

DECISIONS

**DECISION No 541/2014/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 16 April 2014
establishing a Framework for Space Surveillance and Tracking Support**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 189(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee ⁽¹⁾,

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure ⁽²⁾,

Whereas:

- (1) In its Communication of 4 April 2011 entitled 'Towards a space strategy for the European Union that benefits its citizens', the Commission underlined that the shared competence in the field of space conferred upon the Union by the Treaty on the Functioning of the European Union (TFEU) goes hand in hand with a reinforced partnership with the Member States. The Commission also emphasised that all new action must be based on existing resources and on the joint identification of where new resources are needed.
- (2) In its Resolution of 26 September 2008 entitled 'Taking forward the European Space Policy' ⁽³⁾, the Council recalled that space assets have become indispensable for our economy and that their security must be ensured. It underlined the 'need for Europe [...] to develop a European capability for the monitoring and surveillance of its space infrastructure and space debris, initially based on existing national and European assets, taking benefit of relationships which may be established with other partner nations and their capabilities'.
- (3) In its Resolution of 25 November 2010 entitled 'Global challenges: taking full benefit of European space systems', the Council recognised the need for a future space situational awareness (SSA) capability as an activity at European level to develop and exploit existing national and European civil and military assets, and invited the Commission and the Council to propose a governance scheme and data policy that will allow Member States to contribute with their relevant national capabilities in accordance with applicable security requirements and regulations. It further invited 'all European institutional actors to explore appropriate measures' which would build on defined civil and military user requirements, make use of relevant assets in accordance with applicable security requirements, and exploit the developments from the SSA preparatory programme of the European Space Agency (ESA).
- (4) The Council conclusions of 31 May 2011 on the Communication of the Commission 'Towards a space strategy for the European Union that benefits its citizens' and the Council Resolution of 6 December 2011 entitled 'Orientations concerning added value and benefits of space for the security of European citizens' ⁽⁴⁾ reiterated the need for an effective SSA capability as an activity at European level, and called on the Union to make 'the widest

⁽¹⁾ OJ C 327, 12.11.2013, p. 38.

⁽²⁾ Position of the European Parliament of 2 April 2014 (not yet published in the Official Journal) and decision of the Council of 14 April 2014.

⁽³⁾ OJ C 268, 23.10.2008, p. 1.

⁽⁴⁾ OJ C 377, 23.12.2011, p. 1.

possible use of assets, competences and skills that are already existing or being developed in Member States, at European level and as appropriate, internationally'. Recognising the dual use nature of such a system and taking account its particular security dimension, the Council called upon the Commission and European External Action Service (EEAS), in close cooperation with ESA and Member States, which own such assets and have capacities, and in consultation with all actors involved, to come forward with proposals to fully exploit and build on those assets and capacities in order to develop a SSA capability as an activity at European level, and in that context, to define an appropriate governance and data policy taking care of the high sensitivity of SSA data.

