an interoperable (let alone standardized) physical/data interface. The ETCS OBU needs to be physically connected to the various parts/interfaces in order to perform its functions. Each interface can be different.

(989) The necessary adaptations to the existing and proprietary train interfaces require the collaboration of the rolling stock OEM. As each train class and ETCS OBU is different and their seamless and flawless interoperability safety-critical, the integration with the train interface (physically and in terms of data flows) can be intricate and complex.

(990) With specific reference to retrofit projects, connecting the ETCS OBU to the train control system is a significant work stream. The ETCS OBU takes control over the train's operations so that the ETCS OBU controls the train control system. This connection requires a deep understanding of the architecture of the train interface and the train software, including of the language, the design, the electrical connections, relays, and circuitry. As this information is unique and proprietary to each train class and only available from the rolling stock OEM, much of the work can in practice only be done in close collaboration with the rolling stock OEM. The cooperation from the rolling stock OEM is indispensable in order to retrofit rolling stock with an ETCS OBU, regardless of the country and rolling stock supplier. Moreover, the final installation of the ETCS OBU on the train must be homologated/certified, which requires the approval of the rolling stock OEM.

(B.ii) Interoperability with legacy OBUs

(991) The ETCS OBU must also interact with one or more legacy systems, unless the train operates exclusively on routes fully equipped with ETCS wayside signalling equipment, which is currently very rare in the EEA. Given that the introduction of ETCS has not proceeded as fast as planned, and current planning does not foresee a full rollout of ETCS across Europe before 2040, the integration of Class B systems is required in almost all European countries.

(992) The interface between the ETCS on-board systems and the legacy system is generally obtained via an STM, which enables the ETCS OBU to communicate with Class B systems. The STM and the legacy OBU are provided by the legacy technology provider and are not part of the ETCS OBU. The legacy OBU is not part of the equipment that is installed in a retrofit project, but the retrofit project comprises the integration of the ETCS OBU with the legacy OBU via the STM (which is part of a retrofit project). The STM consists of specific sensing elements to wayside equipment and an interface for hardware and logic adapting interface to the ETCS. The ETCS must have installed special software to translate legacy signals

into unified internal ETCS communication. Through the STM, the driver is using the ETCS cab display equipment also on non-ETCS lines.

(993) An ETCS OBU cannot be connected to a legacy OBU by a simple plug-and-play connection. Rather, it requires software and hardware adaptations both on the side of the ETCS OBU and the STM.

(994) The availability of suitable STMs and in general of access to legacy OBUs is therefore vital for rolling stock/OBU manufacturers selling trains for use on both national and international routes – but STMs are in general subject to intellectual property rights and controlled by particular manufacturers. There is usually only one producer of each legacy system, with a long-lasting experience in the legacy system and qualified in ETCS market, which produces the Member State-specific STM. During the transition phase in which ETCS will not be available throughout the entire cross-border routes including last miles, alternative routes and nodes, STMs will determine the possibility to access a Member State network.

(C) The results of the market investigation

(995) As mentioned above, a series of market participants expressed concerns in relation to the mentioned interoperability issues and to the connected risk of foreclosure of rivals suppliers of ETCS OBUs.

(996) Siemens submitted that it expects growing demand for retrofitting the existing Bombardier fleet with ETCS OBUs and further equipment. The merged entity will have the ability to foreclose competing ETCS OBU providers from these projects by denying access to its proprietary train interfaces. The merged entity will also have the incentive to adopt conduct that would undermine and foreclose rivals. Pre-merger, Bombardier would have shown openness to cooperate in ETCS retrofitting projects where Bombardier cannot provide the equipment requested by rail operators in retrofit projects in-house (or only provide less competitive equipment). By contrast, post-merger, the merged entity will have a strong incentive to foreclose. This is because the merged entity benefits from retrofitting Bombardier's stock with Alstom ETCS OBUs and further Alstom equipment and may apply inflated prices by shutting out competition. The loss of competition for retrofitting projects will not just harm rivals but will have a direct negative impact on train operators.[838] The merged entity's ability and incentive to engage in such foreclosure are examined below.

(997) Stadler submitted that the Transaction would create a dominant supplier for ETCS OBUs retrofitting activities. Large parts of the market will be effectively closed for any competitors, due to the fact that Alstom and Bombardier hold a market share of almost 50% in the installed base of rolling stock in Europe and quasi-monopolies in specific countries. Due to the advantage for the OEM for signalling retrofit services, based on proprietary interfaces, Stadler expects the merged entity to effectively foreclose competitors from indispensable inputs. Consequently, Alstom and Bombardier would successfully leverage their high rolling stock installed base market share together with their strong market position in ETCS OBUs –

[838] Siemens' submission of 21 April 2020, page 85.

complemented by an extensive portfolio of Class B systems – for the signalling retrofitting activities.[839]

(998) Stadler also submitted that post-Transaction, the merged entity would have access to a nearly complete portfolio of legacy systems and no other relevant international signalling player will have a comparable offering. Therefore, for several European countries, other ETCS OBU suppliers will be dependent on the Class B input from the merged entity to offer a homologated signalling solution (for both, new vehicles and retrofit). This will have a significant effect on the supply of ETCS OBUs. According to Stadler, the ability and the incentive of the merged entity to profitably engage in an anti-competitive tying and/or bundling strategy to foreclose its competitors will increase and a subsequent reduction in quality of supplier and product performance with significant financial risk for rolling stock manufacturers could be expected. Stadler also mentions relevant past examples of similar practices from the Parties. Stadler also expects increasing prices after the Transaction given the reduced competitive tension.[840]

(999) Similar concerns in relation to the competitive conditions of the ETCS OBU market, with particular regard to retrofitting activities and in relation to the availability of legacy systems, have been expressed by the European Rail Freight Association. [841]

(1000) The result of the market investigation broadly confirms the competitive concerns expressed by the complainants. With respect to the ETCS OBU/rolling stock interoperability:

(a) Most respondents to the market investigation confirmed that a rolling stock supplier has an advantage in a tender involving the installation of OBUs, as it is the gatekeeper to the train interface and has thus an advantage in installing the ETCS OBU.[842] It has been submitted that access to information can only be supplied either by the owner of the rolling stock or its original manufacturer and that this is a grey area, very sensitive in terms of risks, for any tender, especially for latest locomotives with digital interfaces;[843]

(b) Several respondents to the market investigation also pointed to difficulties experienced in past tenders in securing access to information and resources necessary for the interface between ETCS OBU and TCMS.[844] Banedanmark submitted the lack of access to documentation is a generic issue related to the regulation of access to documentation in older train contracts and to protectionist behaviour of certain train manufacturers.[845] Bane NOR confirmed that cooperation between vendors is a significant challenge.[846] Deutsche Bahn submitted that it currently operates a large fleet of Bombardier rolling stock and that Bombardier pursues a very restrictive

839 Stadler's submission of 4 May 2020, page 23.
840 Stadler's submission of 4 May 2020, page 17. See also Stadler's minutes of the call of 24 March 2020.
841 ERFA – European Rail Freight Association's submission of 4 May 2020, page 17.
842 Q5, replies to question 51.4; Q7, replies to question 51.1.
843 Thales' response to Q5, question 48.
844 Q5, replies to question 49; Q7, replies to question 48. See also DSB, minutes of the call of 24 April 2020.
845 Banedanmark's response to Q7, question 48.
846 Bane Nor's response to Q7, question 48.

policy when it comes to disclosing information or otherwise granting access to interfaces between the different types of on-board equipment.[847]

(c) As for the role of customers (as tender organizers) in granting access to interfaces, the result of the market investigation are mixed, with some respondents submitting that customers do not have a real role and others maintaining that customers can and do intervene to grant this access.[848] However, Deutsche Bahn submitted that even if tender organizers are willing to intervene, in many cases, it is not possible for a customer to grant access to data and technologies itself or otherwise to guarantee open interfaces, given that the relevant technologies remain proprietary and the required authorization processes are run by the respective supplier.[849]

(1001) With respect to the ETCS OBU/Legacy OBU interoperability:

(a) Most respondents to the market investigation confirmed that a supplier of legacy OBUs has an advantage in a tender involving the installation of ETCS OBUs, as the integration between the two systems can be complex and in any case requires the cooperation of the original legacy supplier;[850]

(b) Several respondents to the market investigation also pointed to difficulties experienced in past tenders in securing access to STM/Class B systems necessary for the interface between ETCS OBU and legacy OBUs,[851] although the issue varies across countries. For instance, SBB (Switzerland) submitted that it encountered significant difficulties to access both the French and the Italian STM/Class B-systems. Thus, for access to the French Class B-system it is currently practically impossible to buy the ETCS system from a different supplier. For the Italian class B system the situation improved recently because of more competition between different suppliers of legacy systems;[852]

(c) The role of customers (as tender organizers) appears limited in this respect, as in any case the potential supplier would have to negotiate with the original legacy supplier.[853] Thales submitted that the organizer of the tender can specify in the requirement that the original OBU supplier facilitates access to the necessary technology and information to ensure interoperability with other signalling sub-systems, legacy OBU in particular. However, in practical terms, customer assistance would always be needed, as it plays a key role as referee and support for collaboration.[854] Deutsche Bahn submitted that its role as a customer is generally limited to asking the legacy supplier to cooperate with other potential bidders and disclose information that is crucial

847 Deutsche Bahn's response to Q7, question 29.1.

848 Q5, replies to question 50; Q7, replies to question 49.

849 Deutsche Bahn's response to Q7, question 49.

850 Q5, replies to question 51.3; Q7, replies to question 52. See also Bane Nor, minutes of the call of 1 April 2020.

851 Q5, replies to questions 45-46; Q7, replies to question 44.

852 SBB's response to Q7, question 44.

853 Q5, replies to question 47; Q7, replies to questions 43 and 45.

854 Thales' response to Q5, question 47.

to enable interoperability. While certain legacy suppliers appear willing to offer such cooperation, others are more reluctant;[855]

(d) Furthermore, most competitors expect that the merged entity would not continue to give access to its legacy OBUs at reasonable commercial terms[856] and that customers could not establish sufficient safeguards, such as open specifications, obligations to grant access, to guarantee supply of/access to signalling systems by a range of the Parties' competitors.[857] Customers have confirmed their limited role in this respect. [858]

(D) The Commission's assessment

(1002) The Transaction will endow the merged entity with the capacity to engage in foreclosure by impeding access to necessary legacy OBUs and TCMS interfaces.

(1003) In this regard, the Commission observes that the Transaction will cause a significant increment of Alstom's position both in terms of its installed base of rolling stock and legacy OBUs:

(a) With respect to the rolling stock installed base, according to the results of the market investigation, the merged entity would have about [40-50]% of the installed base of locomotives and multiple units delivered since 2000 in Europe (Alstom [10-20]%, Bombardier [30-40]%). The installed base of the merged entity would be even higher in Western Europe ([50-60]%, of which Alstom [10-20]%, Bombardier [30-40]% and consortia Alstom/Bombardier [0-5]%) and in some of the major EEA countries: Germany ([70-80]% of multiple units), Italy ([60-70]% of multiple units), Sweden ([90-100]% of multiple units) and France ([90-100]% of multiple units);[859]

(b) With respect to legacy OBUs, the merged entity would have access to […] legacy OBUs in EEA countries (Alstom […], Bombardier […], with one overlap in The Netherlands, where the Parties are the sole suppliers). The closest competitor, Siemens, has access to legacy OBUs in nine EEA countries. In […] EEA countries, the merged entity would be the sole supplier of legacy OBUs.

(1004) The merged entity's position in retrofit tenders could also be reinforced when taking into account Bombardier's current technical and financial difficulties with ETCS OBUs latest developments. As mentioned above in section 8.2.1.1, Bombardier has limited offering for ETCS OBUs Baseline 2 and 3. This implies that, currently, in case of retrofit tenders for Bombardier's fleet, rival suppliers could take advantage of this limited offering, as Bombardier would have less interest to deny access as its offer could not be competitive anyway. This would substantially change following the Transaction, as the merged entity could offer Alstom's superior ETCS OBUs also with respect to Bombardier's fleet to be retrofitted.

855 Deutsche Bahn's response to Q7, question 43.
856 Q5, replies to question 53.3.
857 Q5, replies to question 54.
858 Q7, replies to question 55.
859 Stadler's submission of 4 May 2005, pages 20-22.

(1005) Second, the Notifying Party's arguments that cooperation from the original rolling stock/legacy OBU supplier would not be always necessary, for instance, (i) for TCMS: in older trains or when standard interfaces are adopted (see above at paragraph (975)); and (ii) for legacy OBUs: when alternative suppliers of legacy OBUs or STMs are available (paragraph (973)) does not affect the conclusions of the Commission's assessment. At this stage of the investigation, those situations do not appear to be common in the EEA. In particular, as for scenario (i), future retrofitting activities will involve a considerable share of trains with digital interfaces, where cooperation of the original rolling stock supplier would be necessary; moreover, the adoption of standard interfaces (as subset 119) is not mandatory and is not used in a significant part of the rolling stock in use. As for scenario (ii), the availability of alternative legacy OBUs or STMs vary in different EEA countries and monopoly situations would still exist in some of them. Notably the merged entity appears to be the only legacy OBU supplier in at least four countries in the EEA (of which three contributed by Bombardier (Bulgaria, Poland and Portugal), and the other – The Netherlands – where only Alstom and Bombardier are currently present.[860]

(1006) Third, as concerns the alleged absence of direct correlation between access to the legacy system and market shares in supplying ETCS OBUs (paragraph (972)(d)), the Notifying Party's data does not rule out the existence of an advantage benefitting legacy OBU suppliers. With the exception of Alstom and Siemens – that are the market leaders in ETCS OBU and therefore, logically, also have significant market shares in countries where they do not have legacy presence – ETCS suppliers have stronger positions in countries where they are also legacy suppliers. This is the case for:

(a) Bombardier, that has ETCS OBU activities in six countries (Austria, Czech Republic, Germany, Poland Sweden and UK), in four of which (Austria, Germany, Poland and Sweden) it supplies legacy OBUs (and in the other two its ETCS market share is limited at about [20-30]%);

(b) Hitachi, that has ETCS OBU activities in five countries (France, Italy, The Netherlands, Sweden and UK) in four of which (France, Italy, Sweden and UK) it also supplies legacy OBUs (and in the other one its ETCS market share is marginal, at about [0-5]%);

(c) Thales, that has ETCS OBU activities in one country (UK), where it also supplies legacy;

(d) ECM, that has ETCS OBU activities in one country (Italy), where it also supplies legacy OBUs.

(1007) Finally, it should be noted that in retrofit projects the correlation seems to exist for Siemens as well, as it has ETCS OBU activities in four countries (Austria, Germany, Spain and UK), in three of which (Austria, Germany and Spain) it also supplies legacy OBUs. Similarly, in retrofit projects, Mermec has ETCS OBU activities only in the country (Italy) where it also supplies legacy OBUs.[861] Therefore, the data

860 Siemens' submission of 21 April 2020, page 81.

861 Form CO, annex to RFI 10 Q 2.1.

provided do not appear to disprove a certain correlation between ETCS OBU and legacy OBU business.

(1008) The merged entity is also likely to have the incentive of engaging in foreclosure by impeding access to necessary legacy OBUs and TCMS interfaces.

(1009) In this regard, given the age structure of the installed base of rolling stock in the EEA and the long lifecycle of rolling stock, spanning several decades for each vehicle, a large number of vehicles is foreseen to be retrofitted in the coming years, offering OEMs a significant revenue potential. According to data submitted by the Notifying Party, the total number of vehicles to be retrofitted with ETCS OBUs in the next ten years (2021-2030) in the EU should range from […] to […] and the cost of retrofitting a vehicle should range from EUR […] to EUR […] for serial on-board deployment and from EUR […] to EUR […] for vehicle prototypes. Accordingly, the value of retrofit projects in the next ten years in the EU should range from EUR […] to EUR […].

(1010) As for the merged entity's position in this respect, the Parties do not have data at EEA level but confirm their significant role, as in Germany, which should account for around or more than […]% of the vehicles to be retrofitted in the EU in the coming years, […]% of trains concerned would be Alstom trains and around […]% would be Bombardier trains.[862] As indicated in paragraphs (995) et seq. above, the results of the market investigation confirm that the Parties will hold the largest installed base of rolling stock in the EEA. The Parties' EEA-wide market shares, in particular in mainline rolling stock, also confirm this assessment.

(1011) As a result, the likely benefits generate from the implementation of a foreclosure strategy are significant. They are all the more material that the merged entity would not likely incur any costs by adopting such conduct. Revenues generated from cooperating in retrofit projects by providing access to legacy OBUs and TCMS interfaces are necessarily lower than those generated by the full performance of the retrofit project.

(1012) Furthermore, the Notifying Party also submits that the merged entity would be discouraged from engaging in foreclosure practices, because of the risk of retaliation, in the form of a reverse form of foreclosure by rival suppliers (paragraph (973)(d)). However, to play a constraining role, the risk of retaliation would need to render the present conglomerate scenario unprofitable. In this respect, account must be taken of the fact that the merged entity will have the largest installed base of rolling stock in the EEA and an unmatched portfolio of legacy systems, with activities in fourteen EEA countries. The merged entity's closest competitor would be Siemens, with legacy activities in nine countries. Accordingly, retaliation by competing suppliers, if any, will necessarily concern a much smaller proportion of projects than the ones affected by foreclosure. Moreover, partial foreclosure cannot be excluded, e.g. in respect of minor or non-integrated suppliers incapable or retaliation.

---

[862] Notifying Party's reply to RFI 20, 26 June 2020, pages 16-17. Both Siemens and Stadler have provided their estimation in this respect, which although partially different from the estimation provided by the Notifying Party, confirms the significant dimension of the retrofit market in the next years and the prominent position of the merged entity. In particular Stadler assumes a EUR 450,000 costs for an ETCS OBU retrofit, on the basis of public data, that would lead to a market of at least EUR 4-6 billion in the upcoming decade (submission of 4 May 2020, page 23).

(1013) As a result, the merged entity is likely to have the ability and incentive to engage in foreclosure by impeding access to necessary legacy OBUs and TCMS interfaces. The impact of such conduct would be significant as it would be proportionate to the importance of the merged entity's installed base of rolling stock in the EEA. That conduct would also have indirect effects in further reinforcing the merged entity's leading position in ETCS OBUs, thus further impeding effective competition in that market.

(E) Conclusion

(1014) In light of the above, the Commission considers that the merged entity is likely to have:

(a) an increased ability to adopt foreclosure strategies against rival ETCS OBUs suppliers, in particular considering the vast and unmatched legacy OBUs portfolio, and the enlarged and unique rolling stock installed base, and

(b) an increased incentive to adopt foreclosure strategies against rival ETCS OBUs suppliers, in particular considering the improved offer for Bombardier's installed base due to the superior Alstom's ETCS OBU products and the decreased impact on the merged entity of possible measures of retaliations.

(1015) Moreover, the implementation of foreclosure strategies could have a significant impact on the competitive situation in the ETCS OBU projects market, in particular considering the dimension and the economic significance of the retrofit activities to be carried out in the EEA in the next years (see previous paragraph (1009)).

(1016) The Commission therefore considers that the Transaction gives rise to serious doubts with regard to its compatibility with the internal market as a result of possible non-horizontal effects, which could create or strengthen a dominant position or otherwise impede effective competition, in the market for ETCS OBUs projects in the EEA.

8.3. Mainline signalling products

8.3.1. Horizontal unilateral effects

(1017) The Transaction leads to horizontally affected markets in the supply of track circuits[863], legacy OBUs, interlocking equipment,[864] relays[865] and Euro-balises and vertically affected markets in the supply of track circuits, interlocking equipment and relays as an input for the downstream markets for mainline wayside signalling projects (see section 8.3.2 below).

(1018) The Notifying Party notes that it has a limited visibility into signalling product areas, as the Parties' activities mainly focus on signalling projects. The Parties do not have significant internal market intelligence in these areas and do not track competitive

863 Track circuits are devices indicating whether a given sector of railway track (a block) is vacant or occupied by a train.

864 For details on interlockings see section 7.1.1 above.

865 Relays are switches that open and close circuits electromechanically or electronically by responding to changes in current or voltage, often to control trackside components.

dynamics as closely as they do for signalling projects. Additionally, public data in relation to signalling products, such as data from the European rail supply industry association ('UNIFE'), is not available.

(1019) In order to identify any horizontally affected markets, the Parties collected and analysed their order intake data and best estimates for rivals' order intakes for signalling products for 2017, 2018, and 2019. In some instances, in order to exclude competitive concerns, the Commission has requested, and the Parties have provided, market shares estimates also for longer periods. The Commission has cross-checked this data against submissions by third parties whenever possible.

(1020) On the basis of this data, the Transaction will give rise to the following horizontally affected markets for standalone mainline signalling products:

(a) The supply of track circuits in the UK;

(b) The supply of legacy OBUs in the Netherlands;

(c) The supply of interlocking equipment in the Netherlands;

(d) The supply of relays in the Netherlands;

(e) The supply of Euro-balises in the EEA.

8.3.1.1. Track circuits - UK

(A) The Notifying Party's views

(1021) The Notifying Party notes that Alstom has had a negligible order intake in track circuits in the UK in the last three years, as Alstom's track circuits [*Information on Alstom's production / process secrets*] and Alstom [*Information on Alstom's business strategy*]. Accordingly, all of Alstom's track circuit sales [*Information on Alstom's business strategy*].[866]

(1022) Moreover, the Notifying Party submits that track circuits are expected to be phased out entirely in the coming years in the UK as they are already being replaced by axle counters. Axle counters serve the same purpose as track circuits but are based on more advanced technology.[867] As Network Rail, Great Britain's railway infrastructure manager, plans to upgrade the technology of its railway in the coming years through re-signalling projects, by replacing the existing wayside equipment

866 Form CO, Chapter C.4. Alstom has explained [*Information on Alstom's R&D activities*] (see reply to RFI 36).

867 Axle counters, like track circuits, are devices used to detect the presence of a train on the tracks. Axle counters function by detecting the presence and traveling direction of wheels at various points along the right of way. The right of way is broken into "blocks" with wheels (axles) being counted into and out of the block. If the same amount of axles is detected departing the block as were previously detected entering it, the block is considered vacant and the section is presumed to be clear for a second train. Axle counters are also capable of determining train speed and direction. A track circuit is an electrical device used to detect the presence of a train on a single block and, optionally, to transmit information to the train. Each section of the railway forms part of an electric circuit, which runs a current from one rail to the other through a relay. Rails are used to link a power source at one end of a section with a relay at the other end. When a train runs on a section, it causes the current to bypass the relay, which tells the signalling system there is a train on the track.

and interlocking, it is expected to use axle counters and not track circuits for train detection for these projects. For these reasons, even though the Notifying Party acknowledges, technically, the existence of a horizontal overlap in track circuits in the UK, it believes there is no reasonable basis on which concerns may arise.

(B) The Commission's assessment

(1023) Table 39 provides an overview of the estimated market shares in the market for mainline track circuits in the UK for 2015-2019 and 2017-2019.

Table 39: Parties' and competitors' share order intake – Track Circuits – UK

Competitor	Order intake (EUR million)		Share of order intake (%)	
	2015-2019	2017-2019	2015-2019	2017-2019
Alstom	[...]	[...]	[0-5]%	[0-5]%
Bombardier	[...]	[...]	[40-50]%	[40-50]%
Combined	[...]	[...]	***[50-60]%***	***[50-60]%***
Others (incl. Howells Railway products and Unipart Rail)	[...]	[...]	[50-60]%	[50-60]%
Total	[…]	[…]	100%	100%

Source: Form CO and Parties' reply to RFI 36

(1024) The increment brought by the Transaction is small ([0-5]% for 2015-2019 and [0-5]% for 2017-2019), due to Alstom's marginal position in track circuits in the UK. Network Rail has confirmed it has placed no direct orders to Alstom for track circuits in the last three years.[868] In addition, the Parties' installed base for mainline track circuits in the UK is moderate (Alstom: approximately [5-10]%, Bombardier: approximately [10-20]% of the total installed base).[869]

(1025) Several suppliers will continue to exercise competitive constraints on the merged entity. These include Howells Railway Products and Unipart Rail.

(1026) Howells Railway Products is a railroad company based in the UK, predominantly focused on the rail sector, but also into other industries like aerospace and engineering in general. Howells Railway Products designs, engineers, develops and manufactures an extensive range of products for the rail sector, including a full range of signalling products.

868 Reply to RFI 26. This does not include any track circuit purchased on behalf of Network Rail by Network Rail's supply chain, mainly as part of a major signalling project.

869 Reply to RFI 45.

(1027) Unipart Rail is part of Unipart Group, a multinational company headquartered in the UK with operations in Europe, North America, Australia and Japan. It is active across a variety of sectors including rail, where they provide both rolling stock and signalling solutions.

(1028) These suppliers account for [50-60]% of the supplies in the track circuit market, for both the 2015-2019 period and the 2017-2019 period.

(1029) In addition, Network Rail has confirmed its strategy to replace track circuits by axle counters in the medium to long term.[870] Network Rail notes in this respect that its signalling asset policy requires all new projects to be deployed using axle counters. Track circuits will be replaced as part of major signalling renewals in line with the timeframe for ETCS deployment, with life-extension in the interim (even though Bombardier's track circuits as spare parts will still be needed for at least 20 years).

(1030) Alstom has had limited sales of axle counters in 2017-2019 in the UK (EUR […]) and Bombardier has had none. Network Rail also confirmed that it purchased no axle counters from the Parties in the last three years.[871] ORR, the regulator for Great Britain's rail networks, has explained that the primary suppliers of axle counters in Great Britain are Thales and Frauscher.[872] [*Confidential information on the Parties' UK activities*].[873]

(1031) Finally, the market investigation did not reveal any particular concerns regarding the market of track circuits in the UK. While ORR highlighted the track circuits as an area where the Commission should focus its analysis, this is essentially because of the market shares presented to the Commission in the *Siemens/Alstom* case, where Bombardier was reported as holding a very significant market share in track circuits in the UK. However, according to the Notifying Party's best estimate Bombardier's market share in track circuits decreased to below [40-50]%, both for the 2017-2019 and the 2015-2019 period.[874]

(1032) In light of the above, the Commission concludes that the Transaction is unlikely to give rise to competition concerns as a result of non-coordinated horizontal effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for track circuits in the UK.

8.3.1.2. Legacy OBUs – Netherlands

(1033) There are two legacy ATP systems in the Netherlands: ATB-EG (first generation) and ATB-NG (new generation). These are two separate legacy technologies that are not technically substitutable.

---

870 Reply to RFI 26.

871 Reply to RFI 26.

872 ORR submission of 2 July 2020.

873 Reply to RFI 45.

874 The Parties submit that as they do not have the knowledge of the exact track circuits market size in the UK, they are not able to assess their market position with certainty. However, the Parties consider that the data provided in *Siemens/Alstom* should not be used to inform the Commission's conclusions as to the Parties' position in track circuits in the UK, as this data did not include Bombardier's data, and the time period for which the data was provided in that case is 2015-2017, and not 2017-2019.

(1034) ATB-EG has been deployed and is being used by NS (the largest train operator in the Netherlands) and by regional operators on all major Dutch lines, including electrified lines (~2 500 km), notably because these lines received priority at a time when ATB-NG was not available. ATB-NG is mainly deployed on some regional lines (~350 km), which are not electrified.

(1035) Alstom and Bombardier are the only suppliers of ATB-EG OBUs in the Netherlands, while Alstom is the exclusive supplier of ATB-NG OBUs. Alstom has also developed a combined ATB-NL (ATB Netherlands) product which has both ATB-EG and ATB-NG functionalities.

(A) The Notifying Party's views

(1036) The Notifying Party submits that even though the Parties are the only suppliers of legacy OBUs at present in the Netherlands, any supplier can obtain access to legacy interfaces through the Dutch infrastructure operator, ProRail.[875] ProRail, in its role as the coordinator of the ERTMS program in the Netherlands, has sought to develop a blueprint, based on the most recent Baseline, in order to enable the manufacturing of an STM for ATB-EG. A license to this blueprint can be provided to any supplier who requests it.[876]

(1037) Accordingly, any supplier can itself manufacture the STM needed for ETCS OBUs to interface with the ATB-EG technology with much less effort or investment than would be necessary for a supplier to develop the STM on its own. The Notifying Party estimates that a supplier would need EUR 500 000 (to cover industrialisation and hardware qualification costs) and 6 to 12 months for such manufacturing. According to the Notifying Party, these efforts are compatible with participation in ETCS OBU tenders, namely a supplier may bid for a tender for ETCS OBU and only launch the manufacturing of the STM for ATB-EG if its bid is successful.

(B) The Commission's assessment

(1038) Table 40 provides an overview of the market shares in the market for legacy OBUs in the Netherlands for 2017-2019.

875 Form CO, annex C.1.a.II.B.1 and Parties' replies to RFIs 18, 20 and 36.

876 See: https://ertms-nl nl/dossiers/stm-atbeg/default.aspx

Table 40: Parties' and competitors' share order intake – Legacy OBUs – Netherlands

Competitor	Share of order intake (%)	
	ATB-EG	ATB-NG
Alstom	[60-70]%	[90-100]%
Bombardier	[30-40]%	[0-5]%
Combined	***[90-100]%***	***[90-100]%***
Others	-	[0-5]%
Total	[90-100]%	[90-100]%

Source: Parties, reply to RFI 18

(1039) First, as can be seen from table 40, the Transaction will result in a monopoly in the market for legacy OBUs in the Netherlands.

(1040) Second, while ProRail has confirmed the existence of a blueprint for an ATB-EG STM,[877] it also acknowledges that the main reason behind the development of the blueprint was ProRail's desire to increase competition in the market for legacy OBUs in the Netherlands and reduce the dependency of competing OBU suppliers on Alstom and Bombardier.[878]

(1041) Third, several competitors dismiss the Notifying Party's argument that ProRail's blueprint suffices to alleviate any competitive concerns raised by the merger in this market,[879] while others have not yet formed an opinion.[880] A competitor argues that developing an STM on the basis of ProRail's blueprint is unlikely due to the significant time, cost and human resources associated with the development of an STM for a technology that will, in any event, become obsolete at some point in the future.[881] ProRail confirms that an STM manufactured in accordance with the licensed blueprint will still need to obtain certification and authorisation. While ProRail is not aware of the costs and time necessary for the manufacturing of the STM, competitors have explained that the process could take at least 12 months and require significant investments.[882]

(1042) Fourth, ProRail cannot exclude that the merger will have a negative impact on STM prices. It considers in particular – and this despite the availability of the blueprint - that '*only because of the fact that class B signalling systems will be – most presumably - present for at least 20 years from now, it is likely that monopolistic*

877 ProRail will act as the blueprint licence holder and charge EUR 30 000 as license fee to any supplier interested in developing an STM on the basis of the blueprint.

878 Reply to RFI 19.

879 Replies to RFIs 16, 28 and 30.

880 Reply to RFI 29.

881 Replies to RFI 16, question 3 and RFI 28, question 1.

882 Reply to RFI 28.

behaviour of a sole supplier will have a negative impact on sales prospects of all other OBU suppliers'.[883]

(1043) Fifth, new entry in the market is unlikely because possible entrants have reduced incentives to invest (i) in a technology that can only be used in the Netherlands and (ii) will in any event become obsolete when ETCS is fully rolled-out.

(1044) Sixth, even though the Netherlands have ambitious plans for ETCS deployment, ATB technology is likely to remain active for a number of years. It will indeed take until 2050 before ERTMS is fully rolled out nationally.

(1045) Finally, and consistent with all of the above, the market investigation revealed concerns about the impact of the Transaction in the market for legacy OBUs in the Netherlands.[884] And even though NS, the largest train operator in the Netherlands, does not express concerns about this market, it essentially explains that this is because '[d]*uring retrofit, we remove the Legacy OBU and change it for an STM which is part of the ETCS-OBU*'.[885] This means that competition in the market for legacy on-board systems in the future (at least for retrofit projects) will depend on the existence of an STM capable of replacing the legacy OBU on the train. Therefore, post-merger, competition will depend on the feasibility of developing an STM based on ProRail's blueprint, since the only other alternative would be the merged entity's STM for ATB-EG. However, as explained in paragraph (1041), ProRail's blueprint is unlikely to constitute a credible alternative to the merged entity's product.

(1046) In light of the above, the Commission considers that the Transaction raises serious doubts as to its compatibility with the internal market as a result of non-coordinated horizontal effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for legacy OBUs in the Netherlands.

8.3.1.3. Interlocking equipment – Netherlands

(A) The Notifying Party's views

(1047) According to the Notifying Party the Transaction will not give rise to competition concerns in the Dutch market for interlocking equipment for the following reasons:

(a) The increment brought by the Transaction is *de minimis*.

(b) Market shares for any period in the last 10 years are not representative of the Parties' actual market power, due to the relatively small number of interlockings orders in the Netherlands in this period. This is due to the fact that ProRail has been waiting to conduct a broad-scale ETCS roll out via re-signalling that will involve the replacement of interlockings (see also paragraph (922) above).

883 Reply to RFI 19.

884 Q5, questions 35 and 46; submissions by Siemens (21 April 2020), Stadler (4 May 2020) and ERFA - European Rail Freight Association (26 June 2020).

885 Q6, questions 47 and 49.

(c) The upcoming national roll-out in the Netherlands is likely to transform the competitive landscape by attracting significant competition. The setup of this project is expected to involve a combination of procurement of smaller interlockings (for which smaller players such as Hima would compete with engineering bureaus) and larger EULYNX-compliant interlockings, which will attract competition from all the major EEA players. Siemens and Thales will be particularly well-placed to compete in this environment, whereas [*Information on Alstom's R&D activities*].

(d) The Parties' products are not easily substitutable. Bombardier supplies [*Information on Bombardier's business strategy*][886], while [*Information on Alstom's business strategy]*.

(e) The Parties will not risk the relationship with ProRail by raising prices for interlocking equipment. [*Information on the Parties' sales*].

(f) ProRail is the ultimate customer for both ETCS ATP wayside and interlockings projects, both of which are much larger in terms of value than signalling products orders. Thus, the Parties have no interest to raise prices for interlocking equipment post-Transaction as that would jeopardize the Parties' relationship with ProRail, and endanger not only the Parties' future sales of signalling products but also any future award of mainline signalling projects in the Netherlands. Given the de minimis increment from Bombardier's activities, there cannot reasonably be expected to arise any change to the merged entity's incentives in this respect.

(B) The Commission's assessment

(1048) Table 41 provides an overview of the market shares in the market for standalone interlocking equipment in the Netherlands for 2017-2019 and for 2015-2019.

886 Projects concerning depots, where trains are stabled, serviced and maintained.

Table 41: Parties' and competitors' order intake – Interlocking equipment – Netherlands

Competitor	Order intake (EUR million) 2017-2019	Share of order intake (%) 2017-2019	Order intake (EUR million) 2015-2019	Share of order intake (%) 2015-2019
Alstom	[...]	[40-50]%	[...]	[40-50]%
Bombardier	[...]	[0-5]%	[...][887]	[0-5]%
Combined	[...]	[40-50]%	[...]	[50-60]%
Others[888]	[...]	[50-60]%	[...]	[50-60]%
Total	[...]	100%	[...]	100%

Source: Parties, Form CO and reply to RFI 36

(1049) Following the Transaction, the merged entity will have an estimated share of supply of [40-50]% by value. The increment to the Notifying Party's share is negligible ([0-5]%) and is even smaller if the 2015-2019 period is considered. Bombardier's total order intake of EUR […] over three years relates to the supply of [*Bombardier's interlocking equipment*] electronic interlockings for yards projects [*Information on Bombardier's customer contracts*].

(1050) Other significant competitors, including Siemens and Hima will remain, which will continue to exert a significant competitive constraint on the merged entity.

(1051) Moreover, the current market shares may not be representative of competitors' market power due to the limited order intake for standalone interlocking projects in the Netherlands in the last ten years. While the average order intake for standalone interlocking projects in the EEA countries in 2010-2019 was approximately EUR […], the Netherlands' order intake was only EUR […] for the same period.[889] As an order of magnitude this is the one third of Belgium's spent (EUR […])[890], a country with a rail network of a similar size to the Dutch rail network.

(1052) Indeed, ProRail has confirmed that it has started a tender procedure for wayside ERTMS equipment, including interlockings. As explained in paragraph (927), the goal of this tender is to contract one supplier for the main components of the wayside ERTMS system, including interlockings, for a period up to 12 years depending on planning and possible extensions. While ProRail acknowledges that Alstom, Bombardier and Siemens may have an incumbent's advantage in this respect, the Commission notes that a tender procedure for ETCS re-signalling

887 Bombardier was not able to gather precise order intake data for 2015-2016 but it is its best knowledge that order intake for those years was similar to the 2017-2019 period. As such, the annual average for the period 2017-2019 was retained for both 2015 and 2016.

888 The Parties explain that due to their lack of visibility into the interlocking equipment space, they do not know how the remaining interlocking equipment market is split between their competitors.

889 Parties' reply to RFI 36. The average order intake was calculated from the CPL by dividing the total order intake for standalone interlocking projects in the EEA in 2010-2019 by the number of the EEA countries with positive order intake for standalone interlocking projects in 2010-2019.

890 Parties' reply to RFI 36, table 4.

projects is liable to attract competition from other large players active in the EEA and consequently change the competitive conditions for the supply of interlocking equipment in the Netherlands.[891]

(1053) In addition, the Parties' interlockings do not appear to be substitutable. In the Netherlands, [*Information on Alstom's business strategy*], while [*Information on Bombardier's business strategy*].

(1054) As explained by the Parties, to be used in mainline projects, [*Confidential information on Bombardier's interlockings*].

(1055) Conversely, while Alstom's mainline interlocking equipment could [*Confidential information on the Parties' production / process secrets*].[892]

(1056) Finally, the market investigation did not reveal any concerns regarding the market of interlocking equipment in the Netherlands.

(1057) In light of the above, the Commission concludes that the Transaction is unlikely to give rise to competition concerns as a result of non-coordinated horizontal effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for interlocking equipment in the Netherlands.

8.3.1.4. Relays – Netherlands

(A) The Notifying Party's views

(1058) The Notifying Party submits that the Transaction will not give rise to competition concerns in the Dutch market for relays for the following reasons:

(a) The increment brought by the Transaction is de minims. The Parties' combined share for 2017–2019 is moderate ([30-40]%), and the increment brought by the Transaction is de minimis (below [0-5]%). Furthermore the Notifying Party submits that Alstom's entire order intake for 2015-2019 is attributable entirely to [*Information on Alstom's business strategy*]. Specifically, Alstom would receive purchase orders from [*Information on Alstom's business strategy*].[893]

(b) Additionally, Alstom does not consider Bombardier to be a close rival in relays. Rather, its closest competitors for relays are Hima, Arteche and Mors Smitt. These suppliers will continue to constrain the Parties post-Transaction.

---

891 The Parties note that the Netherlands' re-signalling strategy implies that once ERTMS has been implemented on a track section, only ERTMS equipment can be used on this section. More than seven sections of track are expected to be equipped with ERTMS, starting as of 2022 and running until 2031 – see "ERTMS. Dossier Programmabeslissing - S1 Railmap" ("ERTMS. Programme decision file - S1 Railmap") of May 17, 2019, pp. 22-23 and 27, available in Dutch at: https://www.rijksoverheid.nl/documenten/rapporten/2019/05/17/railmap-ertms-4-0

892 The Notifying Party explains in particular that *Information on Alstom's business strategy*]. Nonetheless, [*Information on Alstom's business strategy*] (see Parties' reply to RFI 36).

893 See reply to RFI 45 updating the assessment provided in Chapter C.4 of the Form CO.

(c) The Parties' products are not directly substitutable. Alstom [*Information on Alstom's business strategy*] whereas Bombardier [*Bombardier's interlockings*]. Even though Bombardier's relays [*Information on Bombardier's business strategy*]. As the Parties' relays are not substitutable and are used for different types of projects, there is, in fact, no overlap between the Parties.

(d) The Parties will not risk their relationship with ProRail by raising prices for relays. Mainline signalling projects customers, network and infrastructure operators, have a strong countervailing buyer power. The majority of Alstom's relays order intake in the Netherlands for 2017–2019 includes sales to ProRail, namely [90-100]% of the total order intake for this period. ProRail is the ultimate customer for both ETCS ATP wayside and interlockings projects, both of which are much larger in terms of value than signalling products orders. Thus, the Parties have no interest to raise prices for relays post-Transaction as that would jeopardize their relationship with ProRail, and endanger not only the Parties' future sales of signalling products but also any future award of mainline signalling projects in the Netherlands.

(B) The Commission's assessment

(1059) Table 42 illustrates the Parties' and their competitors' market shares in the market for relays in the Netherlands.

Table 42: Parties' and competitors' order intake – Relays – Netherlands

Competitor	Order intake (EUR million) 2017-2019	Share of order intake (%) 2017-2019	Order intake (EUR million) 2015-2019	Share of order intake (%) 2015-2019
Alstom	[...]	[30-40]%	[...]	[20-30]%
Bombardier	[...]	[0-5]%	[...][894]	[0-5]%
Combined	[...]	***[30-40]%***	[...]	***[20-30]%***
Others[895]	[...]	[60-70]%	[...]	[70-80]%
Total	[...]	100%	[...]	100%

Source: Parties, Form CO and reply to RFI 36

(1060) As can be seen from Table 42, the merged entity's combined market share is moderate for 2017-2019 ([30-40]%) and is even lower if a 5-year period is considered ([20-30]%).[896] Bombardier is a marginal player in relays in the

894 Bombardier was not able to gather precise order intake data for 2015-2016 but it is its best knowledge that order intake for those years was similar to the 2017-2019 period. As such, the annual average for the period 2017-2019 was retained for both 2015 and 2016.

895 The Parties explain that due to their lack of visibility into the relays space, they do not know how the remaining interlocking equipment market is split between their competitors.

896 While the Commission notes that Alstom's [*Information on Alstom's order intake*], it still considers these sales relevant for the horizontal assessment of this market.

Netherlands. It has a negligible order intake of EUR […] in 2017 and EUR […] in 2018, resulting from sales to one customer, namely […]. Bombardier has not had any relays order intake in the last year.

(1061) Furthermore, ProRail confirms its policy to switch to electronic interlockings instead of relay based ones during 'end-of-life' renewals or major wayside legacy signalling projects.[897] ProRail further explains that Bombardier's relays are not substitutable to the relays used in the Netherlands and that no relays purchased by RroRail in the last three years for use in open wayside signalling systems, for minor alterations to existing relay based interlockings, for new electronic interlockings or for replacement as part of maintenance were supplied by Alstom or Bombardier.[898]

(1062) Siemens confirms that there is general trend among EEA customers to switch to electronic interlockings instead of relay based ones which will likely lead to a decrease in the use of relays.[899]

(1063) Furthermore, the market investigation did not reveal any concerns regarding the market of relays in the Netherlands.

(1064) In light of the above, the Commission concludes that the Transaction is unlikely to give rise to competition concerns as a result of non-coordinated horizontal effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for relays in the Netherlands.

8.3.1.5. Euro-balises – EEA

(A) The Notifying Party's view

(1065) The Notifying Party submits that no competition concerns should arise as a result of the Transaction due to the Parties' moderate combined share and the existence of several suppliers will continue to exercise competitive constraint on the Parties post-Transaction.

(B) The Commission's assessment

(1066) Table 43 illustrates the Parties and their competitors' market shares in the EEA market for Euro-balises in 2017-2019.

897 Reply to RFI 31.
898 Reply to RFI 31.
899 Reply to RFI 28.

Table 43: Parties' and competitors' order intake – Euro-balises - EEA

Competitor	Order intake (EUR million) 2017-2019	Share of order intake (%) 2017-2019
Alstom	[...]	[5-10]%
Bombardier	[...]	[10-20]%
Combined	[...]	***[20-30]%***
Others (incl. Siemens, Hitachi, Mermec, Sigma)[900]	[...]	[70-80]%
Total	[...]	100%

Source: Parties, reply to RFI 18

(1067) The Parties' combined market share is moderate. In addition, there will be several suppliers post-Transaction that will continue to exercise competitive constraint on the Parties, both established players such as Siemens and Hitachi and smaller suppliers such as Mermec and Sigma that supply ETCS balises on a standalone basis.

(1068) In addition, Alstom will continue to face competition by several suppliers post-Transaction. These include Siemens, Hitachi, Mermec,[901] Sigma, as well as a few other smaller suppliers which are active at a national level (such as RailMil in Poland).

