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Proposal for a

DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

**on the participation of the Union in a European Metrology Programme for Innovation
and Research jointly undertaken by several Member States**

(Text with EEA relevance)

{SWD(2013) 249 final}
{SWD(2013) 250 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

1.1 Objectives of the proposal

This proposal concerns the participation by the European Union in the European Metrology Programme for Innovation and Research (EMPIR) undertaken by several Member States.

In line with the Europe 2020 strategy, the Innovation Union flagship initiative and the European Research Area and Horizon 2020, the overarching goal of this initiative is to address the challenges faced by the European Metrology Research System and to maximise the benefits of improved measurement solutions for Europe. The overall objectives of EMPIR are to:

- Provide integrated and fit-for-purpose metrology solutions supporting innovation and industrial competitiveness and measurement technologies to tackle societal challenges such as health, environment and energy including support to policy development and implementation;
- Create an integrated European Metrology Research system with critical mass and active engagement at regional, national, European and international level.

1.2 Grounds for the proposal

Metrology, the science of measurement, is the central nerve in the spine of our high-tech world. Every aspect of our daily lives is affected by metrology and ever more precise and reliable measurements are essential to drive innovation and economic growth within our knowledge-based economy. What we cannot measure, we do not understand properly, and cannot control, manufacture or process reliably. Thus, advances in metrology have a profound impact on our understanding of and ability to shape the world around us.

Reliable and traceable measurement allows the wider scientific community to build better instruments and do better science. It opens up new territory for industry, creating space and opportunity to innovate. It crucially underpins and advances understanding and agreement in global challenges such as energy, health care and climate change.

All governments in technologically advanced countries support a metrology infrastructure because of the benefits it brings and its strong character as a public good that justifies public intervention. Major economic powers in the world are increasing their investment in metrology research and related infrastructures. Given the level of investment in metrology and its role in promoting scientific excellence and industrial competitiveness, individual Member States or a few acting together could not compete globally.

The current European metrology research programme (EMRP) is a joint initiative¹ implemented by 22 national metrology institutes. It is based on Article 185 of the Treaty on the Functioning of the European Union (TFEU), which, in implementing the multiannual Framework Programme, makes it possible to coordinate national research programmes. The interim evaluation has recognised the value of the initiative. The main achievement of EMRP is strong integration by jointly programming 50% of dedicated national funding for metrology research in Europe. It has reduced fragmentation, avoided unnecessary duplication and helped achieve critical mass by concentrating resources on key areas through close collaboration with

¹ Decision No 912/2009/EC of the European Parliament and of the Council of 16 September 2009 on the participation by the Community in a European metrology research and development programme undertaken by several Member States (OJ L 257 of 30.9.2009).

the best researchers. EMRP projects deliver European measurement solutions for major societal challenges and provide common European inputs into standards and regulations.

Although substantial progress has been achieved under the EMRP, it has become evident that the system needs to tackle several challenges in order to increase the impact of metrology research on growth and on solving socio-economic challenges.

EMPIR, the successor programme, will contribute to a number of flagship initiatives under EUROPE 2020 that are affected by metrology research, including ‘Innovation Union’, ‘A digital agenda for Europe’, ‘Resource-efficient Europe’ and ‘An industrial policy for the globalisation era’. It will do this by developing innovative solutions for the management of natural resources, by supporting the standardisation process that enables global trade opportunities for new products and services and by allowing the efficient testing of communication satellites, for example. EMPIR will strongly contribute to achieving the objectives of Horizon 2020 by supporting topics of direct relevance for a number of Horizon 2020 priorities.

2. RESULTS OF CONSULTATIONS WITH THE INTERESTED PARTIES AND IMPACT ASSESSMENTS

2.1 Consultation on the future of the European Metrology Research Programme

The Commission has carried out extensive consultations on a future European Metrology Research Programme. 624 respondents reacted to the online public consultation carried out in 2012. They expressed their views on the relevance of metrology research, identified problems the European Metrology Research system is facing and assessed a number of policy options. 72% of responses came from organisations and 28% from individuals. The main contributions from organisations were received from research organisations (32%) and businesses (16%, of which 69% SMEs). The consultation highlighted a number of problems, including insufficient industrial exploitation, the lack of cooperation of National Metrology Institutes (NMIs) with the wider science base, huge capacity gaps between EU Member States, insufficient mobility of researchers within the NMIs and the lack of engagement with European standardisation.

An expert panel carried out an interim evaluation of the EMRP after three years of running of the programme. The Commission adopted its report in April 2012. The interim evaluation recognised the value of the initiative and indicated considerable progress on coordination of research. The Panel shared the view that *‘EMRP is a well-managed joint European research programme that has already achieved a relatively high level of scientific, management and financial integration after only two years of implementation.’* and that *‘EMRP has certainly been successful in creating a Metrology ERA (European Research Area)’*.

The interim evaluation was more critical of the lack of progress on opening the system to the best science and capacity building structures. It suggested introducing dedicated instruments to support innovation and regulatory/standardisation roadmaps in any future initiative to increase the socio-economic impacts of metrology research.

The Commission also consulted its services through the Impact Assessment Steering Group meetings in 2012, which contributed to the plan and roadmap for the preparation of the impact assessment report, in particular the problem statement and the relevance of the EMPIR to other Directorate Generals of the European Commission.

2.2 The policy options

The final version of the impact assessment report included the following options:

Under Option 1 ('No dedicated EU action'), EU participation in the EMRP would be discontinued after the end of its current funding phase in 2013. No dedicated provision would be made in EU research policies, programmes or funding to support EMRP objectives. Access to EU funding would be limited to competition for ad-hoc project funding through Horizon 2020 for topics that include aspects of metrology.