- (5) SSA is generally understood as covering three main areas, namely Space Surveillance and Tracking (SST), Space Weather Monitoring and Forecasting and Near-Earth Objects. Activities in these areas aim to protect infrastructures in space and from space. This Decision, which covers SST, should foster synergies across these areas.
- (6) With a view to reducing risks of collision, the Union would also seek synergies with initiatives of active removal and passivation measures of space debris, such as the one developed by ESA.
- (7) Space debris has become a serious threat to the security, safety and sustainability of space activities. An SST support framework should therefore be established with the aim of supporting the setting up and operation of services consisting of monitoring and surveying space objects with a view to preventing damage to spacecraft resulting from collisions and the proliferation of space debris, and with the aim of predicting trajectories and re-entry paths, in order to provide the best information to governmental and civil protection services in the event of uncontrolled re-entries of entire spacecraft or space debris thereof into the Earth's atmosphere.
- (8) The SST support framework should contribute to ensuring the long-term availability of European and national space infrastructure facilities and services which are essential for the safety and security of the economies, societies and citizens in Europe.
- (9) The provision of SST services will benefit all public and private operators of space-based infrastructures, including the Union, in view of the Union's responsibilities for the Union space programmes, in particular the European satellite navigation programmes Galileo and EGNOS established by Regulation (EU) No 1285/2013 of the European Parliament and of the Council ⁽¹⁾, as well as the Copernicus Programme established by Regulation (EU) No 377/2014 of the European Parliament and of the Council ⁽²⁾. Early warnings of uncontrolled re-entry and estimation of timeframe and area of impact will also benefit national public authorities concerned with civil protection. Moreover those services might also be of interest to other users, such as private insurers to estimate potential liabilities resulting from collision during the life of a satellite. In addition, a freely available and re-usable public information service on orbital elements of space objects orbiting the Earth should be envisaged in the long term.
- (10) The SST services should be complementary to research activities related to the protection of space-based infrastructure carried out under Horizon 2020 established by Regulation (EU) No 1291/2013 of the European Parliament and of the Council ⁽³⁾, the Union's flagship space programmes Copernicus and Galileo, the Digital Agenda initiative, as referred to in the Commission Communication of 26 August 2010 entitled 'A Digital Agenda for Europe', other telecommunication infrastructures, which aid the realisation of the information society, security-related initiatives, as well as to ESA activities.
- (11) The SST support framework should contribute to ensuring the peaceful use and exploration of outer space.
- (12) The SST support framework should have regard to cooperation with international partners, in particular the United States of America, international organisations and other third parties, particularly to avoid collisions in space and to prevent the proliferation of space debris. In addition, it should be complementary to existing mitigation measures such as the United Nations guidelines for space debris mitigation or other initiatives, to ensure the safety, security and sustainability of outer space activities. It should also be consistent with the Union proposal for an international Code of Conduct on outer space activities.

⁽¹⁾ Regulation (EU) No 1285/2013 of the European Parliament and of the Council of 11 December 2013 on the implementation and exploitation of European satellite navigation systems and repealing Council Regulation (EC) No 876/2002 and Regulation (EC) No 683/2008 of the European Parliament and of the Council (OJ L 347, 20.12.2013, p. 1).

⁽²⁾ Regulation (EU) No 377/2014 of the European Parliament and of the Council of 3 April 2014 establishing the Copernicus Programme and repealing Regulation (EU) No 911/2010 (OJ L 122, 24.4.2014, p. 44).

⁽³⁾ Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 — the Framework Programme for Research and Innovation (2014-2020) and repealing Decision No 1982/2006/EC (OJ L 347, 20.12.2013, p. 104).

- (13) The SST support framework should consist in networking and in using national SST assets to provide SST services. Once this has been achieved, the development of new sensors or the upgrading of existing sensors operated by Member States should be encouraged.
- (14) The Commission and the SST consortium established under this Decision, in close cooperation with ESA and other stakeholders, should continue to take the lead in technical SST dialogues with strategic partners, in accordance with their respective competences.
- (15) Civil-military SSA user requirements were defined in the endorsed Commission staff working paper 'European space situational awareness high-level civil-military user requirements'. The provision of SST services should be driven by civilian user requirements. Purely military purposes should not be addressed by this Decision. The Commission should ensure a mechanism for the regular review and update of user requirements as appropriate, involving representatives of the user community. To that end, it should continue the necessary dialogue with relevant actors such as the European Defence Agency and ESA.
- (16) The operation of SST services should be based on a partnership between the Union and the Member States and use existing as well as future national expertise and assets, including those developed through ESA. Member States should retain ownership and control over their assets and should remain responsible for their operations, maintenance and renewal. The SST support framework should not provide financial support for the development of new SST sensors. If a need for new sensors arises in order to meet user requirements, that need could be addressed either nationally or through a European research and development programme, where appropriate. The Commission and the Member States should promote and facilitate participation by the greatest number of Member States in the SST support framework, subject to compliance with participation criteria.
- (17) The European Union Satellite Centre (SATCEN), an agency of the Union established by Council Joint Action 2001/555/CFSP ⁽¹⁾ which provides geospatial imagery information services and products with various levels of classification to civil and military users, could contribute to the provision of SST services. Its expertise in handling classified information in a secure environment and its tight institutional links with the Member States is an asset facilitating the handling and delivery of SST services. A pre-condition for the SATCEN role in the SST support framework is the amendment of that Joint Action which does currently not provide for SATCEN action in the field of SST. The Commission should, where appropriate, cooperate with the EEAS, given the latter's role in supporting the High Representative of the Union for Foreign Affairs and Security Policy in giving operational direction to SATCEN.
- (18) Precise information on the nature, specifications and location of certain space objects may affect the security of the Union or its Member States and third countries. The Member States and, where appropriate, through the Security Committee of the Council (Security Committee) should take into account adequate security considerations and, in the establishment and operation of the network of relevant capabilities, including SST sensors, the capacity to process and analyse SST data and the provision of SST services. It is therefore necessary to lay down in this Decision general provisions on the use and secure exchange of SST information between the Member States, the recipients of SST services and, where relevant, the SATCEN. Furthermore, the Commission, the EEAS and the Member States should define the coordination mechanisms needed to address matters related to the security of the SST support framework.
- (19) Participating Member States should be responsible for the negotiation and implementation of the provisions on the use of SST data and on the use and exchange of SST information. The provisions on the use of SST data and on the use and exchange of SST information set out in this Decision and in the agreement between the participating Member States and, where appropriate, the SATCEN should take into account the endorsed recommendations on SST data security.
- (20) The potential sensitivity of SST data calls for cooperation based on efficiency and confidence, including in the way in which SST data are processed and analysed. The potential use of open source software allowing the secure access of authorised SST data contributors to the source code for operational modifications and improvements should contribute to that objective.