(1069) Finally, the market did not reveal any concerns regarding the impact of the Transaction on the market for Euro-balises in the EEA.[902]

(1070) In light of light of the above, the Commission concludes that the Transaction is unlikely to give rise to competition concerns as a result of non-coordinated horizontal effects, either through the creation of strengthening of a dominant position or otherwise significantly impeding effective competition, in the market for Euro-balises in the EEA.

900 The Parties explain that they lack visibility in the area of ETCS balises sold on a standalone basis in the EEA.

901 Mermec is offering Sigma Digitek rebranded balises – see the Parties' reply to RFI 45.

902 One competitor notes that currently only Alstom, Siemens and Bombardier are reliable suppliers of Euro-balises in the EEA. This competitor is concerned that following the Transaction it will lose Bombardier as a supplier and will be only left with Siemens since Alstom's policy is not to supply Euro-balises to third competing parties in the EEA – see reply to RFI 29 and Q5, question 35. However the Commission notes that there are currently other reliable suppliers of Euro-balises in the EEA. In addition, as [a large percentage] of Alstom's sales in 2017-2019 were internal, [*Information on Alstom's business strategy*], (see reply to RFI 45) and Bombardier's market share is moderate, it is unlikely that the Transaction will lead to a significant change in the Parties' market power.

8.3.2. Vertical effects

8.3.2.1. The Notifying Party's views

(1071) The Notifying Party has identified vertically affected markets in the supply of track circuits as an input for the downstream markets for mainline wayside signalling projects in the UK and interlocking equipment and relays as an input for the downstream markets for mainline wayside signalling projects in the Netherlands.[903]

(A) Track circuits - UK

(1072) The Notifying Party identifies vertical relationships between Bombardier's upstream activities in the supply of track circuits in the UK and the Parties' downstream activities on the markets for interlocking projects (where Alstom represents [10-20]% of the market) and ETCS ATP wayside re-signalling projects. The Notifying Party submits that no input foreclosure concerns arise because (i) the increment in the upstream market is very low; (ii) track circuits are being replaced by axle counters which reduces the ability of the merged entity to foreclose access to track circuits to its downstream rivals; (iii) neither Alstom nor Bombardier have had an ETCS wayside re-signalling project in the UK over the last ten years;[904] (iv) any attempt to foreclose competition would be neutralised by Network Rail who can purchase track circuits directly from the merged entity.

(B) Interlocking equipment – Netherlands[905]

(1073) The Notifying Party submits that the Transaction gives raise to vertically affected markets as a result of the Parties' upstream supply of interlocking equipment in the Netherlands and their downstream presence in the market for interlocking projects and ETCS wayside re-signalling projects. However, the Transaction cannot plausibly be expected to raise any competition concerns for the following reasons: (i) Bombardier is a marginal player with a de minimis market share in the upstream market; (ii) Bombardier does not currently compete directly with Alstom as the [*Bombardier*] interlockings it supplies first, [*Information on Bombardier's production / process secrets*], second, [*Information on Bombardier's business strategy*]; (iii) Bombardier is a marginal player in the downstream markets for interlockings projects and ETCS ATP wayside re-signalling; (iv) national shares of ETCS wayside re-signalling projects are not relevant for this assessment as re-signalling suppliers do not need to have nationally homologated interlockings to compete; (v) suppliers on the downstream market for mainline signalling projects typically source their interlocking equipment internally; (vii) the upcoming ERTMS roll-out will change the competitive conditions in the Netherlands.

---

903 The market for ETCS OBU products sold on a standalone basis is also technically vertically affected at the EEA level on the basis of the Parties' activities in the downstream market for ETCS OBU projects. Nonetheless, since the Parties' ETCS OBU activities mainly project-related and Bombardier's order intake for ETCS OBUs sold as standalone products in the EEA in 2017-2019 amounted only to EUR […], this vertical relationship will not be examined further.

904 Bombardier's only ETCS wayside project in the UK was a EUR […] test project. This project is not a re-signalling project, but a project to test products in a test track, and the train detection function is performed via axle counters.

905 The Parties' assessment in Chapter C.4 of the Form CO was amended and completed by their reply to RFI 45.

(C) Relays – Netherlands

(1074) The Notifying Party identifies a vertical relationship between Alstom's upstream supply of relays for mainline signalling and the Parties' downstream activities on the markets for mainline interlocking projects and ETCS ATP wayside re-signalling projects.

(1075) The Notifying Party submits that the merged entity will not have the ability or incentive to foreclose access to relays in the Netherlands to downstream competitors or increase their costs because (i) Alstom's order intake in relays in 2015-2019 is attributable [*Information on Alstom's business strategy*]; as such it is not an upstream product for interlockings projects or ETCS ATP wayside projects; (ii) the increment from the proposed Transaction is *de minimis*, as Bombardier's share is <[0-5]% in relays and its offering is not substitutable with the relays supplied by Alstom; (iii) post-Transaction, there will be alternative suppliers that will continue to constrain the Parties; (iv) downstream suppliers typically source their relays internally; (v) relays represent negligible a input into interlockings and ETCS ATP wayside re-signalling projects; (vi) the Parties' share in the EEA-wide market for re-signalling projects is only c. [20-30]%, while Bombardier is a marginal player in the downstream markets for interlockings projects and ETCS ATP wayside re-signalling and the increment from the proposed Transaction in the Netherlands is very small (c. [5-10]%);[906] (vii) the competitive picture in the Netherlands will change substantially as a result of the upcoming roll-out; (viii) sophisticated customers exercise countervailing buyer power and could easily sanction any attempt to foreclose competition.

(1076) Furthermore, the merged entity will have neither the ability nor the incentive to engage in customer foreclosure practices, in particular by restricting its competitors on the upstream segment for relays from access to downstream customers. Bombardier currently sources its relays internally, while Alstom, which sources its relays externally, will still have to rely on an external supplier to obtain relays for the relevant mainline signalling post-Transaction as the Parties' relays are not substitutable.

8.3.2.2. The Commission's assessment

(1077) Table 44 provides an overview of the market shares of the Parties in both the upstream and downstream vertically affected markets, taking into account the appropriate product and geographic market definition.

906 The Notifying Party explains that the [70-80]% order intake share in ETCS ATP wayside re-signalling projects in the Netherlands for 2010-2019 derives from […] associated with an order intake of EUR […]. Following a conservative approach, all signalling order intake for this project was allocated to Alstom although it won this project in consortium with […]. Bombardier's [5-10]% order intake share in ETCS wayside re-signalling derives from […] associated with an order intake of EUR […].

Table 44: Parties' market shares in the upstream and downstream vertically affected markets – EEA and national

Upstream market (2017-2019)				Downstream market (2010-2019)			
Product/ Geography	**Alstom**	**BT**	**Combined**	**Product/ Geography**	**Alstom**	**BT**	**Combined**
Track circuits/UK	[0-5]%	[40-50]%	**[50-60]%**	ETCS ATP Wayside re-signalling/EEA	[10-20]%	[5-10]%	**[20-30]%**
				Interlocking projects/UK	[10-20]%	-	**[10-20]%**
Interlocking equipment/Netherlands	[40-50]%	[0-5]%	**[40-50]%**	ETCS ATP Wayside re-signalling/EEA	[10-20]%	[5-10]%	**[20-30]%**
				Interlocking projects/NL	[30-40]%	[5-10]%	[30-40]%
Relays/Netherlands	[30-40]%	[0-5]%	**[30-40]%**	ETCS ATP Wayside re-signalling/EEA	[10-20]%	[5-10]%	**[20-30]%**
				Interlocking projects/ NL	[30-40]%	[5-10]%	[30-40]%

Source: Parties, Form CO and market share table annex C.1.b –III.B.1

(A) Track circuits

(1078) Mainline track circuits are used as an input for interlocking projects and ETCS ATP wayside projects (re-signalling).[907]

(A.i) Input foreclosure

(1079) The Commission considers that the Transaction will not give the merged entity the ability and incentive to foreclose downstream signalling project competitors in the UK, for the reasons set out below.

(1080) First, as explained in paragraph (1021), Alstom does not currently compete with Bombardier in the upstream market for track circuits, as [*Information on Alstom's business strategy*]. In any event, the increment brought about by the Transaction in the upstream market is low.

(1081) Furthermore, track circuits are gradually being replaced by axle counters in the UK. As explained in paragraph (1029), Network Rail has confirmed its strategy to replace track circuits by axle counters in the medium to long term. Network Rail notes in

907 Form CO, Chapter C.4.

this respect that its signalling asset policy requires all new projects to be deployed using axle counters. Track circuits will be replaced as part of major signalling renewals in line with the timeframe for ETCS deployment, with life-extension in the interim.

(1082) In addition, upstream suppliers will remain after the Transaction, such as Howells Railway Products and Unipart Rail, representing [50-60]% of the order intake in this market.

(1083) Moreover, the Parties activities' in the downstream markets are limited. Alstom's market share in interlocking projects in the UK is [10-20]% and Bombardier is not active in this market. ORR has explained that while Bombardier is one of a relatively small number of global suppliers that is capable of bidding for major signalling projects, its wayside mainline signalling business in Great Britain has historically been on a significantly smaller scale than that of Alstom, with no control of an approved interlocking technology in the country. Furthermore even if, according to ORR, Alstom is one of the two holders of the intellectual property of the installed base of interlocking technology in Great Britain ((Smartlock), the other one being Siemens (with Westlock)), Alstom's market share in wayside signalling projects involving interlockings for 2010-2019 are low.[908]

(1084) Regarding ETCS ATP wayside re-signalling projects, the Parties' combined market share in the EEA is moderate ([20-30]%). Their combined market share in re-signalling projects for the same period, if only the UK is considered, is [0-5]%.[909]

(1085) ORR has expressed concerns that, due to Bombardier's strong presence in the track circuit market and Alstom's strength in the downstream signalling projects markets, there is a risk that the merged Parties could restrict access to Bombardier's track circuit product (EBI Track product) to suppliers that rely on it for signalling projects.

(1086) However this concern is mainly based on the market shares presented to the Commission in the Siemens/Alstom case, where Bombardier was reported as holding a very significant market share in track circuits in the UK. However, according to the Notifying Party's best estimate Bombardier's market share in track circuits has decreased to below [40-50]%, both for the 2017-2019 and the 2015-2019 period.[910] Moreover, given the gradual replacement of track circuits by axle counters in the country, the existence of alternative upstream suppliers and the Parties' moderate market shares in the relevant downstream markets, the Commission considers that the Transaction will not lead to any input or customer foreclosure post-Transaction.

(1087) Finally, no other concerns were raised during the market investigation with respect to possible vertical effects of the Transaction on the upstream market for track

---

908 [10-20]% in interlocking projects, [0-5]% in legacy wayside ATP projects and 0% in ETCS ATP re-signalling projects – see Form CO, annex C.1.b – III.B.1.

909 Form CO, annex C.1.b – III.B.1 (Alstom: 0%, Bombardier [0-5]%).

910 The Parties submit that as they do not have the knowledge of the exact track circuits market size in the UK, they are not able to assess their market position with certainty. However the Parties consider that the data provided in Siemens/Alstom should not be used to inform the Commission's conclusions as to the Parties' position in track circuits in the UK, as this data did not include Bombardier's data, and the time period for which the data was provided in that case is 2015-2017, and not 2017-2019.

circuits in the UK and the downstream markets for interlocking projects and ETCS ATP wayside re-signalling projects.

(A.ii) Customer foreclosure

(1088) The Commission considers that the merged entity will not have the ability or the incentive to foreclose rival track circuit suppliers by restricting their access to a sufficient customer base, for several reasons.

(1089) First, as explained, Bombardier's activities in the relevant downstream markets are limited, while Alstom has not been active in the ETCS ATP wayside re-signalling segment over the last ten years and [*Information on Alstom's business strategy*].

(1090) Second, several customers of track circuits, such as Atkins and Network rail, will remain post-Transaction.

(1091) Third, the market investigation did not reveal any concerns with respect to the Parties' ability or incentive to engage in customer foreclosure post-Transaction.

(A.iii) Conclusion

(1092) In light of the above, the Commission considers that the Transaction will not materially affect the ability or the incentive of the merged entity to engage in any input or customer foreclosure strategy post-Transaction.

(B) Interlocking equipment – Netherlands

(1093) Mainline interlocking equipment is used as an input for interlocking projects and ETCS ATP wayside re-signalling projects.

(B.i) Input foreclosure

(1094) The Commission considers that the Transaction will not give the merged entity the ability and incentive to foreclose downstream signalling project competitors in the Netherlands, for the reasons set out below.

(1095) First, the merged entity's combined market share upstream overall is moderate ([40-50]%), while the increment to the Notifying Party's share is negligible ([0-5]%) and is even smaller if the 2015-2019 period is considered [0-5]%. Bombardier's total order intake of EUR […] over three years relates to the supply of [*Bombardier's*] electronic interlockings for yards projects to [*Information on Bombardier's business strategy*].[911]

(1096) Second, Alstom's sales of interlocking equipment in the Netherlands in the 2015-2019 period are not [*Information on Alstom's business strategy*].[912]

(1097) Third, as explained in paragraph (1051) the current market shares may not be representative of competitors' market power due to the limited order intake for standalone interlocking projects in the Netherlands in the last ten years.

[911] Form CO Chapter C.4 and Parties' reply to RFI 45.
[912] Parties' reply to RFI 45 and ProRail's reply to RFI 46.

(1098) Fourth, alternative suppliers, including Siemens and Hima, will remain post-Transaction.

(1099) Fifth, as explained in paragraphs (1053) to (1055), the Parties interlocking products do not appear to be substitutable. Bombardier's […] interlockings [*Information on Bombardier's business strategy*], while [*Information on Bombardier's business strategy*].

(1100) Sixth, ProRail has confirmed that it has started a tender procedure for wayside ERTMS equipment, including interlockings. As explained in paragraph (927), the goal of this tender is to contract one supplier for the main components of the wayside ERTMS system, including interlockings, for a period up to 12 years depending on planning and possible extensions. While ProRail acknowledges that Alstom, Bombardier and Siemens may have an incumbent's advantage in this respect, the Commission notes that a tender procedure for ETCS re-signalling projects is liable to attract competition from other large players active in the EEA and consequently change the competitive conditions for the supply of interlocking equipment in the Netherlands.

(1101) Finally, the market investigation did not reveal any concerns relating to vertical links arising due to the Parties presence in the upstream market for interlocking equipment in the Netherlands and the downstream markets for interlockings and ETCS ATP wayside re-signalling projects.

(B.ii) Customer foreclosure

(1102) The Commission considers that the merged entity will not have the ability or the incentive to foreclose rival interlocking equipment suppliers by restricting their access to a sufficient customer base, for the following reasons.

(1103) First, Bombardier is a minor player in the downstream market for interlocking projects in the Netherlands, with a [5-10]% market share for the 2010-2019 period.[913] Indeed, during 2010-2019 it won only […] projects, […] of which was non-contestable.[914]

(1104) Second, concerning the EEA market for ETCS ATP wayside re-signalling projects, the merged entity will have a relatively limited market share (approximately [20-30]%, which is even lower ([10-20]%), if the last five years are considered), with an increment below [5-10]%. And while the Parties do have a significant market share based on order intake for ETCS ATP wayside re-signalling projects specifically in the Netherlands, the Commission notes that the relevant market has an EEA-wide dimension, in accordance with the results of the market investigation. Therefore, any possible market share at national level is not *per se* indicative of particular market power. This is also so, due to the limited amount of tenders in the last ten years in the Netherlands, pending the upcoming ERTMS roll-out.[915]

(1105) Finally, the market investigation did not reveal any concerns relating to vertical links arising due to the Parties presence in the upstream market for interlocking equipment

[913] See paragraph (923) above.
[914] Form CO, Chapter C.1.b., paragraph 63.
[915] Parties' reply to RFI 45 and annex C.1.b-III.B.3. to Chapter C.1.b to the Form CO.

in the Netherlands and the downstream markets for interlockings and ETCS ATP wayside re-signalling projects.

(B.iii) Conclusion

(1106) In light of the above, the Commission considers that the Transaction will not materially affect the ability or the incentive of the merged entity to engage in any input or customer foreclosure strategy post-Transaction.

(C) Relays – Netherlands

(1107) Mainline relays are used as an input for interlocking projects and ETCS ATP wayside re-signalling projects.

(C.i) Input foreclosure

(1108) The Commission considers that the Transaction will not give the merged entity the ability and incentive to foreclose downstream signalling project competitors in the Netherlands, for the following reasons.

(1109) First, the Parties combined market share in the upstream market for relays is overall moderate ([30-40]% for the 2017-2019 period and [20-30]% for the 2015-2019 period) and the increment brought about by the Transaction is minimal (below [0-5]%).

(1110) Second, as already explained, the Parties' relays are not considered substitutable.

(1111) Third, the Parties' supplies to their competitors are already very limited. In particular, in 2015-2019, Alstom supplied relays in the Netherlands only to end-customers, while Bombardier supplied relays to a single non-end customer ([…]) for a negligible order intake of approximately EUR […], which is reflective of its [0-5]% order intake share over the last three years.

(1112) Fourth, there are multiple alternative sources of relays in the Netherlands, accounting for more than 60% of order intake.

(1113) Fifth, as the Parties explain, relays represent a negligible input into ETCS ATP wayside re-signalling projects from a commercial perspective. Generally, the average cost of relays is below [0-10]% of the overall value of an ETCS wayside re-signalling project and below [0-10]% of the overall value of an interlockings projects in the Netherlands. [916] Thus, any hypothetical price increase for relays post-Transaction would not improve the merged entity's competitive position on the downstream segment because it would not meaningfully increase the total costs of its downstream rivals.

(1114) Sixth, as mentioned in paragraph (926), Bombardier has a limited role in this market, with only […] projects in 2010-2019, […] of which was non-contestable. Therefore the Transaction is not likely to change the Parties incentives to foreclose.

[916] Reply to RFIs 36 and 45.

(1115) Finally, the market investigation did not reveal any concerns relating to vertical links arising due to the Parties presence in the upstream market for relays in the Netherlands and the downstream markets for interlockings and ETCS ATP wayside re-signalling projects.

(C.ii) Customer foreclosure

(1116) The Commission considers that the merged entity will not have the ability or the incentive to foreclose rival relays suppliers by restricting their access to a sufficient customer base, for the following reasons.

(1117) First, Bombardier is currently sourcing its relays [*Information on Bombardier's business strategy*], while Alstom is obtaining its relays [*Information on Alstom's business strategy*]. However, as explained, the Parties' relays are not considered substitutable. Therefore Alstom will still need to rely on [*Information on Alstom's business strategy*] for the relevant downstream projects. Other customers will remain post-Transaction, such as ProRail.[917]

(1118) Second, as mentioned, the market investigation did not reveal any concerns relating to vertical links arising due to the Parties presence in the upstream market for relays in the Netherlands and the downstream markets for interlockings and ETCS ATP wayside re-signalling projects.

(C.iii) Conclusion

(1119) In light of the above, the Commission considers that the Transaction will not materially affect the ability or the incentive of the merged entity to engage in any input or customer foreclosure strategy post-Transaction.

(D) Conclusion on vertical effects

(1120) The Commission therefore considers that the Transaction will not materially affect the ability or the incentive of the merged entity to engage in any input or customer foreclosure strategy post-Transaction.

9. MARKET DEFINITION – URBAN SIGNALLING

9.1. Introduction

(1121) Urban (also known as 'mass transit') signalling systems ('urban signalling') provide safety controls for metro and light rail networks. They prevent collisions between trains and respond to other challenges faced by network operators such as network congestion, security, and capacity constraints. As such, urban signalling systems are increasingly designed not only to ensure safety, but also to allow operators to improve the utilisation of their networks by allowing more trains to move more quickly and efficiently.

(1122) Urban signalling is principally a project-based business. Projects typically include project specific engineering, development and project management, manufacturing

[917] The Parties have made no sales to ProRail in the last three years.

and/or procurement of equipment, installation and testing, and sometimes maintenance services. Projects typically comprise a signalling system including multiple subsystems as well as on-board and trackside units.

(1123) Urban signalling systems tend to involve a complete system tendered together rather than subsystems tendered separately. This reflects the fact that in urban projects, (a) the customer is the same for both on-board and trackside elements; and (b) urban Signalling projects are typically procured for a line or group of lines in their entirety including all the necessary elements for that line.[918]

(1124) In urban transport there is no interoperability requirement between networks in different cities. Within a city network, trains typically run on self-contained lines, meaning that signalling systems also do not usually need to interoperate between lines. By contrast, tenders for the extension of a specific line on a given network need to be compatible with the existing line. A non-incumbent supplier on this line would need either (i) to invest in an interface to interoperate with the signalling system existing on the line, or (ii) re-signal the entire line to compete for a line extension. [919]

(1125) Urban signalling projects are based on conventional technology or communication-based train control (or 'CBTC').

(1126) Conventional urban signalling systems were developed and employed based on a fixed block system. Similar to mainline signalling systems, the track is divided into segments called 'blocks'. Sensors (either track circuits or axle counters) are then placed on the track to determine whether any part of a train is occupying a block. Until such a block is free again, the next train cannot enter the block. This creates a fixed safety buffer between the train that is occupying the block and the following train. [920]

(1127) Figure 3 illustrates how conventional technology works in metro. The sensors will detect whether a train is on any section of a block. The next train's on-board unit will only be told to advance (known as being given a 'movement authority') when the upcoming block is completely vacant. This is because the system only recognises that the block is occupied but does not identify where the train is within the block. The following train will therefore be unable to enter an entire block until the whole of the previous train has exited the block.[921]

---

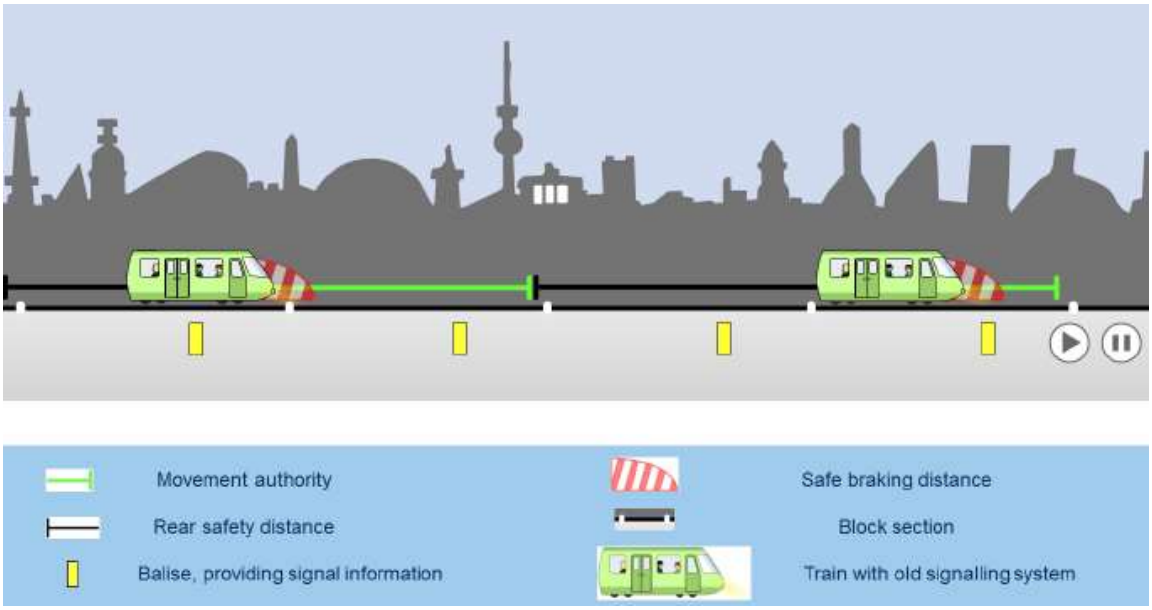
[918] Form CO, Chapter C.2, paragraph 5.

[919] Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 597 and Form CO, Chapter C.2, paragraph 6.

[920] Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 599 and Form CO, Chapter C.2, paragraph 7.

[921] Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 600 and Form CO, Chapter C.2, paragraph 8.

Figure 3: Urban signalling (Metro) – Conventional technology



Source: Form CO, Chapter C.2, Figure 1.

(1128) CBTC systems are based on so-called 'moving' blocks that interact with the train speed and surroundings. These systems rely on constant radio-based communication between the train and the track to identify with more precision where a train is located at a given moment in time. [922]

(1129) The Institute of Electrical and Electronics Engineers ('IEEE') defines a CBTC system as a 'continuous, automatic train control system utilising high-resolution train location determination, independent of track circuits; continuous, high-capacity, bidirectional train-to-wayside data communications; and train-borne and wayside processors capable of implementing automatic train protection (ATP) functions, as well as optional automatic train operation (ATO) and automatic train supervision (ATS) functions'[923]. IEEE publishes a CBTC 'recommended practice' that lays out a number of key or minimum functionalities for the design and functional allocation of CBTC systems, without prescribing particular technical or engineering criteria. According to the recommendation, the main principles of a CBTC system include, among others, (i) a high resolution train location determination; (ii) communication of this train location; (iii) determination of the movement authority for each CBTC-equipped train, based on train location and inputs from external interlockings; and (iv) communication of the movement authority to the specific train. [924]

(1130) As shown in Figure 4, the fixed block system is replaced by a system that calculates blocks based on the actual positions of the trains and the required braking distance (plus a buffer) (the so-called 'moving block' system).

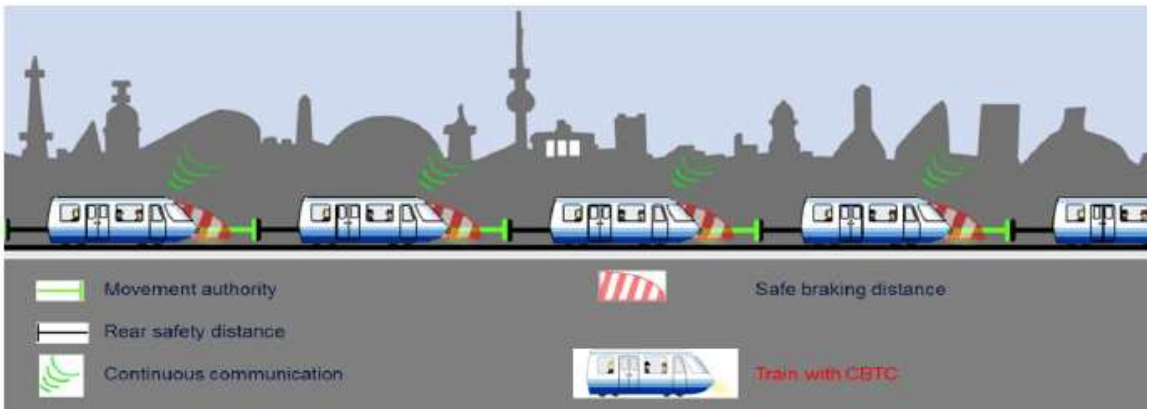
---

922 Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 601 and Form CO, Chapter C.2, paragraph 9.

923 Form CO, Chapter C.2, paragraph 5; IEEE 1474.1-2004, 'IEEE Standard for Communications-Based Train Control (***CBTC***) Performance and Functional Requirements' at: https://www.techstreet.com/ieee/standards/ieee-1474-1-2004?gateway_code=ieee&vendor_id=3552&product_id=1214446

924 Commission Decision in Case M.8677– *Siemens/Alstom* (2019), recital 602.

Figure 4: Urban signalling (Metro) – CBTC technology



Source: Form CO, Chapter C.2, Figure 2.

9.2. Relevant markets

(1131) Both Alstom[925] and Bombardier[926] are active in all main segments of the urban signalling projects market: (i) conventional metro signalling projects, (ii) metro CBTC signalling projects, and (iii) light rail signalling projects. They supply their respective urban signalling systems either as standalone projects or with urban rolling stocks in bundled projects.

(1132) The Parties overlap in the following possible markets: (i) conventional metro signalling projects at EEA-level; (ii) light rail signalling projects at EEA-level and in Germany; (iii) standalone CBTC signalling projects for metros at EEA-level; and (iv) bundled CBTC solutions and urban rolling stock projects.

(1133) In the following sections, the Commission analyses the product and geographic market definitions in the sector of urban signalling.

(1134) The Parties overlap in the following possible markets: (i) conventional metro signalling projects at EEA-level; (ii) light rail signalling projects at EEA-level and in Germany; (iii) standalone CBTC signalling projects for metros at EEA-level; and (iv) bundled CBTC solutions and urban rolling stock projects.

(1135) In the following sections, the Commission analyses the product and geographic market definitions in the sector of urban signalling.

[925] Alstom's offerings in conventional metro signalling includes the Urbalis 200. In metro CBTC signalling, Alstom's portfolio includes the Urbalis 300 and 400, the Urbalis Fluence, and the OCTYS (for "Open Control of Trains, Interchangeable & Integrated System") which is a particular CBTC system required on certain lines by RATP in Paris, and not offered by Bombardier. Alstom is active in the light rail signalling segment through its Pegasus 101 solution.

[926] Bombardier's main metro CBTC signalling offerings include the CITYFLO 450, and CITYFLO 650. In conventional metro signaling solutions, Bombardier's offerings include the CITYFLO 250, the CITYFLO 350, and the CITYFLO 550. Bombardier is active in the light rail signalling segment through CITYFLO 150 and CITYFLO 250 and CITYFLO 650.

9.2.1. Product market definition

9.2.1.1. Distinction between standalone conventional urban signalling projects for metro and standalone urban signalling projects for light rail.

(A) The Notifying Party' view

(1136) While the Notifying Party considers that standalone conventional urban signalling projects for light rail are generally smaller in value and simpler than the standalone urban signalling projects for metro, it argues that the exact delineation of the relevant product markets can be left open as the Transaction would not give rise to competitive concerns under any alternative market definition.[927]

(B) The Commission's decisional practice

(1137) In case *Siemens/Invensys*[928], the Commission considered a possible distinction between signalling projects for metros and light rail due to differences in safety requirements and price but ultimately left the exact market definition open.

(1138) In case *Siemens/Alstom*[929], similarly, the Commission left the definition of the market for urban signalling open because the Notifying Party submitted commitments addressing the Commission's competition concerns regarding urban signalling.

(C) The Commission's assessment

(1139) The market investigation confirmed that standalone urban signalling projects for metro are distinct from standalone urban signalling projects for light rail for several reasons. First, metro lines typically require special infrastructure and a more complex level of automation than light rail lines. They also use different principles and technologies. For instance, on tramways, conventional signalling is used only in the 'manoeuvre zones' in a discontinued manner using a detection system of other trains called 'transit zones' as opposed to the 'blocks' system used on metro lines. Then, trams are run mainly on a 'driving by sight' basis and aided by a road-type signalisation while a metro signalisation system controls train movement continuously and results in controlled train operation. In addition, in metro lines automation levels are superposed on the signalling system to assure increased security and increase operational performance.

(1140) Consequently higher levels of automation, lower dependence on the driver, higher level of security at higher speeds and continuous train control justify the segmentation between urban signalling systems for metro and urban signalling systems for light rail.

(1141) Notwithstanding the above and in any event, the exact delineation of the signalling market projects can be left open as the Transaction will not give rise to competition concerns under any possible market definition.

---

927 Form CO, Chapter C.3, paragraph 20.

928 Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), paragraph 13.

929 Commission Decision in Case M.8677 – *Siemens/Alstom*, recital 1297.

9.2.1.2. Distinction between conventional and CBTC signalling for metros

(A) The Notifying Party's view

(1142) The Notifying Party considers that CBTC signalling for metros ('Metro CBTC') would belong to a separate market from conventional signalling for metros.[930]

(1143) In particular, the Notifying Party argues that CBTC provides added functionality not typically provided by conventional systems such as (i) improved headway (allowing for reduced interval between trains, known as 'headway', and therefore more trains per minute and a significantly larger number of passengers transported), (ii) reduced wayside equipment (as CBTC relies more heavily on train-to-train communication, it reduces the amount of wayside equipment that is required, which can lead to reduced maintenance costs), (iii) increased automation and more sophisticated operations allowing higher levels of automation than conventional signalling systems (in some cases entirely unattended train), and (iv) increased security (continuous and automated monitoring and control of train speed, which allows higher safety requirements to be met vs. reliance on individual drivers).

(1144) Finally, the Notifying Party underlines that CBTC systems use more advanced and complex technologies and, as a result, tend to be more expensive than conventional signalling systems (for example, the average value of a CBTC project over the 2010 2019 period was around EUR […], compared to around EUR […] for conventional projects).

(B) The Commission's decisional practice

(1145) In *Siemens/Alstom*, the Commission left the market definition for urban signalling open, including as concerns metro CBTC and conventional signalling for metros. [931]

(C) The Commission's assessment

(1146) The respondents to the Commission's market investigation confirm the Notifying Party's view that metro CBTC signalling systems belong to a separate market, distinct from conventional signalling for metros due to, among others, CBTC's added functionalities, reduced wayside equipment, improved energy efficiency, increased security and its use of use more advanced and complex technologies which make CBTC systems more expensive than the conventional signalling equipment.[932]

(1147) However, the exact delineation of the metro signalling markets can be left open as the Transaction will not give rise to competition concerns under any possible market definition.

930 Form CO, Chapter C.2, paragraphs 14 to 16.

931 Commission Decision in Case M.8677 – *Siemens/Alstom*, recital 1297.

932 Q11 and Q12, replies to question 3.

9.2.1.3. Distinction between markets for standalone urban signalling projects and bundled urban signalling projects.

(A) The Notifying Party' view

(1148) Urban signalling for projects that consist in the bundled procurement of urban rolling stock and signalling systems are referred to 'bundled projects'. The Notifying Party considers that segmenting the CBTC market according to whether projects are bundled or standalone would not be appropriate. Neither, according to the Notifying Party,[933] would it be necessary to reach a view on this point in the present case given the lack of competition concerns under any alternative market segmentation.

(1149) To that effect, the Notifying Party explains that the provision of CBTC solutions is a project-based market and that, as a consequence, bright line distinctions between hypothetical segmentations between bundled and unbundled projects would not correspond to any competitive reality.[934]

(1150) The Notifying Party indicates that, in any event, the same solutions can be offered in bundled or unbundled projects and that all major CBTC players would be able to compete effectively in bundled or unbundled projects.[935] Moreover, the Notifying Party argues that, on the demand-side, customers are typically free to choose whether to conduct their procurement in a bundled or unbundled manner.

(B) The Commission's decisional practice

(1151) In *Siemens/Alstom*[936], the Commission left the definition of the market for urban signalling open because the Notifying Party submitted commitments addressing the Commission's competition concerns regarding urban signalling.

(C) The Commission's assessment

(1152) The results of the market investigation confirm that there is no distinct market for bundled CBTC solutions and urban rolling stock projects, with the possible exception of CBTC solutions bundled with automated people movers.

(1153) Indeed, while some respondents argue that it is beneficial from a technical and commercial/financial perspective to bundle the rolling stock and the CBTC signalling solution, others consider that they remain free, and may sometimes prefer, for commercial and/or technical reasons, to issue separate tenders and purchase signalling and rolling stock products on an individual basis. Furthermore, some respondents argue that there is no real downside in sourcing the bundled project's components from different suppliers to the extent that their integration is well coordinated (among others, by their own engineering teams). Respondents also explain that separate procurement can be more beneficial in terms of control over the procurement process and the chosen technology. Finally, bidding data shows that, with the exception of automated people movers, CBTC and urban rolling stock are not necessarily procured together in a single tender.

933 Form CO, Chapter C.2, paragraph 21.
934 Form CO, Chapter C.2, paragraph 22.
935 Form CO, Chapter C.2, paragraph 24.
936 Commission Decision in Case M.8677 – *Siemens/Alstom*, recital 1297.

(1154) As a result, there is no reason to consider a distinct relevant market for bundled CBTC solutions and urban rolling stock, with the possible exception of the automated people movers. In any event, any relevant analysis regarding the Transaction's effects in bundled sales of CBTC and urban rolling stocks would be addressed, if required, in the only context of the assessment of possible conglomerate effects concerning the bundled sales of CBTC solutions and urban rolling stock.

(1155) In contrast, the market investigation did not allow to exclude the possible existence of a market for bundled CBTC solutions and automated people mover projects. Indeed, the Parties' bidding data shows that CBTC solutions and automated people movers are always procured together. Accordingly, for the purpose of the present decision, a market for bundled CBTC solutions and automated people movers cannot be excluded.

(1156) In any event, the relevant market definition of possible markets for, one the one hand, bundled CBTC solutions and urban rolling stock, and, on the other hand, standalone CBTC solutions can be left open as the Transaction will not give rise to competition concerns under any possible market definition.

9.2.2. Geographic market definition

(1157) In the following paragraphs, the Commission analyses the relevant geographic markets in the potential markets in which the Parties overlap.

9.2.2.1. Conventional signalling projects for metros

(A) The Notifying Party's view

(1158) The Notifying Party argues[937] that the relevant market for conventional signalling projects for metros is EEA-wide due to (i) the absence of national homologation equivalent to that in mainline signalling and (ii) the acceptance of references from across the EEA. However, the Notifying Party admits that national or local specificities exist, such as the existence of SACEM in Paris, and the presence of certain players active on a more local or regional level.

(1159) Nevertheless, the Notifying Party argues that, in any event, the exact delineation of the relevant geographic market could be left open as the Transaction would not give rise to competitive concerns under either of the alternative market definitions.

(B) The Commission's decisional practice

(1160) In *Siemens/Alstom*, the Commission left the market definition open.[938]

(C) The Commission's assessment

(1161) Most respondents to the market investigation consider that the market is at least EEA-wide due, to the absence of national homologation schemes, the acceptance of references from across the EEA or the ability to procure such systems from any

[937] Form CO, Chapter C.3, paragraphs 22 to 23.

[938] Commission Decision in Case M.8677 – *Siemens/Alstom*, recital 1297.

supplier within the EEA.[939] However the exact delineation of the relevant geographic market can be left open as the Transaction does not give rise to competition concern under any plausible geographic market whether EEA-wide, national or city-wide.

9.2.2.2. Light rail signalling projects

(A) The Notifying Party's view

(1162) The Notifying Party argues that the market for light rail signalling projects is EEA-wide, due to the absence of national homologation equivalent to that in mainline signalling, and the acceptance of references from across the EEA.[940]

(1163) The Notifying Party further argues that, in any event, the exact delineation of the relevant geographic market could be left open as the Transaction would not give rise to competitive concerns even based on a narrower assessment at national or city level.

(B) The Commission's decisional practice

(1164) In previous cases the Commission never considered the geographic scope of the urban signalling market separately but rather analysed a unified signalling market including both urban and mainline signalling projects.[941] In *Siemens/Alstom* the Commission left the market definition open.[942]

(C) The Commission's assessment

(1165) The results of the market investigation did not lead to any different conclusion than the one suggested by the Notifying Party. In any event, the exact delineation of the relevant geographic market can be left open as the Transaction will not give rise to competitive concern even based on a narrower assessment at national or city level.

9.2.2.3. CBTC signalling projects for metros

(A) The Notifying Party's view

(1166) The Notifying Party argues that the market for CBTC is at least EEA-wide, given (i) the absence of relevance of the interoperability between CBTC networks at a national or inter-city level, (ii) the safety and quality requirements that are typically broadly consistent across EEA countries (no need to comply with complex national homologation systems as in Mainline Signalling), (iii) the acceptance by EEA customers of references from CBTC projects in other EEA countries, and (iv) the safety certification on a project-by-project basis.[943]

---

939 Q11 and Q12, replies to question 12.

940 Form CO, Chapter C.3, paragraphs 22, 23 and 38.

941 Commission Decision in Case M.4337 – *Thales/Alcatel Divisions Transport et Systèmes* (2006), recitals 21-24. Commission decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recitals 22-23. Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 24-27.

942 Commission Decision in Case M.8677 – *Siemens/Alstom*, recital 1297.

943 Form CO, Chapter C.2, paragraph 61.

(B) The Commission's decisional practice

(1167) In previous cases the Commission never considered the geographic scope of the urban signalling market separately but rather analysed a unified signalling market including both urban and mainline signalling projects.[944] In *Siemens/Alstom* the Commission left the market definition open.[945]

(C) The Commission's assessment

(1168) The results of the market investigation with respect to the geographic scope of CBTC signalling projects for metros are inconclusive: while some respondents to the Commission's market investigation[946] considered that standalone CBTC projects in different locations differ to such a degree that a solution deployed in one city cannot be used in another city of the same Member State (and even less so in a city of a different Member State), others considered that the market is at least EEA-wide.

(1169) In any event, the exact delineation of the geographic market can be left open as, irrespective of the applicable geographic market definition, the Transaction will not give rise to any competitive concern on the possible market for Metro CBTC signalling even based on a narrower assessment at national or city level.

9.2.2.4. Bundled CBTC and urban rolling stock projects

(A) The Notifying Party's view

(1170) As in the case of the market for CBTC signalling projects for metros, the Notifying Party submits that, should there be a market for bundled urban signalling projects, it would be at least EEA-wide, for the reasons applicable to metro CBTC signalling projects.

(B) The Commission's decisional practice

(1171) In *Siemens/Alstom*, the Commission left the market definition open.[947]

(C) The Commission's assessment

(1172) The results of the market investigation did not lead to any different conclusion than the one suggested by the Notifying Party. In any event, the exact delineation of the relevant geographic market can be left open as the Transaction will not give rise to competitive concern even based on a narrower assessment at national or city level.

944 Commission Decision in Case M.4337 – *Thales/Alcatel Divisions Transport et Systèmes* (2006), recitals 21-24. Commission decision in Case M.4508 – *Alstom UK/Balfour Beatty/JV* (2007), recitals 22-23. Commission Decision in Case M.6843 – *Siemens/Invensys Rail* (2013), recitals 24-27.

945 Commission Decision in Case M.8677 – *Siemens/Alstom*, paragraph 1297.

946 Q11 and Q12, replies to question 11.

947 Commission Decision in Case M.8677 – *Siemens/Invensys Rail*, paragraph 1297.

10. URBAN SIGNALLING – COMPETITIVE ASSESSMENT

(1173) The Parties' combined market shares remain below [10-20]% in all potential urban signalling markets in which the Parties overlap. As a result, the Transaction does not lead to horizontally affected markets.

(1174) However, the Parties are active in various urban rolling stock markets in which they hold market shares in excess of [30-40]% that are complementary to CBTC solutions in the sense that they are subject to bundled sales. As explained above, competition concerns can arise in circumstances where the combination of products in related markets would give the merged entity the ability and incentive to leverage a strong market position in one of the markets concerned to the other by means of tying or bundling and where, in turn, such practices lead to a reduction in actual or potential rivals' ability or incentive to compete, thereby reducing the competitive pressure on the merged entity and allowing it to increase prices. As a result, the Commission has examined possible conglomerate effects in relation to CBTC and urban rolling stock.

10.1. The Notifying Party's view

(1175) The Notifying Party considers that there is no basis for competitive concerns for the following main reasons:

(a) While the Parties compete in steel wheel metros (with a limited increment of [10-20]% attributable to Bombardier), they do not compete in either automated people movers or rubber tyre metros as Alstom is not active in the former and Bombardier is not active in the latter. Furthermore, Bombardier has only won [*a small number of project(s)*].

(b) As a result, regardless of the exact market definition adopted, the Parties are distant competitors for bundled CBTC solutions and urban rolling stock projects due to their different commercial focuses and existing portfolio. Bombardier and Siemens on the one hand (in CBTC solutions and automated people movers bundles), and Siemens and Alstom on the other (in CBTC solutions and rubber tyre metros bundles), are closer competitors than Bombardier and Alstom.

(c) In addition, the Parties will continue to face strong CBTC players already present in the EEA. Any integrated or non-integrated supplier is able to supply equipment for CBTC signalling and urban rolling stock projects in the EEA and non-integrated suppliers can and do partner with others in consortia.

(d) Finally, the Transaction will also not result in input foreclosure as neither Alstom nor Bombardier acted in consortium or as subcontractors to other suppliers for their bundled offers.

10.2. The Commission's assessment

(1176) The Merged Entity's combined market shares in the possible EEA-wide[948] markets relevant for the present assessment are as follows: (i) [30-40]% in steel wheel metros (with a [10-20]% market share increment attributable to Bombardier), (ii) [80-90]% in the rubber tyre metro segment (where there is no overlap, Alstom being the sole Party active in this market), (iii) [40-50]% in the automated people mover segment (where there is no overlap, Bombardier being the sole Party active in this market), and (iv) [10-20]% of the Metro CBTC signalling market (with [0-5]% market share increment attributable to Bombardier).[949]

(1177) The Merged Entity's combined market shares in the possible EEA-wide[950] markets relevant for the present assessment are as follows: (i) [30-40]% in steel wheel metros (with a [10-20]% market share increment attributable to Bombardier), (ii) [80-90]% in the rubber tyre metro segment (where there is no overlap, Alstom being the sole Party active in this market), (iii) [40-50]% in the automated people mover segment (where there is no overlap, Bombardier being the sole Party active in this market), and (iv) [10-20]% of the Metro CBTC signalling market (with [0-5]% market share increment attributable to Bombardier).[951]

(1178) After the Transaction, the merged entity will continue to face competitors on all markets concerned. As assessed above, in section 6.4, the merged entity will face competition from several suppliers in steel wheel metros. In rubber tyre metros and automated people movers, where the merged entity will hold higher market shares, the Parties do not overlap, so that the Transaction will not generate a change in the market structure. On the Metro CBTC signalling market, the merged entity will continue to be constrained by Siemens and Thales who will remain the largest players, with market shares of [30-40]% and [30-40]%, respectively over the 2010-2019 period. The merged entity will only be the third player overall and closely followed by Hitachi (with [10-20]%).