Option 2 ('Business as usual — EMRP2') would continue with an identical initiative focused entirely on coordination and integration of fundamental and challenge driven research. This would include some calls on topics relevant to the industry.

Option 3 ('Improved Article 185 initiative — EMPIR' would build on the success of the EMRP by implementing a more ambitious and inclusive Article 185 initiative that is aligned with the Europe 2020 objectives. The scope of the programme would be broadened by including dedicated modules on industrial research and exploitation, on support for standardisation and on capacity building. Due to the change of scope, the name of the programme would change from 'European Metrology Research programme' to European Metrology Programme for Research and Innovation'. This option would also involve the stakeholders more and also directly involve the broader research community. The level of EU financing from Horizon 2020 would increase compared to FP7 due to the resources needed to compensate for the increased scope and the increased duration of the programme. The number of participating states would increase from 22 to [28].

2.3 Results of the impact assessment

The impact assessment report concluded that Option 3 is clearly the preferred option, considering its effectiveness in achieving the objectives, efficiency and consistency across all criteria. This is fully supported by the results of the public consultation (93 % of responses rate the option 'very suitable' or 'appropriate'). The option will build on the previous achievements of EMRP by continuing the current activities while integrating additional activities right from the start to address the problems that could not be addressed under the setup of the current initiative. In February 2013, the Impact Assessment Board reviewed and approved the report. In its opinion it requested improvements of the impact assessment report, which have been taken into account. In particular, the report now better explains the specific problems, the underlying drivers and the relation between objectives and targets. The description of the new programme compared to the current initiative was improved in order to better clarify how the new programme will tackle the identified weaknesses.

3. LEGAL ELEMENTS OF THE PROPOSAL

3.1 Legal basis

The proposal for EMPIR is based on Article 185 of the TFEU, concerning the participation of the European Union in research and development programmes undertaken by several Member States, including participation in the structures created for the execution of those programmes.

3.2 Subsidiarity principle

The subsidiarity principle applies as the proposal does not fall under the exclusive competence of the European Union. Subsidiarity is safeguarded by basing the proposal on Article 185 of the TFEU, which explicitly provides for the participation of the Union in research programmes undertaken by several Member States.

The objectives of the proposal cannot be sufficiently achieved by the Member States alone as the scale and complexity of metrology requirements require investments that go beyond the core research budgets of the European NMIs. The excellence required for research and development of cutting-edge metrology solutions is spread across national borders and hence cannot be brought together at national level only. Without a consistent approach at European level with critical mass, there is a high risk of duplication of efforts, with the consequence of increased costs.

The added-value of public intervention at EU level lies in the EU's capacity to bring together compartmentalised national research programmes, help design common research and funding strategies across national borders, and achieve a critical mass of actors and investments required to tackle the challenges the metrology research system faces, while raising the efficiency of public spending. The EU is expected to contribute 50% of total funding.

3.3 Proportionality principle

Art. 185 of the TFEU invites the Union to “make provision, in agreement with the Member States concerned, for participation in research and development programmes undertaken by several Member States, including participation in the structures created for the execution of those programmes”. Member States are the driving force of the initiative.

The proposal complies with the proportionality principle as Member States will be responsible for developing their joint programme and all operational aspects. The dedicated implementation structure *EURAMET e.V.* has already demonstrated for the current initiative EMRP that it can implement the programme efficiently and effectively. The Union will provide incentives for improved coordination, ensure synergies with and contribution to EU policies and to the priorities of Horizon 2020, monitor implementation of the programme and ensure the protection of the EU's financial interests.

3.4 Choice of the instrument

The proposed initiative EMPIR will be based on Article 185 of the TFEU. The conclusions of the interim evaluation and an analysis of the options in the impact assessment have demonstrated that Article 185 is the most appropriate means for achieving the objectives of EMPIR.

3.5 Derogations from the rules for participation

In EMPIR, funding contributed by participating states mainly represents resources allocated as direct expenditure in the selected projects via institutional funding of the National Metrology Institutes (NMI) and Designated Institutes (DI) participating in the projects. Institutional funding of the NMI and DI covers the share of their overheads allocated to the projects (indirect costs of the projects) and not reimbursed in EMPIR.

The EU contribution for NMI and DI must match the contribution made by the participating states, taking into account not only the institutional funding as described above, but also the cash contribution of participating states to the administrative costs (up to EUR 30 million) and the proportion of Union funding allocated to other entities (about EUR 90 million). It is therefore expected that the EU contribution for NMI and DI will be EUR 210 million (43,75%) and the contribution from participating states to NMI and DI will be EUR 270 million (56,25%).

Compliance with the matching principle will be ensured by adapting the EU contribution and setting a lower flat rate for the EU financing of indirect costs for NMI and DI compared to that set by the Horizon 2020 Rules for Participation. Considering that data from NMI and DI participating in EMRP projects on the basis of full indirect costs show that their indirect

eligible costs amount to 140% of the direct eligible costs of the projects in accordance with FP7 rules for participation, NMIs and DIs will declare indirect eligible costs on the basis of a flat rate of 5% of their direct eligible costs. Other legal entities participating in the projects will be funded according to Horizon 2020 Rules for Participation.

This entails derogation from Article 24 for NMI and DI.

The proposal provides safeguards to ensure that the principles of equal treatment and transparency are respected by the dedicated implementation structure when providing financial support to third parties, and the EU's financial interests are protected. It also provides for detailed provisions to this effect in an agreement to be concluded by the Union and the dedicated implementation structure.