⁽¹⁾ Council Joint Action 2001/555/CFSP of 20 July 2001 on the establishment of a European Union Satellite Centre (OJ L 200, 25.7.2001, p. 5).

- (21) The Security Committee recommended the creation of a risk management structure to ensure that data security issues are duly taken into account in the implementation of the SST support framework. For that purpose, the appropriate risk management structures and procedures should be established by the participating Member States and, where relevant, the SATCEN, having regard to the recommendations of the Security Committee.
- (22) In order to ensure uniform conditions for the implementation of this Decision, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council ⁽¹⁾.
- (23) Since the objectives of this Decision, namely to support actions aimed at the establishment and operation of the network of sensors, the establishment of the capacity to process and analyse SST data, and the establishment and operation of SST services, cannot be sufficiently achieved by the Member States acting alone, as the provision of such services by a consortium of participating Member States would benefit the Union, notably in its role as major owner of space assets, but can rather, by reason of the scale of the Decision, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty of the European Union. In accordance with the principle of proportionality, as set out in that Article, this Decision does not go beyond what is necessary in order to achieve those objectives.
- (24) The objectives of this Decision are similar to the objectives of the programmes established by: Regulation (EU) No 1285/2013, in its Articles 1, 3 (c) and (d) and 4; Council Decision 2013/743/EU ⁽²⁾, in its Article 2(2)(b) and (c), in its Annex I, Part II, point 1.6.2 (d) and in its Annex I, Part III, points 7.5 and 7.8; Regulation (EU) No 377/2014, in its Article 8(2)(b), which allocates an amount up to EUR 26,5 million in current prices. The overall financial effort for the implementation of the objectives of the SST support framework, notably the networking of existing assets, is estimated to be EUR 70 million. Taking into account the similarity of the objectives of this Decision and those of the above-mentioned programmes, the actions established by this Decision might be financed by those programmes, in full compatibility with their basic act.
- (25) Securing an acceptable level of European autonomy in SST activities could require the adoption of a basic act within the meaning of the Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council ⁽³⁾ for SST. Such possibility should be examined in the context of the mid-term review of the current Multiannual Financial Framework.
- (26) Recognising the sensitive nature of SSA, the operation of sensors and the processing of data leading to the provision of SST services should remain with the participating Member States. The national SST assets will remain under the authority of the Member States responsible for their control and operation.

HAVE ADOPTED THIS DECISION:

Article 1

Establishment of the framework

This Decision establishes a space surveillance and tracking (SST) support framework.