(1179) The results of the market investigation confirm that competitors will be able to replicate possible bundles offered by the merged entity either on a stand-alone basis or in consortia with other rolling stock and/or signalling suppliers. In that context, the results of the market investigation dismissed the concerns raised by one market participant regarding the absorption by Alstom, and hence the argued 'disappearance' of Bombardier as a supplier of CBTC solutions for urban rolling stock, for the following main reasons:

(a) The Parties are already, pre-Transaction, integrated players that can compete in bundled projects with their own bundled offers. In fact, between 2010 and

---

948 The Parties do not overlap in CBTC at national and city level. The Parties do not overlap either in rubber tyre metros and automated people movers, only in steel wheel metros. The results of the market investigation confirmed the geographic definition of the steel wheel metros to be EEA-wide (including Switzerland).

949 See Section 6.4. Urban Rolling Stock.

950 The Parties do not overlap in CBTC at national and city level. The Parties do not overlap either in rubber tyre metros and automated people movers, only in steel wheel metros. The results of the market investigation confirmed the geographic definition of the steel wheel metros to be EEA-wide (including Switzerland).

951 See Section 6.4. Urban Rolling Stock.

2019, [*Information on the Parties' bidding strategy*]. Instead, [*Information based on the Parties' bidding data*];

(b) Moreover, even when excluding the merged entity (which will, post-Transaction, not represent more than [10-20]% of the Metro CBTC signalling solutions market), the remaining rolling stock-only competitors can, post-Transaction, continue to team up with Thales, Hitachi or Siemens;

(c) Finally, in any event, the Transaction induces an extremely low market share increment in CBTC signalling for metros (i.e., [0-5]%) and therefore does not appear to materially affect the Parties incentives to enter into consortia with rolling stock competitors when they are not in a position to offer a competitive offer on a standalone basis, for instance, when their existing solutions do not meet the customers' technical criteria and require substantial changes. The Transaction will consequently not impact the merged entity's incentive to enter into consortia with competitors.

(1180) In addition, counter strategies are available to customers who can switch suppliers when it comes to tendering bundled CBTC signalling and urban rolling stock projects given the typical absence of interoperability requirements between lines (or between urban and mainline networks) as well as the absence of national homologation of the kind required in mainline signalling. The market investigation indeed confirmed that (i) customers can and do procure urban rolling stock and urban signalling solutions on a separate basis, and (ii) that customers will continue to be able to mix and match CBTC signalling and urban rolling stock from different suppliers who would form partnerships to bid together.[952]

(1181) On that basis, the Merged Entity's ability to engage in foreclosure can be excluded. The Commission has therefore dismissed the possible conglomerate effects that could have arisen from the Transaction on the urban rolling stock and CBTC solutions markets.

10.3. Conclusion

(1182) Based on the above analysis, the Commission's assessment is therefore that, irrespective of the market definition adopted, the Transaction does not raise serious doubts as to its compatibility with the internal market as a result of conglomerate effects, which could create or strengthen a dominant position or otherwise impede effective competition, in the markets for CBTC signalling and the supply of metros and automated people movers.

11. PROPOSED COMMITMENTS

11.1. Analytical Framework

(1183) When a concentration raises serious doubts as to its compatibility with the internal market, the parties may undertake to modify the concentration so as to remove the

[952] Q12, replies to question 4 to 8 and 17 to 18.

grounds for the serious doubts identified by the Commission and thereby gain clearance of their merger in phase I.[953]

(1184) It is for the parties to the concentration to put forward commitments.[954] The Commission only has the power to accept commitments that are deemed capable of rendering the concentration compatible with the internal market.[955] In phase I, commitments can only be accepted where the competition problem is readily identifiable and can easily be remedied. The remedies therefore need to solve the competition problem identified in a clear-cut manner, so that it is not necessary to enter into an in-depth investigation and that the commitments are sufficient to clearly rule out serious doubts within the meaning of Article 6(1)(c) of the Merger Regulation. Where the assessment confirms that the proposed commitments remove the grounds for serious doubts on this basis, the Commission clears the merger in phase I.[956]

(1185) As concerns the form of acceptable commitments, the Merger Regulation leaves discretion to the Commission as long as the commitments meet the requisite standard.[957]

(1186) While divestiture commitments are generally the best way to eliminate competition concerns resulting from horizontal overlaps, other structural commitments, such as access remedies, or other non-divestiture remedies may be suitable to resolve concerns if they are equivalent to divestitures in their effects.[958]

(1187) In the ultimate assessment of proposed commitments, the Commission considers all relevant factors including *inter alia* the type, scale and scope of the proposed commitments, judged by reference to the structure and particular characteristics of the market concerned, including the position of the parties and other participants on the market.[959] The commitments must be capable of being implemented effectively within a short period.[960]

11.2. Procedure

(1188) In order to remove the serious doubts arising from the Transaction described in sections 6.2, 6.3, 8.2.2 and 8.3.1.2 and render the concentration compatible with the internal market, the Notifying Party submitted a set of commitments under Article 6(2) of the Merger Regulation on 9 July 2020 (the 'Initial Commitments').

(1189) The Commission launched a market test of the Initial Commitments on 10 July 2020, seeking responses from customers and competitors of the Parties. The Commission

---

953 Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (the "Remedies Notice"), OJ C 267, 22.10.2008, p.1, paragraph 5.

954 Remedies Notice, paragraph 6.

955 Remedies Notice, paragraph 9.

956 Remedies Notice, paragraph 81.

957 Case T-177/04 *easyJet v Commission* [2006] ECR II-1913, paragraph 197.

958 Remedies Notice, paragraph 19.

959 Remedies Notice, paragraph 12.

960 Remedies Notice, paragraph 9.

also received comments from national competition authorities, in particular from CMA, and rail regulators (ORR).

(1190) The Commission informed the Parties of the results of the market test on 22 July 2020.

(1191) Following the feedback received from market participants in the market test, the Parties submitted revised commitments on 30 July 2020 (the 'Final Commitments'), which are annexed to this Decision and form an integral part thereof.

11.3. Description of the proposed commitments

11.3.1. The Initial Commitments

11.3.1.1. The Very High-Speed Commitments

(1192) The Notifying Party proposes to divest Bombardier' scope of the Zefiro V300 platform and, at the option of the Purchaser, sell or lease its plant located in Vado Ligure, Italy (together, the 'Very High-Speed Commitments').

(1193) Alstom commits to transfer the Very High-Speed Commitments to an independent and unconnected party that has the financial resources, expertise, and incentive to maintain and develop the business as a viable and active competitive force in the EEA (the 'Purchaser').

(1194) In particular, the Very High-Speed Commitments comprises:

- Zefiro V300-specific IP and documentation. The Notifying Party offers to transfer all Zefiro V300-specific IP rights and documentation relating to Bombardier's scope. This includes all Zefiro V300-specific platform- and component-related IP rights, IP rights relating to the overall train design, vehicle architecture and vehicle safety and the application layer of sub-systems;

- Non-Zefiro V300-specific IP and documentation. The Notifying Party offers a non-exclusive perpetual license of IP rights and documentation that are not Zefiro V300-specific. This includes platform descriptions and all platform-specific mechanical and electrical drawings and specifications necessary to fully understand and manufacture the platform and Zefiro V300-specific sub-systems and components;

- Engineering personnel. The Notifying Party offers to transfer a team of up to […] from Bombardier's Zefiro V300 product family capable of covering all key train design elements;

- Vado Ligure site. At the option of the Purchaser, the Zefiro V300 Remedy will include the sale or lease of its state-of-the-art facility at Vado Ligure and associated personnel to allow the Purchaser to benefit from the appropriate engineering, production, and aftermarket services facilities.

(1195) Alstom also offers to transfer, at the option of the Purchaser:

- The Zefiro brand, subject to a license back for the Zefiro Express;

- Its current stock of components and spare parts;

- Up to […] personnel currently involved in providing maintenance services to Trenitalia for the Zefiro V300;

- A non-exclusive license for its train maintenance diagnostic software tools limited to Zefiro V300 applications.

(1196) In addition, the Notifying Party offers to transfer, at the option of the Purchaser, and subject to customer consent and applicable law, its contractual interest in supply and maintenance contracts for Zefiro V300 projects with Trenitalia and ILSA, including backlog (the 'Existing Projects'), and its interest in any new agreements related to the exercise of options, call-offs, and any follow-on orders by Trenitalia or ILSA.

(1197) The Very High-Speed Commitments also includes the transfer, at the option of the Purchaser, of all supply agreements with external suppliers for main components or services for Bombardier's scope of the Zefiro V300 for the Existing Projects (including by transferring all relevant IP and procurement specifications), subject to any applicable consent rights.

(1198) Furthermore, the Notifying Party offers to put in place transitional arrangements ('Transitional Arrangements'), including entering into temporary supply or licensing agreements with the Purchaser, in order to ensure a seamless transition, and a smooth transfer of all existing projects. The Transitional Arrangements would cover all ongoing projects, as well as (a) options, call offs or any follow-on very high-speed orders by existing customers, or future VHS orders placed by Trenitalia for which a call to tender was issued within […] years of closing of the divestment; or (b) future very high-speed bids by the Purchaser for new customers if submitted within […] years of closing of the divestment. The Transition Arrangements, which are designed to make the Purchaser independent as soon as possible by way of a transfer of IP rights, competencies and technology, would last until [*Confidential details of duration of transitional arrangements offered*].

(1199) For the duration of the Transitional Arrangements, the Notifying Party also offers to provide all such assistance and sub-system engineering support (e.g., know-how, training, secondments, etc.) as is necessary for the continued operation and eventual mastery by the Purchaser of Bombardier's scope of the Zefiro V300.

(1200) In the event that Hitachi acquires the Very High-Speed Commitments, the Notifying Party commits, subject to customer consent, to terminate its cooperation with Hitachi, following the Transitional Arrangements to ensure a smooth transfer of all existing projects. In the event that a Purchaser other than Hitachi acquires the Very High-Speed Commitments, Bombardier commits, at the Purchaser's option and subject to customer consent, to terminate its cooperation with Hitachi for existing projects. Alstom also undertakes to obtain Hitachi's approval for such termination, and to facilitate in good faith the Purchaser entering into a new, similar, cooperation arrangement directly with Hitachi thereby ensuring the continuation of the Zefiro V300 as a strong competing high-speed and very high-speed offering in the EEA.

(1201) Finally, the Very High-Speed Commitments set out that they do not include Bombardier's interest in its ongoing bid (in partnership with Hitachi) for the HS2

tender, and any related IP rights, know-how, documentation, personnel, and other tangible and intangible assets.

11.3.1.2. The Mainline Rolling Stock Commitments

(1202) The Commitments in mainline rolling stock consist of the divestment of (i) Alstom's Coradia Polyvalent platform and the Reichshoffen plant (the 'Coradia Polyvalent Divestment Business') and (ii) Bombardier's Talent 3 platform, and at the option of the Purchaser, the sale or lease of the Talent-3 specific carve-out of Bombardier's Hennigsdorf site ('Hennigsdorf Carve-Out Area'), (together the 'Talent 3 Divestment Business'). The Coradia Polyvalent Divestment Business and the Talent 3 Divestment Business will be transferred to an independent and unconnected party that has the financial resources, expertise, and incentive to maintain and develop the business as a viable and active competitive force in the EEA (the 'Purchaser').

(1203) The Coradia Polyvalent platform is a proven mainline platform, currently manufactured in the Reichshoffen plant in France.[961] To date, it has been sold at regional speeds […]. The Coradia Polyvalent has received homologation in France and Switzerland, and is currently undergoing homologation in Germany.

(1204) The Coradia Polyvalent Divestment Business includes the following:

- Coradia Polyvalent-specific IP rights, including the transfer of the respective Coradia Polyvalent-specific platform- and component-related IP rights;

- Coradia Polyvalent-specific documentation, including platform description and all platform-specific mechanical and electrical drawings and specifications necessary to fully understand and manufacture the platform and Coradia Polyvalent-specific sub-systems and components;

- Non-exclusive license to manufacture the EMU and bimode traction systems, limited to Coradia Polyvalent application including, at the option of the Purchaser, supply agreements for the related components;

- Access to existing components required to manufacture and improve the Coradia Polyvalent platform, including (i) a non-exclusive license to documentation related to non-Coradia Polyvalent-specific components to enable the Purchaser to source from third parties and/or, at the option of the Purchaser, supply agreements for such components; and (ii) the transfer of procurement specifications including a list of suppliers for externally sourced main components[962];

[961] The Polyvalent is a versatile platform with a modular design allowing for a 3- to 6-car configuration with different entrance heights and interior layout. It is available in both EMU and bimode traction, and is the only low-floor bimode on the market.

[962] Alstom offers to use commercially reasonable efforts to transfer or assign all contracts, agreements or relationships and understandings with third-party component suppliers relating to the main components specific to the Coradia Polyvalent platform for which Alstom relies on third-party suppliers (subject to supplier consent), also including available stock relating to the Coradia Polyvalent.

– Coradia Polyvalent existing rolling stock contracts and associated backlog. Alstom offers to transfer existing Coradia Polyvalent customer contracts and related options along with existing backlog, subject to customer consent;

– Supply and Transitional Agreements, at the option of the Purchaser, including for (i) carbody shells, bogies, and traction systems; (ii) TCMS hardware & middleware; and (iii) provide transitional services agreements for warranty services and support functions that are currently provided by Alstom's central organization.

(1205) The merged entity would retain certain R&D assets, including the IP rights, documentation and prototypes for hybrid, hydrogen or BEMU traction systems for the Coradia Polyvalent platform and the Center of excellence for carbody shells, located at the Reichshoffen plant. The Commitments also exclude the Coradia brand (which is shared with other platforms not subject to the Commitments).

(1206) The Talent 3 platform Divestment Business comprises the following main items:

– Talent 3-specific IP rights, based on an exclusive perpetual license (EEA and Switzerland) for the marketing and sale of the Talent 3 platform and all related IP rights;

– Talent 3-specific documentation, including platform description and all platform-specific mechanical and electrical drawings and specifications necessary to fully understand, design and manufacture the respective platform and to enable the Purchaser to complete ongoing projects/future bids in a stand-alone manner;

– Talent 3-specific non-exclusive license, limited to the Talent 3 project-specific applications, subsystems documentation currently shared with other Bombardier platforms and the transfer of procurement specifications including a list of suppliers for externally sourced main components[963]

– Additional assets. At the option of the Purchaser, the Parties offer a number of additional assets and services to facilitate the Purchaser's manufacturing and testing of the Talent 3, including: (i) testing services and track access at Hennigsdorf; (ii) equipment for wheelset/bogies final assembly and car body erection; (iii) Talent 1 and Talent 2 platform-specific documentation, installed bases, existing service agreements and potential liabilities; and (iv) supply agreements for assembled bogies and propulsion, engineering support for subsystems including carbodies, and TCMS circuit boards production (including engineering support for ongoing projects and bug fixes/updates on middleware) for Talent 3;

– Supply agreements and additional agreements, at the option of the Purchaser, including (i) assembled bogies and propulsion; (ii) engineering support for subsystems including carbodies and TCMS circuit boards production for the Talent 3. In addition, at the option of the Purchaser Bombardier offers to

963 Bombardier offers the same Commitment as Alstom (set out in footnote 942) with regard to the transfer of third party supply agreements.

provide the Purchaser with additional agreements for (i) testing services and track access; (ii) equipment for bogies/wheelsets final assembly and car bodyshell erection; and (iii) Talent 1 and 2 documentation, installed-bases, together with existing service agreements and potential liabilities.

(1207) At the option of the Purchaser, the Commitment also includes the sale or lease of the Hennigsdorf Carve-Out Area, including assets, equipment, and personnel. As an option, during a transitional period of […], Bombardier will equip the Hennigsdorf Carve-Out Area with facilities needed for the manufacturing of the Talent 3 platform and offers to act as a sub-supplier to the Purchaser.

(1208) The Coradia Polyvalent Divestment Business and the Talent 3 Divestment Business include, at the option of the Purchaser, engineering support, supply agreements and the provision of specifications needed for the upgrade of the respective platforms to operate at speed above 160 km/h.

11.3.1.3. The OBU Commitments

(1209) The OBU Commitments comprise three sets of commitments aiming to address the non-horizontal concerns described in section 8.2.2 and the horizontal overlap concerning legacy OBUs in the Netherlands described in section 8.3.1.2.

(A) The STMs and Class B OBUs Commitments

(1210) Under the 'STMs and Class B OBUs Commitments' the merged entity will provide, to any ETCS OBU supplier (the 'Purchaser'), in a timely manner and on fair, reasonable, and non-discriminatory terms:

(a) Bombardier's available standalone on-board equipment for legacy ATP systems (defined as 'Class Bs') or STMs;

(b) Reasonable technical support for integration of newly purchased Class Bs or STMs with the ETCS OBUs or rolling stock on which they are to be installed;

(c) Interface Documentation[964] for Class Bs for retrofit projects that require a Purchaser's new ETCS OBU to interface with already-installed Class B equipment.

(1211) More specifically, Alstom will offer, to any Purchaser, on fair, reasonable, and non-discriminatory terms, the following, for use in the EEA:

(a) A supply agreement for Bombardier's STMs for both retrofit projects and new rolling stock (related to the Netherlands,[965] Spain, Poland, and Belgium). The supply of such STMs will include necessary documentation to facilitate integration with a Purchaser's ETCS OBU. Given the rarity of orders and age

[964] This is defined as follows: "*available information, documentation and specifications assisting Purchasers to interface an ETCS OBU system with Bombardier's Class Bs*".

[965] Regarding the Netherlands specifically, the STMs and Class B OBUs Commitments include both the ATB-EG solution and Alstom's ATB-NL class B to cover the non-electrified part of the Dutch network. ATB NL [*Information on Alstom's R&D activities*] class B solution which combines ATB EG and ATB NG [*Information on Alstom's R&D activities*].

of some legacy systems, specific provisions to address obsolescence issues are included;

(b) A supply agreement for available Bombardier's Class Bs. Where Class Bs have not been manufactured for many years and there is no alternative supply available and a redesign is required for the Bombardier Class B, Alstom commits to offer interested Purchasers a quotation for the work to create a new solution, at market rates calculated according to a formula indicated in the Commitments;

(c) Reasonable technical support to help integrate STMs / Class Bs with the Purchaser's ETCS OBUs or rolling stock as part of a retrofit or new rolling stock order;

(d) Access to Interface Documentation on a standalone basis for existing Class Bs where required for retrofit projects that require interfacing a new ETCS OBU with already-installed Class B equipment (i.e., Portugal, Finland, Austria, Croatia, Romania and Slovenia, Poland) where available.

(1212) The STMs and Class B OBUs Commitments exclude STMs where they are an integrated product with an ETCS OBU.

(1213) Alstom will enter into an agreement with Purchasers substantially on the terms provided in an annex to the OBU Commitments (annex IV).

(1214) Additional guarantees are foreseen in case Alstom ceases the production of STMs / Class Bs or where an STM is re-engineered for obsolescence reasons.

(1215) Access to Interface Documentation on a standalone basis for existing Class Bs will be priced on fair, reasonable, and non-discriminatory terms.

(1216) Supply of Class Bs / STMs will be priced based on a benchmark of current pricing to be adjusted on a yearly basis according to a predefined pricing formula. Alstom will offer quotations to re-design Class Bs / STMs that have not been manufactured for many years or face major obsolescence challenges at market rates, where there is no alternative available.

(B) The TCMS Commitments

(1217) Under the 'TCMS Commitments', the merged entity will provide, to any Purchaser, in a timely manner and on fair, reasonable, and non-discriminatory terms Interoperability Documentation[966] and reasonable technical support for modifications to Bombardier's TCMS for the execution of retrofit ETCS OBU projects in the EEA.

(1218) More specifically, Alstom will offer, to any Purchaser, the following, for use in the EEA:

[966] This is defined as follows: "The communication of the drawing(s), interface protocol, and other specifications allowing the identification of the necessary signals on the train schematics and cabling terminals, as well as any reasonably necessary ancillary technical clarifications which are necessary to ensure interface between Bombardier's TCMS and Purchasers' ETCS systems".

(a) Available Interoperability Documentation to enable interface connections to pair TCMS installed on the Bombardier's rolling stock for use in the EEA and Purchasers' ETCS OBU, on fair, reasonable, and non-discriminatory terms;

(b) Where some reasonable adaptations to the TCMS are required to interface with the Purchaser's ETCS OBU, Alstom commits to provide the technical support for the Purchaser to implement the interfaces with TCMS installed on Bombardier's rolling stock for operation in the EEA on a cost-plus basis.

(1219) Alstom will only offer a quotation based on a complete written request, which, in order to allow Alstom to calculate the quotation, must contain (i) a detailed description of the planning for deliveries; (ii) the quantities needed and the services requested; and (iii) mechanical, electrical, and functional specifications of the ETCS on-board system to be integrated, including architecture documents with interfaces towards TCMS (functional and electrical) to allow Alstom to assess the necessary adaptations on the TCMS as well as on the signalling systems.

(1220) The TCMS Commitments shall be limited to the interface descriptions and the function description to be implemented in a TCMS. Alstom will not be obliged to offer support for unreasonable modifications of the TCMS.

(1221) Alstom commits to provide the Purchaser, on a cost-plus basis, reasonable support with obtaining homologation approval from the competent regulatory bodies. However, Alstom will neither be responsible for the new safety case of any train nor for the homologation of any trains that will result from such modifications. Alstom's liability will be limited to the implementation of the interface and the train functions that will be specified by the Purchaser. The Purchaser will remain responsible for homologation and for safety as it relates to ETCS OBUs.

(C) The Netherlands Legacy OBU Commitments

(1222) Under the 'Netherlands Legacy OBU Commitments', Alstom offers to enter into a frame contract with the Dutch Infrastructure manager (the 'Dutch Framework Agreement') to supply the Alstom Class B (ATB-EG) for a period of twelve years on predefined terms indicated in the Commitments. The terms of the framework agreement are outlined in an annex to the OBU Commitments (annex B).

(D) Common provisions

(1223) The OBU Commitments will apply for twelve years from the date of completion of the Transaction. The OBU Commitments also provide the appointment of a monitoring trustee and includes a fast track dispute resolution procedure (arbitration).

(1224) Moreover, Alstom will create the position of a Commitments Relationship Manager (the 'CRM'), that will act as a contact point and will coordinate issues internally within Alstom. The CRM will be charged with assisting all interested parties in resolving any questions, issues, or concerns regarding the OBU Commitments.

(1225) Finally, specific common provisions are set out with respect to the STMs and Class B OBUs Commitments and TCMS Commitments:

(a) Engineering services will be priced based on a predefined hourly rate as defined in the Commitments;

(b) Alstom offers to respond to requests for quotations within reasonable and predefined time limits in order to allow Purchasers to prepare responses to customer request for proposals for ETCS OBU projects;

(c) The Purchaser will commit to use information and products supplied by Alstom exclusively to supply the specific contract identified in the written request;

(d) Alstom's obligations are subject to the Purchaser providing to Alstom all required information to undertake the required work.

11.3.2. Results of the market test

11.3.2.1. The Very High-Speed Commitments

(1226) The main goal of the proposed remedies in relation to the Parties' activities in very high-speed rolling stock is to preserve pre-merger competitive conditions and maintain a credible alternative supplier of very high-speed rolling able to effectively compete against the merged entity's product portfolio in the EEA and at global level.

(1227) The results of the market test overall support the view that the divestiture of Bombardier's scope in the Zefiro V300 very high-speed platform would be sufficient to preserve competition in the very high-speed rolling stock market after the Transaction at EEA and worldwide level.

(1228) In that regard, respondents generally considered that the scope of the Very High-Speed Commitments transfers and licenses should enable the Purchaser to run a viable business that can compete effectively with the merged entity on a lasting basis.[967] In addition, some respondents pointed out that the Zefiro V300 platform entails significant ongoing backlogs orders with Trenitalia, which would endow the Purchaser with the ability to actively compete with the merged entity.[968]

(1229) However, several respondents raised several issues in relation to the Very High-Speed Commitments, which relate to its scope and the clarity of its provisions.

(1230) First, some respondents indicated that the Very High-Speed Commitments would preserve competition in the very high-speed rolling stock market after the Transaction at EEA and worldwide level provided that the Purchaser is Hitachi, the platform's co-developer. A railway operator indicated that Hitachi is the only supplier with the necessary technical knowledge in relation to the Zefiro V300 platform because it has designed, jointly with Bombardier, the main components of the platform and it has had a significant role in the development of the whole train, in particular for interface systems between Bombardier and Hitachi technologies. The respondent further explained that Hitachi has a strong incentive to further develop the platform, since the Zefiro V300 is its flagship very high-speed rolling stock in Europe. As a consequence, according to the results of the market test,

967 Q14, replies to questions 8, 9, 11 and 14.
968 Q14, replies to questions 15 and 16.

Hitachi should be identified as an upfront buyer for the purpose of the Very High-Speed Commitments scope.[969]

(1231) Second, several respondents to the market tests as well as regulatory authorities raised concerns in relation to the exclusion of the ongoing HS2 tender in the UK of the scope from the Very High-Speed Commitments.[970]

(1232) Several respondents explained that the absence of transfer of Bombardier's assets with respect to the HS2 Project would prevent Hitachi from becoming a standalone supplier of very high-speed rolling stock in the UK. In this regard, the proposed remedies would not restore effective competition conditions after the Transaction in the UK, since Alstom would retain control of 50% of the Zefiro platform in the UK, in addition to its own very high-speed portfolio. In addition, Hitachi indicated that the proposed remedies do not allow the company to respond to possible upgrade or repeat orders demands of the Zefiro platform coming from HS2.[971]

(1233) In that regard, respondents to the market test indicated that the proposed remedies should include the transfer of Bombardier's contribution to the joint Zefiro platform offered to HS2 in the same manner as what the Notifying Party appeared willing to divest, mutatis mutandis, for the Zefiro V300. Such transfer, by making Hitachi the sole owner of the Zefiro platform in the UK, would also allow Hitachi to bid on a standalone basis in future projects in the UK.

(1234) The general concerns regarding the exclusion of the ongoing HS2 tender is supported by the CMA and ORR, which consider that the proposed remedies fail to address the potential competitive harm that the Transaction could cause to the competitive conditions in the HS2 tender.

(1235) More specifically, they consider that the proposed remedies do not protect the continuity of the competitive process of the HS2 tender in the case where the Transaction between the Parties is closed before the tender is awarded.

(1236) Pursuant to HS2's tender rules, two bidders are prohibited to participate in the tender if they fall under common ownership. Should a merger between two bidders occur in the course of HS2 tender process, only one bid can remain and the concerned bidders are required to jointly propose which of their bids will continue in the procurement following such change of control. The choice of the bid to withdraw is the responsibility of the parties involved in the merger. In the present case, considering the parallel timeframe of the Transaction and the HS2 tender, the Transaction will likely be closed before HS2 finalises the tender process.

(1237) In that regard, the CMA and ORR indicated that the proposed remedies do not provide clear rules concerning the choice of bid to withdraw. The lack of adequate provision in the proposed commitment, with not procedure based on objective

969 Q14, reply to question 22.4.

970 As explained by the Notifying Party, the currently envisaged split of work for the overall contract (including rolling stock and services) between Bombardier and Hitachi in the context of the HS2 project is […]. Bombardier's rolling stock scope of work is approximately […]% [*Information on Bombardier's cooperation with Hitachi for HS2*], and its maintenance scope of work is approximately […]% (Form CO, Chapter B.1, paragraph 84).

971 Q14, reply to question 25.

criteria for selecting the best bids between the Parties, would allow Alstom to unilaterally decide to withdraw Bombardier's bid, regardless of which of the Parties' bid is the best placed. This would significantly impede the competitive process of the HS2 tender.

(1238) In addition, the CMA and ORR expressed concern in relation to the provision regarding Alstom's involvement in the delivery of the Zefiro platform to HS2, should HS2 select the Hitachi/Bombardier consortium. In that regard, they indicated that the proposed remedies do not provide unequivocal guarantees that Alstom will take over Bombardier's contribution with respect to the rolling stock to be delivered to HS2. Absent a clearer provision, the CMA and ORR consider that the proposed remedy does not provide sufficient and concrete insurance with respect to the scope of Alstom's obligation vis-à-vis Hitachi and HS2.

(1239) Third, several respondents considered that the Very High-Speed Commitment does not foresee sufficient provisions in terms of homologations, certifications and authorisations issued by a governmental organisation or other body, which are necessary for the delivery of the Zefiro V300 platform under the current project with Trenitalia and for any future projects (ILSA and others). They explained that if a partial divestment of some subsystems of the platform takes place, the continuance of the homologation process will require the use of the current manufacturing sites and the IP rights of the non-transferred subsystems and, as a result, the Purchaser will be obliged to be supplied by Alstom in the future. The development by the Purchaser of the referred subsystems would require time and costs and the initiation of a new homologation process for both each subsystem and the entire product.

(1240) In this respect, the Notifying Party would have to guarantee the proper transfer of Bombardier's know-how and resources, so that the Purchaser would be able to effectively continue the homologation activities maintaining the timing of the projects.

(1241) Fourth, some respondents indicated that the Vado Ligure site is not equipped to host very high-speed train final assembly and testing and that adapting the site to that purpose would be difficult because of its limited dimensions. However, some respondents consider that production assets and manufacturing units are not strictly necessary if the Purchaser is a rolling stock manufacturer with experience in the development of very high-speed technologies and capabilities in engineering, manufacturing and testing of very high-speed products.

(1242) The Commission therefore considers that in light of the result of the market investigation, the Initial Commitments are not sufficient to alleviate the competitive concerns raised in this decision in the market for very high-speed rolling stock at EEA and global level. The Notifying Party submitted the Final Commitments to address the concerns identified in the market test.

11.3.2.2. The Mainline Rolling Stock Commitments

(1243) The results of the market investigation support the view that the proposed Commitments provide the opportunity for a new player to enter the market for self-propelled mainline trains in France and Germany. Several market participants

expressed interest in acquiring the Coradia Polyvalent Divestment Business and the Talent 3 Divestment Business.[972]

(1244) The majority of the respondents to the market test generally did not express concerns about the viability of the Divestment Businesses or their suitability to address competition concerns identified by the Commission, subject to the additional items described in further details below.[973] However, several respondents, including Siemens and Stadler, considered that the scope of the proposed Commitments is insufficient to address the competitive concerns or to restore competition in the market for self-propelled mainline rolling stock. This is mainly due to insufficient capacity of the manufacturing sites and dependencies on other sites of Alstom and Bombardier, which would prevent the Purchaser from competing in large scale tenders. As regards the platforms, Coradia Polyvalent and Talent 3, these competitors considered these platforms to be outdated and not competitive against the platforms of the main competitors such as Stadler, Siemens, Hitachi, CAF.[974] These respondents consider that other manufacturing sites or platforms of the Parties would be more suitable to address the identified competitive concerns.

(1245) The Commission however also notes that some competitors, including those that expressed interest in acquiring the Divestment Businesses, assess the overall scope of the divestment as appropriate to allow a rolling stock supplier to enter the market for self-propelled mainline trains in France, Germany, Austria[975] and, Italy or to expand its current activities in these countries. According to a customer: *'this could be an opportunity for a smaller rolling stock supplier to grow and step into new markets'*.[976] Several respondents also consider that, albeit a challenging objective, the platforms can also be adapted and homologated in the medium-term for operation in neighbouring countries (e.g., Spain).[977]

(1246) A majority of customers similarly considered that the platforms concerned and the manufacturing sites represent a viable business that would enable the Purchaser to effectively compete in the market for self-propelled trains in the countries where the platforms are currently being operated. Several customers confirmed that the platforms are competitive. They expressed the view that the Talent 3 platform is *'very important'* and *'a competitive product'* for regional/commuter traffic in Germany[978] and that the Coradia Polyvalent platform is ready for sale in France.[979] Respondents also point out that the Reichshoffen plant is a stand-alone business that will enable the Purchaser to manufacture the Coradia Polyvalent platform.[980]

(1247) As regards the Coradia Polyvalent Divestment Business and the Talent 3 Divestment Business, respondents generally point to the need to clarify the terms and conditions of the licences for non-platform specific sub-systems and components and the scope

---

[972] Questionnaire 13 addressed to mainline rolling stock operators and customers ("Q13"), replies to questions 47 and 48.

[973] Q13, replies to questions 8 and 25.

[974] Q13, replies to questions 8 and 25.

[975] The results of the market test indicated that homologation is still pending in Austria.

[976] Q13, replies to question

[977] Q13, replies to questions 8 and 25.

[978] Q13, replies to question 25.1.

[979] Q13, replies to question 8.1.

[980] Q13, replies to question 12.1.

of transfer of IP rights (whether relevant documentation is included in the transfer) ahead of their implementation. Respondents also referred to further items that need to be clarified (e.g., better description of the facilities, profile of personnel to be transferred, etc.).

(1248) The results of the market test also indicated that for the Divestment Businesses to be viable, the Commitments should include the divestiture of assets required to (i) upgrade the platforms to intercity speeds[981] and (ii) upgrade to alternative energies (hydrogen, hybrid and battery)[982].

(1249) With regard to the upgrade of the Coradia Polyvalent and Talent 3 platforms (to run at speed above 160 km/h), respondents indicated that the Commitments should include all necessary assets and documentation in order to carry out the upgrade (and related processes, such as homologation).

(1250) With regard to hybrid, hydrogen, or BEMU traction systems, which are not Coradia Polyvalent-specific or Talent-3 specific, according to the results of the market investigation, the Commitment should include (i) the transfer if IP rights, documentation, or prototypes for hybrid, hydrogen, or BEMU traction systems or (ii) or a clear commitment to forming a JV with the remedy taker to deliver upon SNCF's demand. Specifically for the Coradia Polyvalent platform, this Commitment is required to enable the Purchaser to fulfil existing obligations under the contract with SNCF and to ensure the future competitiveness of the Purchaser.

(1251) The results of the market investigation further indicated that the transfer of component supply agreements is an important aspect underpinning the future viability and competitiveness of the Coradia Polyvalent Divestment and the Talent 3 Divestment. Respondents indicated that the merged entity's involvement should go beyond mere *'commercially reasonable efforts'* to obtain the transfer (that is subject to third parties' consent). Alstom should commit to provide a solution in case this transfer cannot be obtained (i.e., supply components at cost) because without those components the remedy taker will not be able to deliver on the platforms' backlog.

(1252) Furthermore, the majority of competitors that expressed a view in the market test indicated that the transfer of customers' existing backlog and contracts would enable the Purchaser in the short-term to generate profits and establish itself in France, Germany and Austria. However, since the transfer of existing contracts is subject to customers' consent, a majority of respondents indicated that an alternative solution should be provided in case customers refuse to grant consent for the contract transfer. The Commission notes, based on the results of the market test, that the successful transfer is likely to depend on the reputation of the Purchaser.[983]

(1253) Competitors that responded to the market test, including those that have expressed interest, indicated several items that would need to be included in the Commitments in order to ensure that the Purchaser can compete with the merged entity on a stand-alone basis (e.g., homologation files, testing systems, software systems). The Coradia Polyvalent Divestment Business and Talent 3 Divestment Business should

981 Q13, replies to questions 11 and 28.

982 Q13, replies to questions 8.1, 9.1, 12.1, 20.1, 21, 25.1.

983 Q13, replies to questions 16 and 30.

include all systems and documentation needed for manufacturing or testing the platform, and not only for final assembly. With regard to TCMS, the Commitments should include more than the application software but all necessary software required to build, test, operate, maintain or upgrade the Coradia Polyvalent and Talent 3 platforms.[984]

(1254) Furthermore, the Coradia Polyvalent and the Talent 3 Commitments exclude from the scope of the Divestment Businesses certain sub-systems and components that are not specific to the platforms (TCMS, bogies, car body shell, traction system sub-components, and software). Respondents indicated that this is because the divested sites depend on other Alstom and Bombardier facilities for the manufacture and delivery of those elements.

(1255) The Initial Commitments provide that Alstom will enter into supply agreements with the remedy taker for these elements. Respondents to the market investigation, including potential remedy takers, expressed the view that to ensure the viability and competitiveness of the Divestment Businesses, the Commitments should include an obligation on the merged entity to enter into long term supply agreements. Such supply agreements should be under terms equivalent to Alstom's internal pricing, in order to enable the remedy taker to both deliver under the existing backlog and compete for future contracts. According to the results of the market test, the Monitoring Trustee should oversee the terms and conditions of the supply agreements and their implementation.

(1256) As concerns the Henningsdorf Carve-Out Area, respondents considered that the optional measures, including the commitment of the merged entity to equip the area with all necessary machinery to manufacture the Talent 3 platform and to act as a sub-contractor to the Purchaser during a transitional period are necessary to ensure the viability of the Talent 3 Divestment Business.[985] Access to specific parts of the Henningsdorf plant such as track access on fair and non-discriminatory terms is also indicated as a critical element to ensure the viability and competitiveness of the Divestment Business.[986]

(1257) Respondents to the market test also indicated that the identity of the Purchaser is important for the viability and competitiveness of the Divestment Business. A suitable Purchaser should be a rolling stock player with a presence and a proven track record in the EEA and a *"solid understanding"* of the specificities in the EEA regarding *"technology, regulatory matters, and sales complexity*".[987] In addition to being an established player in the EEA, the Purchaser should have the capacity not only to operate and exploit the acquired assets but also to further develop and improve key components.[988]

(1258) The Commission therefore considers that in light of the result of the market investigation, the Initial Commitments are not sufficient to alleviate the competitive concerns raised in this decision in the market for self-propelled mainline rolling stock (and possible segmentation) in France and Germany. The Notifying Party

[984] Q13, replies to questions 17-24 and 36-40.
[985] Q13, replies to questions 33-34.
[986] Q13, replies to question 39.
[987] Q13, replies to question 45.1.1.
[988] Q13, replies to question 45.1.1.

submitted the Final Commitments to address the concerns identified in the market test.

11.3.2.3. The OBU Commitments

(1259) The general view held by most respondents to the market test is that access to Bombardier's STMs/legacy systems and TCMS would be essential to ensure competition in the ECTS OBUs projects market in the EEA. However, amendments appear needed to clarify the scope of the OBU Commitments and to ensure that access conditions for any supplier are fair and non-discriminatory for a sufficient period of time. In particular, references to timely interventions and fair and reasonable terms were considered too vague and could frustrate the implementation of the remedies. Moreover, a series of exceptions and reservations about the applicability of the commitments generated uncertainty in relation to the actual scope of application of the remedies. Furthermore, the required support for authorization and homologation was not defined and the commercial conditions in the supply agreements were unclear. Hitachi submitted that the competition concerns raised by the Transaction in the signalling markets would be better remedied by the divestment of one of the merging parties' business lines.[989]

(1260) The CMA submitted that the OBU Commitments suffer from specification, circumvention and enforcement risks that would undermine their effectiveness, as it appeared to lack details and leave scope for interpretation. Furthermore, the CMA indicated that the scope of the proposed access remedy should include the UK, even after the end of transition period for the UK's exit from the EU.[990]

(1261) Whilst the majority of the respondents to the market test confirmed that the provisions of the OBU Commitments are sufficiently clear to form a view as to their content,[991] the majority considered that they are not sufficiently clear to allow their effective implementation and to reduce to the minimum the risks linked to their implementation, in particular because of the use of indefinite and vague terms and the inclusion of relevant exceptions and reservations.[992]

(1262) Most respondents submitted that the definitions included in the OBU Commitments are appropriate.[993] Thales submitted that it would be important to have a broad definition of Interoperability Documentation and clarifications on the meaning of 'reasonable technical support for integration' of STMs.[994] SBB submitted that the definition of 'Class B' was restricted to products pre-dating ETCS, which could lead to relevant Class B systems being excluded; moreover, the definition of Interoperability Documentation did appear not sufficient and failed to cover relevant parts like certificates, safety case etc.[995] Deutsche Bahn submitted that the definition of 'Purchasers' should be extended to train operating companies and other train owners, as they might carry out certain replacement/retrofit activities themselves and might need access to interoperability documentation for the preparation and

989 Hitachi submission of 2 July 2020, page 32.
990 CMA submission of 17 July 2020.
991 Questionnaire 15 addressed to signalling operators ("Q15"), replies to questions 4, 7 and 10.
992 Q15, replies to questions 5, 6, 8, 9, 11 and 12.
993 Q15, replies to question 13.
994 Thales' response to Q15, question 13.1.
995 SBB's response to Q15, question 13.1.

implementation of their procurement procedures.[996] Stadler similarly submitted that Purchasers were defined too restrictively as the entity supplying the OBU is not necessarily the entity performing the retrofit and hence requiring the TCMS adaptations. Moreover, Class B products are required also for non-ETCS projects (i.e., rolling stock that does not require an ETCS OBU). This kind of projects, in which no ETCS OBU supplier is involved, would not qualify for the OBU Commitments. The entitled beneficiaries, should thus include any party interested in a rolling stock or ETCS retrofit project.[997] Siemens submitted that the definition of Purchasers should include vehicle manufacturers or vehicle integrators as well as anyone who has to integrate an STM or Class B-System into a new or existing vehicle. Moreover, Interface Documentation should at least include all existing information in latest status as well as certification and/or homologation documents. Siemens also listed a series of items that should be included in the Interoperability Documentation.[998]

(A) The STMs and Class B OBUs Commitments

(1263) Almost half of the respondents submitted that the exclusion of Alstom's STMs and Class Bs from the OBU Commitments is inappropriate.[999] Stadler submitted that the merged entity will have access to a nearly complete portfolio of European Class B systems, by complementing the systems of Alstom and Bombardier. Thereby, the ability and the incentive to profitably engage in an anti-competitive tying and/or bundling strategy to foreclose its competitors will increase.[1000] Deutsche Banh submitted that also legacy systems PZB/LZB (in use in Germany) should be covered by the obligation in question.[1001]

(1264) Close to half of the respondents to the market investigation submitted that the offer by Alstom of (i) a supply agreement for STMs for both retrofit projects and new rolling stock and (ii) a supply agreement for available Class Bs, including necessary documentation and reasonable technical support to help integration with ETCS OBU or rolling stock was adequate to ensure access to Bombardier's legacy on-board signalling systems, for ETCS OBUs suppliers.[1002] However, a series of respondents submitted that the provision needed improvements. ERFA, the European Rail Freight Association, submitted that the commitment was too vague, as it is not clear what is meant by the provision of 'reasonable technical support', in particular for countries (such as Portugal) where Bombardier no longer supplies the legacy ATP system (Convel) for new trains and therefore this formula could mean no support at all.[1003] Thales also focused on the lack of clear definition of reasonable technical

996 Deutsche Bahn's submission of 21 July 2020.

997 Stadler's response to Q15, question 13.1.

998 Siemens's response to Q15, question 13.1.

999 Q15, replies to question 14.

1000 Stadler's response to Q15, question 14.1.

1001 Deutsche Bahn's submission of 21 July 2020.

1002 Q15, replies to question 15.

1003 ERFA – European Rail Freight Association's response to Q15, question 15.1. See also ERFA's submission of 26 June 2020. Regarding Portugal, further intervention was requested by Medway and the Portuguese infrastructure manager considering the current situation of obsolescence of Bombardier's legacy system (Convel) (Medway's response to Q15, in particular questions 15.1 and 36 and Infraestructuras de Portugal response to Q15, in particular questions 15.1, 16.1 and 36, including a position paper).

support and on the necessary inclusion of specific items in the documentation.[1004] Stadler submitted that it would be necessary to have access to the proprietary information and specifications to put a third-party supplier into a position to develop its own Class B OBUs. This would be particularly important for countries where Class B/STMs would be required for a long time and where they are particularly inaccessible for a third party, i.e., where these technologies are particularly complex and their knowledge is proprietary to Alstom/Bombardier (in particular France, Portugal, Netherlands and Finland).[1005]

(1265) The majority of the respondents to the market investigation submitted that the provisions regarding obsolescence of the STMs were inadequate to ensure the effectiveness of the STMs and Class B OBUs Commitments.[1006] Thales submitted that treatment of the obsolescence should be, as it is usually the case, the responsibility of the original supplier. Alstom, being the incumbent supplier, should therefore negotiate the obsolescence treatment with the customer.[1007] Stadler asked for an alternative mechanisms, such as sharing of all relevant knowhow, so that other players could develop a new product, and the inclusion of future OBUs developed by Alstom in the Commitments.[1008] The Portuguese Infrastructure Manager submitted that the provisions on obsolescence risk increasing the current problem in Portugal, where the technology is exclusively supplied by Bombardier and have a high degree of obsolescence.[1009]

(1266) Similarly, the majority of respondents to the market investigation submitted that the provisions relating to (i) Class Bs not manufactured for many years; and (ii) termination of production of STMs/Class Bs, are not adequate to ensure availability of the relevant products, pointing to the discretion left to Alstom in such cases.[1010] SNCB submitted that such solutions might be very expensive, even at market rates and it would therefore be difficult to ensure that the quotation would be reasonable and interesting and not leading to extensive discussions. [1011] Thales submitted that the relevant pricing should be cost-based. [1012] Siemens submitted that Alstom could be induced to cease the production of certain STMs/Class Bs, in which case Alstom would be released from its obligation to supply these STMs/Class Bs after the last buy order notice. Purchasers should be granted an option to veto the discontinuation of production if future demand for the relevant STMs/Class Bs can be demonstrated.[1013]

(1267) The vast majority of the respondents to the market investigation also submitted that the exclusion of STMs integrated in ETCS OBUs from the scope of the commitments would not be justified.[1014] Progress Rail submitted that this provision

[1004] Thales' response to Q15, question 15.1.
[1005] Stadler's response to Q15, question 15.1.
[1006] Q15, replies to question 16.
[1007] Thales' response to Q15, question 16.1.
[1008] Stadler's response to Q15, question 16.1.
[1009] Portuguese Infrastructure Manager's (Infraestructuras de Portugal) position paper submitted on 24 July 2020.
[1010] Q15, replies to questions 17 and 18.
[1011] SNCB's response to Q15, question 17.1.
[1012] Thales' response to Q15, question 17.1.
[1013] Siemens' response to Q15, question 18.1.
[1014] Q15, replies to question 19.

could limits the competition for the relevant projects. Alstom should also put at the disposal of other competitors or customers STMs where they are an integrated product, otherwise other players will not be able to compete in the relevant projects.[1015]

(1268) The majority of the respondents to the market investigation submitted that the provision regarding pricing of Interface Documentation, supply of Class Bs, STMs, and services based on fair, reasonable, and non-discriminatory terms were not sufficiently clear.[1016] Thales submitted that in principle, the pricing formula appeared clear but that, in order to avoid misunderstandings and ensure clarity, the Commitments should include an annex with prices as of the effective date of the commitment, to be communicated to the Purchaser at the moment of the quotation. Moreover, certain products and services should be cost-based.[1017] Stadler submitted that there is currently no market for most of OBUs because Bombardier or Alstom are the monopoly suppliers. Suggested alternative mechanisms to reduce competitive concerns include a fixed pricing for the standardized Class B/STM products (based on actually incurred costs), or a cost-plus approach (also based on actually incurred costs) when fixed prices are not applicable.[1018] Similarly, Siemens submitted that the chosen approach, in a sector where no recent benchmark is available, was vague and insufficient to effectively circumscribe the quoted price. It suggested that a formula should be defined and each of the listed elements would have to be capped.[1019]

(1269) The majority of the respondents to the market investigation submitted that the terms offered by Alstom to provide quotations for deliveries relating to specific projects or requirements related to STMs/Class B systems and to provide additional information are neither adequate nor in line with the commercial practice in the sector.[1020] However, some participants submitted that the terms are rather standard.[1021] In general, it was observed that some details regarding the necessary information and additional services would be missing.