4. BUDGETARY IMPLICATION

The Legislative Financial Statement presented with this decision sets out the indicative budgetary implications. The maximum Union's financial contribution, including EFTA appropriations, to EMPIR shall be EUR 300 million in current prices for the duration of the Horizon 2020 Framework Programme. The contributions will be made from the following challenges and themes²:

- Leadership in nanotechnologies, advanced materials, biotechnology and advanced manufacturing and processing (EUR 52,5 million)
- Leadership in information and communications technology (EUR 37,5 million)
- Improving lifelong health and wellbeing (EUR 60 million)
- Improving food security, developing sustainable agriculture, marine and maritime research and the bio-economy (EUR 15 million)
- Making the transition to a reliable, sustainable and competitive energy system (EUR 60 million)
- Achieving a European transport system that is resource-efficient, environmentally friendly, safe and seamless (EUR 22,5 million)
- Achieving a resource-efficient and climate change resilient economy and a sustainable supply of raw materials (EUR 52,5 million)

The provisions of the Decision and of the delegation agreement to be concluded between the Commission and the dedicated implementation structure must ensure that the EU financial interests are protected.

5. OPTIONAL ELEMENTS

5.1 Simplification

The proposal will simplify the administrative procedures for public authorities and bodies (EU or national) and for private parties.

The EU will deal directly with the dedicated implementation structure of EMPIR, which will be in charge of allocating, monitoring and reporting on the use of the EU's contribution.

² The amount is indicative and will depend on the final amount for DG RTD and DG CNECT under the above mentioned challenge(s) /theme(s).

5.2 Review/revision/sunset clause

The proposal includes a review clause for an interim review not later than 2018.

5.3 European Economic Area

The proposed act concerns an EEA matter and should therefore extend to the European Economic Area.

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(Text with EEA relevance)

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 185 and the second paragraph of Article 188 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 Committee³,
Acting in accordance with the ordinary legislative procedure,
Whereas:

- (1) In its Communication Europe 2020 A strategy for smart, sustainable and inclusive growth⁴ the Commission underscores the need to develop favourable conditions for investment in knowledge and innovation so as to achieve smart, sustainable and inclusive growth in the Union. Both European Parliament and Council have endorsed that strategy.
- (2) Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) established by Regulation (EU) No .../2013 of the European Parliament and of the Council of ... 2013⁵ (hereinafter "Horizon 2020 Framework Programme") aims at achieving a greater impact on research and innovation by contributing to the strengthening of public-public partnerships, including through Union participation in programmes undertaken by several Member States in accordance with Article 185 of the Treaty.
- (3) By Decision No 912/2009/EC of the European Parliament and of the Council of 16 September 2009 on the participation by the Community in a European metrology research and development programme undertaken by several Member States⁶, the Community decided to make a financial contribution to the European Metrology Research Programme (hereinafter "EMRP") matching that of the participating states but not exceeding EUR 200 million, for the duration of the Seventh Framework Programme of the European Community for research, technological development and

³ OJ C ... [ESC opinion]

⁴ COM(2010)2020 final of 3 March 2010.

⁵ OJ ... [H2020 FP]

⁶ OJ L 257, 30.9.2009, p. 12.

demonstration activities (2007-2013) established by Decision No 1982/2006/EC of the European Parliament and of the Council of 18 December 2006⁷.

- (4) In April 2012, the Commission communicated to the European Parliament and the Council a report on Interim Evaluation of the European Metrology Research Programme – EMRP⁸. That evaluation was carried out by an expert panel three years after the beginning of the programme. The overall opinion of the expert panel was that EMRP is a well-managed joint European research programme that has already achieved a relatively high level of scientific, management and financial integration. The expert panel noted, however, limited industrial exploitation, limited opening to excellent science outside the metrology institutes and insufficient capacity building. The expert panel was also of the opinion that a more inclusive European metrology research area could be built by implementing EMRP.
- (5) According to Council Decision ... /2013/EU of ... 2013 establishing the Specific Programme implementing Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020)⁹ further support may be provided to the European Metrology Research Programme.
- (6) The European Metrology Programme for Innovation and Research (hereinafter "EMPIR"), aligned with the Europe 2020 strategy and the related flagship initiatives, in particular 'Innovation Union'¹⁰, 'A Digital Agenda for Europe'¹¹, 'Resource-efficient Europe'¹² and 'An industrial Policy for the Globalisation Era'¹³, will be a more ambitious and inclusive programme implemented for ten years (2014-2024) by [28] participating states. As part of the improvements from the previous programme, EMPIR will include activities on innovation and industrial exploitation, on research for norms and standards and on capacity building.
- (7) The participating states intend to contribute to implement EMPIR during the period covered by EMPIR (2014-2024).
- (8) A ceiling should be established for the Union's participation in EMPIR for the duration of the Horizon 2020 Framework Programme. Within that ceiling, the Union contribution should be equal to the contribution of the participating states to EMPIR in order to achieve a high leverage effect and ensure a stronger integration of participating states programmes.
- (9) In line with the objectives of Regulation (EU) No .../2013, any Member State and any country associated to the Horizon 2020 Framework Programme should be entitled to participate in EMPIR.
- (10) The Union's financial contribution should be subject to formal commitments from the participating states to contribute to the implementation of EMPIR and fulfilment of those commitments. Participating states' contributions to EMPIR should include a contribution to administrative costs within a ceiling of 5% of the budget of EMPIR. Participating states should commit to increase, if necessary, their contribution to EMPIR by a reserve funding capability of 50 % to ensure that they are able to fund

⁷ OJ L 412, 30.12.2006, p. 1.

⁸ COM(2012) 174 final of 16 April 2012.

⁹ OJ ... [H2020 SP]

¹⁰ COM(2010) 546 final of 6 October 2010.

¹¹ COM(2010) 245 final/2 of 26 August 2010

¹² COM(2011) 21 of 26 January 2011

¹³ COM(2012) 582 final of 10 October 2012

their national entities (National Metrology Institutes and Designated Institutes) participating in the selected projects.