Article 2

Definitions

For the purpose of this Decision, the following definitions apply:

- (1) 'Space object' means any man-made object in outer space;
- (2) 'Spacecraft' means any space object serving a specific purpose, including active artificial satellites and launcher upper stages;

⁽¹⁾ Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by the Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

⁽²⁾ Council Decision 2013/743/EU of 3 December 2013 establishing the specific programme implementing Horizon 2020 — the Framework Programme for Research and Innovation (2014-2020) and repealing Decisions 2006/971/EC, 2006/972/EC, 2006/973/EC, 2006/974/EC and 2006/975/EC (OJ L 347, 20.12.2013, p. 965).

⁽³⁾ Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002 (OJ L 298, 26.10.2012, p. 1).

- (3) 'Space debris' means any space object including spacecraft or fragments and elements thereof in Earth's orbit or re-entering Earth's atmosphere, that are non-functional or no longer serve any specific purpose, including parts of rockets or artificial satellites, or inactive artificial satellites;
- (4) 'SST sensor' means a device or a combination of devices, such as ground-based or space-based radars and telescopes, that is able to measure physical parameters related to space objects, such as size, location and speed;
- (5) 'SST data' means physical parameters of space objects acquired by SST sensors or orbital parameters of space objects derived from SST sensors' observations;
- (6) 'SST information' means processed SST data which is readily meaningful to the recipient.

Article 3

Objectives of the SST support framework

1. The general objective of the SST support framework is to contribute to ensuring the long-term availability of European and national space infrastructure, facilities and services which are essential for the safety and security of the economies, societies and citizens in Europe.
2. The specific objectives of the SST support framework are:
 - (a) assessing and reducing the risks to in-orbit operations of European spacecraft relating to collisions and enabling spacecraft operators to plan and carry out mitigation measures more efficiently;
 - (b) reducing the risks relating to the launch of European spacecraft;
 - (c) surveying uncontrolled re-entries of spacecraft or space debris into the Earth's atmosphere and providing more accurate and efficient early warnings with the aim of reducing the potential risks to the safety of Union citizens and mitigating potential damage to terrestrial infrastructure;
 - (d) seeking to prevent the proliferation of space debris.

Article 4

Actions supported by the SST support framework

1. To attain the objectives laid down in Article 3, the SST support framework shall support the following actions which aim to establish a SST capability at European level and with an appropriate level of European autonomy:
 - (a) the establishment and operation of a sensor function consisting of a network of Member State ground-based and/or space-based sensors, including national sensors developed through ESA, to survey and track space objects and to produce a database thereof;
 - (b) the establishment and operation of a processing function to process and analyse the SST data at national level to produce SST information and services for transmission to the SST service provision function;
 - (c) the setting up of a function to provide SST services as defined in Article 5(1) to the entities referred to in Article 5(2).
2. The SST support framework shall not cover the development of new SST sensors.

Article 5

SST services

1. The SST services referred to in Article 4 shall be of a civilian nature. They shall comprise the following services:
 - (a) the risk assessment of collision between spacecraft or between spacecraft and space debris and the generation of collision avoidance alerts during the launch, early orbit, in-orbit operation and disposal phases of spacecraft missions;
 - (b) the detection and characterisation of in-orbit fragmentations, break-ups or collisions;
 - (c) the risk assessment of the uncontrolled re-entry of space objects and space debris into the Earth's atmosphere and the generation of related information, including the estimation of the timeframe and likely location of possible impact.

2. SST services shall be provided to:
 - (a) all Member States;
 - (b) the Council;
 - (c) the Commission;
 - (d) the EEAS;
 - (e) public and private spacecraft owners and operators;
 - (f) public authorities concerned with civil protection.

SST services shall be provided in compliance with the provisions on the use and exchange of SST data and information set out in Article 9.

3. Participating Member States, the Commission and, where relevant, the SATCEN, shall not be held liable for:
 - (a) any damage resulting from the lack of or interruption in the provision of SST services;
 - (b) any delay in the provision of SST services;
 - (c) any inaccuracy of the information provided through the SST services; or
 - (d) any action undertaken in response to the provision of SST services.