(1270) Finally, the majority of the respondents to the market investigation submitted that a twelve year duration would not be sufficient, in particular in view of the 2050 time limit in the EU ERTMS implementation plan. A term of at least 20 years was suggested as more appropriate.[1022]

(B) The TCMS Commitments

(1271) The majority of the respondents to the market investigation submitted that Alstom's commitment to offer, to any Purchaser, (i) Interoperability Documentation to connect Bombardier's TCMS and ETCS OBU of the Purchaser, on FRAND terms; and (ii) technical support to implement the interfaces with the said TCMS would not

[1015] Progress Rail's response to Q15, question 19.1.
[1016] Q15, replies to question 20.
[1017] Thales' response to Q15, question 20.1.
[1018] Stadler's response to Q15, question 20.1. See also the Portuguese Infrastructure Manager's submission of 24 July 2020.
[1019] Siemens' response to Q15, question 20.1.
[1020] Q15, replies to question 21.
[1021] SNCB's and Thales' response to Q15, question 21.1.
[1022] Q15, replies to question 22.

be adequate to ensure access to Bombardier's TCMS, for ETCS OBUs suppliers.[1023] Thales submitted that in case of any doubts on quality of documentation, the purchaser should be allowed to escalate it to the Monitoring Trustee, which should work with some experts to evaluate these documents. Alternatively, the Monitoring Trustee should have some technical expertise on the railway industry.[1024] SBB submitted that the TCSM adaptations Alstom commits to provide technical support for do not cover the usually necessary modifications.[1025] Stadler submitted that the Commitments should ensure that 'Bombardier Rolling Stock' would not be interpreted in a restrictive sense and it should include all rolling stock that Bombardier supplied in a consortium and for which the knowledge and documentation is now acquired by Alstom.[1026] Siemens submitted that Alstom would have to commit to carrying out all work-streams in retrofit projects that only the rolling stock OEM could carry out efficiently in practice.[1027]

(1272) Similarly, the majority of respondents submitted that the time limits within which Alstom would provide quotation with regard to Interoperability Documentation or technical support for TCMS modifications were inadequate and not in line with the commercial practice in the sector.[1028] Thales submitted that the standard tender response time is, in average, around sixty days and that reasonable timing should not exceed half of the tender response time, otherwise the Purchaser would not be able to integrate this quotation in the very short bid timeframe. [1029] Siemens submitted that the relevant provision would give rise to several loopholes which could undermine the TCMS Commitments.[1030]

(1273) The majority of respondents to the market investigation submitted that the provision regarding the completeness of a written request for quotation is proportionate and in line with the market practice.[1031] Siemens however submitted that the requirements for a complete request would be excessive and unclear. The requirement of a detailed description of the planning for deliveries would leave room for interpretation and this could create a risk that Alstom would not provide any support in retrofit projects based on the excuse that a request would be incomplete.[1032] NS confirmed that a maximum reaction time of forty working days is too long.[1033]

(1274) The slight majority of the respondents to the market investigation submitted that the provisions regarding the modalities to provide reasonable technical support/ consultation with regard to TCMS modifications and homologation were not in line with the market practice.[1034] Stadler submitted that many TCMS adaptations excluded from the commitment were, in fact, standard in retrofit projects, such as,

[1023] Q15, replies to question 23.
[1024] Thales' response to Q15, question 23.1.
[1025] SBB's response to Q15, question 23.1.
[1026] Stadler's response to Q15, question 23.1.
[1027] Siemens' response to Q15, question 23.1.
[1028] Q15, replies to question 24.
[1029] Thales' response to Q15, question 24.1.
[1030] Siemens' response to Q15, question 24.1.
[1031] Q15, replies to question 25.
[1032] Siemens' response to Q15, question 25.1.
[1033] NSReizigers' response to Q15, question 25.1.
[1034] Q15, replies to question 26.

e.g., updates of the TCMS hardware needed for obsolescence reasons or because the old hardware is not able to perform the new tasks.[1035]

(1275) Finally, the majority of the respondents to the market investigation submitted that a twelve year duration would not be sufficient, in particular in view of the 2050 time limit in the EU ERTMS implementation plan.[1036] SBB submitted that a general roll-out of ETCS in Europe would not be finished within twelve years and therefore a twelve year duration would be too short.[1037] Stadler noted, however, that the next twelve years should be sufficient to cover significant parts of the market and gain knowledge about the old rolling stock.[1038] Similarly, Network Rail submitted that the UK Long-Term Deployment Plan for ETCS suggests that the last retrofit activity in the country would occur in 2033 and therefore considered that a twelve years duration would likely be sufficient based on the current plan.[1039]

(C) The Netherlands Legacy OBU Commitments

(1276) Respondents concerned by the Netherlands Legacy OBU Commitments did not dismiss in principle the adequacy of this remedy to address the competition concerns, but were concerned about the remedy's duration and lack of clarity, in particular regarding the commercial conditions of the 'Dutch Framework Agreement' to be signed between Alstom and ProRail.[1040] NS submitted that the supply of the Alstom's class B ATB-NG and/or related interface information should also be provided.[1041]

(1277) The majority of the relevant respondents submitted that the 12-year duration of the Commitments is inadequate. They suggest a duration more in line with the timeframe for the ERTMS roll-out in the Netherlands, namely at least 20 years.[1042]

(1278) As for the Dutch Framework Agreement, ProRail in particular agreed in principle with the main conditions of the agreement outlined in annex B to the OBU Commitments but suggested a series of amendments on various provisions, from the Commitment's duration to the applicable national law, that it considered essential to render the agreement acceptable.[1043]

(D) Common provisions

(1279) Almost half of the respondents to the market investigation submitted that the provision regarding the obligations by the Purchaser to provide Alstom with all required information to undertake the required work and to provide the necessary and accurate information were not clear, adequate or in line with the commercial practice in the sector.[1044] Stadler submitted that the duty to first describe all the

[1035] Thales' response to Q15, question 26.1. See also NS' response to Q15, question 26.1.
[1036] Q15, replies to question 27.
[1037] SBB's response to Q15, question 27.1.
[1038] Stadler's response to Q15, question 27.1.
[1039] Network Rail's response to Q15, question 27.1.
[1040] Q15, replies to questions 28, 28.1 and 34.2.
[1041] NS' response to Q15, question 28.1.
[1042] Q15, replies to questions 29 and 29.1.
[1043] ProRail's submission of 21 July 2020.
[1044] Q15, replies to question 30.

ETCS specifications and interfaces, as required in the written request, is not proportionate. The process should be the opposite, with Alstom providing the necessary specifications of the relevant interfaces and the potential purchaser responding. Moreover, Alstom should commit to providing a TCMS adaptation that creates a standard interface for the TCMS according to the relevant UNISIG standards, to which then a third party ETCS OBU could connect.[1045]

(1280) The vast majority of the respondents to the market investigation submitted that the provisions regarding the Commitments Relationship Manager were adequate to facilitate dealing with requests related to the OBU Commitments. Some respondents asked for more clarity on the position and role of this manager.[1046]

(1281) Similarly, the vast majority of the respondents to the market investigation submitted that the provisions of the Commitments regarding the monitoring trustee and the fast track dispute resolution were sufficient to ensure the proper functioning of and compliance with the Commitments.[1047] Thales submitted that the monitoring trustee should have some technical background.[1048] Siemens submitted that due to the critical importance of timing during the bidding procedure and the complex technical nature of potential disputes regarding price and implementation, the Commission should also appoint an expert to assist the monitoring trustee and to ensure a swift resolution of disputes.[1049]

(E) Conclusion

(1282) Overall, the majority of the respondents to the market investigation did not consider the OBU Commitments, as drafted, suitable to effectively remove the Commission's serious doubts resulting from the Transaction in the market for ETCS OBUs projects in the EEA and the market for legacy OBUs in the Netherlands, mainly because of their insufficient duration and scope, and lack of clarity. [1050]

11.3.3. The Final Commitments

11.3.3.1. The Very High-Speed Commitments

(1283) The final version of the Very High-Speed Commitments entails several substantial improvements by including provisions related to the HS2 issues raised by the respondents to the market test.

(1284) Under the final version of the proposed remedies, the commitments in relation to the HS2 Project[1051] and the supply of very high-speed rolling stock in the UK consist of the following.

[1045] Stadler's response to Q15, question 30.1.

[1046] Q15, replies to questions 31 and 31.1.

[1047] Q15, replies to questions 32, 32.1, 33 and 33.1.

[1048] Thales' response to Q15, question 32.1.

[1049] Siemens' response to Q15, question 32.1.

[1050] Q15, replies to question 34.1 and 34.1.1.

[1051] The HS2 Project refers to Bombardier's scope of and interest in its ongoing joint bid (in partnership with submission by Bombardier and Hitachi) pursuant to a consortium agreement dated June 5, 2019 in respect of the ongoing tender procedure by HS2 for the HS2 tender, and any related IP rights, know-how, documentation, personnel, and other tangible design and intangible assets. Should HS2 award the tender

(1285) First, in order to ensure the continuity of the competitive process of the HS2 tender, if the Transaction is completed before the tender is awarded, the Notifying Party offers to put in place a mechanism whereby [*Confidential details of the objective bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*].

(1286) Second, the Very High-Speed Commitments also contain [*Confidential information on Alstom's commitments vis-a-vis Hitachi and HS2 that apply in the event that the Bombardier/Hitachi consortium wins the tender*].

(1287) Third, if Bombardier/Hitachi consortium wins the HS2 tender, the Notifying Party offers, at the Purchaser's option, to grant a [*Confidential information on the licensing of Bombardier HS2 Project IP and Documentation and Transfer of Technology in the event that the Bombardier/Hitachi consortium wins the HS2 tender*]-wide license covering all IP rights and documentation relating to Bombardier's scope for the HS2 Project for use in future very high-speed projects, to the extent such IP rights and documentation are not covered by the Very High-Speed Commitments. This option could be exercised [*Confidential details on the three alternative periods/dates when Hitachi can exercise the option for the Licence of Bombardier HS2 Project IP and Documentation and Transfer of Technology*] [1052]. If the option is exercised under (i) or (ii), it also offers to provide engineering support (e.g., through training, secondments, etc.) in respect of Bombardier's scope of the HS2 Project for up to […] years following the delivery of the first train to HS2 and on commercially reasonable terms.

(1288) Finally, other provisions in the Very High-Speed Commitments remained mainly unchanged, with the exception of the Transitional Arrangements which include Bombardier's explicit engagement to continue to carry out all ongoing homologation activities for Existing Projects and all requested homologation for ongoing and future projects[1053] until such projects have been completed.

11.3.3.2. The Mainline Rolling Stock Commitments

(1289) The Final Commitments consist of a revised version of the Initial Commitments. The Final Commitments represent a series of amendments and improvements which address the issues raised in the market test regarding the competitiveness and

---

to manufacture of 54 very high-speed trains for operation on the UK's new very high-speed rail network between London, Birmingham and Northern England, together with the maintenance of that fleet for a minimum period of 12 years; and in any manufacturing, supply, or other agreements that may be entered into directly as a result of the Bombardier/Hitachi consortium (or, if awarded after bid being selecting as the winning bidder by HS2 (including any options, call-offs or repeat orders to the extent provided for in agreements for the initial order of up to 54 very high-speed trains) (the "HS2 Project").

[1052] If the option is exercised at this stage, the closing of the licensing agreement (i.e., making the relevant IP available to the Purchaser) will be conditional upon the delivery of the first train to HS2.

[1053] Transitional Arrangements will be provided for (i) the exercise of options, calls offs or any follow-on orders if the request to supply is issued by Trenitalia or ILSA within […] years of the closing of the Transaction; (ii) future very high-speed orders for which Trenitalia (or any consortium in which Trenitalia will be the operator) issues a call for tender within […] years of the closing of the Transaction, and (iii) any new very high-speed tenders for which the Purchaser has submitted a complete technical and commercial bid (with any customer other than Trenitalia or ILSA) based on the Zefiro V300 Platform within […] years of the closing of the Transaction.

viability of the Coradia Polyvalent Divestment and Talent 3 Divestment as described in the Initial Commitments.

(1290) In order to ensure that the Purchaser will be able to run a viable business post-Transaction, the Notifying Party amended the Initial Commitments and included the following conditions.

(1291) First, the Final Commitments provide clarifications on the scope of the IP rights and documentation, sub-systems, components and explanation on the profile of the personnel to be transferred. They also specify that all homologation documentation for the two platforms at train- and subsystem- level form part of the Commitments. The Final Commitments will ensure that the combination of (i) the Coradia Polyvalent Platform Divestment and the Reichshoffen Plant Divestment and (ii) the Talent 3 platform and the Henningdorf Carve-Out Area will allow the Purchaser to effectively manufacture, test, and homologate the platforms (and are not limited only to final assembly).

(1292) Furthermore, the Final Commitments include engineering facilities and assets, (including the necessary computer systems used in the development and maintenance), documentation, and personnel.

(1293) Second, with regard to the assets needed to carry out an upgrade to speed above 160 km/h for the Coradia Polyvalent and the Talent 3 platforms, the Final Commitments have been significantly improved.

(1294) For the Coradia Polyvalent Divestment, all designs for the upgrade, including related documentation, drawing and calculations for the [*Information on Alstom's R&D activities*][1054] will be transferred to the Purchaser. The Final Commitments specify that the Coradia Polyvalent Plant Divestment and the Reichshoffen Plant Divestment include the necessary assets and engineering know-how to autonomously upgrade such components and subsystems or procure the necessary upgraded components and subsystems from third-party suppliers. At the option of the Purchaser, Alstom offers to enter into supply agreements for components and subsystems designed by Alstom for the [*Information on Alstom's R&D activities*] and to provide engineering support for components and subsystems that fall outside the current competencies of the Reichshoffen Plant Divestment. In addition, at the option of the Purchaser, the Final Commitments include warranty services for the [*Information on Alstom's R&D activities*].

(1295) For the Talent 3 Divestment, the Final Commitments include similar provisions, except for the design of an upgrade to operate at speed above 160 km/h (and components and subsystem accordingly) because such an upgrade has not been foreseen for the Talent 3 platform.

(1296) Third, the Final Commitments state that if SNCF [*Confidential considerations for alternative energy*].

(1297) Fourth, in relation to the concerns raised in the market test that the transfer of the existing customer backlog and third party supply agreements require customers' and

[1054] The preliminary design of the 200 km/h version of the Coradia Polyvalent is called the [*Information on Alstom's R&D activities*].

suppliers' consent, the Final Commitments include the following improvements: (i) if component agreements cannot be transferred to the Purchaser, the Parties will supply components at cost,[1055] and (ii) [*Confidential information on contract transfer*] .

(1298) Fifth, at the option of the Purchaser, the Parties commit to enter into supply agreements for components and sub-systems not divested (because they are not specific to the Coradia and Talent 3 platforms). Such supply agreements will be for the duration of the underlying agreements with customers (transferred as part of the existing backlog). For new tenders awarded within five years of the date of the Transaction, the merged entity will enter into supply agreements for a duration of three years from initial purchase under the relevant supply agreement. The supplies will be at cost. The Monitoring Trustee will oversee the terms and conditions of the supply agreements and their implementation.

(1299) Sixth, the Talent 3 Divestment, as amended in the Final Commitments, provides at the option of the Purchaser testing services together with the possibility to access the track infrastructure for the next […] at Bombardier's internal project cost. Furthermore, as indicated by the results of the market test, the Purchaser will have the right at any point in time to move trains through the retained Bombardier area at Henningsdorf to reach the testing facilities and the public infrastructure. The transition period during which Bombardier commits to act as a sub-contractor to the Purchaser has been extended from […]. The terms and conditions include (i) compliance with the delivery schedules agreed with the customers and (ii) commercial terms with Bombardier offering the services at zero margin.

(1300) Seventh, with regard to Purchaser criteria, the Final Commitments include the condition that the suitable buyer for the divested rolling stock assets will be determined in light of its *'proven expertise will be assessed in light of experience and track record as a supplier of rolling stock in the EEA, as evidenced, inter alia, by prior sales and references'*.

11.3.3.3. The OBU Commitments

(1301) The revised OBU Commitments present a series of amendments and improvements to address the issues raised by market participants in the market test regarding the Initial Commitments.

(1302) First, in order to limit Alstom's discretion and reduce uncertainty, all services and products offered under the OBU Commitments (other than the provision of documentation for which fixed fees are provided) will be priced on a cost-plus basis.

(1303) Second, the definitions contained in the OBU Commitments have been clarified in order to limit issues of interpretation. In particular:

(a) The definition of Class B standalone on-board equipment is amended to include all systems in use in the EEA other than ETCS (and not only those pre-dating ETCS);

[1055] The Notifying Party commits to support the Purchaser in the negotiations with third parties.

(b) the definition of Purchaser is amended in order to include not only ETCS OBU suppliers but also other suppliers responsible for the execution of an ETCS OBU project, such as vehicle manufacturers or vehicle integrators;

(c) the definition of Interoperability Documentation is amended in order to include all existing documentation necessary to interface a Purchaser's ETCS system with Bombardier's TCMS. Homologation certificates and safety case are expressly included;

(d) the definition of Interface Documentation is detailed with a non-exhaustive list of documents that would be made available.

(1304) The following sections examine more specifically the amendments to each of the three sets of commitments included in the OBU Commitments.

(A) The STM and Class B OBUs Commitments

(1305) The geographic scope is extended to […]. The duration is extended to […].

(1306) The provisions on obsolescence are substantially reduced: where redesign of an STM would be required or in case of renewal due to absence of regular purchase orders, Alstom will offer to conduct such redesign provided that it is compensated by the infrastructure manager of the relevant country or countries (consistently with their legal obligation under EU law) or by a Purchaser on an amortized basis.

(1307) Special provisions are included for Portugal and Finland, [*Information on Bombardier's production / process secrets*]. In particular for Portugal, Alstom will commit to provide available Interface Documentation to ensure that other suppliers are placed on a comparable footing if the Portuguese infrastructure manager were to issue an open tender for a new legacy OBU solution. Pricing for such documentation will be approved by the monitoring trustee and the Commission.

(1308) The exclusion of STMs that are integrated with an ETCS OBU is maintained, but limited to those existing at the closing date, in order to avoid circumvention.

(1309) The terms for Alstom to reply to requests for quotations are generally shortened, with some exceptions as to protect Alstom from unreasonable requests. It is further provided that in case of an incomplete request, Alstom will nevertheless provide an initial quotation, to be then confirmed or amended once the request is completed.

(1310) Liquidated damages for late delivery are still limited, but specific performance ('*exécution forcée*') will be available in case of non-performance by either party of its obligations. Liquidated damages, other than for late delivery, will be agreed in line with standard market practice.

(1311) The possibility for Alstom to cease the production of STMs / Class Bs is maintained but a general provision on non-circumvention is included, in accordance to which Alstom undertakes not to circumvent the Commitments by deliberately ceasing production of Bombardier STMs or Class B's covered by these Commitments without offering an alternative.

(B) The TCMS Commitments

(1312) The geographic scope is extended to […]. It is further clarified that the Commitments will apply also to rolling stock supplied in consortium where Bombardier supplied the TCMS for the relevant trains.

(1313) The TCMS Commitments will be applicable to TCMS supplied by third parties, in case the supply of TCMS by the third party was done upon request by Bombardier and within the overall responsibility of the vehicle or if the property rights are within Bombardier.

(1314) It is clarified that the offer will include sufficient rights to allow the Purchaser to use the documents and information for bid preparation and project execution including the right to disclose these information and documents to external partners on a need-to-know basis for the purpose of preparing a bid and executing the project.

(1315) The deadlines for Alstom to reply to requests for quotations are generally shortened. A specific procedure is envisaged for particular, non-standard TCMS modification requests.

(C) The Netherlands Legacy OBU Commitments

(1316) The duration of the remedy is extended to […] including the possibility for ProRail to further extend the Dutch Framework Agreement by […] on the same terms at the end of the Netherlands Legacy OBU Commitments.

(1317) The Dutch Framework Agreement will allow for rolling stock suppliers and/or ETCS OBU suppliers authorized by ProRail ('the Authorised Third Parties') to place orders for Alstom's ATB-EG Class B at the same pricing and on the same terms as agreed with ProRail.

(1318) Under the Dutch Framework Agreement, Alstom will provide Authorized Third Parties with Interface Documentation for Alstom's ATB-EG Class B for a fixed fee of EUR […] per cab, adjusted on a yearly basis, as approved by the Monitoring Trustee.

(1319) Under the Dutch Framework Agreement, pricing will be agreed between Alstom and ProRail, taking as a starting point current existing benchmark pricing for Alstom's ATB-EG Class B sales on a product basis and open book principles and will be adjusted on a yearly basis following the revision formula applicable to the supply of STMs and Class B OBUs set out in annex A of the OBU Commitments. Authorized Third Parties will be entitled to order Alstom's ATB-EG Class B on the basis of the pricing agreed with ProRail and otherwise subject to the principal terms of the Dutch Framework Agreement.

(1320) The same pricing terms, as set out in annex A to the OBU Commitments, regarding redesign of STMs due to a major obsolescence shall also apply to the Dutch Framework Agreement.

(1321) If redesign of the ATB-EG would be required due to major obsolescence or need to renew the industrial file due to absence of regular purchase orders leading to no manufacturing having taken place for […], Alstom will offer ProRail, on substantially the same terms as those set out in annex A to the OBU Commitments,

at Alstom's sole discretion, either to develop a standalone ATB-EG STM or to redesign Bombardier's ATB-EG STM.

(1322) The Dutch Framework Agreement will be governed by Dutch law, as will any disputes arising out of or in connection with the Dutch Framework Agreement. It will be subject to the fast track dispute resolution procedure applicable to all OBU Commitments and the agreements implementing them (described in annexes E and F of the OBU Commitments).

(D) Common provisions to the OBU Commitments

(1323) A fast track expert dispute resolution mechanism is added, in accordance to which the monitoring trustee will appoint potential experts, with qualified experience in the sector, which will adjudicate disputes related to the OBU Commitments with a fast procedure.

(1324) Moreover, the monitoring trustee will have the possibility to review at any moment the principal terms of supply outlined in the OBU Commitments to verify in particular whether (i) fixed prices for documentation are reasonable justified and in line with market practice in the industry, (ii) other prices are based on the actually incurred costs for the provision of the requested services/products and (iii) net margins are calculated in line with market practice in the industry.

11.4. The Commission's assessment

11.4.1. Assessment of the Final Commitments

(1325) The Commission considers that the Final Commitments are sufficient to remove the serious doubts regarding the compatibility of the Transaction with the internal market outlined in sections 6.2, 6.3, 8.2.2 and 8.3.1.2.

11.4.1.1. The Very High-Speed Commitments

(A) Suitable Purchaser

(1326) As a preliminary condition, the Commission considers that Hitachi is the only suitable remedy-taker for the Very High-Speed Commitments.

(1327) The Very High-Speed Commitments aims at making a credible competitive alternative to the merged entity in the market for very high-speed rolling stock, on the basis of the divestiture of Bombardier's scope of work and assets related to the very high-speed platform Zefiro V300.

(1328) In that regard, Hitachi is the only remedy taker that would allow to set up a credible standalone competitor on the basis of the Zefiro V300 and create satisfactory competitive conditions in the market for very high-speed rolling stock for the following reasons.

(1329) First, as expressed by some respondents to the market test, Hitachi is the only supplier who has the technical and commercial knowledge of the Zefiro V300 platform.

(1330) Hitachi is Bombardier's partner in the development and manufacture of the Zefiro V300 platform at the outset. Bombardier and Hitachi's consortium has been established in the context of the 2010 Trenitalia tender. More recently, they also jointly participated in the 2018 ILSA/Trenitalia project. As explained above in this decision, Hitachi's contribution related to the 2010 Trenitalia project and the 2018 ILSA project accounts for c. […]% of the scope of the platform, and c. […]% of the context of the ongoing HS2 tender.[1056] In addition, Hitachi and Bombardier presented a common bid in the ongoing HS2 tender, with a revised version of the platform. Therefore, Hitachi is the leading partner in the consortium with Bombardier, and its contribution includes fundamental aspects of the platform supply such as the customer relationship, the final assembly, the delivery, and the contract and project management. As a consequence, considering Hitachi's involvement in the Zefiro V300 and its revised version presented in the HS2 tender, no other supplier but Hitachi has a comparable knowledge and know-how of the development, production and commercialisation processes of the platform.

(1331) Following Hitachi's knowledge of the platform, the Commission further considers that making Hitachi as remedy taker of the Very High-Speed Commitments would allow a more efficient and prompt implementation of the remedy.

(1332) Second, the Commission considers that Hitachi is the supplier with the strongest incentives to further develop and operate the Zefiro V300 platform and its revised version in the UK.

(1333) The Zefiro V300 is the only very high-speed platform currently operated by Hitachi in the EEA. Based on Hitachi's contribution in the technical development and the manufacture of the platform, the company spent considerable investments in the platform for the past 10 years. The Commission notes that Hitachi's investments in the platform should not decrease in a foreseeable future. The Zefiro V300 holds a very strong track-record in the EEA, representing a [20-30]% market share in the past 10 years. Furthermore, the ILSA project, where ILSA' shareholder Trenitalia selected the Zefiro V300 as its operating platform in Spain, further demonstrates that the Zefiro V300 remains a highly competitive platform and a commercially attractive supply alternative, especially in the context of liberalized very high-seep markets in the EEA. Thus, for instance, the platform is key to Trenitalia's development strategy in Europe. In addition, the Hitachi/Bombardier's bid in the ongoing HS2 tender shows that Hitachi intends to continue investing in the platform.

(1334) Third, the Commission notes that Hitachi is the unique supplier with whom Bombardier and the Notifying Party had contacts in relation to the Very High-Speed Commitments. In that regard, the Commission notes that Hitachi has expressed its interest in being the remedy taker and that the discussion between the Parties and Hitachi are well advanced. [*Confidential details on ongoing sale negotiations between the Parties and Hitachi*].

(1335) It follows from the above that the Commission considers that Hitachi is the only suitable remedy taker with respect to the Very High-Speed Commitments. The proposed remedies would allow Hitachi to become a credible bidder and supplier of very high-speed rolling on a standalone basis, concerning the ongoing as well as

[1056] Including rolling stock and maintenance.

future projects. It would also ensure business and development continuity for Trenitalia.

(1336) As a result, the Commission considers that the proposed remedies allow to dismiss the competitive concerns identified in the market for very high-speed rolling stock at EEA and worldwide level if Hitachi is selected as Purchaser.

(B) The restoration of competitive conditions

(1337) The Commission considers that the Very High-Speed Commitments will allow to set up sufficient competitive conditions in the market for very high-speed in the EEA (including Switzerland) and at global level.

(1338) The implementation of the Very High-Speed Commitments would remove the overlap between the Parties activities in very high-speed rolling stock, both at EEA (including Switzerland) and worldwide level. By providing Hitachi with the necessary assets and rights in relation to Bombardier's scope of work for the Zefiro V300 platform, the proposed remedies will ensure Hitachi's ability to compete on a standalone basis with a platform representing [20-30]% of the market at EEA level (including Switzerland) and [10-20]% at global level (outside Japan, China and South Korea). Hitachi will thus become the second most important supplier in the market for very high-speed rolling stock, behind the merger entity, whose market share will remain the same as Alstom's market share prior to the Transaction.

(1339) With respect to its technical scope of the proposed remedies, the Commission considers that the final version of the Very High-Speed Commitments will allow Hitachi to obtain the necessary assets, IP rights and documentation to become a standalone supplier for very high-speed rolling stock on a perpetual basis. It also address the issues raised by market participants during the market test.

(1340) In that regard, the Commission notes that the Very High-Speed Commitments includes necessary assets to allow Hitachi to operate on a standalone and perpetual basis in the market for very high-speed rolling stock.

(1341) The final version of the proposed remedies indeed includes the transfer of all Zefiro V300-specific IP rights and documentation relating to Bombardier's scope for the Existing Projects and grants access to non-Zefiro V300-specific IP and documentation, through a non-exclusive, irrevocable, and perpetual license. It also includes the transfer, at the option of the Purchaser and subject to any applicable consent rights of such suppliers, of the supply agreements with external suppliers for main components or services for Bombardier's scope of the Zefiro V300.

(1342) In addition, the Very High-Speed Commitments ensure the economic viability of the Zefiro V300 platform, by transferring Bombardier's interest in any contracts, options, call-offs or follow-on orders (including orders not yet exercised) with existing customers, *i.e.*, Trenitalia and ILSA.[1057]

[1057] In that regard, the Notifying Party notes that, as indicated in the Form RM, confirmed existing order backlogs in relation to the Bombardier's scope for the Trenitalia project amount to more than EUR […] for rolling stock delivery and almost EUR […] for maintenance services. It is also expected that the consortium Hitachi/Bombardier will be awarded with the ILSA project for the supply of 23 Zefiro V300

(1343) The final version of the proposed remedies also allows the Purchaser to obtain operational assets which may be important for a suitable manufacture and operation of the Zefiro V300 platform.

(1344) The Notifying Party offers, at the Purchaser's option, the sale or lease of Vado Ligure facility, including engineering, production, and aftermarket services capabilities. In that regard, the Commission considers that, contrary to the claims of certain market participants, there is no ground for dismissing the suitability of the Vado Ligure plant. The Notitfying Party offers to take charge of significant changes in the current site in order to allow the assembly of the Zefiro V300 bogies and wheelsets and the testing of very high-speed rolling stock. In addition, the Commission notes that some respondents consider that the sale or lease of the Vado Ligure site may not be necessary, depending on the Purchaser's current industrial footprint and capacities.

(1345) The Notifying Party also offers to transfer other assets, including employees, the Zefiro brand (subject to a license back for the Zefiro Express), its current stock of components and spare parts and a non-exclusive license for its train maintenance diagnostic software tools limited to V300 Zefiro applications.

(1346) With respect to the implementation of the Very High-Speed Commitments, the Notifying Party offers to put in place Transitional Arrangements, whereby the merged entity will be entitled to perform its current supply obligations for all Existing Projects in order to ensure a seamless transition until Hitachi becomes a full standalone supplier. The Transitional Arrangements [*Confidential details on the specific services covered by and the duration of such transitional arrangements*]. In addition, the Notifying Party provided in the final version of the remedy further clarity on the homologation process. The Very High-Speed Commitments now explicitly state that the Notifying Party will continue to carry out all ongoing homologation activities for Existing Projects and all requested homologation for future projects occurring during the transitional period.

(1347) In addition, the Transitional Arrangements will also apply for future projects and orders as they will include (i) any options, calls offs or any follow-on orders if the request to supply is issued by Trenitalia or ILSA within […] years of the closing of the divestment; (ii) future very high speed orders for which Trenitalia (or any consortium with Trenitalia) issues a call for tender within […] years of the closing of the divestment, and (iii) any new very high speed tenders for which the Purchaser has submitted a complete technical and commercial bid (with any customer other than Trenitalia or ILSA) based on the Zefiro V300 Platform within […] years of the closing of the divestment to. The Commission considers that the duration of these provision, which have been agreed between the Parties and Hitachi in the MoU, are sufficient to allow Hitachi to get the necessary knowledge related to the transferred and licenced assets, IP rights and documentation.

---

platforms and a […] year maintenance contract, for a total value in relation to the Bombardier's scope of almost EUR […] (EUR […] for the rolling stock delivery and €[…] for the maintenance contract). Furthermore, the Notifying Party indicates that a delivery of […] Zefiro V300 platforms valued at EUR […] in relation to Bombardier's scope and an expected […] year contract maintenance contract valued at EUR […] in relation to Bombardier's scope is currently under negotiation between Bombardier, Hitachi and Trenitalia.

(1348) Furthermore, the final version of the proposed remedies provides commitments with respect to the HS2 Project.

(1349) As explained at paragraph (1231), the Commission notes that Hitachi, the CMA and ORR submitted in the course of the market test that the initial remedy failed to preserve the competitive condition of the ongoing HS2 tender. They consider that the most appropriate remedy in the context of the HS2 tender would be the divestiture of Bombardier's contribution in the platform to develop in partnership with Hitachi, should the consortium Hitachi/Bombardier win the tender.

(1350) However, the Commission considers that the divestiture of all Bombardier's IP rights and documentation related to the very high-speed platform presented by the consortium Hitachi/Bombardier in the HS2 tender is not a viable and appropriate remedy as it is for the Trenitalia and the ILSA projects.

(1351) Indeed, the Trenitalia project relies on a version of the Zefiro V300 platform already developed and in operation in Italy.[1058] To the contrary, the technicalities of the platform presented by the consortium in the context of the HS2 tender differs significantly and its related assets, IP rights and documentation do not fully exist yet. As a consequence, a potential divestiture of Bombardier's contribution to the benefit of Hitachi would necessarily entails very limited assets, making Hitachi's ability to develop the platform on a standalone basis unlikely.

(1352) In addition, a divestiture of Bombardier's scope of work [*Confidential details on the nature of the commitments in respect of the HS2 tender*]. The Commission considers that, given their respective timeframe, the Transaction will most likely be closed before the HS2 tender is awarded, meaning that the remedy will have to be implemented prior to the final result of the HS2 tender. In that context, [*Confidential details on the nature of the commitments in respect of the HS2 tender*].

(1353) Therefore, the final version of the Very High-Speed Commitment ensures the continuity of the most possible competitive process in the ongoing HS2 tender and provides guarantees concerning Alstom's contribution in the supply of the platform to HS2 in the event that the Bombardier/Hitachi consortium wins the tender. It also intends to allow Hitachi to become a standalone supplier of very high-speed rolling stock in the UK after the HS2 tender in a foreseeable future. In that regard, the final version of the Very High-Speed Commitments addresses the issues raised by market participants in relation to the ongoing HS2 Project.

(1354) First, if the Transaction closes before the merger is awarded, [*Confidential details of the objective bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*].

(1355) Second, the final version of the remedy contains [*Confidential information on Alstom's commitments vis-a-vis Hitachi and HS2 that apply in the event that the Bombardier/Hitachi consortium wins the tender*].

(1356) Third, the Notifying Party's proposal to grant a [*Confidential information on the licensing of Bombardier HS2 Project IP and Documentation and Transfer of Technology in the event that the Bombardier/Hitachi consortium wins the HS2*

[1058] The platform that will be operated by ILSA is close to the one currently operated by Trenitalia in Italy.

tender]-wide license covering all IP rights and documentation relating to Bombardier's scope in the HS2 Project for the use of future very high-speed projects appears adequate and proportionate. It will ensure Hitachi's ability to bid on a standalone and perpetual basis in future tenders issued by HS2 or other very high-speed customers in the UK. In addition, the Commission considers that the non-exclusive nature of the license is appropriate, since it will ensure Alstom's incentives to actively invest in the IP rights and related documentation, as the merged entity will be able to use these IP-rights for other rolling stock platforms of its portfolio. Furthermore, the licence can be activated upon publication of a request for qualification for a new very high-speed rolling stock tender in the UK, which will allow Hitachi a submit a bid with the guarantee to have access to the necessary IP rights and documentation relating to Bombardier's scope.

(1357) Finally, ORR highlighted that "*it is imperative that any commitments that the Parties make towards Hitachi would span all of Bombardier's legacy obligations, and/or would enable Hitachi to compete both for future orders and maintenance competitions including encompassing all aspects of both IP and maintenance*".[1059] In respect of maintenance aspects of the HS2 Project, the Very High-Speed Commitments provide for the continued availability of production and maintenance facilities, resources, technology and expertise of Bombardier Transportation UK Limited currently envisaged for use on the HS2 Project. Moreover, the HS2 project entails the construction of a new maintenance depot near Birmingham, to be owned by HS2. The winning bidder of the HS2 tender will operate the depot for the duration of the initial 12-year maintenance contract.[1060] At the end of such 12-year maintenance contract, HS2 has the option to (i) extend the maintenance contract, or (ii) transfer maintenance activities, including access to the depot, to a new provider (such as the train operator, or the winning bidder/rolling stock OEM of a subsequent phase of the HS2 project). Maintenance arrangements in all future tenders are expected to follow the same model whereby HS2 would own, and control access to, the necessary maintenance depots.

(1358) In view of the above, the Commission considers that the Very High-Speed Commitments are a viable remedy which will ensure competitive condition in the market for very high-speed rolling stock after the Transaction. The proposed remedies include relevant and necessary assets and licences, which will allow Hitachi to become a standalone player in a foreseeable future and able to compete with the merged entity.

11.4.1.2. The Mainline Rolling Stock Commitments

(1359) The Commission considers that the Final Commitments match the geographic scope of the competitive concerns in the market for self-propelled mainline rolling stock, i.e., France and Germany.

(1360) In line with the approach adopted in *Bombardier/ADTranz*, the Commission considers it appropriate to assess the impact of the Commitments also based on market shares excluding consortia. Such an analysis focuses only on the merger-

[1059] ORR email submission to the case team of 28 July 2020, point 3.

[1060] *See* hs2inbirmingham.commonplace.is/schemes/proposals/washwood-heath-depot/details. Further maintenance depots may be constructed during later phases, which would also be owned by HS2.

specific overlaps in the Parties' activities and provides an informative view on the reduction of the Parties' market position in the markets where the Commission raises serious doubts as to the compatibility of the Transaction with the internal market.[1061]

(1361) If trains jointly sold by the Parties in consortia before the merger are excluded, the Final Commitments represent the complete merger-specific overlap in France. In Germany, while they do not cover the full overlap, the Final Commitments lower the Parties' market share to below 50% in the overall market for self-propelled trains and in the market for regional trains.

(1362) The Commission notes that some respondents to the market test expressed the view that the Coradia Polyvalent and Talent 3 platforms and the proposed manufacturing sites in France and Germany are not sufficient or capable of addressing the competitive concerns raised by the Transaction. As regards the manufacturing sites, this is due to the lack of sufficient capacity or dependencies on other manufacturing sites of the Parties. These respondents also considered that the platforms offered are outdated and different platforms of the Parties would have been more suitable to restore competition and allow the Purchaser to compete with the merged entity post-Transaction.

(1363) Pursuant to paragraph 85 of the Commission notice on remedies, "*the Commission will review whether the commitments submitted by the parties are proportionate to the competition problem when assessing whether to attach them as conditions or obligations to its final decision*". Therefore, when assessing the scope of the proposed Commitments, the Commission must observe the principle of proportionality and accept Commitments strictly necessary to restore competition in the markets concerned. In the present case, the Final Commitments fully remove the merger-specific overlap in France. Similarly, in Germany, the Parties' market shares are reduced to below 50% under all plausible segmentations. The Commission thus considers that the Final Commitments are proportionate to the competitive concerns identified in the market for self-propelled trains (and possible segmentations) and in France and Germany.

(1364) As regards the suitability of the Final Commitments, the Commission considers that the divestiture of manufacturing sites and platforms in France and Germany is suitable to address the competitive concerns consisting in high barriers to entry in these countries. In particular, the Final Commitments include two manufacturing sites in the countries where the Commission has identified a strong correlation between local manufacturing presence and the ability to win contracts. Furthermore, barriers to entry are also raised by the complex homologation process in Germany and France. The Final Commitments include two homologated platforms that have already been sold in these countries. The Coradia Polyvalent platform has been sold to SNCF and the Hello Paris consortium and the Talent 3 platform to Abellio, Netinera, and SWEG in Germany, ÖBB in Austria, and STA in Italy. The results of the market investigation confirmed that the Coradia Polyvalent platform is ready for sale in France and customers perceive the Talent 3 platform as competitive and important in the market for regional trains in Germany.

[1061] Commission decision in case M.2139 - *Bombardier/ADTranz* (2001), recitals 44 and 50.

(1365) The Commission thus considers that the Final Commitments would enable a rolling stock supplier to effectively enter the market for self-propelled trains in France and Germany and to exercise a credible competitive constraint on the merged entity post-Transaction.

(1366) As regards the viability of the Commitments and competitiveness of the business to be divested, the results of the market investigation indicated that the Initial Commitments did not include all assets and know-how to ensure that the Purchaser will be able to effectively manufacture, operate, maintain, and further develop the Coradia Polyvalent and Talent 3 platforms, or did not provide sufficient information in that regard.

(1367) In the Commission's assessment, the scope of the Final Commitments addresses the issues identified in the market test.

(1368) In terms of clarity, the Commission considers that the Final Commitments include detailed information regarding the IP rights, documentation to be transferred to the Purchaser as well as the profile of the personnel at the Reichshoffen site and the Henningsdorf Carve-Out Area.

(1369) The Final Commitments ensure that the combination of (i) the Coradia Polyvalent Platform Divestment and the Reichshoffen Plant Divestment and (ii) the Talent 3 platform and the Henningsdorf Carve-Out Area will allow the Purchaser to effectively manufacture, test, and homologate the respective platforms for the following reasons.