- (11) The joint implementation of EMPIR requires an implementation structure. The participating states have agreed on the implementation structure for EMRP and set up in 2007 EURAMET e.V. (hereinafter "EURAMET"), the European Regional Metrology Organisation and a non-profit association under German law. EURAMET also has tasks and obligations related to the wider European and global harmonisation of metrology. Membership of EURAMET is open to all European National Metrology Institutes (NMI), as members, and to Designated Institutes (DI), as associates. Membership in EURAMET is not conditional upon existence of national metrology research programmes. Given that, according to the Report on Interim Evaluation of EMRP, the governance structure of EURAMET has proved to be efficient and of high quality for the implementation of the EMRP, EURAMET should also be used for the implementation of EMPIR. EURAMET should be the recipient of the Union's financial contribution.
- (12) In order to achieve the objectives of EMPIR, EURAMET should provide financial support mainly in the form of grants to participants in actions selected at the level of EURAMET. Those actions should be selected following calls for proposals under the responsibility of EURAMET. The ranking list should be binding as regards the selection of proposals and the allocation of funding from the Union's financial contribution and from the contributions from participating states for EMPIR projects.
- (13) The Union's financial contribution should be managed in accordance with the principle of sound financial management and with the rules on indirect management set out in 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 Union¹⁴ and Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the rules of application of Regulation (EU, Euratom) No 966/2012¹⁵.
- (14) In order to protect the Union's financial interests, the Commission should have the right to reduce, suspend or terminate the Union's financial contribution if EMPIR is implemented inadequately, partially or late, or if the participating states do not contribute, or contribute partially or late, to the financing of EMPIR. Those rights should be provided for in the delegation agreement to be concluded between the Union and EURAMET.
- (15) Participation in indirect actions funded by EMPIR is subject to Regulation (EU) No ... /2013 of the European Parliament and of the Council of ... 2013 laying down the rules for the participation and dissemination in 'Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)'¹⁶. However, due to specific operating needs of EMPIR it is necessary to provide for derogations from that Regulation in accordance with Article 1(3) of that Regulation [Rules for the participation and dissemination in Horizon 2020].
- (16) The contribution from participating states mainly represents institutional funding of the NMI and DI participating in the selected projects. The contribution from participating states should also include a cash contribution to the administrative costs

¹⁴ OJ L 298 of 26.10.2012.

¹⁵ OJ L 362 of 31.12.2012.

¹⁶ OJ ... [H2020 RfP]

of EMPIR. A proportion of the Union's contribution should be allocated to entities other than NMI and DI participating in the selected projects. The calculation of the Union's financial contribution for NMI and DI participating in EMPIR projects should ensure that the Union's contribution to EMPIR does not exceed the contribution of the participating states. Considering that the institutional funding of the NMI and DI by participating states corresponds to the overheads allocated to the EMPIR projects and not reimbursed by the Union's contribution, the flat rate for the financing of the eligible indirect costs of the NMI and DI should be adapted compared to that set in the Regulation (EU) No ... /2013 [laying down the rules for the participation and dissemination in 'Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)']. This flat rate should be determined on the basis of the full indirect costs declared as eligible by NMI and DI participating in EMRP projects, which are stable and constitute a reliable approximation of the indirect costs to be incurred by NMI and DI participating in EMPIR projects. Since those indirect costs amount to 140% of the total direct eligible costs of NMI and DI, except those for subcontracting and in kind contributions free of charge not used on their premises, the flat rate for the financing of indirect costs of NMI and DI should be lowered from [20%] in accordance with Regulation (EU) No ... /2013 to 5%. It is thus appropriate to provide for derogation from Article 24 of that Regulation for NMI and DI. Other entities participating in EMPIR projects should be funded in accordance with that Regulation.

- (17) The appropriateness of the funding model with regard to the matching principle between Union and non-Union funds should be re-assessed at the time of the interim evaluation of EMPIR.
- (18) Audits of recipients of Union funds provided in accordance with this Decision should ensure a reduction of administrative burden, in compliance with Regulation (EU) No .../2013 [the Horizon 2020 Framework Programme].
- (19) The Union's financial interests should be protected through proportionate measures throughout the expenditure cycle, including the prevention, detection and investigation of irregularities, the recovery of funds lost, wrongly paid or incorrectly used and, where appropriate, administrative and financial penalties in accordance with Regulation (EU, Euratom) No 966/2012.
- (20) The Commission should conduct an interim evaluation assessing in particular the quality and efficiency of EMPIR, progress towards the objectives set and a final evaluation and prepare a report on those evaluations.
- (21) Upon request from the Commission, EURAMET and the participating states should submit any information the Commission needs to include in the reports on the evaluation of EMPIR.
- (22) The objective of the decision is the Union participation in EMPIR, namely to support the provision of appropriate, integrated and fit-for-purpose metrology solutions and the creation of an integrated European Metrology Research system with critical mass and active engagement at regional, national, European and international level that cannot be sufficiently achieved by the Member States alone. The scale and complexity of metrology requirements calls for investments that go beyond the core research budgets of the National Metrology Institutes and their Designated Institutes. The excellence required for research and development of cutting-edge metrology solutions is spread across national borders and hence cannot be brought together at national level only. Since the objective can therefore be better achieved at Union level by

integrating national efforts into a consistent European approach, by bringing together compartmentalised national research programmes, by helping design common research and funding strategies across national borders, and by achieving the critical mass of actors and investments required, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on 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,

HAVE ADOPTED THIS DECISION:

Article 1

Participation in the European Metrology Programme for Innovation and Research

1. The Union shall participate in the European Metrology Programme for Innovation and Research (hereinafter "EMPIR") jointly undertaken by Belgium, Bulgaria, the Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Hungary, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden, the United Kingdom, as well as [Bosnia and Herzegovina, Norway, Serbia, Switzerland and Turkey] (hereinafter "participating states"), in accordance with the conditions set out in this Decision.
2. Any other Member State and any other country associated to the Horizon 2020 - The Framework Programme for Research and Innovation (2014-2020) established by Regulation (EU) No .../2013 ... (hereinafter "Horizon 2020 Framework Programme") may participate in EMPIR provided it fulfils the condition set out in Article 3(1)(c) of this Decision. Those Member States and associated countries that fulfil the conditions set out in Article 3(1)(c) of this Decision shall be regarded as Participating States for the purposes of this Decision.