Article 6

Role of the Commission

1. The Commission shall:
 - (a) manage the SST support framework and ensure its implementation;
 - (b) take the measures necessary to identify, control, mitigate and monitor risks related to the SST support framework;
 - (c) ensure the update of SST user requirements as appropriate;
 - (d) define general guidelines for the governance of the SST support framework, particularly to facilitate the establishment and operation of the consortium referred to in Article 7(3);
 - (e) facilitate the broadest possible participation of Member States, whenever appropriate, in accordance with Article 7.
2. The Commission shall adopt implementing acts establishing a coordination plan and relevant technical measures for the SST support framework activities. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 12(2).
3. The Commission shall provide to the European Parliament and to the Council, in a timely manner, all relevant information on the implementation of the SST support framework, in particular to provide transparency and clarity regarding:
 - (a) the indicative efforts and the different Union sources of funding;
 - (b) participation in the SST support framework and the actions supported thereby;
 - (c) the evolution of the networking of Member State SST assets and of SST service provision;
 - (d) the exchange and use of SST information.

Article 7

Participation of Member States

1. A Member State wishing to participate in the implementation of the actions referred to in Article 4 shall submit an application to the Commission demonstrating compliance with the following criteria:
 - (a) ownership of or access to:
 - (i) adequate SST sensors available or under development and technical and human resources to operate them, or
 - (ii) adequate operational analysis and data processing capacities specifically designated for SST;
 - (b) establishment of an action plan for the implementation of the actions set out in Article 4 including the modalities of cooperation with other Member States.

2. The Commission shall adopt implementing acts regarding procedures for submission of applications and compliance of the Member States with the criteria set out in paragraph 1. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 12(2).
3. All Member States which comply with the criteria referred to in paragraph 1 shall designate a national entity to represent them. The designated national entities shall constitute a consortium and shall conclude the agreement referred to in Article 10.
4. The Commission shall publish and update on its website the list of participating Member States.
5. Responsibility for the operation of sensors, the processing of data and the implementation of data policy shall lie with the participating Member States. The assets of participating Member States shall remain fully under national control.

Article 8

Role of the European Union Satellite Centre

The European Union Satellite Centre (SATCEN) may cooperate with the consortium to be established pursuant to Article 7(3). In that case, it shall conclude the necessary implementing arrangements with the participating Member States.

Article 9

SST data and SST information

The use and exchange of SST information released by the consortium and the use of SST data within the context of the SST support framework for the purposes of the implementation of the actions referred to in Article 4 shall be subject to the following rules:

- (a) unauthorised disclosure of data and information shall be prevented while allowing efficient operations and maximising the use of the generated information;
- (b) the security of SST data shall be ensured;
- (c) SST information and services shall be made available on a need-to-know basis to the recipients of the SST services defined in Article 5(2), in accordance with the instructions and security rules of the originator of the information and of the owner of the space object concerned.

Article 10

Coordination of operational activities

The designated national entities that constitute the consortium referred to in Article 7(3) shall conclude an agreement laying down the rules and mechanisms for their cooperation in the implementation of the actions referred to in Article 4. In particular, that agreement shall include provisions for:

- (a) the use and exchange of SST information taking into account the endorsed recommendations 'Space Situational Awareness data policy — recommendations on security aspects';
- (b) the establishment of a risk management structure to ensure the implementation of the provisions on the use and secure exchange of SST data and SST information;
- (c) cooperation with the SATCEN to implement the action referred to in Article 4(1)(c).

Article 11

Monitoring and evaluation

1. The Commission shall monitor the implementation of the SST support framework.
2. By 1 July 2018, the Commission shall forward a report on the implementation of the SST support framework to the European Parliament and the Council concerning the achievement of the objectives of this Decision, from the point of view of both results and impacts, the effectiveness of the use of resources and the European added value.

This report may be accompanied by proposals for amendments, where appropriate, including the possibility for a basic act within the meaning of the Regulation (EU, Euratom) No 966/2012 for SST.

Article 12

Committee procedure

1. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.
2. Where a reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

Article 13

Entry into force

This Decision shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 14

This Decision is addressed to the Member States.

Done at Strasbourg, 16 April 2014.

For the European Parliament
The President
M. SCHULZ

For the Council
The President
D. KOURKOULAS