(1370) First, the Commission notes that the Coradia Ployvalent platform is already being manufactured at the Reichshoffen plant, which includes the relevant personnel and assets. For components and sub-systems excluded from the scope of the Final Commitments, because they are not Coradia Polyvalent-specific or do not fall within the scope of the competencies of the Reichshoffen plant, the merged entity commits to enter into supply agreements, at the option of the Purchaser. Under the terms and conditions of the supply agreements, components and sub-systems will be supplied to the Purchaser at Alstom's internal costs, which ensures that cost of manufacturing the Coradia Polyvalent platform will not increase after the Transaction. Furthermore, the duration of the supply agreements will match the duration of underlying agreements included in the existing backlog and will be sufficiently long for new tenders (during a period of […] after closing of the Transaction and for a period of […] from the initial order under the awarded contract). This will ensure not only that the Purchaser will be able to comply with its contractual obligations for the existing backlog but also that it will be able to compete in future tenders.

(1371) Second, the Commission considers that the existing assets at the Henningsdorf Carve-Out Area, together with the additional commitments during the transitional period, at the option of the Purchaser, will enable the Purchaser to continue to supply the Talent 3 platform. In addition to supply agreements identical to those provided for the Coradia Polyvalent platform, Bombardier offers to act as sub-contractor under conditions ensuring the competitiveness and quality of the platform. In response to the results of the market investigation, the transitional period has been extended to 36 months and the period for the access to testing tracks ([…] years) is considered sufficiently long.

(1372) Third, with regard to the transfer of the existing backlog and existing supply agreements with third party suppliers, the Final Commitments include provisions in case third parties (customers and suppliers) do not grant their consent. These Commitments are considered sufficient to enable the Purchaser to fulfil its obligations under the existing contracts for the supply of rolling stock. This in turn will ensure that the Purchaser's entry in France and Germany will be effective and it will be able to establish an installed base.

(1373) Another important aspect of the Final Commitments is the merged entity's commitment if [*Confidential considerations for alternative energy*]. The Commission thus considers that the Final Remedies are designed to ensure that the Purchaser will successfully comply with its contractual obligations under the existing contract with SNCF.

(1374) Furthermore, the Commission considers that the assets to be transferred as part of the Final Commitments, including existing designs, engineering support and supply agreements, will enable the Purchaser to upgrade the Coradia Polyvalent and Talent 3 platforms to carry out an upgrade of the Coradia Polyvalent and Talent 3 platform at speed above 160 km/h. As previously indicated, the Coradia Polyvalent and Talent 3 platforms are currently operating as regional trains, but either already have a built-in capacity to run at intercity speeds (Coradia Polyvalent) or [*Information on Bombardier's production / process secrets*]. The upgrade facilitated by the Final Commitments will allow the Purchaser to compete in future tenders also for intercity trains (where the Transaction does not lead to overlaps in France and Germany) with the Parties' and their competitors.

(1375) Finally, the Final Commitments impose strict Purchaser criteria which ensure that a suitable Purchaser is an established player with a track record of supplying rolling stock in Europe. The Commission considers that this will ensure not only the viability and competitiveness of the Divestment Businesses but also a timely entry in France and Germany that will effectively constraint the merged entity post-Transaction.

(1376) In view of the above, the Commission considers that the Final Commitments are sufficient to eliminate the serious doubts as to the compatibility of the Transaction with the internal market identified in the market for self-propelled mainline trains (and possible segmentations) in France and Germany.

11.4.1.3. The OBU Commitments

(A) The STMs and Class B OBUs Commitments and the TCMS Commitments

(1377) The Commission notes that several competitors expressly requested access to the merged entity's TCMS and/or legacy OBUs, in order to eliminate the risk of rivals' foreclosure in the market for ETCS OBU projects:

(a) Siemens submitted that offering access to Bombardier's proprietary interface would be to the benefit of train operators as it would allow ETCS OBU

providers to compete on a level playing field for retrofitting projects, which results in competitive terms for ETCS OBUs and further components;[1062]

(b) Stadler submitted that any remedy measure shall include access to the merged entity's installed base of rolling stock in Europe for any signalling retrofit in the foreseeable future: the merged entity should give access to all relevant documentation and interface information required to conduct ETCS and Class B retrofit works. Stadler also submitted that in the absence of a full disposal of the signalling business, access to both ETCS OBU as well as Class B technology for dependent rail OEMs would be requested to allow a minimum level of competition.[1063]

(1378) The results of the market investigation, summarized in previous section 11.3.2.3, confirmed that access to Bombardier's STMs/Class Bs and TCMS is considered critical to ensure competition in the ECTS OBUs projects market in the EEA. Therefore, an access remedy as the one proposed by the Notifying Party, if properly designed and implemented, appears able to address the competitive concerns emerged in the course of the investigation. In this respect, the Commission considers that the amendments and the improvements submitted by the Notifying Party following the result of the market test are able to address the main issues identified by the respondents to the market investigation.

(1379) First of all, the geographic scope of application has been extended to the UK and Switzerland, in line with the requests of CMA and of other ETCS suppliers.

(1380) The definition of 'Purchaser' has been amended as well, to include all suppliers responsible for the execution of an ETCS OBU project, such as vehicle manufacturers or vehicle integrators, in order to capture situations where the entity supplying the OBU is not the entity performing the work/retrofit and hence requiring the TCMS adaptations. Conversely, further broadening the scope of application, in order to include other operators in the railway sector, would be disproportionate as the competitive concern emerged in the course of the investigation relates to the market for ETCS OBUs projects.

(1381) With respect to the STMs and Class B OBUs Commitments the elimination to the reference to ATP systems 'pre-dating' the ETCS system avoids possible issues in case of future releases of legacy systems. The inclusion of Alstom STM/Class B systems, as requested by some respondents to the market test, would not be proportionate, as it does not relate to the incremental advantage brought about by the Transaction.

(1382) The limitation of the exclusion from the scope of the remedy of integrated STM/ETCS OBUs to those existing at the closing date is adequate as well, as it would avoid a situation where Alstom would reengineer currently available STMs or Class B's as integrated products in an attempt to exclude them from the scope of the Commitments. On the other hand, a general inclusion of integrated products would not be proportionate, as the purpose of the remedy is to facilitate entry of competing

[1062] Siemens' submission of 21 April 2020, paragraph 88.
[1063] Stadler's submission of 4 May 2020, page 32.

ETCS OBUs suppliers. For the same reason, the exclusion of certain STM/Class B in countries where alternatives are available from competitors appears justified.

(1383) With respect to the TCMS Commitments, it has been further clarified that it will apply also to rolling stock supplied in consortium where Bombardier supplied the TCMS for the relevant train. Moreover it will apply also to TCMS supplied by third parties, in case the supply of TCMS by the third party was done upon request by Bombardier and within the overall responsibility of the vehicle or if the property rights are within Bombardier. These clarifications should allow the inclusion of all cases where Bombardier is substantially responsible for the TCMS, irrespective of any different formal role. Similarly to the STM/Class B OBU Commitments, access to Alstom's TCMS would not be proportionate, as it would go beyond merger-specific concerns.

(1384) The duration of the Commitments is adequate:

(a) The STMs and Class B OBUs Commitments will remain in force for […], as requested by most respondents to the market test in order to broadly correspond to the time limit in the EU ERTMS implementation plan;

(b) The TCMS Commitments will remain in force for twelve years. In this respect, the Commission considers that this duration appears proportionate: although the EU ERTMS implementation plan will not be completed in […], it is to be noted that the ETCS OBUs retrofit of old rolling stock should be largely completed by 2030, as confirmed also by some respondents to the market test.

(1385) The Commission further notes that the Final Commitments have substantially limited Alstom's discretion in the implementation of the OBU Commitments and have reduced the vagueness of a series of definitions and concepts. In particular:

(a) The definitions of Interoperability Documentation and of Interface Documentation have been amended and detailed, with the inclusion of specific items indicated by market participants in the course of the market test;

(b) The references to 'reasonable' support or modifications have been largely deleted, in order to avoid limiting principles subject to interpretation;

(c) All services and products offered (other than the provision of documentation for which fixed fees are provided) will be priced on a cost-plus basis. The Final Commitments thus do not include references to market prices, considered inadequate by most respondents to the market test;

(d) For STMs and Class Bs, the provisions on obsolescence have been substantially reduced and the provision relating to ceased production has been reformulated to limit Alstom's discretion. In any case a specific provision to avoid circumvention of the Commitments is included, in accordance to which Alstom would be forced to offer alternatives. A specific provision has been included for Finland and Portugal, [*Information on Bombardier's production / process secrets*]. The Commission notes that for Portugal Alstom expressly commits to provide available interface documentation for its legacy system at a price approved by the monitoring

trustee, to ensure that other suppliers can compete in case of an open tender for a new solution organized by the infrastructure manager;

(e) For TCMS, the exclusions have been simplified and clarified;

(f) In order to exclude possible delaying tactics, Alstom would be obliged to provide a quotation also in case of incomplete requests from ETCS suppliers.

(1386) Most terms for Alstom to reply to request for quotations are shortened, again in line with the results of the market test, with some exceptions aimed at protecting Alstom from unreasonable requests. Similarly, the provisions on damages have been aligned with the market practice. In sum, the Final Commitments impose no burden on third parties liable to impede access compared to what is usual market practice.

(1387) The Commission considers that the procedures for monitoring and dispute resolution are clear and consistent with the Commission's precedents. The Commission notes in particular the role of the fast track expert dispute resolution mechanism, which would allow a rapid resolution of all disputes with the help of an industry expert, before the possible recourse to arbitration. Furthermore, the monitoring trustee, with the help of the expert, would be also able to review the main terms and conditions – in particular pricing – of the Commitments, thus further limiting Alstom's discretion in determining the conditions applicable to Purchasers.

(1388) The Commission further notes that the divestiture of the entire ETCS OBUs projects business, as requested by other market participants, would be (i) neither proportionate, as the Transaction does not raise serious doubts with respect to horizontal unilateral effects in the ETCS OBUs market, in particular considering Bombardier's limited position in this market (section 8.2.1.1), (ii) nor adequate, as it would not solve the issue connected to the availability for the merged entity of an enlarged rolling stock installed base and unmatched legacy OBUs portfolio in the EEA.

(1389) In summary, the STMs and Class B OBU and the TCMS Commitments, through access to STMs / Class B equipment, interfaces, or TCMS interoperability documentation or modifications support, provide a level playing field in the market for ETCS OBUs projects in the EEA and allow ETCS OBU providers to compete more effectively.

(1390) The Commission therefore considers that the STMs and Class B OBUs Commitments and the TCMS Commitments are sufficient to eliminate the serious doubts as to the compatibility of the Transaction with the internal market identified in the market for ETCS OBUs projects in the EEA.

(B) The Netherlands Legacy OBU Commitments

(1391) The final version of the Netherlands Legacy OBU Commitments covers the issues raised during the market test, as described in paragraphs (1276) to (1278) above.[1064] In particular:

[1064] Regarding the concern raised during the market test about access to the ATB-NG system in the Netherlands, even though not strictly merger-specific, it was already taken into account in the Initial

(a) The duration of the commitments has been extended to […], offering the possibility to ProRail to request a further extension of […] on the same terms. This is in line with the timeframe for the roll-out of the ERTMS in the Netherlands;

(b) The Dutch Framework Agreement will largely include the amendments requested by ProRail, notably on duration and pricing.

(1392) Furthermore, all relevant amendments to the common provisions of the OBU Commitments equally apply here. These include clarifications of relevant definitions and amendments to the fast track dispute resolution and the pricing in case of redesign of STMs due to a major obsolescence.

(1393) Moreover, while the Commission recognises that divestiture commitments are generally the best way to eliminate competition concerns resulting from horizontal overlaps, it considers that a divestiture would not be the optimal solution in the specific circumstances of the present case and could be difficult to implement. A divestiture of Alstom's or Bombardier's legacy OBU business in the Netherlands would risk not attracting suitably buyers, as these assets correspond to a disappearing market in view of the ERTMS roll-out.

(1394) In summary, these commitments will limit the merged entity's market power in the market for legacy OBU products in the Netherlands and allow ETCS suppliers and rolling stock competitors in the Netherlands to obtain supplies of legacy OBUs at fair conditions.

(1395) The Commission therefore considers that the Netherlands Legacy OBU Commitments are sufficient to eliminate the serious doubts as to the compatibility of the Transaction with the internal market identified in the market for legacy OBUs in the Netherlands.

11.4.1.4. Conclusion

(1396) For the reasons outlined above, the commitments entered into by the undertakings concerned are sufficient to eliminate the serious doubts as to the compatibility of the transaction with the internal market.

(1397) Under the first sentence of the second subparagraph of Article 6(2) of the Merger Regulation, the Commission may attach to its decision conditions and obligations intended to ensure that the undertakings concerned comply with the commitments they have entered vis-à-vis the Commission with a view to rendering the concentration compatible with the internal market.

(1398) The fulfilment of the measures that give rise to the structural change of the market is a condition, whereas the implementing steps that are necessary to achieve this result are generally obligations on the parties. Where a condition is not fulfilled, the Commission's decision declaring the concentration compatible with the internal market is no longer applicable. Where the undertakings concerned commit a breach of an obligation, the Commission may revoke the clearance decision in accordance

---

Commitments whereby Alstom included its newly developed Class B solution combining ATB EG and ATB NG and replacing the obsolete ATB-NG (ATB-NL) in the STMs and Class B OBUs Commitments.

with Article 6(3) of the Merger Regulation. The undertakings concerned may also be subject to fines and periodic penalty payments under Articles 14(2) and 15(1) of the Merger Regulation.

(1399) In accordance with the basic distinction between conditions and obligations described in the preceding paragraph, the commitments in (i) sections B and C of the Rolling Stock Commitments and (ii) section B of the OBU Commitments of the Annex constitute conditions attached to this decision, as only through full compliance therewith can the structural changes in the relevant markets be achieved. The other commitments set out in the Annex constitute obligations, as they concern the implementing steps which are necessary to achieve the modifications sought in a manner compatible with the internal market.

12. CONCLUSION

(1400) For the above reasons, the Commission has decided not to oppose the notified operation as modified by the commitments and to declare it compatible with the internal market and with the functioning of the EEA Agreement, subject to full compliance with the conditions in (i) sections B and C of the Rolling Stock Commitments and (ii) section B of the OBU Commitments, annexed to the present decision and with the obligations contained in the other sections of the said commitments. This decision is adopted in application of Article 6(1)(b) in conjunction with Article 6(2) of the Merger Regulation and Article 57 of the EEA Agreement.

For the Commission

(Signed)
Margrethe VESTAGER
Executive Vice-President

July 30, 2020

Case M.9779 – Alstom/Bombardier Transportation

COMMITMENTS TO THE EUROPEAN COMMISSION

Pursuant to Article 6(2), of Council Regulation (EC) No 139/2004 (the ***Merger Regulation***), Alstom S.A. (***Alstom***, or the ***Notifying Party***) hereby enters into the following Commitments (the ***Commitments***) vis-à-vis the European Commission (the ***Commission***) with a view to rendering its proposed acquisition of sole control over Bombardier Transportation (Investment) UK Ltd, the holding entity for Bombardier Transportation (***Bombardier Transportation*** and, together with Alstom, the ***Parties***), the global rail solutions division of Bombardier Inc. (***Bombardier***), (the ***Concentration***) compatible with the internal market and the functioning of the EEA Agreement.

This text shall be interpreted in light of the Commission's decision pursuant to Article 6(1)(b) of the Merger Regulation to declare the Concentration compatible with the internal market and the functioning of the EEA Agreement (the ***Decision***), in the general framework of European Union law, in particular in light of the Merger Regulation, and by reference to the Commission Notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (the ***Remedies Notice***).

The Commitments shall take effect upon the Effective Date, provided that if the completion of the Concentration does not subsequently take place for whatever reason and is thereby abandoned, the Notifying Party shall not be bound by these Commitments.

SECTION A. DEFINITIONS

1. For the purpose of the Commitments (including the Schedules), the following terms shall have the following meaning:

   Affiliated Undertakings: undertakings controlled by the Parties and/or by the ultimate parents of the Parties, whereby the notion of control shall be interpreted pursuant to Article 3 of the Merger Regulation and in light of the Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (the ***Consolidated Jurisdictional Notice***).

   Assets: the assets as owned or held by Alstom or Bombardier (and their respective Affiliated Undertakings) that contribute to the current operation or are necessary to ensure the viability and competitiveness of the Divestment Businesses as described in the Schedules.

Closing: the transfer of the legal title to the Divestment Businesses to the Purchaser(s).

Closing Period: the period of […] months from the approval of the Purchaser(s) and the terms of sale by the Commission.

Confidential Information: any business secrets, know-how, commercial information, or any other information of a proprietary nature that is not in the public domain.

Conflict of Interest: any conflict of interest that impairs the Trustee's objectivity and independence in discharging its duties under the Commitments.

Coradia Polyvalent Divestment Business: as defined in Schedule 2.

Coradia Polyvalent Divestment Business Hold Separate Manager: the person(s) appointed by the Notifying Party to manage the day-to-day business of the Coradia Polyvalent Divestment Business under the supervision of the Monitoring Trustee.

Divestment Businesses: the businesses listed in Section B, and defined in full in Schedules 1-3 (including, for the avoidance of doubt, those Assets which are offered at the option of the Purchaser(s)), which the Notifying Party commits to divest, namely (i) the Very High Speed Divestment Business, and (ii) the Mainline Divestment Businesses.

Divestiture Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by the Notifying Party and who has/have received from the Notifying Party the exclusive Trustee Mandate to sell any of the Divestment Businesses to one or more Purchasers at no minimum price.

Effective Date: the date of adoption of the Decision.

First Divestiture Period: the period of […] months from the Effective Date.

Hold Separate Manager(s): the person(s) appointed for the Divestment Businesses to manage the day-to-day business under the supervision of the Monitoring Trustee, namely (i) the Coradia Polyvalent Divestment Business Hold Separate Manager, (ii) the Talent 3 Divestment Business Hold Separate Manager and (iii) and the Zefiro V300 Divestment Business Hold Separate Manager.

Key Personnel: the relevant personnel employed by Alstom or Bombardier (and their respective Affiliated Undertakings) necessary to maintain the viability and competitiveness of each of the Divestment Businesses, as listed in the Schedules, including the Hold Separate Manager(s) of each of the Divestment Businesses.

Mainline Divestment Businesses: (i) the Coradia Polyvalent Divestment Business, and (ii) the Talent 3 Divestment Business.

Monitoring Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by the Notifying Party, and who has/have the duty to monitor the Notifying Party's compliance with the conditions and obligations attached to the Decision.

Personnel: staff currently employed by Alstom or Bombardier (and their respective subsidiaries) in connection with the Divestment Businesses, as defined in the Schedules.

Purchaser(s): the entities approved by the Commission as acquirers of (one or more) the Divestment Businesses in accordance with the criteria set out in Section D.

Purchaser Criteria: the criteria laid down in paragraph 15 of these Commitments that the Purchaser(s) must fulfil in order to be approved by the Commission.

Reasonable Best Efforts: in relation to commitments to seek any necessary consents under customer contracts forming part of the Divestment Businesses, reasonable best effort obligations shall be interpreted in light of the Commission's decision pursuant to Article 6(1)(b) of the Merger Regulation to declare the Concentration compatible with the internal market and the functioning of the EEA Agreement, the Merger Regulation and the general principles of EU law, provided that reasonable best efforts shall not require Bombardier and/or Alstom to assume liability for any project undertaken by, or any product or service delivered by, the Purchaser(s). Any interpretation that may be given to this term under the law of other jurisdictions is not relevant solely for the purpose of interpreting and/or implementing the Commitments.

Sale and Purchase Agreement: a binding sale and purchase agreement for the sale of one or more of the Divestment Businesses, or the combination of (i) a binding offer letter signed by a potential purchaser (including an agreed draft sale and purchase agreement) for the acquisition of one or more of the Divestment Businesses and (ii) an exclusivity letter executed by the Notifying Party, the Parties, and/or their Affiliated Undertakings, granting the Notifying Party, the Parties, and/or their Affiliated Undertakings an irrevocable option to enter into a sale and purchase agreement for the sale of one or more of the Divestment Businesses to the potential purchaser once the opinion of Alstom's or Bombardier's (as the case may be) relevant employee representative bodies has been delivered.

Schedules: the schedules to these Commitments describing more in detail the Divestment Businesses.

Talent 3 Divestment Business: as defined in Schedule 3.

Talent 3 Divestment Business Hold Separate Manager: the person(s) appointed by Bombardier Transportation, after having consulted with and given due consideration to the views (if any) of the Notifying Party, to manage the day-to-day business of the Talent 3 Divestment Business under the supervision of the Monitoring Trustee.

Trustee(s): the Monitoring Trustee and/or the Divestiture Trustee as the case may be.

Trustee Divestiture Period: the period of […] months from the end of the First Divestiture Period, or from any rejection of a proposed purchaser (provided that the Notifying Party has submitted a Purchaser approval request under Section D of these Commitments to the Commission during the First Divestiture Period), whichever is later.

Very High Speed Divestment Business: the Zefiro V300 Divestment Business and the HS2 VHS Commitment, as defined in Schedule 1.

Zefiro V300 Divestment Business Hold Separate Manager: the person(s) appointed by Bombardier Transportation, after having consulted with and given due consideration to the views (if any) of the Notifying Party, to manage the day-to-day business of the Zefiro V300 Divestment Business under the supervision of the Monitoring Trustee.

SECTION B. THE COMMITMENTS

Commitment to divest

2. In order to maintain effective competition, the Notifying Party commits to divest, or procure the divestiture of:

   (a) the Very High Speed Divestment Business, consisting of the Zefiro V300 Divestment Business and the HS2 VHS Divestment Business, as defined in Schedule 1, and

   (b) the Mainline Divestment Businesses, consisting of (i) the Coradia Polyvalent Divestment Business, as defined in Schedule 2, and (ii) the Talent 3 Divestment Business, as defined in Schedule 3,

   by the end of the Trustee Divestiture Period to one or more Purchaser(s) and on terms of sale approved by the Commission in accordance with the procedure described in paragraph 15 of these Commitments. To carry out the divestiture, the Notifying Party commits to find one or more Purchaser(s) and to enter into Sale and Purchase Agreement(s) with each Purchaser for the sale of the Divestment Businesses within the First Divestiture Period. If the Notifying Party has not entered into such agreement(s) at the end of the First Divestiture Period, the Notifying Party shall grant the Divestiture Trustee an exclusive mandate to sell any Divestment Businesses that have not been sold in accordance with the procedure described in paragraph 28 in the Trustee Divestiture Period.

3. The Notifying Party shall be deemed to have complied with these Commitments if:

   (a) by the end of the Trustee Divestiture Period, the Notifying Party or the Divestiture Trustee has entered into Sale and Purchase Agreement(s) and the Commission approves the Purchaser(s) and the terms of sale as being consistent with the Commitments in accordance with the procedure described in paragraph 15; and

   (b) the Closing of the sale(s) of the Divestment Businesses to the Purchaser(s) takes place within the Closing Period.

4. In order to maintain the structural effect of the Commitments, the Notifying Party shall, for a period of 10 years after Closing, not acquire, whether directly or indirectly, the possibility of exercising influence (as defined in paragraph 43 of the Remedies Notice, footnote 3) over the whole or part of the Divestment Businesses, unless, following the submission of a reasoned request from the Notifying Party showing good cause and accompanied by a report from the Monitoring Trustee (as provided in paragraph 57 of these Commitments), the Commission finds that the structure of the market has changed to such an extent that the absence of influence over the Divestment Businesses is no longer necessary to render the proposed concentration compatible with the internal market.

Structure and definition of the Divestment Businesses

5. The legal and functional structures of the relevant parts of the Divestment Businesses are described in Schedules 1-3. Each Divestment Business includes all assets and Personnel that are necessary to ensure the viability and competitiveness of such Divestment Business, as described in full in Schedules 1-3, and include, as applicable:

   (a) tangible and intangible assets (including intellectual property rights);

   (b) licences, permits and authorisations issued by any governmental organisation for the benefit of such Divestment Business;

   (c) contracts, leases, commitments and customer orders of such Divestment Business;

   (d) customer, credit and other records of such Divestment Business; and

   (e) Personnel.

6. In addition, as described in more detail in Schedules 1-3, the Divestment Businesses include the benefit of certain arrangements under which the Parties or their Affiliated Undertakings will supply products or services to the Divestment Businesses, including as set out in the HS2 VHS Commitment. The Monitoring Trustee will

monitor these arrangements for their duration. Strict firewall procedures will be adopted so as to ensure that any competitively sensitive information related to, or arising from such supply arrangements (for example, product roadmaps) will not be shared with, or passed on to, anyone outside the relevant business unit/division of the Parties /Combined Entity providing the product/service.

SECTION C. RELATED COMMITMENTS

Preservation of viability, marketability and competitiveness

7. From the Effective Date until Closing, the Parties shall preserve or procure the preservation of the economic viability, marketability and competitiveness of the Divestment Businesses, in accordance with good business practice, and shall minimise as far as possible any risk of loss of competitive potential of the Divestment Businesses. In particular the Parties undertake:

(a) not to carry out any action that might have a significant adverse impact on the value, management or competitiveness of the Divestment Businesses or that might alter the nature and scope of activity, or the industrial or commercial strategy or the investment policy of the Divestment Businesses;

(b) to make available, or procure to make available, sufficient resources for the development of the Divestment Businesses, on the basis and continuation of the existing business plans;

(c) to take all reasonable steps, or procure that all reasonable steps are being taken, including appropriate incentive schemes (based on industry practice), to encourage all Key Personnel to remain with Divestment Businesses, and not to solicit any Personnel to the Parties' remaining business. Where, nevertheless, individual members of the Key Personnel exceptionally leave the Divestment Businesses, the Parties shall provide a reasoned proposal to replace the person or persons concerned to the Commission and the Monitoring Trustee. The Parties must be able to demonstrate to the Commission that the replacement is well suited to carry out the functions exercised by those individual members of the Key Personnel. The replacement shall take place under the supervision of the Monitoring Trustee, who shall report to the Commission.

Hold-separate obligations

8. The Parties commit, from the Effective Date until Closing, to keep the Divestment Businesses separate from the business(es) they are retaining and to ensure that unless explicitly permitted under these Commitments: (i) management and staff of the business(es) retained by the Parties have no involvement in the Divestment Businesses; (ii) the Key Personnel and Personnel of the Divestment Businesses have

no involvement in any business(es) retained by the Parties and do not report to any individual outside the Divestment Businesses.

9. Until Closing, the Parties shall assist the Monitoring Trustee in ensuring that the Divestment Businesses are managed as distinct and saleable entities separate from the business(es) which the Parties are retaining. As promptly as practicable after the adoption of the Decision, the Parties shall appoint one or more Hold Separate Managers. The Hold Separate Manager(s), who shall be part of the Key Personnel, shall manage the Divestment Businesses independently and in the best interest of the business with a view to ensuring their continued economic viability, marketability and competitiveness and their independence from the business(es) retained by the Parties. The Hold Separate Manager(s) shall closely cooperate with and report to the Monitoring Trustee and, if applicable, the Divestiture Trustee. Any replacement of (any of) the Hold Separate Manager(s) shall be subject to the procedure laid down in paragraph 7(c) of these Commitments. The Commission may, after having heard the Notifying Party, require the Notifying Party to replace the Hold Separate Manager(s).

Ring-fencing

10. To the extent possible, without impeding the proper functioning of the Divestment Businesses, the Parties shall implement, or procure the implementation of, all necessary measures to ensure that they do not, after the Effective Date, obtain any Confidential Information relating to the Divestment Businesses and that any such Confidential Information obtained by the Parties before the Effective Date will be eliminated and not be used by the Parties. To the extent applicable, this includes measures vis-à-vis the Parties' appointees on the supervisory board(s) and/or board(s) of directors of the Divestment Businesses. In particular, the participation of the Divestment Businesses in any central information technology network shall be severed to the extent possible, without compromising the viability of the Divestment Businesses. The Parties may obtain or keep information relating to the Divestment Businesses which is reasonably necessary for the divestiture of the Divestment Businesses or the disclosure of which to the Parties is required by law.

Non-solicitation clause

11. The Parties undertake, subject to customary limitations, not to solicit, and to procure that Affiliated Undertakings do not solicit, the Key Personnel transferred with the Divestment Businesses for a period of two years after Closing.

Due diligence

12. In order to enable potential purchasers to carry out a reasonable due diligence of the Divestment Businesses, the Parties shall, subject to customary confidentiality assurances and dependent on the stage of the divestiture process:

(a) provide to potential purchasers sufficient information as regards the Divestment Businesses;

(b) provide to potential purchasers sufficient information relating to the Personnel and allow them reasonable access to the Personnel.

Reporting

13. The Parties shall submit written reports in English on potential purchasers of the Divestment Businesses and developments in the negotiations with such potential purchasers to the Commission and the Monitoring Trustee no later than 10 days after the end of every month following the Effective Date (or otherwise at the Commission's request). As from the Effective Date, the Parties shall submit a list of all potential purchasers having expressed interest in acquiring the Divestment Businesses to the Commission at each stage of the divestiture process, as well as a copy of all offers made by potential purchasers within five days of their receipt.

14. Subject to the second sentence of this paragraph, as from the Effective Date, the Parties shall inform the Commission and the Monitoring Trustee on the preparation of the data room documentation and the due diligence procedure and shall submit a copy of any final information memorandum to the Commission and the Monitoring Trustee before sending the memorandum out to potential purchasers.

SECTION D. THE PURCHASER(S)

15. In order to be approved by the Commission, the Purchaser(s) must fulfil the following criteria:

(a) The Purchaser(s) shall be independent of and unconnected to the Notifying Party and its Affiliated Undertakings (this being assessed having regard to the situation following the divestiture.

(b) The Purchaser(s) shall have the financial resources, proven expertise and incentive to maintain and develop the Divestment Businesses as a viable and active competitive force in competition with the Parties and other competitors. The Purchaser(s) proven expertise will be assessed in light of its experience and track record as a supplier of rolling stock in the EEA, as evidenced, inter alia, by prior sales and references;

(c) The acquisition of the Divestment Businesses by the Purchaser must neither be likely to create, in light of the information available to the Commission, *prima facie* competition concerns nor give rise to a risk that the implementation of the Commitments will be delayed. In particular, the Purchaser(s) must reasonably be expected to obtain all necessary approvals from the relevant regulatory authorities for the acquisition(s) of the

Divestment Businesses.

16. The Sale and Purchase Agreement(s) (as well as ancillary agreements) relating to the divestment of any of the Divestment Businesses shall be conditional on the Commission's approval. When the Notifying Party, or the Parties as applicable, have reached an agreement with a Purchaser(s), they shall submit a fully documented and reasoned proposal, including a copy of the final agreement(s), within one week to the Commission and the Monitoring Trustee. The Notifying Party, or the Parties as applicable, must be able to demonstrate to the Commission that the Purchaser(s) fulfils the Purchaser Criteria and that the Divestment Business(es) are being sold in a manner consistent with the Commission's Decision and the Commitments. For the approval, the Commission shall verify that the proposed purchaser fulfils the Purchaser Criteria and that the Divestment Business(es) are being sold in a manner consistent with the Commitments including their objective to bring about a lasting structural change in the market. The Commission may approve the sale of the Divestment Business(es) without one or more Assets or parts of the Personnel, or by substituting one or more Assets or parts of the Personnel with one or more different assets or different personnel, if this does not affect the viability and competitiveness of the Divestment Business(es) after the sale, taking account of the proposed purchaser.

SECTION E. TRUSTEE

I. Appointment procedure

17. The Notifying Party shall appoint one or more Monitoring Trustee(s) to carry out the functions specified in these Commitments for a Monitoring Trustee(s). The Notifying Party commits not to close the Concentration before the appointment of a Monitoring Trustee(s).

18. If the Notifying Party, or the Parties as applicable, has not entered into Sale and Purchase Agreement(s) regarding any of the Divestment Businesses one month before the end of the First Divestiture Period or if the Commission has rejected any purchaser proposed by the Notifying Party, or the Parties as applicable, at that time or thereafter, the Notifying Party shall appoint one or more Divestiture Trustee(s). The appointment of the Divestiture Trustee(s) shall take effect upon the commencement of the Trustee Divestiture Period.

19. The Trustee(s) shall:

(i) at the time of appointment, be independent of the Parties and their Affiliated Undertakings;

(ii) possess the necessary qualifications to carry out its mandate, for example have sufficient relevant experience as an investment banker or consultant or

auditor; and

(iii) neither have nor become exposed to a Conflict of Interest.

20. The Trustee(s) shall be remunerated by the Notifying Party in a way that does not impede the independent and effective fulfilment of its mandate. In particular, where the remuneration package of a Divestiture Trustee(s) includes a success premium linked to the final sale value of any of the Divestment Businesses, such success premium may only be earned if the divestiture takes place within the Trustee Divestiture Period.

Proposal by the Notifying Party

21. No later than two weeks after the Effective Date, the Notifying Party shall submit the name or names of one or more natural or legal persons whom the Notifying Party proposes to appoint as the Monitoring Trustee(s) to the Commission for approval. No later than one month before the end of the First Divestiture Period or on request by the Commission, the Notifying Party shall submit a list of one or more persons whom the Notifying Party proposes to appoint as Divestiture Trustee(s) to the Commission for approval. The proposal shall contain sufficient information for the Commission to verify that the person or persons proposed as Trustee(s) fulfil the requirements set out in this paragraph and shall include:

(a) the full terms of the proposed mandate, which shall include all provisions necessary to enable the Trustee(s) to fulfil its duties under these Commitments;

(b) the outline of a work plan which describes how the Trustee(s) intends to carry out its assigned tasks;

(c) an indication whether the proposed Trustee(s) is to act as both Monitoring Trustee(s) and Divestiture Trustee(s) or whether different trustees are proposed for the two functions.

Approval or rejection by the Commission

22. The Commission shall have the discretion to approve or reject the proposed Trustee(s) and to approve the proposed mandate subject to any modifications it deems necessary for the Trustee(s) to fulfil its obligations. If only one name is approved, the Notifying Party shall appoint or cause to be appointed the person or persons concerned as Trustee, in accordance with the mandate approved by the Commission. If more than one name is approved, the Notifying Party shall be free to choose the Trustee(s) to be appointed from among the names approved. The Trustee(s) shall be appointed within one week of the Commission's approval, in accordance with the mandate approved by the Commission.

New proposal by the Notifying Party

23. If all the proposed Trustees are rejected, the Notifying Party shall submit the names of at least two more natural or legal persons within two weeks of being informed of the rejection, in accordance with paragraphs 19 and 24 of these Commitments.

Trustee nominated by the Commission

24. If all further proposed Trustees are rejected by the Commission, the Commission shall nominate one or more Trustee(s), whom the Notifying Party shall appoint, or cause to be appointed, in accordance with a trustee mandate approved by the Commission.

II. Functions of the Trustee

25. The Trustee(s) shall assume its specified duties and obligations in order to ensure compliance with the Commitments. The Commission may, on its own initiative or at the request of the Trustee(s) or the Notifying Party, give any orders or instructions to the Trustee(s) in order to ensure compliance with the conditions and obligations attached to the Decision.

Duties and obligations of the Monitoring Trustee

26. The Monitoring Trustee(s) shall:

(i) propose in its first report to the Commission a detailed work plan describing how it intends to monitor compliance with the obligations and conditions attached to the Decision.

(ii) oversee, in close co-operation with the Hold Separate Manager(s), the on-going management of the Divestment Businesses with a view to ensuring their continued economic viability, marketability and competitiveness and monitor compliance by the Parties with the conditions and obligations attached to the Decision. To that end the Monitoring Trustee(s) shall:

(a) monitor the preservation of the economic viability, marketability and competitiveness of the Divestment Businesses, and the keeping separate of the Divestment Businesses from the business retained by the Parties, in accordance with paragraphs 8 and 9 of these Commitments;

(b) supervise the management of the Divestment Businesses as distinct and saleable entity(ies), in accordance with paragraph 10 of these Commitments;

(c) with respect to Confidential Information:

- determine all necessary measures to ensure that the Parties do not after the Effective Date obtain any Confidential Information relating to the Divestment Businesses,

- in particular strive for the severing of the Divestment Businesses' participation in a central information technology network to the extent possible, without compromising the viability of the Divestment Businesses,

- make sure that any Confidential Information relating to the Divestment Businesses obtained by the Parties before the Effective Date is eliminated and will not be used by the Parties, and

- decide whether such information may be disclosed to or kept by the Parties as the disclosure is reasonably necessary to allow the Parties to carry out the divestiture or as the disclosure is required by law;

(d) monitor the splitting of assets and the allocation of Personnel between the Divestment Businesses and the Parties or Affiliated Undertakings;

(iii) propose to the Parties such measures as the Monitoring Trustee(s) considers reasonably necessary to ensure the Parties' compliance with the conditions and obligations attached to the Decision, in particular the maintenance of the full economic viability, marketability or competitiveness of the Divestment Businesses, the holding separate of the Divestment Businesses and the non-disclosure of competitively sensitive information;

(iv) review and assess potential purchasers as well as the progress of the divestiture process and verify that, dependent on the stage of the divestiture process:

(a) potential purchasers receive sufficient and correct information relating to the Divestment Businesses and the Personnel in particular by reviewing, if available, the data room documentation, the information memorandum(a) and the due diligence process, and

(b) potential purchasers are granted reasonable access to the Personnel;

(v) act as a contact point for any requests by third parties, in particular potential purchasers, in relation to the Commitments;

(vi) provide to the Commission, sending the Notifying Party a non-confidential copy at the same time, a written report within 15 days after the end of every

month that shall cover the operation and management of the Divestment Businesses as well as the splitting of Assets and the allocation of Personnel so that the Commission can assess whether the business is held in a manner consistent with the Commitments and the progress of the divestiture process as well as potential purchasers;

(vii) promptly report in writing to the Commission, sending the Notifying Party a non-confidential copy at the same time, if it concludes on reasonable grounds that the Parties are failing to comply with these Commitments;

(viii) within one week after receipt of the documented proposal referred to in paragraph 18 of these Commitments, submit to the Commission, sending the Notifying Party a non-confidential copy at the same time, a reasoned opinion as to the suitability and independence of the proposed purchaser(s) and the viability of the Divestment Businesses after the sale and as to whether the Divestment Businesses are sold in a manner consistent with the conditions and obligations attached to the Decision, in particular, if relevant, whether the sale of the Divestment Businesses without one or more Assets or not all of the Personnel affects the viability of the Divestment Businesses after the sale, taking account of the proposed purchaser(s);

(ix) assume the other functions assigned to the Monitoring Trustee(s) under the conditions and obligations attached to the Decision.

27. If the Monitoring and Divestiture Trustee(s) are not the same legal or natural persons, the Monitoring Trustee(s) and the Divestiture Trustee(s) shall cooperate closely with each other during and for the purpose of the preparation of the Trustee Divestiture Period in order to facilitate each other's tasks.

Duties and obligations of the Divestiture Trustee

28. Within the Trustee Divestiture Period, the Divestiture Trustee(s) shall sell at no minimum price any Divestment Businesses that have not been sold to one or more Purchasers, provided that the Commission has approved both the Purchaser(s) and the Sale and Purchase Agreement(s) (and ancillary agreements) as in line with the Commission's Decision and the Commitments in accordance with paragraphs 16 and 17 of these Commitments. The Divestiture Trustee(s) shall include in the Sale and Purchase Agreement(s) (as well as in any ancillary agreements) such terms and conditions as it reasonably considers appropriate for an expedient sale in the Trustee Divestiture Period. In particular, the Divestiture Trustee(s) may include in the Sale and Purchase Agreement(s) such customary representations and warranties and indemnities as are reasonably required to effect the sale. The Divestiture Trustee(s) shall protect the legitimate financial interests of the Parties, subject to the Parties' unconditional obligation to divest at no minimum price in the Trustee Divestiture

Period.

29. In the Trustee Divestiture Period (or otherwise at the Commission's request), the Divestiture Trustee(s) shall provide the Commission with a comprehensive monthly report written in English on the progress of the divestiture process. Such reports shall be submitted within 15 days after the end of every month with a simultaneous copy to the Monitoring Trustee and a non-confidential copy to the Notifying Party.

III. Duties and obligations of the Parties

30. The Parties shall provide and shall cause their advisors to provide the Trustee(s) with all such co-operation, assistance and information as the Trustee(s) may reasonably require to perform its tasks. The Trustee(s) shall have full and complete access to any of the Parties' or the Divestment Businesses' books, records, documents, management or other personnel, facilities, sites and technical information to the extent reasonably deemed necessary for fulfilling its duties under the Commitments and the Parties and the Divestment Businesses shall provide the Trustee(s) upon request with copies of any such document or record. The Parties and the Divestment Businesses shall make available to the Trustee(s) one or more offices on their premises and shall be available for meetings in order to provide the Trustee(s) with all information reasonably considered necessary for the performance of its tasks.

31. The Parties shall provide the Monitoring Trustee(s) with all managerial and administrative support that it may reasonably request on behalf of the management of the Divestment Businesses. This shall include all administrative support functions relating to the Divestment Businesses which are currently carried out at headquarters level. The Parties shall provide and shall cause its advisors to provide the Monitoring Trustee(s), on request, with the information submitted to potential purchasers, in particular give the Monitoring Trustee(s) access to the data room documentation and all other information granted to potential purchasers in the due diligence procedure. The Parties shall inform the Monitoring Trustee(s) on possible purchasers, submit lists of potential purchasers at each stage of the selection process, including the offers made by potential purchasers at those stages, and keep the Monitoring Trustee(s) informed of all developments in the divestiture process.

32. The Parties shall grant or procure Affiliated Undertakings to grant comprehensive powers of attorney, duly executed, to the Divestiture Trustee(s) to effect the sale (including ancillary agreements), the Closing and all actions and declarations which the Divestiture Trustee(s) reasonably considers necessary or appropriate to achieve the sale and the Closing, including the appointment of advisors to assist with the sale process. Upon request of the Divestiture Trustee(s), the Parties shall cause the documents required for effecting the sale and the Closing to be duly executed.

33. The Parties shall indemnify the Trustee(s) and its employees and agents (each an

Indemnified Party) and hold each Indemnified Party harmless against, and hereby agrees that an Indemnified Party shall have no liability to the Parties for, any liabilities arising out of the performance of the Trustee(s)'s duties under the Commitments, except to the extent that such liabilities result from the wilful default, recklessness, gross negligence or bad faith of the Trustee(s), its employees, agents or advisors.

34. At the expense of the Parties, the Trustee(s) may appoint advisors (in particular for corporate finance or legal advice), subject to the Parties' approval (this approval not to be unreasonably withheld or delayed) if the Trustee(s) reasonably considers the appointment of such advisors necessary or appropriate for the performance of its duties and obligations under the Mandate, provided that any fees and other expenses incurred by the Trustee(s) are reasonable. Should the Parties refuse to approve the advisors proposed by the Trustee(s) the Commission may approve the appointment of such advisors instead, after having heard the Parties. Only the Trustee(s) shall be entitled to issue instructions to the advisors. Paragraph 34 of these Commitments shall apply *mutatis mutandis*. In the Trustee(s) Divestiture Period, the Divestiture Trustee(s) may use advisors who served the Parties during the Divestiture Period if the Divestiture Trustee(s) considers this in the best interest of an expedient sale.

35. The Parties agree that the Commission may share Confidential Information proprietary to the Parties with the Trustee(s). The Trustee(s) shall not disclose such information and the principles contained in Article 17 (1) and (2) of the Merger Regulation apply *mutatis mutandis*.

36. The Parties agree that the contact details of the Monitoring Trustee(s) are published on the website of the Commission's Directorate-General for Competition and they shall inform interested third parties, in particular any potential purchasers, of the identity and the tasks of the Monitoring Trustee(s).

37. For a period of 10 years from the Effective Date the Commission may request all information from the Parties that is reasonably necessary to monitor the effective implementation of these Commitments.

IV. Replacement, discharge and reappointment of the Trustee(s)

38. If a Trustee ceases to perform its functions under the Commitments or for any other good cause, including the exposure of the Trustee to a Conflict of Interest:

(a) the Commission may, after hearing the Trustee and the Notifying Party, require the Notifying Party to replace the Trustee; or

(b) the Notifying Party may, with the prior approval of the Commission, replace the Trustee.

39. If a Trustee is removed according to this paragraph of the Commitments, the Trustee

may be required to continue in its function until a new Trustee(s) is in place to whom the Trustee has effected a full hand over of all relevant information. The new Trustee(s) shall be appointed in accordance with the procedure referred to in paragraphs 18-25 of these Commitments.

40. Unless removed according to paragraph 39 of these Commitments, a Trustee shall cease to act as Trustee only after the Commission has discharged it from its duties after all the Commitments with which the Trustee has been entrusted have been implemented. However, the Commission may at any time require the reappointment of the Monitoring Trustee if it subsequently appears that the relevant remedies might not have been fully and properly implemented.