Article 2

Union's financial contribution

1. The maximum Union's financial contribution, including EFTA appropriations, to EMPIR shall be EUR 300 million. The contribution shall be paid from appropriations in the general budget of the Union allocated to the relevant parts of the Specific Programme, implementing Horizon 2020 Framework Programme, established by Decision ... /2013/EU, in accordance with Article 58(1)(c)(vi) and Articles 60 and 61 of Regulation (EU, Euratom) No 966/2012.
2. Without exceeding the maximum amount set out in paragraph 1, the Union's contribution shall be equal to the contributions of the Participating States to EMPIR excluding the contributions of the Participating States to administrative costs exceeding 5% of EMPIR budget.
3. The Union's contribution shall not be used to cover the administrative costs of EMPIR.

Article 3
Conditions for the Union's financial contribution

1. The Union's financial contribution shall be conditional upon the following:
 - (a) the demonstration by the Participating States that EMPIR is set up in accordance with Annexes I and II;
 - (b) the designation by the Participating States, or National Metrology Institutes (NMI) designated by Participating States, of EURAMET e.V. (hereinafter "EURAMET"), as the structure responsible for implementing EMPIR and for receiving, allocating and monitoring the Union's financial contribution;
 - (c) the commitment by each participating state to contribute to the financing of EMPIR and to establish a reserve funding capability of 50% of the amount of the commitment;
 - (d) the demonstration by EURAMET of its capacity to implement EMPIR, including receiving, allocating and monitoring the Union's contribution in the framework of indirect management of the Union budget in accordance with Articles 58, 60 and 61 of Regulation (EU, Euratom) No 966/2012;
 - (e) the establishment of a governance model for EMPIR in accordance with Annex III;
2. During the implementation of EMPIR, the Union contribution shall also be conditional upon the following:
 - (a) the implementation by EURAMET of EMPIR objectives set out in Annex I and activities set out in Annex II in accordance with the rules for the participation and dissemination referred to in Article 5;
 - (b) the maintenance of an appropriate and efficient governance model in accordance with Annex III;
 - (c) the compliance by EURAMET with the reporting requirements set out in Article 60(5) of Regulation (EU, Euratom) No 966/2012;
 - (d) the fulfilment of the commitments referred to in point (c) of paragraph 1.

Article 4
Contributions from Participating States

Contributions from the Participating States shall consist of the following:

- (a) contributions through institutional funding of the NMI and the Designated Institutes (DI) participating in EMPIR projects;
- (b) financial contributions to the administrative costs of EMPIR.

Article 5
Rules for participation and dissemination

1. For the purposes of Regulation (EU) No ... [Rules for the participation and dissemination in Horizon 2020] EURAMET shall be considered a funding body and shall provide financial support to indirect actions in accordance with Annex II to this Decision.

2. By way of derogation from Article 24(1) of Regulation (EU) No ... [Rules for the participation and dissemination in Horizon 2020], indirect eligible costs of NMI and DI participating in projects funded by EMPIR shall be determined by applying a flat rate of 5% of their total direct eligible costs, excluding direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary, as well as financial support to third parties.
3. The interim evaluation of EMPIR referred to in Article 12 shall include an assessment of the full indirect costs of the NMI and the DI participating in EMPIR projects and of the corresponding institutional funding.
4. On the basis of this assessment and for the purpose of Article 2(2), EURAMET may reduce the flat rate set out in paragraph 2.
5. If not sufficient, EURAMET may, by way of derogation from Article 22(3) of Regulation (EU) No ... [Rules for the participation and dissemination in Horizon 2020], apply a lower reimbursement rate to the eligible costs of the NMI and the DI participating in projects funded by EMPIR.

Article 6 Implementation of EMPIR

1. EMPIR shall be implemented on the basis of annual work plans.
2. EURAMET shall provide financial support mainly in the form of grants to participants following calls for proposals.

Before identifying the topics of each call for proposals, EURAMET shall invite interested individuals or organisations from the metrology research community and users to suggest potential research topics.

Article 7 Agreements between the Union and EURAMET

1. Subject to a positive ex-ante assessment of EURAMET in accordance with Article 61(1) of Regulation (EU, Euratom) No 966/2012, the Commission, on behalf of the Union, shall conclude a delegation agreement and annual transfer of funds agreements with EURAMET.
2. The delegation agreement referred to in paragraph 1 shall be concluded in accordance with Articles 58(3), 60 and 61 of Regulation (EU, Euratom) No 966/2012 and in Article 40 of Delegated Regulation (EU) No 1268/2012. It shall also set out the following:
 - (a) the requirements for EURAMET's contribution regarding the performance indicators set out in Annex II to Decision (EU) No ... [the Specific Programme implementing the Horizon 2020 Framework Programme];
 - (b) the requirements for EURAMET's contribution to the monitoring referred to in Annex III to Decision (EU) No ... [the Specific Programme implementing the Horizon 2020 Framework Programme];
 - (c) the specific performance indicators related to the functioning of EURAMET;

- (d) the requirements for EURAMET regarding the provision of information on administrative costs and of detailed figures concerning the implementation of EMPIR;
- (e) the arrangements regarding the provision of data necessary to ensure that the Commission is able to meet its dissemination and reporting obligations.