SECTION F. FAST-TRACK DISPUTE RESOLUTION PROCEDURE

41. At the option of the Purchaser(s), any disputes which may arise between either or both Parties and the Purchaser(s) (or any of them) (each a ***Company*** and jointly the ***Companies***) relating to the Commitments and the agreements implementing the Commitments for each of the Divestment Businesses as set out in Schedules 1-3 (the ***Agreements***) will be subject to a fast-track dispute resolution procedure (the ***Fast-Track Dispute Resolution Procedure***) described in this Section F.

42. If a Company wishes to avail itself of the Fast-Track Dispute Resolution Procedure (the ***Requesting Company***), it must notify the other Company in writing (with a copy to the Monitoring Trustee) setting out in detail the reasons leading that Company to believe that the other Company is failing to comply with the Agreements (the ***Notice***).

43. The Companies will attempt in fair dealing and good faith to resolve all differences of opinion and settle all disputes that may arise through cooperation and consultation within a reasonable period of time which shall not exceed fifteen (15) business days after receipt of the Notice, which may be extended by mutual consent. The Monitoring Trustee shall present its own proposal for resolving the dispute within 10 business days after receipt of the Notice specifying in writing the action, if any, to be taken by the Parties in order to ensure compliance with the Commitments, and be prepared, if requested, to facilitate the settlement of the dispute.

44. Any disputes under the Fast-Track Dispute Resolution Procedure arising out of or in connection with the Agreements which are not resolved pursuant to the preceding paragraph, or in respect of the HS2 VHS Commitment, which are also not resolved, in a subsequent step, pursuant to the HS2 Fast-Track DR Procedure (as defined in Schedule 1), shall be finally settled in accordance with the Rules of Arbitration of the International Chamber of Commerce (***ICC***) by an arbitral tribunal consisting of three arbitrators (the ***Arbitral Tribunal***).

45. Should the Companies fail to resolve their differences of opinion through

cooperation and consultation as provided for in the previous paragraph, the Requesting Company shall file arbitration proceedings with the ICC and nominate one arbitrator.

46. The other Company shall, within two (2) weeks of receiving notification in writing of the appointment of the Requesting Company's arbitrator, nominate a second arbitrator and provide to the Requesting Company in writing detailed reasons for its challenged conduct.

47. The arbitrators nominated by the Companies shall, within one (1) week from both arbitrators having been nominated, agree to appoint a third arbitrator. If the arbitrators nominated by the Companies cannot agree on the nomination of a third arbitrator, they shall ask the President of the ICC to appoint the third arbitrator.

48. The arbitrators shall be instructed to make a preliminary ruling on the contested issues within one (1) month of the appointment of the third arbitrator, which may be extended, if necessary, by the unanimous agreement of all three arbitrators. The preliminary ruling shall be applicable immediately and until the final decision is issued. The final decision which shall be ultimately binding on the Companies shall be taken by the arbitrators within six (6) months of the appointment of the third arbitrator, which may be extended, if necessary, by the unanimous agreement of all three arbitrators. Each Company waives any right, which it may have to seek a preliminary ruling on any point of law from a court of law. An oral hearing shall, as a rule, be established within two (2) months of the confirmation of the Arbitration Tribunal.

49. The seat of arbitration shall be Paris (France). The arbitration shall be in English and conducted pursuant to the Rules of Arbitration of the ICC. Any order for the production or disclosure of documents shall be limited to the documents on which each party of the arbitration specifically relies in its submission(s).

50. The arbitrators shall agree in writing to keep any confidential information and business secrets disclosed to them in confidence. The Arbitration Tribunal may take the measures necessary for protecting confidential information in particular by restricting access to confidential information to the Arbitration Tribunal, and outside counsel and experts of the opposing party. The arbitrators shall be instructed not to disclose confidential information and to apply the standards attributable to confidential information and business secrets by European Union competition law.

51. The Commission shall be allowed and enabled to participate in all stages of the procedure by:

    (a) Receiving all written submissions (including documents and reports, etc.) made by the Companies;

(b) Receiving all orders, interim and final awards and other documents exchanged by the Arbitral Tribunal with the Companies (including Terms of Reference and procedural time-table);

(c) Being given the opportunity to file amicus curiae briefs; and

(d) Being present at the hearing(s) and being allowed to ask questions to parties, witnesses and experts.

52. The Arbitral Tribunal shall forward, or shall order the Companies to forward, the documents mentioned to the Commission without delay.

53. In the event of disagreement between the Companies regarding the interpretation of the Commitment, the Arbitral Tribunal may seek the Commission's interpretation of the Commitment before finding in favour of any Company and shall be bound by the interpretation.

54. In the event of disagreement between the Companies regarding the interpretation of a Commitment, the Arbitration Tribunal shall inform the Monitoring Trustee and may seek the Monitoring Trustee's interpretation of the Commitment before finding in favour of any Company.

55. The Arbitration Tribunal shall decide the dispute on the basis of the Commitment and the Decision. The Commitment shall be construed in accordance with the Merger Regulation, EU law, and general principles of law common to the legal orders of the Member States without a requirement to apply a particular national system.

56. Nothing in the above-described arbitration procedure shall affect the powers of the Commission to take decisions in relation to the Commitment in accordance with its powers under the Merger Regulation and the Treaty on the Functioning of the European Union.

SECTION G. THE REVIEW CLAUSE

57. The Commission may extend the time periods foreseen in the Commitments in response to a request from the Notifying Party or, in appropriate cases, on its own initiative. Where the Notifying Party requests an extension of a time period, they shall submit a request to the Commission no later than one month before the expiry of that period, showing good cause. This request shall be accompanied by a report from the Monitoring Trustee(s), who shall, at the same time send a non-confidential copy of the report to the Parties. Only in exceptional circumstances shall the Notifying Party be entitled to request an extension within the last month of any period.

58. The Commission may further, in response to a request from the Notifying Party showing good cause waive, modify or substitute, in exceptional circumstances, one or more of the undertakings in these Commitments. This request shall be accompanied by a report from the Monitoring Trustee(s), who shall, at the same time send a non-confidential copy of the report to the Parties. The request shall not have the effect of suspending the application of the undertaking and, in particular, of suspending the expiry of any time period in which the undertaking has to be complied with.

SECTION H. ENTRY INTO FORCE

59. The Commitments shall take effect upon the date of adoption of the Decision.

SCHEDULE 1

The Very High Speed Divestment Business

A. Description of the Very High Speed Divestment Business

1.1 The Very High Speed Divestment Business consists of the Zefiro V300 Divestment Business and the HS2 VHS Commitment.

1.2 The Zefiro V300 Divestment Business consists of Bombardier's entire scope of the Zefiro V300 Platform, as follows:

(a) **Zefiro V300 Platform.** The exclusive right to develop, improve, manufacture and commercialise Bombardier's scope of the Zefiro V300 platform as currently manufactured for and operated by Trenitalia (and, in the near future, ILSA) (the "Zefiro V300 Platform"[1065]).

(b) **Engineering personnel.** The transfer of up to […] Zefiro V300 engineers and, at the option of the Purchaser, sub-system engineering support (*e.g.*, through training, secondments, etc.).

(c) **Vado Ligure site.** At the Purchaser's option, the sale or lease of Vado Ligure facility, including engineering, production, and aftermarket services capabilities.

(d) **Additional assets.** At the option of the Purchaser:

a. *Zefiro brand.* The Zefiro brand, subject to a license back for the Zefiro Express.

b. *Stock.* Bombardier's current stock of Zefiro V300-specific components and spare parts.

c. *Maintenance personnel.* Up to […] maintenance execution personnel and up to […] maintenance engineering, customer service and support staff currently involved in providing maintenance services to Trenitalia for the Zefiro V300.

d. *Maintenance diagnostics software.* A non-exclusive license for Bombardier's train maintenance diagnostic software tools limited to V300 Zefiro applications.

(e) **Zefiro V300 projects and associated backlog with existing customers.** Bombardier[1066] offers to transfer, subject to customer consent, its contractual

[1065] The Zefiro V300 Platform means the Zefiro V300 train configuration committed or existing in respect of the Trenitalia Projects and the ILSA Project (as defined below) existing at the date of Closing (as defined in the Commitments), together with such further modifications as may be agreed with the Purchaser such as in respect of any updates required for TSI 2019 compliance.

[1066] Any reference to Bombardier in this Schedule shall be read to mean Alstom as of closing of the Concentration (as defined in the Commitments).

interest in supply and maintenance contracts for Zefiro V300 projects with Trenitalia and [*a likely future customer*], including backlog (the "Existing Projects"), and its interest in any new agreements related to the exercise of options, call-offs, and any follow-on orders by Trenitalia or [*a likely future customer*].

(f) **Supply agreements.** The transfer, at the option of the Purchaser, of all supply agreements with external suppliers for main components or services for Bombardier's scope of the Zefiro V300 for the Existing Projects (including by transferring all relevant IP and procurement specifications), subject to any applicable consent rights;

(g) **Transitional arrangements.** Bombardier offers to put in place transitional arrangements, including (i) continuing to perform its supply obligations for all Existing Projects, and (ii) entering into temporary supply or licensing agreements with the Purchaser in respect of (a) options, calls offs or follow-on orders by Trenitalia or [*a likely future customer*], or future very high speed[1067] orders for which Trenitalia (or any consortium in which Trenitalia will be the operator) issues a call for tender within […] years of Closing and (b) future very high speed bids submitted within […] years of Closing. (the "Transitional Arrangements", as described in Section 5 below). The Transitional Arrangements will last [*Confidential details of duration of transitional arrangements offered*], as further described in Section 5 below.

as further described in Section B below.

1.3 The HS2 VHS Commitment consists of the following:

(a) [*Bid-selection mechanism*]**.** Alstom and Bombardier offer to put in place a mechanism whereby [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*];

If the HS2 Project (as defined in Section C below) is awarded to the Bombardier/Hitachi consortium:

(b) **Ongoing and future obligations towards Hitachi and HS2.** [*Confidential information on Alstom's commitments vis-a-vis Hitachi and HS2 that apply in the event that the Bombardier/Hitachi consortium wins the HS2 tender.*]

(c) **Licence of Bombardier HS2 Project IP and Documentation and Transfer of Technology.**

a. The Parties offer, at the Purchaser's option (such option to be exercised within […] months from the first train delivery to HS2):

i. to grant a [*Confidential information on the licensing of Bombardier HS2 Project IP and Documentation and Transfer of Technology in the event that the Bombardier/Hitachi consortium wins the HS2*

[1067] Very high speed means projects or tenders, as applicable, involving the supply of trains that are required to be certified for operation at speeds of at least 300 km/h.

tender.] license covering all IP rights and documentation relating to Bombardier's scope for the HS2 Project for use in future very high speed projects, to the extent such IP rights and documentation are not covered by the Zefiro V300 Divestment Business;

ii. to provide engineering support (*e.g.*, through training, secondments, etc.) in respect of Bombardier's scope of the HS2 Project for up to […] years following the exercise of this option and on commercially reasonable terms.

b. If the Purchaser opts not to exercise the above option, upon completion of the full performance of all of Bombardier's obligations in respect of the HS2 Project, Alstom offers to grant a [*Confidential information on the licensing of Bombardier HS2 Project IP and Documentation and Transfer of Technology in the event that the Bombardier/Hitachi consortium wins the HS2 tender*.] license covering all IP rights and documentation relating to Bombardier's scope for the HS2 Project for use in future very high speed projects.

as further described in section C below.

B. The Zefiro V300 Divestment Business

1. The Zefiro V300 Platform consists of the following:

Zefiro V300-specific IP and documentation

1.1 A transfer of all Zefiro V300-specific IP rights and documentation relating to Bombardier's scope for the Existing Projects. The transfer will cover:

(a) *Train design*. All the Zefiro V300-specific IP rights and documentation (including all homologation-related documentation[1068]) relating to the overall train design, vehicle architecture and vehicle safety for Existing Projects. At the Purchaser's option, the exclusive and perpetual license can be replaced by a sale.

(b) *Bogies.* All IP rights and documentation (including engineering bill of materials (E-BoM), technical drawings and specifications) for Zefiro V300-specific applications of the […] bogies platform for the Trenitalia Project.

(c) *PPC (Traction components and software).* All IP rights and documentation (including engineering bill of materials (E-BoM), technical drawings and specifications,) for Zefiro V300-specific applications for the Trenitalia Project.

(d) *TCMS.* All IP rights and documentation for Zefiro V300-specific […] software project applications for the Trenitalia Project, including source code.

1068 Including type tests, submission dossiers and responses.

Non- Zefiro V300-specific IP and documentation

1.2 A non-exclusive, irrevocable, and perpetual license, based on an upfront lump-sum royalty to be agreed with the Purchaser, covering all IP rights and documentation that are not Zefiro V300-specific relating to Bombardier's scope for the Existing Projects. The non-exclusive license will cover:

(a) *PPC*. IP rights and documentation for High Power Propulsion (HPP) platform components[1069] and for the traction software middleware interface, limited to Zefiro V300 applications.

(b) *TCMS*. All architecture and interface documentation and IP rights for the MITRAC middleware (including for hardware production), limited to the extent required for Zefiro V300 applications.

1.3 At the option of the Purchaser, Bombardier, either alternatively or in addition to granting non-exclusive licenses, offers to supply PPC and TCMS components.

Engineering personnel consists of the following:

1.4 Bombardier will use its commercially reasonable efforts, including appropriate incentive schemes (based on industry practice), to encourage the transfer to the Purchaser of up to […] Zefiro V300 design engineers (the "Key Personnel"), whose functions are outlined in Table 5 below.

Table 5: Key Personnel transferred as part of the Zefiro V300 Divestment Business

Function	FTE
Overall Vehicle Design	[…] FTE (Chief engineer)
Vehicle Architecture	up to […] FTEs
Vehicle Operability	
Vehicle Performance	
Vehicle PII	
Vehicle OBU signalling	[…] FTE
Vehicle Safety	up to […] FTEs

1069 Bombardier will retain the IP rights to core components, *e.g.*, power modules, control software, and traction battery system.

Function	FTE
Vehicle Validation	
Service Engineering	up to […] FTEs
Eng. Project Mgmt.	up to […] FTEs
Product Introduction / Homologation	up to […] FTEs

2. Zefiro V300 projects and associated backlog with existing customers consists of the following:

2.1 At the option of the Purchaser, and subject to customer consent and applicable law, Bombardier will use its Reasonable Best Efforts to transfer its interest in any contracts, options, call-offs or follow-on orders (including orders not yet exercised) with existing customers, *i.e.*, Trenitalia and ILSA, as set out below:

(a) The initial supply agreement dated September 30, 2010 (the "2010 Supply Agreement") entered into with Trenitalia for an initial supply of 50 trains, all of which have been delivered, and providing for maintenance services and potential repeat and follow-on orders.

(b) The existing 10-year maintenance contract with Trenitalia dated […], entered into pursuant to the 2010 Supply Agreement, with a remaining value of €[…] for Bombardier's scope;

(c) The refurbishment, retrofit and homologation of […] Zefiro V300 trains for use on the French-Italian corridor (Paris-Milan line), pursuant to an amendment dated […] to the 2010 Supply Agreement, with a remaining value of €[…] for Bombardier's scope.

(d) The delivery of […] Zefiro V300 trains valued at €[…] and the associated […]-year term maintenance contract, pursuant to an amendment dated […] to the 2010 Supply Agreement, with a remaining value of €[…] for Bombardier's scope as of July 2020. (together the "Trenitalia Projects")

(e) The expected delivery of 23 trains to ILSA and associated […]-year term maintenance contract, valued at €307 million and €[…] respectively for Bombardier's scope. Bombardier and Hitachi are currently in advanced negotiations with ILSA and expect to be awarded the contract soon (the "ILSA Project").

(together, the "Existing Projects")

(f) Any options, call-offs or follow-on orders by Trenitalia or ILSA not yet exercised, including the expected follow-on order of […] trains valued at €[…] (Bombardier's scope) and the expected […]-year term maintenance contract

valued at €[…] (Bombardier's scope), as part of a new contract which is currently under negotiation between Bombardier, Hitachi and Trenitalia.

3. Supply agreements consists of the following:

3.1 The transfer, at the option of the Purchaser, of any or all supply agreements with external suppliers for main components or services for Bombardier's scope of the Zefiro V300 (including by transferring all relevant IP and procurement specifications), subject to any applicable consent rights of such suppliers. For agreements that relate to components used in several Bombardier platforms, Bombardier offers to carve out the Zefiro V300-specific supply perimeters and transfer them to the Purchaser.

3.2 An overview of the main external suppliers for Bombardier's scope of the Zefiro V300 is included in **Annex 1** below.

4. Transitional arrangements consists of the following:

4.1 Bombardier offers to continue to perform its supply obligations for all Existing Projects, including putting in place the Transitional Arrangements set out in Table 6 below.

Table 6: Proposed Transitional Arrangements for Existing Projects

[*Confidential details on the specific services covered by the transitional arrangements.*][1070]

4.2 The Transitional Arrangements will cover manufacturing and engineering services, as well as more administrative tasks, and will last until [*Confidential details of duration of transitional arrangements offered*].

4.3 The Transitional Arrangements will also be provided for (i) the exercise of options, calls offs or any follow-on orders if the request to supply is issued by Trenitalia or ILSA within […] years of Closing; (ii) future very high speed orders for which Trenitalia (or any consortium in which Trenitalia will be the operator) issues a call for tender within […] years of Closing, and (iii) any new very high speed tenders for which the Purchaser has submitted a complete technical and commercial bid (with any customer other than Trenitalia or [*a likely future customer*]) based on the Zefiro V300 Platform within […] years of Closing.

4.4 The Transitional Arrangements exclude any options, calls offs or any follow-on orders of such future orders, save to the extent provided in the contractual documentation.

4.5 The Transitional Arrangements will last [*Confidential details of duration of transitional arrangements offered*]. At the option of the Purchaser, these Transitional Arrangements may be terminated at an earlier date.

1070 [Confidential details on the specific services covered by the transitional arrangements].

Transitional provision of maintenance services

4.6 The Transitional Arrangements will only cover initial assistance and training with regard to maintenance for Bombardier's scope of the Zefiro V300 Platform, and the Purchaser will entirely take over maintenance work as soon as possible after Closing, within a period of no more than […] months.

5. Vado Ligure site consists of the following:

5.1 At the option of the Purchaser, the Zefiro V300 Divestment Business will include the sale or lease of Bombardier's plant located in Vado Ligure, Italy.

5.2 The plant includes:

(a) All Vado Ligure engineering services for the Zefiro V300 and associated personnel. The plant could potentially be equipped to host very high speed train final assembly and testing by, for example, the changes proposed under (c) below.

(b) All Vado Ligure aftermarket services assets, including warehousing facilities.

(c) At the option of the Purchaser, Bombardier offers to (i) set up production assets for final assembly of the Zefiro V300 bogies and wheelsets in Vado Ligure; (ii) adapt Vado Ligure's final assembly lines and testing infrastructure to very high speed rolling stock; and (iii) sell or lease a software lab for propulsion testing in Zurich (Switzerland).

5.3 The complete list of manufacturing and testing assets be transferred as part of the Vado Ligure site is provided in **Annex 2** below.

5.4 A breakdown of FTE estimates for 2020 for the Zefiro V300 for personnel employed at the Vado Ligure site (prepared prior to the Covid-19 outbreak) is provided in Table 7 below.[1071]

[1071] Bombardier notes that these FTE estimates for 2020 are likely to be significantly overstated due to the Covid-19 outbreak and related lockdown measures in place in Italy.

Table 7: Breakdown of estimated FTE at Vado Ligure used for the Zefiro V300 in 2020

Competency	Planned Vado Ligure Zefiro V300 Hours/year – prior to Covid-19	Planned Vado Ligure Zefiro V300 FTEs (2020 estimates – prior to Covid-19)
Manufacturing	[…]	[…]
Methods	[…]	[…]
Quality/assurance	[…]	[…]
Engineering	[…]	[…]
Program Management	[…]	[…]
Customer Service	[…]	[…]
Total	[…]	[…]

Source: Bombardier

6. Other assets consists of the following:

6.1 At the option of the Purchaser, Bombardier offers to transfer:

(a) The Zefiro brand, subject to a license back for the Zefiro Express.

(b) Bombardier's current stock of Zefiro V300-specific components and spare parts.

(c) Up to […] full-time employees currently involved in execution of maintenance services on Zefiro V300 trains at Trenitalia depots in Naples and Milan, as well as up to […] engineering, customer service and support staff currently involved in providing maintenance services to Trenitalia for the Zefiro V300 (the "Zefiro V300 Maintenance Personnel").

(d) A non-exclusive license for Bombardier's train maintenance diagnostic software tools limited to V300 Zefiro applications.

C. The HS2 VHS Commitment

1. The HS2 VHS Commitment consists of the following:

1.1 The HS2 Project refers to Bombardier's scope of and interest in a joint bid submission by Bombardier and Hitachi pursuant to a consortium agreement dated [...] in respect of the ongoing tender procedure by High Speed Two Limited ("HS2") for the design and manufacture of 54 very high speed trains for operation on the UK's new very high speed rail network between London, Birmingham and Northern England, together with the maintenance of that fleet for a minimum period of 12 years; and in any manufacturing, supply, or other agreements that may be entered into directly as a result of the Bombardier/Hitachi consortium[1072] bid being selecting as the winning bidder by HS2 (including any options, call-offs or repeat orders to the extent provided for in agreements for the initial order of up to 54 very high speed trains) (the "HS2 Project").

2. [*Bid-selection mechanism*]

2.1 If the tender for the HS2 Project has not been awarded prior to closing of the Concentration, [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*].

2.2 [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*], Alstom and Bombardier offer to, [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*]:

(a) put in place a mechanism whereby [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*]; and

(b) [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*].

[1072] Any reference to the Bombardier/Hitachi consortium in this Schedule shall be read to mean Alstom/Hitachi consortium as of closing of the Concentration (as defined in the Commitments).

2.3 [*Confidential details of the bid-selection mechanism that Alstom commits to put in place if the Transaction closes before the HS2 tender is awarded*].

3. Ongoing and future obligations towards Hitachi and HS2

3.1 If HS2 awards the HS2 Project to the Bombardier/Hitachi consortium (and only provided that the HS2 Project is awarded to the Bombardier/Hitachi consortium): [*Confidential information on Alstom's commitments vis-a-vis Hitachi and HS2 that apply in the event that the Bombardier/Hitachi consortium wins the tender*.]

4. Licence of Bombardier HS2 Project IP and Documentation and Transfer of Technology

4.1 If HS2 awards the HS2 Project to the Bombardier/Hitachi consortium (and only provided that the HS2 Project is awarded to the Bombardier/Hitachi consortium), the Parties offer to the Purchaser an option to purchase a [*Confidential information on the licensing of Bombardier HS2 Project IP and Documentation and Transfer of Technology in the event that the Bombardier/Hitachi consortium wins the HS2 tender*.] license (based on an upfront lump-sum royalty to be agreed with the Purchaser) covering all IP rights and documentation owned by Bombardier relating to Bombardier's scope for the HS2 Project (including IP rights and documentation that are not specific to the HS2 Project) for use in future very high speed projects, which can be exercised at the following times:

[*Confidential details on the three alternative periods/dates when Hitachi can exercise the option for the Licence of Bombardier HS2 Project IP and Documentation and Transfer of Technology*.]

in each case the option may be exercised within 4 weeks of occurrence of the relevant event.

4.2 If the option is exercised under 4.1(a), the closing of the licensing agreement (*i.e.*, making the relevant IP available to the Purchaser) will be conditional upon [*Confidential information on Alstom's commitments vis-a-vis Hitachi and HS2 that apply in the event that the Bombardier/Hitachi consortium wins the tender*.]

4.3 If the option is exercised under 4.1(a) or (b), Alstom offers to provide the Purchaser with engineering support (*e.g.*, through training, secondments, etc.) in respect of Bombardier's scope of the HS2 Project for a period of up to […] years following the delivery of the first train to HS2, on commercially reasonable terms.

4.4 *Monitoring Trustee and dispute resolution*. As set out in paragraph 6 of the Commitments, the Monitoring Trustee will monitor Alstom and Bombardier's compliance with the HS2 VHS Commitment for the duration of Alstom's obligations towards HS2 and Hitachi as part of the HS2 Project.

4.5 In addition to the Fast-Track Dispute Resolution Procedure included in the Commitments, at the option of the Purchaser and with the consent of HS2, any disputes which may arise between either or both Parties and the Purchaser or HS2 relating to the HS2 VHS Commitment will be subject to a dedicated fast-track dispute

resolution procedure (the "***HS2 Fast-Track DR Procedure***") as described in **Annex 3** below.

D. Common Provisions Applicable to the Zefiro V300 Divestment Business and the HS2 VHS Commitment

1. Future bids

1.1 Nothing in this Schedule or in the Commitments shall prevent Alstom or the Purchaser from participating, directly or indirectly, in any future bid for the supply of very high speed trains. In the event that the rules applicable to such bids prohibit or limit the ability to act both as a supplier to another bidder and as an independent bidder, each of Alstom and the Purchaser shall make an independent determination in its sole and absolute discretion as to whether to submit a stand-alone bid or to bid in collaboration with another party (subject, in respect of the Zefiro V300 Divestment Business, to the terms of the [*Confidential details on ongoing sale negotiations between the Parties and Hitachi*]).

2. Information barriers

2.1 In reference to their obligation under paragraph 6 of the Commitments, in relation to the VHS HS2 Commitment, the Parties commit to:

(a) Implement and respect strict separation rules (such as information barriers) between the teams involved in the Bombardier/Hitachi consortium bid and the teams involved in the Alstom bid for the HS2 Project as required until the earlier of: [*Confidential information on information barriers to be put in place for the HS2 Project.*]

(b) Put in place all necessary and appropriate safeguards and protections to ensure that any competitively sensitive information of the Purchaser in relation to the Existing Projects, the HS2 Project (if awarded to the Bombardier/Hitachi consortium), and any new very high speed project or tender for which the Parties may provide Transitional Arrangements to the Purchaser, could not be used in any of the Parties' other projects.

3. The Very High Speed Divestment Business shall not include:

(a) Any personnel of the Combined Entity, other than expressly included;

(b) Any production facilities, manufacturing units, or R&D facilities, other than expressly included;

(c) Tangible and intangible assets (including intellectual property rights) which do not contribute to the current operation of the Zefiro V300 Divestment Business or the envisaged future operation of the HS2 VHS Commitment;

(d) Tangible and intangible assets (including intellectual property rights) that are shared between the Zefiro V300 Divestment Businesses, the HS2 VHS Commitment and Alstom's retained business other than expressly included;

(e) Any IP, know-how, copyright relating to components that the Purchaser might procure from Bombardier other than expressly included;

(f) The Zefiro brand for use as part of the Zefiro Express, Bombardier's company name, mark or logo in any form;

(g) Bombardier's existing supply agreements for non-critical, commodity (non-rolling-stock specific) components and

(h) Any sub-supply or maintenance agreements between Bombardier and other rolling stock suppliers or operators in respect of non-Zefiro V300 (very) high speed trains;

(i) All books and records to be retained pursuant to any statute, rule, regulation or ordinance, provided that Bombardier will provide copies of such documents necessary of the Very High Speed Divestment Business to the Purchaser upon request;

(j) General books of account and books of original entry that comprise Combined Entity or any of its Affiliated undertakings' permanent accounting or tax records provided that Combined Entity will provide copies of such documents necessary for the Very High Speed Divestment Business to the Purchaser, upon request; and

(k) Any other rights, assets or interests not expressly included.

Annex 1

Overview of main external suppliers for Bombardier's scope of the Zefiro V300

[*Confidential information on Bombardier's external suppliers.*]

Annex 2

Overview of Vado Ligure Manufacturing and Testing Assets

1. The complete list of manufacturing and testing assets that are located in Vado Ligure is as follows: [*Confidential information on Vado Ligure manufacturing and testing assets.*]

Annex 3

HS2 Fast Track-DR Procedure

1. This HS2 Fast-Track DR Procedure is available, at the option of the Purchaser and with the consent of HS2, to resolve any disputes which may arise between either or both Parties and the Purchaser or HS2 (each a ***Company*** and jointly the ***Companies***) relating to the HS2 VHS Commitment .

2. This HS2 Fast-Track DR Procedure is only available after the Companies attempted to resolve any differences pursuant to paragraph 43 of the Commitments and before one of the Companies initiating arbitration provided for in paragraph 44 of the Commitments.

3. If a Company wishes to avail itself of the HS2 Fast-Track DR Procedure (the ***Requesting Company***), it must notify the other Company in writing (with a copy to the Monitoring Trustee) setting out in detail the reasons leading that Company to believe that the other Company is failing to comply with the HS2 VHS Commitment (the ***Notice***).

a. THE PROCEDURE

4. At the latest a month after the approval by the Commission of the Monitoring Trustee, Alstom shall propose a list of names for the Monitoring Trustee and the Commission to consider as potential experts to adjudicate in disputes (the "***Experts***"). The Experts shall be independent, suitably qualified, and shall have the necessary experience, competence, and qualifications in relation to very high speed rolling stock projects.

5. Where paragraph 43 of the Commitments applies, the Monitoring Trustee shall appoint one of the Experts to adjudicate on the dispute within 5 working days of expiry of the period set out in paragraph 43 of the Commitments.

6. The process shall be conducted in private and shall be confidential. The language of the process shall be in English.

7. The Expert shall act on the following basis:

   (a) the Expert shall act fairly and impartially;

   (b) each party shall submit to the Expert its brief and its submission in relation to the matter in dispute within 10 working days of the Expert's appointment;

   (c) Each party shall assist and provide such documentation as the Expert reasonably requires to consider the matters referred to it;

   (d) the Expert's determination shall be given within a maximum period of 20 working days of the Expert's appointment;

(e) the Expert's determination in relation to any matter pursuant to paragraph 43 of the Commitments shall (save for manifest error or fraud) be final and binding on the Parties and the Requesting Party;

(f) any challenge to the Expert's determination in accordance with the clause above shall be made according to the arbitration procedure provided for in the Commitments;

(g) each party shall carry out the actions required to comply with the obligations set out in the Expert's determination in relation to any matter pursuant to paragraph of the Commitments within any time-limits specified by the Expert; and

(h) the Requesting Party shall pay the Expert's costs if the Expert's determination upholds the Parties' claims. Alstom will pay the Expert's costs if the Expert's determination upholds the Requesting Party's claims. The Expert shall otherwise determine how and by whom the costs of the determination are to be paid.

b. **INVOLVEMENT OF THE COMMISSION**

8. The Commission shall be allowed and enabled to participate in all stages of the procedure by:

(a) receiving all written submissions (including documents and reports, etc.) made each party to the procedure;

(b) receiving all documents exchanged by the Expert with the parties to the procedure;

(c) filing any written submissions; and

(d) being present at the hearing(s) and being allowed to ask questions to the parties.

9. The Expert shall forward, or shall order the parties to forward, the documents mentioned in the previous paragraph to the Commission without delay.

10. The Monitoring Trustee shall receive copies of:

(a) all submissions made by the parties to the procedure in relation to the matters they wish to have resolved by the Expert, on the day when these have been submitted to the Expert;

(b) all other documentation provided by the parties, on the day when these have been submitted to the Expert; and

(c) the determination made by the Expert, on the day when the determination has been provided to the parties.

SCHEDULE 2

The Coradia Polyvalent Divestment Business

1. Description of the Coradia Polyvalent Divestment Business

1.1 The "Coradia Polyvalent Divestment Business" consists of Alstom's Coradia Polyvalent Platform, the Reichshoffen plant and related activities, including:

(a) ***Coradia Polyvalent Platform Divestment***. The exclusive right to develop, adapt, manufacture and commercialise the Coradia Polyvalent regional EMU and bimode mainline platform (the "Coradia Polyvalent Platform"), including related Polyvalent-specific subsystems and components and perpetual non-exclusive licenses for subsystems and components that are not specific to the Coradia Polyvalent Platform.

(b) ***Coradia Polyvalent Contracts and Associated Backlog***. Alstom offers to transfer all existing Coradia Polyvalent backlog, subject to customer consent, including:

(i) The delivery of […] Coradia Polyvalent trainsets as part of the 2009 frame contract with SNCF, valued at €[…], and existing options for […] trainsets subject to [*Confidential considerations for alternative energy*]; and

(ii) The delivery of […] Coradia Polyvalent trainsets as part of the 2019 contract with the Hello Paris Consortium (consisting of RATP and Keolis), valued at €[…].

(c) ***The Reichshoffen Plant Divestment***. Alstom offers, through a transfer, the divestment of its entire Reichshoffen manufacturing plant located in Bas-Rhin, France, consisting of: (i) engineering and manufacturing facilities for various types of rolling stock (newbuild and renovation), warehousing facilities, and testing facilities, together with associated permanent onsite personnel ([…] FTEs); and (ii) subject to customer consent, the transfer of the MI84 renovation project (with a backlog of €[…]), and a subcontract for the carbody shell manufacturing for Metro de Lille (with a backlog of €[…]), which are currently undertaken at the Reichshoffen plant.

(d) ***Supply and Transitional Agreements.*** At the option of the Purchaser, Alstom offers to (i) supply carbody shells, bogies, and traction systems; (ii) supply TCMS, hardware & middleware; (iii) supply components and subsystems designed by Alstom for [*Confidential upgrade*]; and (iv) provide transitional services agreements for warranty services and support functions that are currently provided by Alstom's central organization.

(e) [*Confidential upgrade*].[1] At the option of the Purchaser, Alstom also offers to

[1] [*Confidential upgrade*].

provide engineering support for the [*confidential upgrade*] of components and subsytems that fall outside the current competencies of the Reichshoffen Plant Divestment.

2. The Coradia Polyvalent Platform Divestment consists of the following:

IP, know-how and documentation

2.1 The Coradia Polyvalent Platform Divestment includes the transfer of all Coradia Polyvalent-specific intellectual property rights and documentation at train level as specified in Table 1 below, including:

(a) Coradia Polyvalent industrial design for the external architecture, Polyvalent-specific patents and intellectual property rights;

(b) Coradia Polyvalent-specific documentation, including know-how comprising the entire set of documentation required to employ and develop the Coradia Polyvalent, as specified in Table 1 below. [2]

Table 1: Coradia Polyvalent Divestment Business-specific documentation at train level

Area	Description	Means of transfer
Train design	Industrial design for external architecture	IP Transfer
Train design	Coradia Polyvalent-specific patents and related IP rights	IP Transfer
Train design	Platform description	Transfer of documentation
Train design	Electrical drawings (all, including 2D/3D)	Transfer of documentation
Train design	Mechanical drawings (all, including 2D/3D)	Transfer of documentation
Documentation	Specifications and commissioning documentation	Transfer of documentation
Documentation	Maintenance plan	Non-exclusive right to use and make changes
Documentation	Maintenance manual	Non-exclusive right to use and make changes
Documentation	Manuals (driver, training)	Non-exclusive right to use and make changes

2 [*Confidential annex*].

Area	Description	Means of transfer
Documentation	Homologation documentation[3]	Copies

2.2 The Coradia Polyvalent Platform Divestment also includes (i) the transfer of intellectual property rights and documentation for all subsystems and components that are specific to the Coradia Polyvalent; and (ii) as set out further below, at the option of the Purchaser and subject to a back license to Alstom for that purpose, supply agreements for such subsystems and components. These include the following:

Table 2: Coradia Polyvalent Divestment Business-specific subsystems and components

Area	Description	Means of transfer
Subsystem	Carbody shell subsystem	IP transfer
Subsystem	Bogies subsystem	IP transfer
Subsystem	TCMS subsystem[4]	IP transfer

Non- Coradia Polyvalent-specific intellectual property rights and documentation

2.3 The Coradia Polyvalent Platform Divestment includes perpetual non-exclusive licenses and, as set out further below, supply agreements at the option of the Purchaser, for the Coradia Polyvalent-specific application of subsystems and components that are not specific to the Coradia Polyvalent.

Table 3: Non-Coradia Polyvalent-specific subsystems and components

Area	Description	Means of transfer
Subsystems	EMU or bimode traction systems,	Non-exclusive license[5]
Components	Documentation related to non-Coradia Polyvalent-specific bogies, TCMS components, and traction components	Non-exclusive license

Procurement Specifications

2.4 Alstom will offer to make available to the Purchaser the build-to-print and build-to-specifications for externally sourced components and subcomponents which Alstom sources from third-party suppliers for use in the Coradia Polyvalent Platform.[6]

2.5 Alstom will use commercially reasonable efforts to:

(a) transfer or assign all contracts, agreements or relationships and understandings; or with third-party component suppliers relating to the components specific to

3 [*Confidential annex*].

4 [*Confidential annex*].

5 [*Confidential annex*].

6 Through non-exclusive licensing and subject to third party consent as necessary.

the Coradia Polyvalent Platform for which Alstom relies on third-party suppliers (subject to supplier consent), including in relation to available stock relating to the Coradia Polyvalent; or

(b) support the Purchaser in negotiations with third-party component suppliers to obtain similar terms and conditions for the procurement of components specific to the Coradia Polyvalent Platform for which Alstom relies on third-party suppliers.

2.6 Absent supplier consent, Alstom will continue to procure the relevant components from third-party suppliers for the duration of the Coradia Polyvalent Contracts and transfer the components to the Purchaser at cost to the extent allowed in Alstom's existing procurement agreements with the third-party suppliers.

2.7 If there is any asset or personnel which is not be covered by paragraph 2 of this Schedule but which is both used (exclusively or not) in the Divestment Business and necessary for the continued viability and competitiveness of the Divestment Business, that asset, adequate substitute, or support (including supply or service agreements) will be offered to the Purchaser, which will oversee the process.

3. The Coradia Polyvalent Contracts and Associated Backlog consists of the following:

Contracts and Backlog

3.1 Alstom offers to transfer, subject to customer consent, all existing rolling stock contracts for Coradia Polyvalent with SNCF and the Hello Paris Consortium (consisting of RATP and Keolis**)**, including all backlog and options:

(a) The delivery of […] remaining Coradia Polyvalent trainsets (consisting of EMU and bimode versions) ordered to date as part of the 2009 contract with SNCF, valued at €[…] as of March 30, 2020, and existing options for […] trainsets subject to [*Confidential considerations for alternative energy*].

(b) The delivery of […] mainline EMU Coradia Polyvalent trainsets as part of the 2019 contract with RATP and Keolis, valued at €[…].

3.2 Absent customer consent, […].

4. [*Confidential considerations for alternative energy*]

4.1 […]. [*Confidential considerations for alternative energy*] are without prejudice to the Purchaser's ability to: (i) integrate its own (or externally sourced) BEMU traction system to the Coradia Polyvalent Platform for any demands for a BEMU version (including […]); and (ii) integrate its own (or externally sourced) hybrid or hydrogen fuel-cell traction for any future demands outside the […].

5. The Reichshoffen Plant Divestment consists of the following:

5.1 The Reichshoffen Plant Divestment will include the divestment of: (i) the site; including related assets (such as tools/jigs *etc*.); (ii) personnel; and (iii) existing

portfolio at the Reichshoffen plant, , subject to the Carve-Out Assets described in Section 8 below.

5.2 The combination of the Coradia Polyvalent Platform Divestment and the Reichshoffen Plant Divestment will allow the Purchaser to effectively manufacture, test, and homologate the Coradia Polyvalent Platform.

Assets and equipment

5.3 The Reichshoffen Plant Divestment assets located at the Reichshoffen site in France include dedicated facilities for core competencies as well as their current inventories.

5.4 The main assets include (i) engineering facilities and assets (incl. necessary computer systems used in the development and maintenance of the Coradia Polyvalent Platform); (ii) manufacturing facilities and assets for rolling stock (incl. carbody shell erection, painting, and fitting and electrical); (iii) testing/acceptance facilities and assets (incl. a 1.2km-long test-track and facilities to test the TCMS application); and (iv) warehousing facilities and assets.

5.5 At the option of the Purchaser, Alstom offers to transfer any Coradia Polyvalent-specific jigs and tools that are not currently located in the Reichshoffen plant.

5.6 Alstom offers to transfer the Reichshoffen Plant Divestment assets through a transfer of ownership to the Purchaser.

Personnel

5.7 The Reichshoffen Plant Divestment includes the transfer of onsite personnel experienced in the engineering and manufacturing of rolling stock, including project management, mechanical engineering, electrical engineering, industry, procurement, supply-chain, manufacturing, testing, and management teams (the "Reichshoffen Personnel"). The Reichshoffen Personnel consist of […] permanent onsite FTEs across the following divisions:

Table 4: Breakdown of transferred permanent Reichshoffen Personnel[7]

Division	FTEs
Manufacturing	[…]
Engineering & Design	[…]
Industrialization	[…]
Test & Commissioning	[…]
Project & bid management	[…]
Human Resources	[…]
Finance	[…]

7 Figures as of end 2019/early 2020.

Division	FTEs
Legal	[…]
Other	[…]
TOTAL	**[…]**

5.8 In particular, the Reichshoffen Personnel include, among others, sufficient and qualified technical personnel:

(a) working on Coradia Polyvalent specific Train Control and Management System software development;

(b) experienced with the technical documentation at train level and at the carbody-shell and the TCMS application layer for the Coradia Polyvalent Platform;

(c) familiar and experienced with homologation/certification of the Coradia Polyvalent Platform;

(d) from Alstom's Maintenance platform in operational conditions ("PMCO") division, familiar and experienced with aftersales care/service for the Coradia Polyvalent Platform.

Portfolio

5.9 The Reichshoffen Plant Divestment includes the divestment of all ongoing activities currently undertaken at the Reichshoffen plant, subject to the Carve-Out Assets described in Section 8 below.

5.10 In addition to the Coradia Polyvalent contracts and backlog, and subject to customer consent,[8] Alstom will also transfer its other ongoing rolling stock activities in the Reichshoffen as part of the Reichshoffen Plant Divestment.

5.11 These consist of:

(a) Transfer of contract with RATP for the modernization and refurbishment of […] MI84 metro (RER B trains), of which […] have been notified for refurbishment, with a backlog of €[…].

(b) Subcontract for the manufacturing carbody shell parts for the Lille Metro (roof, sidewalls and sub-assemblies for the underframe) as part of a […] contract with Lille Métropole, with a backlog of €[…].

8 Absent RATP's consent, Alstom will continue to execute the MI84 metro contract relying on the assets to be transferred to the Purchaser and as necessary through secondment or similar agreements for the contract concerned, without hindering the Purchaser's ability to bid independently in future tenders, but will transfer the net profit (after full cost) to the Purchaser pursuant to the terms and conditions to be agreed upon with the Purchaser. Customer consent is not required for the subcontracting of the Lille Metro project.

6. Supply and Transitional Agreements consist of the following:

Supply agreements

6.1 At the option of the Purchaser, Alstom offers to provide the following supply agreements to the Purchaser to: (i) effectively manufacture and deliver the remaining backlog and additional options under the existing contracts with SNCF and the Hello Paris without any degradation in quality or lead time; and (ii) participate in new tenders with the Coradia Polyvalent Platform on competitive terms.

(a) Subject to being granted a back-license to enable such supply, Coradia Polyvalent-specific components and subsystems, for which Alstom already offers the transfer of all relevant intellectual property rights and documentation,including:

(i) Carbody shell subsystem parts. Including carbody sub-assemblies roof, cabin and end wall.

(ii) Bogies subsystem. Including frames, wheels, axles, and wheelsets.

(b) Non-Coradia Polyvalent specific components and subsystems, for which Alstom already offers non-exclusive licences to the Purchaser, including:

(i) Traction systems. Complete EMU or bimode traction system or components such as ESS converter, traction and auxiliary converter (power modules & electronics), HV components.

(ii) Components. Including non-Coradia Polyvalent-specific components for bogies (such as PMM motors and dampers), traction, and TCMS.

(c) Additional components and subsystems that do not fall under the scope of the Coradia Polyvalent Platform Divestment, including:

(i) BEMU traction system. Complete BEMU traction system or components such as ESS converter, traction and auxiliary converter (power modules & electronics), HV components.

(ii) TCMS hardware & middleware. Support, including engineering support, for TCMS Middleware evolution.

(iii) [*Confidential upgrade*]-specific components and subsystems, for components and subsystems designed by Alstom and which do not fall under the Reichshoffen Plant Divestment' competencies.

6.2 Supply agreements for the purpose of fulfilling obligations or potential options under the existing SNCF and Hello Paris Consortium agreements will be concluded for a duration equal to the duration of the underlying agreements with the customers. For these agreements, Alstom will offer to supply the relevant components and subsystems to the Purchaser based on its existing internal pricing arrangements.

6.3 Supply agreements concerning trains to be supplied for new tenders will be limited to new tenders awarded within five years of Closing and will last for a duration of three years from initial purchase under the relevant supply agreement. For these

agreements, Alstom will offer to supply the relevant components and subsystems to the Purchaser at cost.

Transitional services agreements

6.4 At the option of the Purchaser, Alstom will provide the Purchaser with transitional services agreements to cover warranty services for the Coradia Polyvalent Platform under the existing agreements with SNCF and Hello Paris Consortium and provide central functions at the Reichshoffen plant.

(a) Warranty services. Alstom offers to provide an optional transitional services agreement for the warranty services for the SNCF and the Hello Paris agreements, including for the [*Confidential upgrade*].

(b) Central functions. Alstom offers to supply temporary transitional services for support functions that are currently provided by Alstom's central organization (including, sourcing, supply chain, Finance, HR, IT, and legal).

Monitoring Trustee

6.5 The Monitoring Trustee appointed for the Commitments will monitor Alstom's compliance with the Supply and Transitional Services Agreements for their duration.

7. [*Confidential upgrade*] consists of the following:

7.1 [*Details on confidential upgrade*]

7.2 [*Details on confidential upgrade*]

7.3 [*Details on confidential upgrade*].

7.4 For components and subsystems that are not part of Reichshoffen Plant Divestment's current competencies but that are necessary for the [*confidential upgrade*], Alstom offers to, at the option of the Purchaser, provide engineering support to the Purchaser for the [*confidential upgrade*] required for all components and subsystems.

8. The Coradia Polyvalent Divestment Business shall not include any right, title and/or interest in (the "Carve-Out Assets"):

(a) intellectual property rights, documentation, or prototypes for hybrid, hydrogen, or BEMU traction systems;

(b) APTIS's rented area and activities, except for the lease and the Service Level Agreement;

(c) the transfer of Alstom's agreement with Lille Metropole for the supply of metros;

(d) Center of excellence for carbody shells, including any related intellectual property rights, know-how, documentation, tangible and intangible assets, and

related personnel ([…] FTEs);[9]

(e) the Train Control and Management Systems division, including any related intellectual property rights, know-how, documentation, tangible and intangible assets, and related personnel that is not specific to the Coradia Polyvalent ([…] FTEs);[10]

(f) PMCO personnel that is not specific to the to the Coradia Polyvalent ([…] FTEs);[11]

(g) shared administrative personnel ([…] FTE);

(h) any personnel of the Combined Entity, other than expressly included above;

(i) the Coradia brand, Alstom's company name, mark or logo in any form;

(j) intellectual property rights related to engineering design & calculation of the bogies subsystem, the PMM motor and dampers;

(k) TCMS software application layer proprietary tools to compile and test the code-tools;

(l) existing supply agreements for non-Coradia Polyvalent-specific commodity components;

(m) intellectual property rights related to TCMS hardware and middleware;

(n) intellectual property rights related to traction system subcomponents (ESS converter, traction converter, and auxiliary converter's subcomponents (power module and electronics, HV components) and software (traction and auxiliary software as well as tooling to compile and validate the code);

(o) any production assets, manufacturing units, or R&D facilities, other than expressly included above;

(p) tangible and intangible assets (including intellectual property rights) which do not contribute to the current operation of the Coradia Polyvalent Divestment Business;

(q) tangible and intangible assets (including intellectual property rights) that are shared between the Coradia Polyvalent Divestment Businesses and Alstom's retained business other than as expressly included above;

---

9 The remaining […] FTEs is included in the Coradia Polyvalent Divestment Business.

10 The Train Control and Management Systems division that is specific to the Coradia Polyvalent, including any related intellectual property rights, know-how, documentation, tangible and intangible assets, and related personnel ([…] FTEs) is included in the Coradia Polyvalent Divestment Business.

11 The remaining […] FTEs is included in the Coradia Polyvalent Divestment Business.

(r) any IP, know-how, copyright relating to components that the Purchaser might procure from Alstom other than as expressly included above;

(s) all books and records to be retained pursuant to any statute, rule, regulation or ordinance, provided that Alstom will provide copies of such documents necessary of the Coradia Polyvalent Divestment Business to the Purchaser upon request;

(t) general books of account and books of original entry that comprise Combined Entity or any of its Affiliated undertakings' permanent accounting or tax records provided that Combined Entity will provide copies of such documents necessary for the Coradia Polyvalent Divestment Business to the Purchaser, upon request; and

(u) any other rights, assets or interests not expressly included.

* * *

[*Confidential annex*]

SCHEDULE 3

The Talent 3 Divestment Business

1. Description of the Talent 3 Divestment Business

1.1 The "Talent 3 Divestment Business" consists of Bombardier's Talent 3 Platform, and at the option of the Purchaser, the sale or lease of the Talent-3 specific carve-out of Bombardier's Hennigsdorf site (the "Hennigsdorf Carve-Out Area"), including:

(f) ***Talent 3 Platform Divestment.*** The exclusive right to develop, adapt, manufacture, and commercialise the Talent 3 regional EMU platform (the "Talent 3 Platform"), including related Talent 3-specific subsystems and components and perpetual non-exclusive licenses for subsystem documentation shared with other Bombardier platforms, including bogies, propulsion, and TCMS subsystem

(g) ***Talent 3 Contracts and Associated Backlog***. Bombardier offers to transfer all existing rolling stock agreements (including future options worth €[…]) with Abellio, Netinera, SWEG, STA, and ÖBB for the Talent 3 Platform and associated backlog valued at €[…]:[1]

(i) the delivery of […] trains as part of three supply contracts under a 2016 frame agreement with ÖBB valued at €[…], and existing options for […]trains;

(ii) the delivery of […] Talent 3 trains as part of the 2019 contract with STA, valued at €[…], as well as options for […] additional trains and [*potential contract*];

(iii) the delivery of […] trains as part of the 2016 contract with Abellio, valued at €[…];[2]

(iv) the delivery of […] trains as part of the 2017 contract with Netinera, valued at €[…]; and

(v) the delivery of […] trains as part of the 2017 contract with SWEG, valued at €[…].

(h) ***Hennigsdorf Carve-Out Area Divestment.*** Bombardier offers, at the option of the Purchaser, to sell or lease[3] the production and services areas covering [square metres] (***Hall 221***) and warehouse (***Hall 222***) of its Hennigsdorf site located in Germany, consisting of: (i) engineering and manufacturing facilities as will be equipped by Bombardier during the Transition Period (as defined

---

1 Subject to customer consent rights. Backlog is defined as the total order intake value of trains remaining to be delivered as of end of FY19. Bombardier has since delivered […] trains to Abellio.

2 As of end of FY19. Bombardier has since delivered […] of the […] trains to Abellio.

3 On the terms (including duration) and conditions which will be agreed between the Purchaser and Bombardier.

below), (ii) warehousing services and facilities; and (iii) office facilities, together with personnel experienced in the engineering and manufacturing of the Talent 3 Platform (up to […] FTEs).

(i) ***Supply and additional agreements.*** At the option of the Purchaser, Bombardier offers to: (i) supply assembled bogies and propulsion; and (ii) provide engineering support for subsystems including carbodies and TCMS circuit boards production for the Talent 3. At the option of the Purchaser, Bombardier also offers to provide the Purchaser with additional agreements for: (i) testing services and track access; (ii) equipment for bogies/wheelsets final assembly and car bodyshell erection; and (iii) Talent 1 and 2 documentation, installed-bases, together with existing service agreements and potential liabilities.

(j) [*Confidential upgrade*].

2. The Talent 3 Platform Divestment consists of the following:

IP, know-how and documentation

2.1 The Talent 3 Platform Divestment includes the transfer of all Talent 3-specific intellectual property rights and documentation at train level as specified in Table 1 below, including:

(a) The Talent brand, the Talent 3 industrial design, Talent 3-specific patents, and related intellectual property rights in the form of an exclusive and perpetual license; and

(b) Talent 3-specific documentation,[4] including know-how comprising the entire set of documentation required to employ and develop the Talent 3 including for bogies, propulsion, carbodies, and TCMS.

Table 1: Talent 3 Divestment Business-specific intellectual property rights and documentation

Area	Description	Means of transfer
Brand	The Talent brand	Exclusive and perpetual license
Train design	Talent 3 industrial design	Exclusive and perpetual license
Train design	Talent 3-specific design rights/patents	Exclusive and perpetual license
Train design	Platform description	Transfer of documentation
Train design	Electrical drawings (all, including 2D/3D)	Transfer of documentation
Train design	Mechanical drawings (all, including	Transfer of documentation

4 [*Confidential annex*].

Area	Description	Means of transfer
	2D/3D)	
Documentation	Specifications and commissioning documentation	Transfer of documentation
Documentation	Homologation documentation[5]	Copies

Non- Talent 3-specific intellectual property rights and documentation

2.2 The Talent 3 Platform Divestment includes perpetual non-exclusive licenses and as set out further below additional assets and services that are not specific to the Talent 3 Platform, at the option of the Purchaser.

Table 2: Non-Talent 3-specific intellectual property rights and documentation

Area	Description	Means of transfer
Train design	Patents / design rights shared with other Bombardier products	Non-exclusive license
Documentation	Bogies including a license to use the FLEXX Compact 3 bogies platform	Non-exclusive license[6]
Documentation	EMU and BEMU propulsion for Talent 3 project-specific applications.[7]	Non-exclusive license
Documentation	Architecture/interface documentation and IP for TCMS CESA middleware for Talent 3 project-specific application[8]	Non-exclusive license
Documentation	Documentation and IP required for TCMS hardware (circuit boards) production for Talent 3 project-specific application[9]	Non-exclusive license
Software	Proprietary tools for TCMS software development and testing for Talent 3 project-specific application[10]	Non-exclusive license

5 [*Confidential annex*].

6 The exact terms and conditions of the right to make changes will be part of the discussions with the Purchaser.

7 [*Confidential annex*].

8 [*Confidential annex*].

9 [*Confidential annex*].

10 [*Confidential annex*].

Procurement Specifications

2.3 Bombardier will offer to make available to the Purchaser the build-to-print procurement specifications for externally sourced key components and sub-components which Bombardier sources from third-party suppliers for use in the Talent 3 Platform.

2.4 Bombardier will use commercially reasonable efforts to:

(c) transfer or assign all contracts, agreements or relationships and understandings; or with third-party component suppliers relating to the components specific to the Talent 3 Platform for which Bombardier relies on third-party suppliers (subject to supplier consent), including in relation to available stock relating to the Talent 3; or

(d) support the Purchaser in negotiations with third-party component suppliers to obtain similar terms and conditions for the procurement of components specific to the Talent 3 Platform for which Bombardier relies on third-party suppliers.

2.5 Absent supplier consent, Bombardier will continue to procure the relevant components from third-party suppliers for the duration of the Talent 3 Contracts and transfer the components to the Purchaser at cost to the extent allowed in Bombardier's existing procurement agreements with the third-party suppliers.

2.6 If there is any asset or personnel which is not covered by paragraph 2 of this Schedule but which is both used (exclusively or not) in the Divestment Business and necessary for the continued viability and competitiveness of the Divestment Business, that asset adequate substitute or support (including supply or service agreements) will be offered to the Purchaser, which will oversee the process.

3. The Talent 3 Contracts and Associated Backlog consists of the following:

3.1 Bombardier offers to transfer, subject to the customer consent, all existing rolling stock contracts for Talent 3 with Abellio, Netinera, and SWEG in Germany, ÖBB in Austria, and STA in Italy, including all backlog and options ("Talent 3 Contracts"):[11]

(a) the delivery of […]trains as part of […] supply contracts under a 2016 frame agreement with ÖBB valued at €[…], and existing options for […] trainsets;

(b) the delivery of […] Talent 3 trains as part of the 2019 contract with STA, valued at €[…], existing options for […] trains and [*potential contract*]

(c) the delivery of […] trains as part of the 2016 contract with Abellio, valued at €[…];[12]

(d) The delivery of […] trains as part of the 2017 contract with Netinera, valued at €[…]; and

(e) The delivery of […] trains as part of the 2017 contract with SWEG, valued at

11 As of end of FY19.

12 As of end of FY19. Bombardier has since delivered […] of the […] trains to the customer.

€[…].

3.2 Absent customer consent, […]

4. The Hennigsdorf Carve-Out Area Divestment consists of the following:

4.1 The Hennigsdorf Carve-Out Area Divestment will include, at the option of the Purchaser, the sale or lease of (i) the Talent-3 specific carve-out of Bombardier's Hennigsdorf site ("Hennigsdorf Carve-Out Area") (Germany) and (ii) personnel; subject to the Carve Out Assets described in Section 7 below:

4.2 The combination of the Talent 3 Platform Divestment and the Hennigsdorf Carve-Out Area Divestment will allow the Purchaser to effectively manufacture, test, and homologate the Talent 3 Platform.

Assets and equipment

4.3 The Hennigsdorf Carve-Out Area Divestment assets located at the Hennigsdorf site include dedicated facilities for production and services areas covering [square metres] (***Hall 221***) and a warehouse hosting more than 80 workplaces (***Hall 222***).

4.4 The assets include: (i) warehousing and office facilities and assets; (ii) engineering facilities and assets (incl. the necessary Bombardier proprietary computer systems used in the development and maintenance of the Talent 3 Platform); and (iii) manufacturing facilities and assets for rolling stock (incl. pre-assembly, fitting, train final assembly and homologation) as will be equipped by Bombardier for Talent 3 production during a 12-36 month transition period ("Transition Period") including:

(a) the transfer of Talent-3 specific machineries to the Hennigsdorf Carve-Out Area;

(b) the transfer of Talent 3-specific jigs, equipment and toolings to the Hennigsdorf Carve-Out Area;

(c) the establishment of a fully equipped line for fit-out 2 operations; and

(d) the building of a partition wall between production lines, including the separation of office building.

4.5 Bombardier offers to, continue manufacturing the Talent 3 as a subcontractor to the Purchaser during the Transition Period in compliance with the delivery schedules agreed with the customers. The subsupply for the Transition Period will occur on current commercial terms, and Bombardier would offer the service at zero margin.

Personnel

4.6 The Hennigsdorf Carve-Out Area Divestment includes the transfer of personnel experienced in the engineering and manufacturing of the Talent 3 Platform, including (i) a team of up to […] product engineers and specialists specific to the Talent 3 Platform; (ii) a team of […] Talent 3-specific TCMS IT engineers; and (iii) at the

option of the Purchaser, […] FTEs working on manufacturing, method, quality, and procurement of the Talent 3 ("Talent 3 Personnel").[13] The Talent 3 Personnel consists of up to […] FTEs across the following competencies.

Table 3: Breakdown of Transferred Talent 3 Personnel

List of competencies	Engineering capabilities (FTE)
Overall Vehicle Design	[…]
Vehicle Architecture	[…]
Vehicle Operability	
Vehicle Performance	
Vehicle PII	[…]
Vehicle OBU Signalling	[…]
Vehicle Safety	[…]
Vehicle Validation	
Service Engineering	[…]
Engineering Project Management	[…]
Product Introduction Engineering	[…]
TCMS IT engineering[14]	[…]
Rolling stock operations	[…]

Source: Bombardier

4.7 In particular, the Hennigsdorf Personnel include, among others, sufficient and qualified technical personnel:

(a) working on Talent 3-specific TCMS software development;

(b) experienced with the technical documentation at train and components/subsystem level for the Talent 3;

(c) familiar and experienced with homologation/certification of the Talent 3 including at train and subcomponents level;

(d) experienced with aftersales care/service for the Talent 3 Platform

13 The […] resources for rolling stock operations include […] manufacturing FTEs, […] methods FTEs, […]quality FTEs and […] procurement FTEs.

14 Comprising […] software and two middleware developers currently located in Hennigsdorf.

5. Supply and Additional Agreements consist of the following:

Supply agreements

5.1 At the option of the Purchaser, Bombardier offers to provide the following supply agreements:

(a) Supply agreements for: subsytems that are not specific to the Talent 3 Platform:

- Assembled bogies and EMU and BEMU propulsion, including engineering support to complete subsystem outstanding design-work for ongoing and/or future bids;
- Engineering support for carbodies to complete subsystem outstanding design-work for ongoing and/or future bids;
- TCMS circuit boards for Talent 3, including engineering support on the integration of Talent 3-specific application with for TCMS middleware for ongoing projects and update/bug fixes on the middleware to the extent that will be developed.

(b) Supply agreements in relation to the [*Confidential upgrade*]

- Components and subsystems necessary for [*Confidential upgrade*], for components and subsystems designed by Bombardier and which do not fall under the Hennigsdorf Carve Out Area Divestment's competencies.

5.2 Supply agreements for the purpose of fulfilling obligations or potential options under the existing Talent 3 Contracts will be concluded for a duration equal to the duration of the underlying agreements with the customers. For these agreements, Bombardier will offer to supply the relevant components and subsystems to the Purchaser based on its existing internal pricing arrangements.

5.3 Supply agreements concerning trains to be supplied for new tenders will be limited to new tenders awarded within five years of Closing and will last for a duration of three years from initial purchase under the relevant supply agreement. For these agreements, Bombardier will offer to supply the relevant components and subsystems to the Purchaser at cost.

Additional agreements

5.4 At the option of the Purchaser, Bombardier also offers to provide the following agreements on exact terms and conditions to be agreed with the Purchaser based on the Purchaser's capabilities and needs to allow the viability of the Talent 3 Platform Divestment:

(a) Testing services and track access to existing testing services and track infrastructure at the Hennigsdorf plant. At the option of the Purchaser, Bombardier will provide the Purchaser with testing services together with the possibility to access the track infrastructure within 10 years of Closing. The cost for testing services will be calculated based on Bombardier's internal project cost. The Purchaser will have the right at any point in time to move

trains through the retained Bombardier area to reach the testing facilities and the public infrastructure;

(b) The sale or lease of equipment for bogies/wheelsets final assembly and car body erection to be placed into a suitable industrial facility in the Greater Berlin Area;

(c) Talent 1 and Talent 2 platform-specific documentation including platform description and all platform-specific mechanical and electrical drawings, corresponding installed-bases, together with existing service agreements and potential liabilities.

Monitoring trustee

5.5 The Monitoring Trustee appointed for the Commitments will monitor Bombardier's compliance with the Supply and Additional Agreements for their duration.

6. [*Confidential upgrade*]**:**

6.1 […].

6.2 […].

(a) […]

(b) […]

7. The Talent 3 Divestment Business shall not include any right, title and/or interest in:

(a) any resources, assets, personnel, and specific industrial means and equipment residing in Bombardier's Hennigsdorf plant, other than expressly included in the above and that will be moved into the Hennigsdorf Carve-Out Area during the Transition Period;

(b) rolling stock testing and track infrastructure located at the Hennigsdorf plan;

(c) any production assets, manufacturing units, or R&D facilities, other than expressly included above;

(d) tangible and intangible assets (including intellectual property rights) which do not contribute to the current operation of the Talent 3 Divestment Business;

(e) tangible and intangible assets (including intellectual property rights) that are shared between the Talent 3 Divestment Business and Bombardier's retained business other than as expressly explained above;

(f) any IP, know-how, copyright relating to components that Purchaser might procure from Bombardier

(g) any personnel of the Combined Entity, other than expressly included above;

(h) Bombardier's supply agreements relating to non-critical, commodity, non-rolling stock specific components;

(i) all books and records to be retained pursuant to any statute, rule, regulation or ordinance, provided that Bombardier will provide copies of such documents necessary of the Talent 3 Divestment Business to the Purchaser upon request;

(j) general books of account and books of original entry that comprise Combined Entity or any of its Affiliated undertakings' permanent accounting or tax records provided that Combined Entity will provide copies of such documents necessary for the Talent 3 Divestment Business to the Purchaser, upon request; and

(k) any other rights, assets or interests not expressly included.

***

[*Confidential annex*]

Case M.9779 – Alstom/Bombardier Transportation

COMMITMENTS TO THE EUROPEAN COMMISSION

Pursuant to Article 6(2), of Council Regulation (EC) No 139/2004 (the "***Merger Regulation***"), Alstom S.A. ("***Alstom***", or the "***Notifying Party***") hereby enters into the following Commitments (the "***Commitments***") *vis-à-vis* the European Commission (the "***Commission***") with a view to rendering its proposed acquisition of sole control over Bombardier Transportation (Investment) UK Ltd, the holding entity for Bombardier Transportation ("***Bombardier Transportation***" and, together with Alstom, the "***Parties***"), the global rail solutions division of Bombardier Inc. ("***Bombardier***") (the "***Proposed Transaction***") compatible with the internal market and the functioning of the EEA Agreement.

This text shall be interpreted in light of the Commission's decision pursuant to Article 6(1)(b) of the Merger Regulation to declare the Concentration compatible with the internal market and the functioning of the EEA Agreement (the "***Decision***"), in the general framework of European Union law, in particular in light of the Merger Regulation, and by reference to the Commission Notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 (the "***Remedies Notice***").

The provisions in the Commitments as to the appointment of the Monitoring Trustee shall take effect upon the date of entry into force of the Decision (the "***Effective Date***"), although the obligations to supply Purchasers and ProRail (as explained below) will only take effect as of completion of the Proposed Transaction (the "***Closing Date***") provided that if the completion of the Proposed Transaction does not take place for whatever reason and is thereby abandoned, the Notifying Party shall not be bound by these Commitments.

The OBU Commitments

A. DEFINITIONS

1. For the purpose of these Commitments, the following terms shall have the following meaning:

   Class B: standalone on-board equipment for an Automatic Train Protection ("***ATP***") system in use in the EEA other than ETCS, a "***Legacy ATP System***".

   Complete STM/Class B Request: a request comprising all required information necessary to undertake the required work and to provide the necessary and accurate information, including specifically:

   - A detailed description of the planning for deliveries;
   - The quantities needed and the services requested;

- Description of the project for which the inputs are requested from Alstom, including the necessary technical specification of the EVC and necessary details of the train types concerned;
- Necessary specification of the interfaces and information communicated by the ETCS OBU EVC; and
- Confirmation that no additional requirements will be exported to the STM or Class B.

Conflict of Interest: any conflict of interest that impairs the Monitoring Trustee's objectivity and independence in discharging its duties under the Commitments.

Fast-Track Dispute Resolution Procedure: the procedure provided for in Sections E and F of these Commitments.

Infrastructure Manager: manager of rail infrastructure.

Initial Quotation: quotation based on industry standard assumptions made if a Complete STM/Class B request is not provided, non-binding if those assumptions are ultimately not validated in that particular case.

Interoperability Documentation: copies of all existing documentation necessary to interface a Purchaser's ETCS system with Bombardier's TCMS, including non-exhaustively, when available: FFF-Interface Specifications, drawing(s), interface protocol, and other specifications allowing the identification of the necessary signals on the train schematics and cabling terminals, copies of homologation certificates and safety case, as well as any reasonably necessary ancillary technical clarifications which are necessary to ensure interface between Bombardier's TCMS and Purchasers' ETCS systems.[1]

Interface Documentation: copies of all available information, documentation and specifications assisting Purchasers to interface an ETCS OBU system with Bombardier's Class Bs, including non-exhaustively: copies of certification and/or homologation documents, in its latest status, as well as available operating manual, installation specifications, application conditions, training specifications, generic and specific application safety cases, and maintenance manuals, and FFF-Interface Specifications.[2]

Master Agreement: an agreement substantially based on the draft agreement provided in **Annex IV** that will be offered by Alstom upon request.

Major Obsolescence: obsolescence that is not Minor Obsolescence.

Minor Obsolescence: arises when components with same mechanical and electrical interfaces are available on the market and no mechanical or electrical redesign are

1 For the avoidance of doubt, this shall not include a right to documents or data that are not reasonably necessary to interface an ETCS OBU with the TCMS (including transfer of source code or other intellectual property concerning the hardware or other design intellectual property rights relating to the TCMS).

2 For the avoidance of doubt, this shall not include a right to transfer of any source code or other intellectual property rights concerning the hardware or other design intellectual property rights relating to the STM or Class B.

needed (same form, fit and function of the replacement parts); and there is no product type test or certification to perform.

Monitoring Trustee: one or more natural or legal person(s) who is/are approved by the Commission and appointed by Alstom, and who has/have the duty to monitor compliance with the Commitments in accordance with Section D and **Annex III**.

Non-Standard TCMS: TCMS that do not have a train communication network based on a standardized interface (MVB, Ethernet TRDP) or not based on Bombardier's [*Confidential information on Bombardier's platform*] platform.

OBU Commitments: set of commitments comprising the STMs and Class B OBUs Commitments, the TCMS Commitments, and the Netherlands Legacy OBU Commitments.

Purchasers: ETCS OBU suppliers or other suppliers responsible for the execution of an ETCS OBU project, such as vehicle manufacturers or vehicle integrators.

Required TCMS Information: the services requested; a description of the planning for activities; and electrical and functional specifications of the ETCS on-board system, including architecture documents with interfaces towards TCMS (functional and electrical), to the extent this is strictly necessary to allow Alstom to assess adaptations needed on the TCMS as well as modifications to be made by the signalling supplier to the ETCS OBU system.

Standard TCMS: TCMS with a train communication network based on a standardized interface (MVB, Ethernet TRDP) and using a Bombardier [*Confidential information on Bombardier's platform*] platform.

STM: specific transmission module, a specific configuration of a legacy ATP which allow direct interface with ETCS OBUs.

TCMS: Digital Train Control & Management Systems.

C. COMMITMENTS

2. Alstom will provide, to any Purchaser, in a timely manner and on fair, reasonable, and non-discriminatory terms, the following, for use in the EEA, Switzerland, and the UK:

- Supply of Bombardier's available Class Bs or STMs;[3]
- Technical support for integration of newly purchased Class Bs or STMs with the Purchaser's ETCS OBU or rolling stock on which it is to be installed. In particular:
    - Technical support for integration of newly purchased Class Bs or STMs covers support for the interface of Class Bs or STMs with ETCS

[3] All references to Class B, On-board ATP legacy systems, or STMs refer to existing Bombardier solutions on the Closing Date, provided that for the Netherlands, Alstom retains the option to offer, at its sole discretion, the Alstom Class B ATB-EG solution instead of the Bombardier solution. Alstom also commits to offer its ATB-NL Class B to cover the non-electrified part of the Dutch network.

OBU but shall not be constructed as extending to support for the engineering of the interface as per ETCS OBU specifications.

- Interface Documentation for Class Bs for retrofit projects that require a Purchaser's new ETCS OBU to interface with already-installed Class B equipment;

(together, the "***STMs and Class B OBUs Commitments***")

- Interoperability Documentation and technical support for modifications to Bombardier's TCMS for the execution of retrofit ETCS OBU projects in the EEA, Switzerland, and the UK as explained in more detail below (together, the "***TCMS Commitments***").[4]

3. In addition, Alstom will offer to enter into a frame contract with the Dutch Infrastructure manager to supply the Alstom Class B (ATB-EG) for a period of twenty (20) years substantially on terms outlined in **Annex B** (the "***Netherlands Legacy OBU Commitments***").

4. The STMs and Class B OBUs Commitments will apply for twenty (20) years from the Closing Date or until the ERTMS roll out is completed (whichever is shorter).

5. The TCMS Commitments will apply for twelve (12) years from the Closing Date or until the ERTMS roll out is completed (whichever is shorter).

6. The Netherlands Legacy OBU Commitments will apply for a period of twenty (20) years from the Closing Date.

7. A Fast Track Dispute Resolution Procedure (including pre-dispute escalation and expert resolution) and Monitoring Trustee for a period of twelve (12) years and fast-track dispute resolution via arbitration for the remainder of the Commitments will ensure compliance.

1. STMS AND CLASS B OBUS

8. ***Scope of the STMs and Class B Commitments.*** Alstom will offer, to any Purchaser, on fair, reasonable, and non-discriminatory terms, the following, for use in the EEA, Switzerland, and the UK:

- ***STMs***. A supply agreement for STMs for both retrofit projects and new rolling stock (ATB-EG, LZB-ES, SHP, TBL1+ related to the Netherlands, Spain, Poland, and Belgium). The supply of such STMs will include reasonably necessary documentation to facilitate integration with a Purchaser's ETCS OBU.

  Where redesign of an STM is required (due to lack of availability of third-party components (*i.e.*, obsolescence) or need to renew the industrial file due to

[4] The TCMS Commitments exclude (i) anything relating to TCMS which is sold to a third-party in other remedy packages for the purpose of the Proposed Transaction; and (ii) TCMS supplied by third parties for Bombardier trains or modified by third parties, with the exception of the case where the supply of TCMS by the third party was done upon request by Bombardier and within the overall responsibility of the vehicle or if the property rights are within Bombardier.

absence of regular purchase orders leading to no manufacturing having taken place for [...]), Alstom will offer to conduct such redesign provided that it is compensated by the Infrastructure Manager of the relevant country or countries (consistently with their legal obligation under EU law to maintain the availability of STMs) or by a Purchaser on an amortized basis (on the terms outlined in **Annex A**).

- ***Specific provisions for the Netherlands and Belgium:***
  - If necessary, Bombardier's STM ATB-EG can be either redesigned, or substituted by Alstom ATB-EG Class B at Alstom's sole discretion. Alstom also commits to offer its ATB-NL Class B to cover the non-electrified part of the Dutch network.[5]
  - [*Confidential information on Bombardier STMS in the Netherlands and Belgium*] and the commitments are subject to continued availability of that hardware. Alstom will make reasonable commercial efforts to ensure such continued availability until the ETCS OBU roll-out is complete in Belgium.

- ***Class Bs***. A supply agreement for available Class Bs (*i.e.*, PZB) on cost-plus terms as set out in **Annex A**.
- **Technical support** to help integrate an STM / Class B with the Purchaser's ETCS OBU or rolling stock as part of a retrofit or new rolling stock order.[6]

9. **Interface Documentation** on a standalone basis for existing Class Bs where required for retrofit projects that require interfacing a new ETCS OBU with already-installed Class B equipment (*i.e.*, existing Interface Documentation for Convel (Portugal), JKB (Finland), PZB (Austria, Germany, Croatia, Romania and Slovenia)[7], and SHP (Poland)).[8]

10. **Portugal and Finland, special provision**. In Portugal and Finland, [*Confidential information on Bombardier' solution in Portugal and Finland*]. This is the case because there is an alternative STM developed for Finland (from Hitachi-Ansaldo) and because in Portugal, the age of the product and lack of orders for many years [*Confidential information on Bombardier' solution in Portugal*]. As such, Alstom will commit to provide available Interface Documentation for the Convel (Portugal) to

---

5 ATB NL [*Confidential details on ATB NL*]combines ATB EG and ATB NG and replaces [*Confidential details on ATB NL*]. For the avoidance of doubt, this solution is not an integrated solution (*i.e.*, has no ETCS OBU functionality).

6 Technical support for integration of newly purchased Class Bs or STMs covers support for the installation and interface requirements for the ETCS OBU and rolling stock but shall not be construed as extending to support for the engineering of the interface as per the rolling stock specifications or installation activities into rolling stock.

7 The scenario where trains are already equipped with a standalone legacy OBU and need to be connected to the ETCS OBU or to operate in parallel is no longer accepted for new trains nor for retrofit projects in Germany. Alstom will, however, offer the PZB for markets outside Germany, or projects in Germany for which PZB only is required such as regional trains with no need for ETCS.

8 [*Confidential information on available Bombardier's interface documentation*].

ensure that other suppliers are placed on a comparable footing if the Portuguese Infrastructure Manager were to issue an open tender for a new Convel solution. If considered necessary by the Infrastructure Manager despite the presence of an alternative STM already existing in Finland (from Hitachi-Ansaldo), Alstom would also offer available Interface Documentation for the JKB (Finland). Pricing for such documentation to be approved by the Monitoring Trustee and Commission.

11. **Table 1** below provides an overview of the availability of Bombardier's Class Bs / STMs and how they will be addressed by the STMs and Class B OBUs Commitments:

Table 1: [*Confidential information on available Bombardier' solutions*][9] [10] [11] [12] [13]

12. As the STM and OBU Commitments are aimed at ensuring competition in the market for supply of ETCS OBUs, the STMs and Class B OBUs Commitments exclude STMs where they are, at the Closing Date, an integrated product with an ETCS OBU.[14]

13. ***Principal terms of supply***. Alstom will enter into a Master Agreement with Purchasers substantially based on the draft agreement attached as **Annex IV** (the "**Master Agreement**"), as well as individual transaction documents for each order. The following provides an overview of the principal conditions under which access will be given.

14. ***Pricing of Interface Documentation, supply of Class Bs, STMs, and services*** will all be based on the conditions outlined in **Annex A**.

15. ***Responsiveness and co-operation:***

- Alstom will enter into a Master Agreement on request and will provide quotations for deliveries relating to specific projects or requirements for STMs / Class B systems within thirty (30) working days of a Complete STM/Class B Request.[15]
- If a written request does not fulfil the requirements of a Complete STM/Class B Request, Alstom will inform the Purchaser and request complete information within ten (10) working days.

---

9 […].
10 […].
11 […].
12 […].
13 […].
14 This affects the PZB/ETCS, LZB/ETCS or ATC-2/ETCS solutions. Alstom will offer a supply agreement for the PZB Class B (relevant for Austria, Croatia, Germany, Romania, and Slovenia) for both retrofit projects and new rolling stock.
15 For the purposes of these Commitments, working day or business day shall mean a day on which banking institutions are open for regular business in France, which shall not be a Saturday, a Sunday, a legal holiday, or other day on which banking institutions are authorized or obligated by law to close in France.

- In any event, if a Complete STM/Class B Request is not provided by the Purchaser, Alstom will, within thirty (30) working days of receipt of any written request that at least specifies the STM or Class B requested and the quantity thereof, provide an Initial Quotation based on industry standard assumptions (including as to the use of standard interfaces such as Profibus). This Initial Quotation will be binding on Alstom if the assumptions are validated once a Complete STM/Class B Request is provided. The quotation will be subject to revision if a Complete STM/Class B Request subsequently reveals that the assumptions on which the original quotation was based are not valid.

- The Master Agreement shall include appropriate provisions ensuring that Purchasers would receive any additional reasonably necessary information requested or an adequate reasoned response explaining why the information is not available within twelve (12) working days from receipt by Alstom of a written request.

- The Purchaser shall accept, reject, or propose a modification to the offer by sending a written notice of its acceptance, rejection, or proposed reasonable modification to Alstom.

- Delivery of the product and services offer under the STMs and Class B OBUs Commitments will be made in a timely manner and according to a predefined schedule, in line with reasonable end-customer requirements (frozen at the time of a purchase order filed in good time) and standard industry practice.

- Liquidated damages, for late delivery by Alstom, if any, shall be limited to […]per delayed week and a maximum of […] of the value of the delayed equipment.

- Specific performance ("*exécution forcée*") will be available in case of non-performance by either party of its obligations in accordance with French Law.

- Liquidated damages, other than for late delivery, are to be agreed in line with standard market practice, substantially in accordance with the terms contained in **Annex IV**.

- If Alstom anticipates Major Obsolescence of STMs / Class Bs as delivered, it will inform the Purchasers as soon as possible. In that case, Alstom will send a last buy order notice to the Purchaser with a minimum period of six (6) months to allow for additional orders.

- The STMs and Class B OBUs Commitments concern existing equipment, based on the existing safety case. Alstom will not support changes that result in re-opening the safety case, changes to the core product, or take responsibility for higher level integration and safety cases. Where an STM is redesigned for obsolescence reasons, the relevant product-specific new safety case and associated design documentation will be produced.

- Any request or question concerning the STMs and Class B OBUs Commitments should be first addressed to the CRM as defined in section 3 below.

- The Purchaser represents and warrants that it will use information and products supplied by Alstom exclusively to supply the specific contract identified in the written request.

- Alstom represents and warrants that it will use information supplied by the Purchaser exclusively to supply the specific contract identified in the written request.

- Any dispute arising in connection with the STMs and Class B OBUs Commitments shall be governed by (a) the Fast Track Dispute Resolution Procedure contained in Sections E and F; and (b) in accordance with French Law.

16. Prior to any disclosure of information to the potential Purchaser, the said Purchaser shall enter into a confidentiality agreement with Alstom substantially in the form provided in **Annex II**.

17. ***Non-circumvention.*** Alstom undertakes not to circumvent or attempt to circumvent these Commitments by deliberately terminating availability of Bombardier STMs or Class B's covered by these Commitments without offering an alternative. For the avoidance of doubt, where STMs or Class B's face obsolescence or require redesign in the ordinary course of business, this will not be regarded as a circumvention of the Commitments but will be addressed according to the provisions on redesign contained herein.

2. TCMS

18. With respect to TCMS, Alstom will offer, to any Purchaser, the following, for use in the EEA, Switzerland, and the UK:

- Interoperability Documentation to enable interface connections to pair TCMS installed on the Bombardier's rolling stock including that supplied in consortium where Bombardier supplied the TCMS for the relevant train for use in the EEA, Switzerland, and the UK and Purchasers' ETCS OBU, on fair, reasonable, and non-discriminatory terms including as defined in **Annex A**.

- Where adaptations to the TCMS, as defined below, are required to interface with the Purchaser's ETCS OBU, Alstom commits to provide necessary technical support for the Purchaser to implement the interfaces with TCMS installed on Bombardier's rolling stock for operation in the EEA, Switzerland, and the UK on a cost-plus basis (and subject to the limitations described below).

19. More specifically, Alstom will take the following steps to support the installation of Purchasers' ETCS OBUs on Bombardier's rolling stock.[16]

20. ***Interoperability Documentation and estimates for basic services.*** Within thirty (30) working days of any written request for quotation with regard to Interoperability Documentation or technical support for TCMS modifications in connection with a bid

[16] The TCMS Commitments cover Bombardier's rolling stock in operation in the EEA, Switzerland, and the UK. For the avoidance of doubt, the TCMS Commitments are limited to digital TCMS (or informatics-bus-based TCMS) as the integration with wiring TCMS can be successfully managed by ETCS OBU integrator without support from the original supplier. The TCMS Commitments exclude (i) anything relating to TCMS which is sold to a third-party in other remedy packages for the purpose of the Proposed Transaction; and (ii) TCMS supplied by third parties for Bombardier trains or modified by third parties. In any event, the responsibility for the homologation and safety case of the modified rolling stock will remain on the Purchaser.

for an ETCS OBU retrofit project on Bombardier's rolling stock, Alstom will provide a quote for the following:

- Delivery of any necessary and existing interface specifications and documentation that exist on the relevant rolling stock, including the Train Wide Functions;[17]

- Sufficient rights to allow the Purchaser to use the documents and information for bid preparation and project execution including the right to (i) disclose those information and documents to external partners (*e.g.*, consortium partners, engineering partners *etc*.) on a need to know basis and (ii) to use such documents and information for the purpose to prepare a bid and to execute the project;

- [*Confidential information on Bombardier's intellectual property rights*];[18]

- A technical meeting to determine what, if any, TCMS modifications are required to enable interoperability of the requesting Purchaser's ETCS OBU and the relevant Bombardier's TCMS; and

- Technical support for modifications on Standard TCMS and demonstration that the modifications made correctly interface to the Standard TCMS (*i.e.*, joint test on the train to validate the proper implementation the interfaces).

21. ***Quotation for technical support for modifications on Non-Standard TCMS and adaptation of documents for vehicle re-homologation.*** Within five (5) working days of a written request, Alstom will propose a date for a technical meeting to clarify any requirement related to required technical support for modifications.

22. Following that meeting, within a further forty (40) working days (with Alstom making all commercially reasonable efforts to reply within thirty (30) working days if possible), and subject to receipt of the Required TCMS Information, Alstom will offer a quotation for:

- Technical support for modifications to Non-Standard TCMS; and

- Demonstration that the modifications made correctly interface to the Non-Standard TCMS (*i.e.*, joint test on the train to validate the proper implementation of the interfaces, vehicle regression tests (multi-traction, mixed coupling, *etc*.)).

23. ***Provision of quotations subject to receipt of written requests.*** Alstom will only offer a binding quotation for documents and services under the TCMS Commitments on receipt of the Required TCMS Information.

24. **Where required, Alstom will provide technical support / consultation with regard to TCMS modifications** as explained in these Commitments. In particular:

- **Adaptation and testing support.** Alstom offers to support Purchasers regarding all necessary adaptation and/or configuration works to implement an interface with the Purchaser's ETCS OBU on trains equipped with Bombardier's TCMS.

---

17 Sample documentation that will be provided to the signalling supplier to ensure compatibility on electrical and protocol level are provided in **Annex I.1 to Annex I.7.**

18 [*Confidential information on Bombardier's intellectual property rights*].

Alstom will offer to jointly perform a test on the train to validate the proper implementation of the interfaces. This support will be offered on a cost-plus basis as defined in **Annex A**.

- **Necessary modifications to the TCMS to interface with the ETCS OBU**. Alstom will provide technical support for TCMS modifications that must be done on the TCMS side in order to interface Bombardier's TCMS with a Purchaser's ETCS OBU (*i.e.*, interface descriptions and the function description to be implemented in a TCMS).

- **TCMS supplied by Bombardier, unless designed or modified by a third party**. Where the TCMS on the relevant Bombardier rolling stock was provided by a supplier not controlled by Bombardier, Alstom will provide the Purchaser with contact details for that supplier (where available) and Interoperability Documentation to the extent that it is within Bombardier's possession and subject to the relevant third-party's consent.

- **Exclusion of divested TCMS**. The TCMS Commitments exclude anything relating to TCMS which is sold to a third-party in other remedy packages for the purpose of the Proposed Transaction (or where train types rely on TCMS systems wholly or partially divested as a result of the Proposed Transaction).

- **Compliance with good practice and timeline**. Alstom undertakes to carry out the technical support for TCMS modifications required to interface with an ETCS OBU, in accordance with good industry practice, including as regards timing and responsiveness. Alstom commits to provide support for the necessary adaptations on Bombardier's TCMS within a reasonable period of time (usually not exceeding thirty-six (36) months after receiving the complete set of information needed from the Purchaser).[3]

25. **Homologation support.** Alstom commits to provide, the Purchaser, on a cost-plus basis, necessary support with obtaining homologation approval from the competent regulatory bodies. In particular, Alstom will provide the Purchaser or the regulatory body with the relevant information requested by that regulatory body, at the Purchaser's cost. Support for recertification will be limited to the TCMS compliance with CENELEC standards.

26. **Responsibility for homologation.** Alstom will neither be responsible for the new safety case of any train nor for the homologation of any trains that will result from such modifications. Alstom's liability will be limited to the implementation of the interface and the train functions that will be specified by the Purchaser. The Purchaser will remain responsible for homologation and for safety as it relates to ETCS OBUs, but all necessary certificates and documents relating to the TCMS that are necessary to ensure a re-homologation of the vehicle that can only be provided by Alstom shall be so provided on a cost plus basis (subject to cost structure for services in **Annex A**).

27. **Refusal of work, rectification, termination, penalties.** If the Purchaser cannot accept a deliverable due to lack of performance or delay, the Purchaser will notify Alstom in writing within seven (7) to ten (10) working days.

- Alstom will provide rectified, correct, and complete deliverables back for acceptance within twenty-five (25) working days.

- If Alstom is not in a position to provide expected standard of deliverables within twenty-five (25) working days, the Purchaser has the right to terminate the contract and to perform the work itself or source it from another supplier (at the Purchaser's cost).

- Liquidated damages, for late delivery by Alstom, if any, shall be limited to […]per delayed week and a maximum of […] of price charged.

- Specific performance ("*exécution forcée*") will be available in case of non-performance by either party of its obligations in accordance with French Law.

- If the Purchaser decides to transfer the work to another supplier, both parties will cooperate to achieve effective handover.

28. ***Close Cooperation***. Alstom's obligations under the TCMS Commitments are subject to the Purchaser providing Alstom with all information reasonably required to undertake workarounds and to provide the necessary Interoperability Documentation, including technical clarifications and assistance under the same conditions as Alstom. The Purchaser's written request shall include all the mechanical, electrical, and functional specifications of the system to be integrated, including architecture documents with interfaces towards TCMS (functional and electrical), to the extent it is strictly necessary to allow Alstom to assess the necessary adaptations on the TCMS as well as on the signalling systems.

29. ***Proper use of information and products*.** Alstom and the Purchaser represent and warrant that they will use information supplied by the other party exclusively to supply the specific contract identified in the written request. The Purchaser represents and warrants that they will use the products supplied by Alstom exclusively to supply the specific contract identified in the written request.

30. Prior to any disclosure of Interoperability Documentation to a potential Purchaser, such Purchaser shall enter into a confidentiality agreement with Alstom substantially in the form provided in **Annex II**.