Article 8

Termination, reduction or suspension of the Union's financial contribution

If EMPIR is not implemented or is implemented inadequately, partially or late, the Commission may terminate, proportionally reduce or suspend the Union's financial contribution in line with actual implementation of EMPIR.

If the Participating States do not contribute, contribute partially or late to the financing of the EMPIR the Commission may terminate, proportionally reduce or suspend the Union's financial contribution, taking into account the amount of funding allocated by the Participating States to implement EMPIR.

Article 9

Ex-post audits

1. Ex-post audits of expenditure on indirect actions shall be carried out by EURAMET in accordance with Article 23 of Regulation (EU) No ... [the Horizon 2020 Framework Programme].
2. The Commission may decide to carry out the audits referred to in paragraph 1 itself.

Article 10

Protection of the financial interests of the Union

1. The Commission shall take appropriate measures ensuring that, when actions financed under this Decision are implemented, the financial interests of the Union are protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and dissuasive administrative and financial penalties.
2. EURAMET shall grant Commission staff and other persons authorised by it, as well as the Court of Auditors, access to its sites and premises and to all the information, including information in electronic format, needed in order to conduct their audits.
3. The European Anti-fraud Office (OLAF) may carry out investigations, including on-the-spot checks and inspections, in accordance with the provisions and procedures laid down in Regulation (EC) No 1073/1999 of the European Parliament and of the Council¹⁷ and Council Regulation (Euratom, EC) No 2185/96¹⁸ with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract funded in accordance with this Decision.

¹⁷ OJ L 136, 31.5.1999, p. 1.

¹⁸ OJ L 292, 15.11.1996, p. 2.

4. Contracts, grant agreements and grant decisions, resulting from the implementation of this Decision shall contain provisions expressly empowering the Commission, EURAMET, the Court of Auditors and OLAF to conduct such audits and investigations, according to their respective competences.
5. In implementing EMPIR, the Participating States shall take the legislative, regulatory, administrative and other measures necessary for protecting the Union's financial interests, in particular, to ensure full recovery of any amounts due to the Union in accordance with Regulation (EU, Euratom) No 966/2012 and Delegated Regulation (EU) No 1268/2012.

Article 11
Communication of information

1. At the request of the Commission, EURAMET shall send any information necessary for the preparation of the reports referred to in Article 12.
2. The Participating States shall submit to the Commission, through EURAMET, any information requested by the European Parliament, the Council or the Court of Auditors concerning the financial management of EMPIR.
3. The Commission shall include the information referred to in paragraph 2 in the reports referred to in Article 12.

Article 12
Evaluation

1. By 31 December 2017 the Commission shall conduct an interim evaluation of EMPIR. The Commission shall prepare a report on that evaluation which includes conclusions of the evaluation and observations by the Commission. The Commission shall send that report to the European Parliament and to the Council by 30 June 2018.
2. At the end of the Union's participation in EMPIR, but no later than 31 December 2024, the Commission shall conduct a final evaluation of EMPIR. The Commission shall prepare a report on that evaluation which includes results of that evaluation. The Commission shall send that report to the European Parliament and the Council.

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
Addressees

This Decision is addressed to the Member States.

Done at Brussels,

For the European Parliament
The President

For the Council
The President

ANNEX I

Objectives of EMPIR

EMPIR shall pursue the following general objectives:

- (a) provide appropriate, integrated and fit-for-purpose metrology solutions supporting innovation and industrial competitiveness as well as measurement technologies addressing societal challenges such as health, environment and energy including support to policy development and implementation;
- (b) create an integrated European Metrology Research system with critical mass and active engagement at regional, national, European and international level.

ANNEX II

Indirect actions supported by EMPIR

1. EMPIR may support the following indirect actions in the area of joint research and technological development:
 - 1.1. scientific-technical actions supporting fundamental scientific metrology laying the basis for all successive steps including applied metrology research and development and metrology related services;
 - 1.2. metrology research to provide solutions for societal challenges focusing on contributions for energy, environment and health;
 - 1.3. research in order to develop novel measurement instrumentation aiming at industrial take-up of metrological technologies to stimulate innovation in industry;
 - 1.4. pre-normative and co-normative metrology research and development for priority documentary standards aiming to use the expertise of metrology institutes of *the participating states* to support policy implementation and accelerate innovative products and services to market;
 - 1.5. metrology capacity-building activities on different technological levels aiming to achieve a balanced and integrated metrology system in *the participating states*.
2. EMPIR may support further actions for the dissemination and exploitation of results of metrology research.

EMPIR may support other actions specifically addressing metrology institutes which have no or limited scientific capabilities, by supporting them in using other European Union, national or regional programmes for training and mobility, cross-border cooperation or investment in metrology infrastructure.
3. EMPIR may support organisation of networking activities to promote EMPIR and maximise its impact.
4. The indirect actions referred to in point 1 shall be carried out by NMI and DI. However, EMPIR shall encourage and support the participation of other entities. This approach is expected to lead to around 15% of the budget of EMPIR going to those entities.

ANNEX III

Implementation and governance of EMPIR

I Role of EURAMET

1. EURAMET shall be responsible for implementing EMPIR, subject to Article 3. It shall manage the Union's financial contribution to EMPIR and shall be responsible for preparing and implementing the annual work plan, the organisations of calls for proposals, the handling of proposal evaluation and ranking and any other activities resulting from the annual work plan. EURAMET shall be responsible for grant management including signature of grant agreements, the receipt, allocation and monitoring of the use of the Union's financial contribution and payments to EMPIR participants in the selected projects.

The monitoring of the Union's financial contribution shall cover all the activities of control and audit, ex-ante and/or ex-post control, necessary to carry out the tasks delegated to EURAMET by the Commission. Those activities shall aim to gain reasonable assurance on the legality and regularity of the underlying transactions, and on the eligibility of the costs declared under grant agreements.