3. NETHERLANDS LEGACY OBU COMMITMENTS

31. In addition, Alstom will enter into a frame contract with the Dutch Infrastructure manager to supply the Alstom Class B (ATB-EG) and / or related interface information for a period of twenty (20) years from the Closing Date substantially on terms outlined in **Annex B**.

D. COMMITMENTS RELATIONSHIP MANAGER

32. To facilitate dealings with requests from Purchasers and ProRail, Alstom will create the position of EEA-wide Commitments Relationship Manager (the "***CRM***"). The CRM will act as a contact point for Purchasers and ProRail, and will coordinate issues internally within Alstom. The CRM will be charged with assisting Purchasers and ProRail in resolving any questions, issues, or concerns regarding the OBU Commitments.

33. All requests in connection with the OBU Commitments must be directed to the CRM and any communications not directed to the CRM will not be taken into account to determine whether time limits in the OBU Commitments have been complied with.

34. After the Closing Date, Alstom will give adequate publicity (*i.e.*, publishing on its website or on such other channels as per current market practice) to the main elements of the OBU commitments and in particular should communicate promptly and clearly to the market the role and the contact details of the CRM and of the Monitoring Trustee.

E. MONITORING TRUSTEE

35. Alstom shall appoint a Monitoring Trustee to carry out the functions specified in the OBU Commitments for a Monitoring Trustee for a period of twelve (12) years from the Closing Date. Alstom commits not to close the Proposed Transaction before the appointment of a Monitoring Trustee. The procedure for appointment of the Monitoring Trustee is contained in **Annex III**.

36. At the end of the twelve (12) year period, the appointment and the functions of the Monitoring Trustee can be extended for a further period of up to eight (8) years. The decision in this respect will be taken by the Commission, upon the receipt of submissions from Alstom and the Monitoring Trustee, to be provided no later than three months before the expiration of the twelve (12) year period, in due consideration of the situation at that time and the functioning of the OBU Commitments.

F. FAST TRACK DISPUTE RESOLUTION: PRE-DISPUTE ESCALATION AND EXPERT

37. At the option of a Purchaser and ProRail, any disputes which may arise between either or both Parties and the Purchaser or ProRail relating to the OBU Commitments and the agreements implementing the OBU Commitments will be subject to a fast-track dispute resolution procedure (the "***Fast-Track Dispute Resolution Procedure"***) described in this Section E and Section F.

a. PRE-DISPUTE ESCALATION

38. If Alstom or a Purchaser, or Customer (each a "***Company***" and jointly the "***Companies***") wishes to avail itself of the Fast Track Dispute Resolution Procedure (the "***Requesting Party***"), it must notify the other Company in writing (with a copy to the Monitoring Trustee) setting out in detail the reasons leading that Company to believe that the other Company is failing to comply with the OBU Commitments (the "***Notice***").

39. The Companies will attempt in fair dealing and good faith to resolve all differences of opinion and settle all disputes that may arise through cooperation and consultation within a reasonable period of time which shall not exceed fifteen (15) business days after receipt of the Notice, which may be extended by mutual consent. The Monitoring Trustee shall present its own proposal for resolving the dispute within 10 business days after receipt of the Notice specifying in writing the action, if any, to be taken by the Parties in order to ensure compliance with the OBU Commitments, and be prepared, if requested, to facilitate the settlement of the dispute.

b. FAST TRACK EXPERT DISPUTE RESOLUTION MECHANISM

40. At the latest a month after the approval by the Commission of the Monitoring Trustee, Alstom shall propose a list of names for the Monitoring Trustee and the Commission to consider as potential experts to adjudicate in disputes (the "***Experts***"). The Experts shall be independent, suitably qualified, and shall have the necessary experience, competence, and qualifications in relation to Legacy OBU projects, ETCS OBU installation and retrofit projects and their pricing, ETCS OBU technology, and TCMS technology.

41. Where paragraph 38 applies, the Monitoring Trustee shall appoint one of the Experts to adjudicate on the dispute within 5 working days of expiry of the period set out in paragraph 39.

42. The process shall be conducted in private and shall be confidential. The language of the process shall be in English or French.

43. The Expert shall act on the following basis:

(i) the Expert shall act fairly and impartially;

(j) each party shall submit to the Expert its brief and its submission in relation to the matter in dispute within 10 working days of the Expert's appointment;

(k) Each party shall assist and provide such documentation as the Expert reasonably requires to consider the matters referred to it;

(l) the Expert's determination shall be given within a maximum period of 20 working days of the Expert's appointment;

(m) the Expert's determination in relation to any matter pursuant to paragraph 38 shall (save for manifest error or fraud) be final and binding on Alstom and the Requesting Party;

(n) any challenge to the Expert's determination in accordance with the clause above shall be made according to Section G below;

(o) each party shall carry out the actions required to comply with the obligations set out in the Expert's determination in relation to any matter pursuant to paragraph 38 within any time-limits specified by the Expert; and

(p) the Requesting Party shall pay the Expert's costs if the Expert's determination upholds Alstom's claims. Alstom will pay the Expert's costs if the Expert's determination upholds the Requesting Party's claims. The Expert shall otherwise determine how and by whom the costs of the determination are to be paid.

c. INVOLVEMENT OF THE COMMISSION

44. The Commission shall be allowed and enabled to participate in all stages of the procedure by:

(e) receiving all written submissions (including documents and reports, etc.) made by each party to the procedure;

(f) receiving all documents exchanged by the Expert with the parties to the procedure;

(g) filing any written submissions; and

(h) being present at the hearing(s) and being allowed to ask questions to the parties.

45. The Expert shall forward, or shall order the parties to forward, the documents mentioned in the previous paragraph to the Commission without delay.

46. The Monitoring Trustee shall receive copies of:

(d) all submissions made by the parties to the procedure in relation to the matters they wish to have resolved by the Expert, on the day when these have been submitted to the Expert;

(e) all other documentation provided by the parties, on the day when these have been submitted to the Expert; and

(f) the determination made by the Expert, on the day when the determination has been provided to the parties.

d. REVIEW OF THE TERMS AND CONDITIONS

47. At any moment for the entire duration of the Commitments, the terms and conditions of supply outlined in **Annex A** and **Annex IV** shall be subject to the review of the Monitoring Trustee who shall establish in particular whether (i) prices set for documentation are justified and in line with market practice in the industry, (ii) costs and fees used to determine pricing are justified based on the incurred costs for the provision of the requested services/products and (iii) net margins are calculated in line with market practice in the industry. Alstom commits to making all necessary accounts, financial indicators and other appropriate information available to the Monitoring Trustee for the purpose of the present review.

48. The Monitoring Trustee's review does not preclude nor pre-empt dispute resolution procedures provided for under Sections E and F, and shall be conducted in due regard of these procedures if applicable.

49. In this respect, the Monitoring Trustee could act on its own initiative or following instructions by the Commission or on the basis of submissions received from Purchasers and may appoint Experts who would support the Monitoring Trustee in its review.

G. FAST TRACK DISPUTE RESOLUTION: ARBITRATION

50. Any disputes arising out of or in connection with the Commitments which are not resolved pursuant to the previous Section E shall be finally settled in accordance with the Rules of Arbitration of the International Chamber of Commerce (***ICC***) by an arbitral tribunal consisting of three arbitrators (the ***Arbitral Tribunal***).

51. Should the Companies fail to resolve their differences of opinion through cooperation and consultation as provided for in the Section E, the Requesting Company shall file arbitration proceedings with the ICC and nominate one arbitrator.

52. The other Company shall, within two (2) weeks of receiving notification in writing of the appointment of the Requesting Company's arbitrator, nominate a second arbitrator and provide to the Requesting Company in writing detailed reasons for its challenged conduct.

53. The arbitrators nominated by the Companies shall, within one (1) week from both arbitrators having been nominated, agree to appoint a third arbitrator. If the arbitrators nominated by the Companies cannot agree on the nomination of a third arbitrator, they shall ask the President of the ICC to appoint the third arbitrator.

54. The arbitrators shall be instructed to make a preliminary ruling on the contested issues within one (1) month of the appointment of the third arbitrator, which may be extended, if necessary, by the unanimous agreement of all three arbitrators. The preliminary ruling shall be applicable immediately and until the final decision is issued. The final decision, which shall be ultimately binding on the Companies shall be taken by the arbitrators within six (6) months of the appointment of the third arbitrator, which may be extended, if necessary, by the unanimous agreement of all three arbitrators. Each Company waives any right which it may have to seek a preliminary ruling on any point of law from a court of law. An oral hearing shall, as a rule, be established within two (2) months of the confirmation of the Arbitral Tribunal.

55. The seat of arbitration shall be Paris (France). The arbitration shall be in English and conducted pursuant to the Rules of Arbitration of the ICC. Any order for the production or disclosure of documents shall be limited to the documents on which each party of the arbitration specifically relies in its submission(s).

56. The arbitrators shall agree in writing to keep any confidential information and business secrets disclosed to them in confidence. The Arbitral Tribunal may take the measures necessary for protecting confidential information in particular by restricting access to confidential information to the Arbitral Tribunal, and outside counsel and experts of the opposing party. The arbitrators shall be instructed not to disclose confidential information and to apply the standards attributable to confidential information and business secrets by European Union competition law.

57. The Commission shall be allowed and enabled to participate in all stages of the procedure by:

(a) Receiving all written submissions (including documents and reports, etc.) made by the Companies;

(b) Receiving all orders, interim and final awards and other documents exchanged by the Arbitral Tribunal with the Companies (including Terms of Reference and procedural time-table);

(c) Being given the opportunity to file amicus curiae briefs; and

(d) Being present at the hearing(s) and being allowed to ask questions to parties, witnesses and experts.

58. The Arbitral Tribunal shall forward, or shall order the Companies to forward, the documents mentioned to the Commission without delay.

59. In the event of disagreement between the Companies regarding the interpretation of the Commitment, the Arbitral Tribunal may seek the Commission's interpretation of the Commitment before finding in favour of any Company and shall be bound by the interpretation.

60. In the event of disagreement between the Companies regarding the interpretation of a Commitment, the Arbitral Tribunal shall inform the Monitoring Trustee and may seek the Monitoring Trustee's interpretation of the Commitment before finding in favour of any Company.

61. The Arbitral Tribunal shall decide the dispute on the basis of the Commitment and the Decision. The Commitment shall be construed in accordance with the Merger Regulation, EU law, and general principles of law common to the legal orders of the Member States without a requirement to apply a particular national system.

62. Nothing in the above-described arbitration procedure shall affect the powers of the Commission to take decisions in relation to the Commitment in accordance with its powers under the Merger Regulation and the Treaty on the Functioning of the European Union.

H. GENERAL PROVISIONS

63. The STMs and Class B OBUs Commitments are limited to the EEA, Switzerland, and in the UK and shall remain in effect for twenty (20) years as from the Closing Date or until the ERTMS roll-out is complete in the EEA (whichever is shorter).

64. The TCMS Commitments are limited to the EEA, Switzerland, and in the UK and shall remain in effect for twelve (12) years as from the Closing Date or until the ERTMS roll-out is complete in the EEA (whichever is shorter).

65. The Netherlands Legacy OBU Commitments will apply for a period of twenty (20) years from the Closing Date.

66. Subject to Sections E and F, any dispute arising out of or in connection with the STMs and Class B OBUs Commitments will be governed by and construed in accordance with French Law, while any dispute arising out of or in connection with the he Netherlands Legacy OBU Commitments will be governed by Dutch Law.

I. THE REVIEW CLAUSE

67. The Commission may extend the time periods foreseen in the Commitments in response to a request from Alstom or, in appropriate cases, on its own initiative. Where Alstom requests an extension of a time period, they shall submit a request to the Commission no later than one month before the expiry of that period, showing good cause. This request shall be accompanied by a report from the Monitoring Trustee(s), who shall, at the same time send a non-confidential copy of the report to the Parties. Only in exceptional circumstances shall Alstom be entitled to request an extension within the last month of any period.

68. The Commission may further, in response to a request from Alstom showing good cause waive, modify or substitute, in exceptional circumstances, one or more of the undertakings in these Commitments. This request shall be accompanied by a report from the Monitoring Trustee(s), who shall, at the same time send a non-confidential copy of the report to Alstom. The request shall not have the effect of suspending the application of the undertaking and, in particular, of suspending the expiry of any time period in which the undertaking has to be complied with.

J. ENTRY INTO FORCE

69. The provisions in the Commitments as to the appointment of the Monitoring Trustee shall take effect upon the ***Effective Date***, although the obligations to supply Purchasers (as explained above) will only take effect as of completion of the Proposed Transaction (the "***Closing Date***") provided that if the completion of the Concentration does not take place for whatever reason and is thereby abandoned, the Notifying Party shall not be bound by these Commitments.

Signature pages follow.

_____

[Signed by]

duly authorised for and on behalf of **Alstom S.A.**

_____

[Signed by]

duly authorised for and on behalf of **Bombardier Transportation (Investment) UK Ltd** and **Bombardier Inc.**

Annexes I.1 to I.7

[*Confidential*]

Annex II — Non-Disclosure Agreement — Principal Clauses

1. Definitions

1.1 "**Affiliate**" means any entity with respect to which either party owns or controls, directly or indirectly, greater than fifty percent (>50%) of the outstanding voting securities (but an entity shall remain an Affiliate only so long as it meets such ownership requirements).

1.2 "**Confidential Information**" means all information of any nature relating directly or indirectly to the Disclosing Party, including its Affiliates, shareholders, products, and activities, which may be supplied, whether oral or written, and regardless of the manner or form of the disclosure, to the Receiving Party, by or on behalf of the Disclosing Party, as the case may be.

1.3 Confidential information includes all notes, reports, memoranda, analyses, compilations, studies, forecasts, interpretations, or other documents or materials in whatever medium prepared by the Disclosing Party or on its behalf which contain, reflect or are based upon, in whole or in part, the information described in paragraph 1.2 above or referring to or derived from such information.

1.4 Notwithstanding the above, the following information shall not be considered as Confidential Information:

a) information that is, was or has become generally available to the public other than as a result of a disclosure by any of the Parties or their Representatives in breach of this Agreement or any other confidentiality obligations; or

b) information that the Receiving Party can establish was known at the time of disclosure to such Receiving Party or its Representatives, free of restriction and evidenced by documentation in the Receiving Party's possession from a source other than the Disclosing Party or its Representatives, provided that such source was not bound at the time of the disclosure by any obligation to keep such information confidential and did not obtain such information unlawfully or pursuant to a breach of a confidentiality obligation; or

c) information that the Receiving Party can establish was lawfully obtained after the date hereof by the Receiving Party or its Representatives, free of restriction and evidenced by documentation in the Receiving Party's possession from a source other than the Disclosing Party or its Representatives, provided that such source was not bound at the time of the disclosure by any obligation to keep such information confidential and did not obtain such information unlawfully or pursuant to a breach of a confidentiality obligation.

1.5 "**Disclosing Party**" means the owner of the Confidential Information, the Party disclosing Confidential Information to the Receiving Party.

1.6 "**Governmental Authority**" means any international, foreign, domestic, federal, territorial, state, or local body with executive, legislative, judicial, regulatory or administrative authority, including any supra-national Governmental Authority, as well as any individual or entity having received delegated authority from any of the foregoing.

1.7 "**OBU Commitments**" has the meaning set out in the commitments attached to the European Commission's decision in Case M.9779 – *Alstom/Bombardier*.

1.8 "**Receiving Party**" means the Party receiving the Confidential Information owned and disclosed by the Disclosing Party.

1.9 "**Representatives**" means, in respect of a Party to this Agreement, the Affiliates of that Party and the directors, officers, partners, managers, and employees of that Party and its Affiliates.

1.10 "**Parties**" means the Parties to this Agreement, the Receiving and the Disclosing Party, and Party shall mean either of them (as the context requires).

2. Use of Confidential Information

2.1 The Receiving Party shall handle, use, treat, and utilize such Confidential Information as follows:

a) hold all Confidential Information received from the Disclosing Party in strict confidence;

b) use such Confidential Information only for the purposes identified in the Master Agreement;

c) reproduce such Confidential Information only to the extent necessary for such purpose;

d) restrict disclosure of such Confidential Information to its employees with a need to know (and advise such employees of the obligations assumed herein); and

e) except as set forth in paragraph **Error! Reference source not found.** herein, do not disclose such Confidential Information to any third party, including (but not limited to) any vendor, customer, manufacturer, or independent contractor, without prior written approval of such Disclosing Party. In addition, with respect to any equipment, component, software, or other item delivered to the Receiving Party by the Disclosing Party, the Receiving Party shall not reverse engineer, disassemble, decompile, or otherwise analyse the physical construction of any such items; and

f) undertake to take all necessary and appropriate measures in order to ensure the protection of the confidentiality of the Confidential Information and any copies of it and to prevent theft, hacking (of electronic data), misappropriation, or unauthorized access or use of such Confidential Information and copies.

2.2 The restrictions on the Receiving Party's use and disclosure of Confidential Information as set forth above shall not apply to any Confidential Information which the Receiving Party can demonstrate:

a) is wholly and independently developed by the Receiving Party without the use of Confidential Information of the Disclosing Party; or

b) is approved for release by written authorization of the Disclosing Party, but only to the extent of, and subject to, such conditions as may be imposed in such written authorization; or

c) is disclosed in response to a valid order of a Governmental Authority, but only to the extent of, and for the purposes of, such order; provided, however, that if the Receiving Party receives an order or request to disclose any Confidential Information by a court of competent jurisdiction or a governmental body, then the Receiving Party agrees:

i. if not prohibited by the request or order, to inform the Disclosing Party, prior to disclosing any Confidential Information in writing of the existence, terms, and circumstances surrounding the request or order;

ii. to consult with the Disclosing Party on what steps should be taken to avoid or restrict the disclosure of Confidential Information;

iii. to give the Disclosing Party the chance to defend, limit, or protect against the disclosure and not to oppose any such action; and if disclosure of Confidential Information is lawfully required, to supply only that portion of the Confidential Information which is legally necessary and undertake to take all necessary and appropriate measures in order to obtain confidential treatment for any Confidential Information required to be disclosed; and

iv. if disclosure of Confidential Information is lawfully required, to supply only that portion of the Confidential Information which is legally necessary and undertake to take all necessary and appropriate measures in order to obtain confidential treatment for any Confidential Information required to be disclosed.

2.3 For the avoidance of doubt, this clause 2.2 above shall not prevent either Party disclosing information to the European Commission or the Monitoring Trustee appointed under the OBU Commitments.

3. Designation of Confidential Information

3.1 Confidential Information shall be subject to the restrictions of paragraph 2 if it is in writing, or another tangible form, and clearly marked as proprietary or confidential when disclosed to the Receiving Party or, if not disclosed in tangible form, clearly identified as confidential or proprietary at the time of disclosure. The Parties agree to use reasonable efforts to summarize the content of oral disclosures which are proprietary or confidential, but failure to provide such a summary shall not affect the nature of the Confidential Information disclosed or detract from the protection afforded under this Agreement if such Confidential Information was identified as confidential or proprietary when orally disclosed.

4. Disclosure of Confidential Information to Affiliates and other third parties with a Need to Know

4.1 This Agreement does not permit either Party to disclose Confidential Information to any third party (including, without limitation, that Party's Affiliates). Notwithstanding the foregoing, either Party may re-disclose Confidential Information to its Affiliates or any third party identified in the written request, and solely to the extent stated in this written request, who have a need to know and shall treat such Confidential Information in a manner that is consistent with the confidentiality obligations of the Receiving Party in this Agreement, and such Affiliates may re-disclose Confidential Information to other such Affiliates and to a Party hereto. Either Party's Affiliates may also disclose Confidential Information to the other Party hereto and to such other Party's Affiliates. In such event, the other Party hereto, and such other Party's Affiliates, shall treat such Confidential Information in accordance with the provisions of this Agreement as if such Confidential Information was disclosed directly by the Disclosing Party, and the Disclosing Party and/or its Affiliates shall have the right to enforce the provisions of this Agreement against the other Party hereto and against such other Party's Affiliates in connection with any and all breaches or violations of this Agreement with respect to such Confidential Information by the other Party hereto and by such other Party's Affiliates. Either Party's Affiliates may also receive Confidential Information from the other Party hereto and from such other party's Affiliates. In such event, the Affiliate receiving such Confidential Information shall be responsible to treat such Confidential Information in accordance with the confidentiality obligations set forth in this Agreement. The Parties hereto shall be responsible for any improper disclosure or use by its Affiliates or by any third party identified in the written request of such Confidential Information to the same extent as if that party had received such Confidential Information directly and made the same disclosure or use of such Confidential Information as did its Affiliates.

5. No License or Representations

5.1 All Confidential Information shall remain the property of the Disclosing Party. No license to a Party of any trademark, patent, copyright, mask work protection right, or any other intellectual property right is either granted or implied by this Agreement or any disclosure hereunder, including, but not limited to, any license to make, use, import, or sell any product embodying any Confidential Information. In this regard,

the Receiving Party undertakes not to claim any intellectual and/or industrial property rights regarding the Disclosing Party's Confidential Information and not to request, directly or indirectly, any patents, trademarks, models, or any other intellectual and/or industrial property rights regarding the Disclosing Party's Confidential Information. No representation, warranty, or assurance is made by either Party with respect to the non-infringement of trademarks, patents, copyrights, mask protection rights, or any other intellectual property rights or other rights of third persons.

6. No Obligation

6.1 Neither this Agreement nor the disclosure or receipt of Confidential Information shall be construed as creating any obligation for a Party to provide Confidential Information to the other Party other than Alstom's obligations contained in the OBU Commitments or to enter into any agreement or relationship with the other Party with respect to mutual business.

7. Return / destruction of Confidential Information

7.1 All Confidential Information shall remain the sole property of the Disclosing Party. Except as may be otherwise required by applicable law, regulation, legal, or judicial process, the Receiving Party shall make all reasonable efforts to promptly return or destroy (which shall include all reasonable steps to erase from any computer or other digital device on which it is held) all materials containing any such Confidential Information (including all copies made by the Receiving Party), upon request following termination or expiration of this Agreement or the Receiving Party's determination that it no longer has a need for such Confidential Information. Upon request of the Disclosing Party, the Receiving Party shall deliver to the Disclosing Party a letter signed by a duly authorized officer confirming that all such materials have been returned to the Disclosing Party or destroyed. Notwithstanding the above, the Receiving Party may retain copies of Confidential Information stored on backup disks or in backup storage facilities automatically produced in the ordinary course of business. Any Confidential Information so retained will be held subject to the confidentiality and use limitations of this Agreement, which shall continue to apply for so long as the Confidential Information is so retained, and access thereto shall be limited to individuals or entities required to have access for purposes of such compliance.

7.2 Notwithstanding the return or destruction of the Confidential Information, the Receiving Party will continue to be bound by its obligations hereunder for the duration of this Agreement.

8. Notification of breach

8.1 The Receiving Party will inform the Disclosing Party promptly of any breach by such Receiving Party and/or its Representatives or Affiliates of the terms of this Agreement of which such Party may become aware and undertake to provide, at its expense, all reasonable assistance to minimize the effects of such breach.

9. Remedy for breach

9.1 The Receiving Party acknowledges that any breach of the provisions of this Agreement may result in serious prejudice being sustained by the Disclosing Party and its Affiliates, its business, and/or its shareholders and that damages alone may not be adequate remedy for such breach and, accordingly, without prejudice to any other rights or remedies that the Disclosing Party and/or their Affiliates might have, the Disclosing Party may be entitled to seek the remedies of injunction, specific performance and other enforcement measures for any threatened or actual breach of the provisions of this Agreement.

9.2 The Receiving Party will be liable to pay on demand to the Disclosing Party an amount equal to any damage, loss or costs resulting from any failure to comply with any of the obligations for which the Receiving Party or its Affiliates are liable under this Agreement.

10. Notices

10.1 All notices, requests, demands, and other communications which are required to be or may be given under this Agreement shall be in writing and shall be deemed to have been received if delivered by (i) hand delivery against receipt signed and dated by the addressee, (ii) registered mail return receipt requested or if sent by email (provided automatic confirmation of receipt of email is issued to the sender of the notice or receipt of the notice is acknowledged by the recipient including by email) provided that a hard copy of such notice is also delivered by international courier service one Business Day after transmission, to the Parties at the following addresses: [*To be provided in agreements when signed*]

10.2 Any notice given by mail, international courier service or email shall be effective when delivered. Any notice given by email after 5:00pm (in the place of receipt) on a Business Day or on a day that is not a Business Day shall be deemed received on the following Business Day.

10.3 For purposes of this Section, a "***Business Day***" shall mean a day on which banking institutions are open for regular business in France, which shall not be a Saturday, a Sunday, a legal holiday, or other day on which banking institutions are authorized or obligated by law to close in France.

11. No hardship

11.1 Pursuant to article 1195 of the French *Code civil*, each Party accepts to bear all future liabilities and risks (including unforeseeable as of the date hereof) resulting from the terms and conditions of this Agreement and accordingly irrevocably waives any right it may have under said article.

12. Term and Termination

12.1 This Agreement shall become effective on the date first set forth above and shall terminate upon the [12th anniversary]/[20th anniversary] [*As appropriate depending on Commitment to which confidentiality agreement relates*] of closing of the contemplated acquisition by Alstom S.A. of sole control over Bombardier Transportation [(Investment) UK Ltd]. Each Party irrevocably waives any right to terminate unilaterally this Agreement under article 1226 of the French *Code civil*.

13. Survivability

13.1 Each Party agrees that all of its obligations undertaken herein as a Receiving Party shall survive and continue after any termination or expiration of this Agreement.

14. Governing Law and Arbitration

14.1 This Agreement shall be governed in all respects solely and exclusively by French Law. All disputes, controversies, or claims arising out of, relating to, or in connection with this Agreement shall be resolved by the Fast Track Dispute Resolution Procedure contained in the Commitments.

14.2 Each Party shall be entitled to seek preliminary injunctive relief or other temporary measures from the courts of competent jurisdiction, provided that any proceedings and decisions as to the merits of the dispute are exclusively governed and resolved by arbitration in accordance with the Fast Track Dispute Resolution Procedure.

15. Independent Development

15.1 Nothing in this Agreement shall be construed as a representation or agreement that the Receiving Party is not currently developing, shall not develop, or have developed for it, products, concepts, systems, technologies, or techniques that are similar to or compete with the products, concepts, systems, technologies, or techniques contemplated by the purpose or embodied in the Confidential Information, or explore such similar opportunities with other parties, provided that the Receiving Party does not violate any of its obligations under this Agreement in connection therewith.

16. Miscellaneous

16.1 This Agreement constitutes the entire understanding among the Parties hereto as to the Confidential Information and supersedes all prior discussions between them

relating thereto. No amendment nor modification of this Agreement shall be valid or binding on the Parties unless made in writing and signed on behalf of each of the Parties by its authorized officer or representative. No Party may assign or transfer, in whole or in part, any of its rights, obligations, or duties under this Agreement. The failure or delay of any party to enforce at any time any provision of this Agreement shall not constitute a waiver of such party's right thereafter to enforce each and every provision of this Agreement. In the event that any of the terms, conditions, or provisions of this Agreement are held to be illegal, unenforceable, or invalid by any court of competent jurisdiction, the remaining terms, conditions, or provisions hereof shall remain in full force and effect.

Annex III: Monitoring Trustee

1. The Monitoring Trustee shall, at the time of appointment, be independent of Alstom and Bombardier and their Affiliated Undertakings[1], possess the necessary experience, competence, and qualifications to carry out its mandate and shall neither have nor become exposed to a conflict of interest.

2. The Monitoring Trustee shall be remunerated by Alstom in a way that does not impede the independent and effective fulfilment of the Monitoring Trustee's mandate.

Proposal by Alstom

3. No later than two weeks after the Effective Date, Alstom shall submit the name or names of one or more natural or legal persons whom Alstom proposes to appoint as the Monitoring Trustee to the European Commission (the "***Commission***") for approval. The proposal shall contain sufficient information for the Commission to verify that the person or persons proposed as Monitoring Trustee fulfil the requirements set out in paragraph **Error! Reference source not found.** and shall include:

   a) the full terms of the proposed mandate, which shall include all provisions necessary to enable the Monitoring Trustee to fulfil its duties under the Commitments; and

   b) the outline of a work plan which describes how the Monitoring Trustee intends to carry out its assigned tasks.

Approval or rejection by the Commission

4. The Commission shall have the discretion to approve or reject the proposed Trustee(s) and to approve the proposed mandate subject to any modifications it deems necessary for the Trustee to fulfil its obligations. If only one name is approved, Alstom shall appoint, or cause to be appointed, the person or persons concerned as Trustee, in accordance with the mandate approved by the Commission. If more than one name is approved, Alstom shall be free to choose the Trustee to be appointed from among the names approved. The Trustee shall be appointed within one week of the Commission's approval, in accordance with the mandate approved by the Commission.

New proposal by Alstom

5. If all the proposed Trustees are rejected, Alstom shall submit the names of at least two more natural or legal persons within one week of being informed of the rejection, in accordance with paragraphs 35 and 3.

---

[1] Affiliated Undertakings: undertakings controlled by the Parties and/or by the ultimate parents of the Parties, whereby the notion of control shall be interpreted pursuant to Article 3 of the Merger Regulation and in light of the Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (the "***Consolidated Jurisdictional Notice***").

Trustee nominated by the Commission

6. If all further proposed Trustees are rejected by the Commission, the Commission shall nominate a Trustee, whom Alstom shall appoint, or cause to be appointed, in accordance with a trustee mandate approved by the Commission.

Functions of the Monitoring Trustee

7. The Trustee shall assume its specified duties and obligations in order to ensure compliance with the Commitments. The Commission may, on its own initiative or at the request of the Trustee or Alstom, give any orders or instructions to the Trustee in order to ensure compliance with the conditions and obligations attached to the Decision.

8. The Monitoring Trustee shall:

   a) propose in its first report to the Commission a detailed work plan describing how it intends to monitor compliance with the obligations and conditions attached to the Decision;

   b) monitor compliance by Alstom with the conditions and obligations attached to the Decision;

   c) propose to Alstom such measures as the Monitoring Trustee considers necessary to ensure Alstom's compliance with the conditions and obligations attached to the Decision;

   d) act as a contact point for any request by third parties, in relation to the Commitments;

   e) provide to the Commission, sending to Alstom a non-confidential copy at the same time, a written report within fifteen (15) working days after the end of every quarter of the Effective Date for the first five (5) years and every six (6) months thereafter, so that the Commission can assess whether the commitments are being correctly implemented;

   f) promptly report in writing to the Commission, sending to Alstom a non-confidential copy at the same time, if it concludes on reasonable grounds that the Alstom is failing to comply with the Commitments; and

   g) assume the other functions assigned to the Monitoring Trustee under the conditions and obligations attached to the Decision.

Duties and Obligations of Alstom

9. Alstom shall provide and shall cause its advisors to provide the Monitoring Trustee with all such cooperation, assistance, and information as the Monitoring Trustee may reasonably require to perform its tasks. The Monitoring Trustee shall have full and complete access to Alstom's books, records, documents, management, or other personnel, facilities, sites, and technical information necessary for fulfilling its duties under the Commitments and Alstom shall provide the Trustee upon request with copies of any relevant document. Alstom shall make available to the Monitoring Trustee one or more offices on their premises and shall be available for meetings in order to provide the Monitoring Trustee with all information necessary for the performance of its tasks.

10. Alstom shall provide the Monitoring Trustee with all managerial and administrative support that it may reasonably request to monitor the Commitments.

11. Alstom shall provide the Monitoring Trustee with copies of all agreements entered into under these Commitments promptly following the execution thereof, in each case subject to the Monitoring Trustee's obligations of professional secrecy.

12. Alstom shall indemnify the Monitoring Trustee and its employees and agents (each an "***Indemnified Party***") and hold each Indemnified Party harmless against, and hereby agrees that an Indemnified Party shall have no liability to, Alstom for any liabilities arising out of the performance of the Monitoring Trustee's duties under the Commitments, except to the extent that such liabilities result from the wilful default, recklessness, gross negligence, or bad faith of the Monitoring Trustee, its employees, agents, or advisors.

13. At the expense of Alstom, the Monitoring Trustee may appoint advisors (in particular for legal advice), subject to Alstom's approval (this approval not to be unreasonably withheld or delayed) if the Monitoring Trustee considers the appointment of such advisors necessary or appropriate for the performance of its duties and obligations under the mandate, provided that any fees and other expenses incurred by the Monitoring Trustee are reasonable. Should Alstom refuse to approve the advisors proposed by the Monitoring Trustee, the Commission may approve the appointment of such advisors instead, after having heard Alstom. Only the Monitoring Trustee shall be entitled to issue instructions to the advisors. Paragraph 12 shall apply *mutatis mutandis*.

14. Alstom agrees that the Commission may share confidential information proprietary to Alstom with the Monitoring Trustee. The Monitoring Trustee shall not disclose such information. The principles contained in Articles 17(1) and (2) of the Merger Regulation apply *mutatis mutandis*.

15. Alstom agrees that the contact details of the Monitoring Trustee are published on the website of the Commission's Directorate-General for Competition, and shall inform interested third parties, in particular any potential purchasers, of the identity and the tasks of the Monitoring Trustee.

16. For a period of twenty (20) years from the Effective Date, the Commission may request all information from the Parties that is reasonably necessary to monitor the effective implementation of these Commitments.

Replacement, discharge, and reappointment of the Monitoring Trustee

17. If the Monitoring Trustee ceases to perform its functions under the Commitment or for any other good cause, including the exposure of the Trustee to a Conflict of Interest:

    a) the Commission may, after hearing the Trustee and Alstom, require the Alstom to replace the Trustee; or

    b) Alstom may, with the prior approval of the Commission, replace the Trustee.

18. If the Trustee is removed according to paragraph **Error! Reference source not found.**, the Trustee may be required to continue in its function until a new Trustee is in place to whom the Trustee has effected a full hand over all relevant information.

The new Trustee shall be appointed in accordance with the procedure referred to in paragraphs 35–6.

19. Unless removed according to paragraph 17, the Trustee shall cease to act as Trustee only after the Commission has discharged it from its duties after all the Commitments with which the Trustee has been entrusted have been implemented. However, the Commission may at any time require the reappointment of the Monitoring Trustee if it subsequently appears that the relevant remedies might not have been fully and properly implemented.

Annex A: Pricing Formula

1. All services and products offered within the Commitments (other than the provision of documentation for which fixed fees are provided) will be priced on a cost-plus basis. This applies to:

    - STM/Class B manufacturing
    - Technical support relating to STM/Class Bs
    - Redesign/design renewal of STMs
    - TCMS modifications

A. STM AND CLASS B

1. COST-PLUS PRICING FOR CLASS BS AND STM MANUFACTURING AND SUPPLY

2. Available Class Bs and STMs, assuming no obsolescence applies, will be priced on a cost-plus basis per unit. At the time each order is placed, the price will be calculated based on the following methodology (all costs as estimated at the time of ordering):

    - Direct equipment costs in EUR, including but not limited to those related to:
        - Manufacturing
        - Costs of components including supply chain costs
        - Testing
        - Project management
        - Packing and delivery per defined Incoterms
    - **Plus**: Fee to cover:
        - Warranty
        - Product sustaining (including addressing Minor Obsolescence)
        - [*Confidential details on Alstom's business cost structure*][1]
        - Net margin.

1. Discounts will be offered for high quantities (above […]) based on the following methodology.

    [*Confidential details on discounts' structure*].

1 [*Confidential details on Alstom's business cost structure*].

2. PRICING FOR TECHNICAL SUPPORT, TCMS MODIFICATIONS, REDESIGN

2. Technical support, support for TCMS modifications, and redesign of STMs will be priced also on a cost plus basis taking into account the following elements

- Direct design and industrialization costs in EUR, including but not limited to those related to:
    - Engineering (design and modification)
    - Industrialization and manufacturing files
    - Purchase or subcontracting costs
    - Testing
    - Project management
    - Travel costs
- **Plus**: Fee to cover:
    - [*Confidential details on Alstom's business cost structure*]
    - Net margin

3. PAYMENT TERMS FOR REDESIGN

3. Where, redesign of an STM is required due to major obsolescence Alstom will offer two alternatives, either:

- An infrastructure manager can commission the redesign work for a one-off fee, or
- The design refresh will be charged as an increase to the unit price calculated under the formula outlined above in paragraph 2 amortized over three years.

4. WARRANTY FOR STMS / CLASS BS

4. The standard warranty period is twenty-four (24) months after commissioning of the contractual products, but shall not, however, exceed thirty (30) months after delivery of the contractual products.

5. Return cost is included. The final user shall be responsible for the diagnostic, dismounting, and freight for failed components from the Customer's site to Alstom's manufacturing site.

5. INTERFACE DOCUMENTATION

6. Subject to the special provisions on Finland and Portugal, Interface Documentation will be provided at a fixed price of EUR […] per Class B / STM.

6. INTEROPERABILITY DOCUMENTATION

7. Available Interoperability Documentation will be provided at a fixed price of EUR […] per TCMS type. [2]

B. GENERAL CONDITIONS

8. All prices are excluding VAT.

9. Delivery will be made in accordance with DPA Purchaser Site within the EEA, Incoterms ICC 2020.

10. All services are invoiced in EUR (Euro) regardless of the location of the client subject to applicable taxation laws.

[2] As provided in **Annex I.1** to **Annex I.7**.

Annex B – Framework Agreement for Supply of Alstom ATB-EG Class B – Principal Terms

1. Alstom will agree upon a Framework Agreement (the "***Dutch Framework Agreement***") with the Dutch infrastructure manager (ProRail, hereafter referred to as the "***Customer***", together with Alstom the "***Contracting Parties***"), at ProRail's option, for the supply of Alstom's ATB-EG Class B for a period of twenty (20) years from the Closing Date. The Dutch Framework Agreement will allow for rolling stock suppliers and/or ETCS OBU suppliers authorized by the Customer ("***Authorized Third Parties***") to place orders for Alstom's ATB-EG Class B at the same pricing and on the same terms as agreed with ProRail.[1]

2. Under this Dutch Framework Agreement, the Customer will be able to order or will be able to authorize rolling stock suppliers and/or ETCS OBU suppliers to order ATB-EG Class B.

3. The Dutch Framework Agreement will contain the following principal terms:

4. ***No restriction on end-user to whom ATB-EG Class B can be supplied***. The Customer will be free to pass on quantities purchased of Alstom's ATB-EG Class B to any third party for installation in rolling stock in the EEA or to authorize a third party to order Alstom's ATB-EG Class for installation in rolling stock in the EEA.

5. ***Interface information***. Under the Dutch Framework Agreement, Alstom will provide Authorized Third Parties with Interface Documentation for Alstom's ATB-EG Class B for a fixed fee of EUR […] per cab, adjusted on a yearly basis as approved by the Monitoring Trustee.

6. ***Pricing***. Pricing will be agreed between Alstom and the Customer, taking as a starting point current existing benchmark pricing for Alstom's ATB-EG Class B sales on a product basis and open book principles and will be adjusted on a yearly basis following the revision formula based on applicable to the supply of STMs and Class B OBUs set out in **Annex A** of the OBU Commitments. Authorized Third Parties will be entitled to order Alstom's ATB-EG Class B on the basis of the pricing agreed with the Customer and otherwise subject to the principal terms of the Dutch Framework Agreement. The same terms as set out in Annex A regarding redesign shall also apply to the Dutch Framework Agreement.

7. ***Term and termination***. The Dutch Framework Agreement will be concluded for an initial period of twenty (20) years from the Closing Date. The Dutch Framework Agreement will be terminable for material breach by either Contracting Party, and in any event by the Customer at any time subject to six (6) months' notice of termination. For the purposes of this Dutch Framework Agreement, a material breach shall be deemed to have arisen when:

    a) the Customer's payments for 2 consecutive orders of any duly delivered ATB-EG Class Bs are overdue for more than 90 days.

    b) Failure by Alstom to comply in substantial part with substantial provisions of this Dutch Framework Agreement, and in particular with clauses 5, **Error! Reference source not found.** 13 and 20 of this Dutch Framework Agreement.

---

[1] Authorized Third Parties to enter contracts with Alstom substantially on the same terms as the Dutch Framework Agreement.

8. If an Authorized Third Party's payments to Alstom are overdue for more than 90 days for any 2 consecutive orders, Alstom will be entitled to terminate supply to that Authorized Third Party. The Customer's Dutch Framework Agreement would not be terminated in that situation, unless the Customer itself were in breach under 7a) or 7b) above.

9. ***Option for renewal***. After expiration of the Commitments and the twenty (20) years term of the Dutch Framework Agreement, ProRail will have the option to extend the Dutch Framework agreement on the same terms for a further period of […] years

10. ***Call-off procedure***. Whenever the Customer wishes Alstom to provide any units of the ATB-EG Class B it shall issue a Call-off for such units via email to an address to be agreed in the Dutch Framework Agreement specifying the date for delivery, the price to be paid, and the location of delivery (which shall be a location within the Netherlands). The date for delivery may be no sooner than […] months and no later than […] months after issuance of the Call-off, depending on the quantity of ATB-EG Class Bs ordered by the Customer. Alstom shall acknowledge receipt of such Call-off via email no later than the fifth working day following receipt, confirming availability of the units by the requested date or advising of any supply issues.

11. The Customer may delegate its responsibilities under this Call-off Procedure, as well as liability for payment of such units to an Authorized Third Party, provided that such Authorized Third Party agrees to the same payment terms and other provisions including as to liability as are outlined in the Dutch Framework Agreement.

12. ***Maximum quantities***. The Dutch Framework Agreement will include no minimum order requirements and will be subject to a maximum yearly order of […] ATB-EG Class B units (regardless of whether orders are placed by the Customer or an Authorized Third Party).

13. ***Quality and Rejection.*** Alstom commits to deliver units of the ATB-EG Class B that meet the quality standards in the technical specification that will be included in the Dutch Framework Agreement and/or attached to each individual order (the "***Technical Specification***"). Prior to the delivery of any ATB-EG Class B units ordered by the Customer or any Authorized Third Party, Alstom will conduct factory testing of any such ATB-EG Class Bs in accordance with the last validated factory testing process set out in the Technical Specification. Delivered units of ATB-EG Class B will be accompanied by their certificate of conformity.

14. The Customer or an Authorized Third Party may, not later than one (1) month after the delivery of the relevant ATB-EG Class Bs, reject by notice in writing, any ATB-EG Class Bs which, in its reasonable opinion, are not in accordance with the relevant Technical Specification. Any such rejection notice shall include the Customer and Authorized Third Party 's explanation of the basis and reasons for the relevant ATB-EG Class B's non-compliance with the agreed Technical Specification. Any ATB-EG Class Bs not so rejected shall be deemed to have been accepted by the Customer or the Authorized Third Party.

15. ***Payments***. The Dutch Framework Agreement will require advance payment of […]% of the price of a particular order, with the balance payable within […] days of shipment or against warehouse receipt, within the Netherlands. All payments are to be made in EUR (Euros) subject to applicable taxation legislation.

16. ***Title and Risk.*** Passage of title and risk will be agreed between Alstom and ProRail based on Incoterms ICC 2020.

17. ***Liability.*** In no event shall Alstom be liable to the Customer or any Authorized Third Party, including by way of indemnity, for any loss of profits, loss of business or production, loss of revenue, loss of or damage to goodwill, loss of savings (whether anticipated or otherwise) and/or any indirect, special or consequential loss or damage.

18. ***Warranty.*** Alstom shall repair any defective ATB-EG Class B at its own expense 24 months after commissioning or 30 months after handover to the Customer or the relevant Authorized Third Party.

19. ***Rights of third parties.*** Nothing herein expressed or implied is intended or shall be construed to confer upon or give to any person or corporation, other than the Contracting Parties hereto and their permitted successors or assignees, any rights or remedies under or by reason of this Framework Agreement.

20. ***Major Obsolescence.*** If Alstom anticipates Major Obsolescence of ATB-EG Class Bs as delivered, a last buy order notice will be sent to the Customer or the relevant Authorized Third Party with a minimum period of six (6) months to allow for additional orders.

21. ***Redesign at Customer's request***. Where redesign of the ATB-EG would be required due to Major Obsolescence or need to renew the industrial file due to absence of regular purchase orders leading to no manufacturing having taken place for […]), Alstom will offer the Customer, on substantially the same terms as those set out in **Annex A** to the STMs and Class B OBUs Commitments, at Alstom's sole discretion, either:

    - To develop a standalone ATB-EG STM; or
    - To redesign Bombardier's ATB-EG STM.

22. ***Governing law and dispute resolution***. The Dutch Framework Agreement will be governed by Dutch Law, as will any disputes arising out of or in connection with the Dutch Framework Agreement. It will be subject to the Fast Track Dispute Resolution Procedure.

Annexe IV

[*Confidential*]