2. EURAMET may entrust certain administrative and logistical tasks in implementing EMPIR to the participating states.

II The organisational structure of EURAMET involved in implementing EMPIR

1. The EMPIR Committee shall be EMPIR's decision-making body.

The EMPIR Committee shall be composed of representatives of EURAMET members from the participating states. The voting weights shall be calculated from the national commitments according to a square root rule.

It shall take in particular decisions on the strategic research and innovation agenda, the planning of calls for proposals, the evaluation review procedure, the selection of the projects to be funded according to the ranking lists and the monitoring of progress of the funded projects. It shall adopt the annual work plan after obtaining approval from the Commission.

The Commission shall have observer status in the meetings of the EMPIR Committee. However, the adoption of the annual work plan by the EMPIR Committee shall require the prior consent of the Commission. The EMPIR Committee shall invite the Commission to its meetings and send the Commission the relevant documents. The Commission may take part in the discussions in the EMPIR Committee.

2. The Chairperson of the EMPIR committee and his/her deputy shall be elected by the EMPIR Committee. The Chairperson of the EMPIR committee shall be one of the two vice-chairpersons of EURAMET. The Chairperson of the EMPIR committee shall represent EURAMET in matters related to EMPIR.
3. The Research Council shall be composed of high-level experts from industry, research, academia and international stakeholder organisations. It shall provide independent strategic advice on the annual work plan of EMPIR. The members of the Research Council shall be appointed by the EURAMET General Assembly.
4. The Secretariat of EURAMET providing general administrative support for EURAMET shall keep the bank accounts for EMPIR.

5. The Management support unit shall be established as part of the Secretariat of EURAMET and shall be responsible for the implementation and the day-to-day management of EMPIR.

LEGISLATIVE FINANCIAL STATEMENT

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

- 1.1. Title of the proposal/initiative
- 1.2. Policy area(s) concerned in the ABM/ABB structure
- 1.3. Nature of the proposal/initiative
- 1.4. Objectives
- 1.5. Grounds for the proposal/initiative
- 1.6. Duration and financial impact
- 1.7. Management mode(s) envisaged

2. MANAGEMENT MEASURES

- 2.1. Monitoring and reporting rules
- 2.2. Management and control system
- 2.3. Measures to prevent fraud and irregularities

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

- 3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected
- 3.2. Estimated impact on expenditure
 - 3.2.1. *Summary of estimated impact on expenditure*
 - 3.2.2. *Estimated impact on operational appropriations*
 - 3.2.3. *Estimated impact on appropriations of an administrative nature*
 - 3.2.4. *Compatibility with the current multiannual financial framework*
 - 3.2.5. *Third-party contributions*
- 3.3. Estimated impact on revenue

LEGISLATIVE FINANCIAL STATEMENT

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Participation of the European Union in a European Metrology Programme for Innovation and Research (EMPIR) jointly undertaken by several Member States

1.2. Policy area(s) concerned in the ABM/ABB structure¹⁹

Research and Innovation: Horizon 2020 Framework Programme

1.3. Nature of the proposal/initiative

☐ The proposal/initiative relates to **a new action**

☐ The proposal/initiative relates to **a new action following a pilot project/preparatory action**²⁰

☐ The proposal/initiative relates to **the extension of an existing action**

☒ The proposal/initiative relates to **an action redirected towards a new action**

1.4. Objectives

1.4.1. The Commission's multiannual strategic objective(s) targeted by the proposal/initiative

The overall objectives of EMPIR are to:

(1) Provide integrated and fit-for-purpose metrology solutions supporting innovation and industrial competitiveness as well as measurement technologies addressing societal challenges such as health, environment and energy including support to policy development and implementation.

(2) Create an integrated European Metrology Research system with critical mass and active engagement at regional, national, European and international level.

1.4.2. Specific objective(s) and ABM/ABB activity(ies) concerned

The main operational objective of this legislative proposal, namely the Union's participation in a Joint R&D and Innovation Programme undertaken between several Member States in the field of metrology, is already provided for in the Horizon 2020 Framework Programme for RTD.

The specific objective associated with this operational objective is the establishment and operation of EMPIR with R&D projects as the main output.

1.4.3. Expected result(s) and impact

Specify the effects which the proposal/initiative should have on the beneficiaries/groups targeted.

EMPIR will combine Union and national investments in metrology research in order to provide appropriate, integrated and fit-for-purpose metrology solutions supporting innovation and industrial competitiveness as well as measurement technologies addressing societal challenges such as health, environment and energy.

¹⁹ ABM: Activity-Based Management — ABB: Activity-Based Budgeting.
²⁰ As referred to in Article 49(6)(a) or (b) of the Financial Regulation.

This will support the creation of an integrated European Metrology Research system with critical mass and active engagement at regional, national, European and international level.

1.4.4. *Indicators of results and impact*

Specify the indicators for monitoring implementation of the proposal/initiative.

The following results are expected that will be measured through related indicators:

Boost industrial uptake and improve standardisation

Indicators: (a) turnover from new or significantly improved products and services that can be attributed to the research activities of EMPIR and its predecessors [target: EUR 400 million], (b) share of industry-driven research projects [target: 20 %], (c) value of business investment in EMPIR projects, (d) share of dedicated normative research [target: 10 %], (e) CEN/CENELEC/ISO/IEC Technical Committees and equivalent standardisation bodies with potential to benefit directly from EMPIR projects engaging with the programme.

Underpin a coherent, sustainable and integrated European metrology landscape to fully exploit the EU potential.

Indicators: (f) share of dedicated national metrology research investments in Europe coordinated or influenced via the programme [target: 50 %], (g) participation of non-NMI/DI scientists in the programme [target: double compared to EMRP] (h) level of investments from Structural Funds and other European, national or regional programmes in metrology-related activities (i) European leadership in international metrology committees.

Programme efficiency

Indicators: (j) quality of the proposal submission, evaluation and selection procedure, (k) time to grant, (l) running costs for operating EMPIR [target: ≤ 5 %].

Significant socio-economic benefits and contribution to key policy objectives

This will be assessed as part of the independent interim and final evaluation, in addition to the other indicators.

1.5. **Grounds for the proposal/initiative**

1.5.1. *Requirement(s) to be met in the short or long term*

EMPIR will combine Union and national resources and ensure that metrology research has a greater impact on growth and solving socio-economic challenges and address the on-going fragmentation and structural weaknesses of the European metrology research and innovation system.

1.5.2. *Added value of EU involvement*

The added-value of public intervention at EU level lies in the EU's capacity to bring together compartmentalised national research programmes, help design common research and funding strategies across national borders, and achieve a critical mass of actors and investments required to tackle the challenges the metrology research system is facing while raising the efficiency of public spending.

EMPIR will enhance measurement capabilities with strategic impact for Europe. This will be done in a coherent and non-fragmented way with higher critical mass and lead to more cost-effective and interoperable solutions.

1.5.3. *Lessons learned from similar experiences in the past*

The interim evaluation of the predecessor EMRP operated under FP7 identified certain shortcomings that have been addressed in the design of EMPIR (Dedicated support to innovation, standardisation, capacity building and opening the programme to the best science).

1.5.4. *Compatibility and possible synergy with other appropriate instruments*

EMPIR will contribute to a number of flagship initiatives under EUROPE 2020 which are affected by metrology research, including ‘Innovation Union’, ‘A digital agenda for Europe’, ‘Resource-efficient Europe’ and ‘An industrial policy for the globalisation era’.

EMPIR will strongly contribute to achieving the objectives of Horizon 2020 by supporting topics of direct relevance to Horizon 2020 priorities.

1.6. **Duration and financial impact**

X Proposal/initiative of **limited duration**

- Proposal/initiative in effect from 1/1/2014 to 31/12/2024
- Financial impact from 2014 to 2020 for commitment appropriations and 2014 – 2024 for payment appropriations

☐ Proposal/initiative of **unlimited duration**

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.7. **Management mode(s) envisaged²¹**

☐ **Centralised direct management** by the Commission

X **Centralised indirect management** with the delegation of implementation tasks to:

- ☐ executive agencies
- ☐ bodies set up by the Communities²²
- X national public-sector bodies/bodies with public-service mission
- ☐ persons entrusted with the implementation of specific actions pursuant to Title V of the Treaty on European Union and identified in the relevant basic act within the meaning of Article 49 of the Financial Regulation

☐ **Shared management** with the Member States

☐ **Decentralised management** with third countries

☐ **Joint management** with international organisations **(to be specified)**

If more than one management mode is indicated, please provide details in the ‘Comments’ section.

²¹ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site: http://www.cc.cec/budg/man/budgmanag/budgmanag_en.html.

²² As referred to in Article 185 of the Financial Regulation.

A dedicated implementation structure entitled *EURAMET (hereinafter EURAMET)* has been established and is governed by the participating states for managing the initiative. The Union's financial contribution to the initiative will be provided through this organisation.

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

Once established, the EMPIR will be monitored through annual reports provided by *EURAMET*.

This will be accompanied by an interim evaluation conducted not later than 2017. At the end of the Union's participation in EMPIR, and not later than 2024, an independent final evaluation will review the achievement of objectives, outcomes and impacts.

2.2. Management and control system

2.2.1. Risk(s) identified

- 1) Capacity of the dedicated implementation structure *EURAMET*. to manage the Union's budget and to protect the EU's financial interests.
- 2) Capacity of participating states to finance their contributions to the programme.

2.2.2. Control method(s) envisaged

Risk 1: see chapter 2.3.

Risk 2: EU funds only can be released upon evidence of national financial commitments, both at annual financing agreement level and at the level of payments towards national participants in the projects. Another safeguard is that EU funding cannot exceed 50% of the total public funding provided in the programme and EU funding cannot cover administrative expenditure.

2.2.3. Costs and benefits of controls and probable non-compliance rate

The control system set up for implementation of the programme will be designed so as to provide reasonable assurance of achieving adequate management of the risks relating to the effectiveness and efficiency of the operations as well as the legality and regularity of the underlying transactions, taking due account the special nature of EMPIR as public-public partnership. The control system must strike a balance between trust and control, taking into account administrative and other costs of controls at all levels, especially for participants, so that it can best contribute to achieving the objectives of the Horizon 2020 Framework Programme.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures.

Article 3 of the Decision establishing EMPIR states that the Union's contribution is conditional upon the compliance by *EURAMET* with the reporting requirements set out in Article 60(5) of Regulation (EU, Euratom) No 966/2012. According to Article 8, the Commission may terminate, reduce or suspend its contribution.

The delegation agreement to be concluded between the Commission and EURAMET in compliance with Article 61 of Regulation (EU, Euratom) No 966/2012 will provide for the Commission to supervise the activities of EURAMET, in particular by carrying out audits.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected

- Existing budget lines in order of multiannual financial framework headings and budget lines. TABLE TO BE UPDATED AFTER AGREEMENT

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
	Number [Description]	Diff./non-diff. (23)	from EFTA countries 24	from candidate countries ²⁵	from third countries	within the meaning of Article 18(1)(aa) of the Financial Regulation
1A	08.0204 Horizontal activities of Horizon 2020	Diff./non-diff.	YES	YES	YES	YES
1A	08 02 02 01 Leadership in nanotechnologies, advanced materials, biotechnology and advanced manufacturing and processing	Diff./non-diff.	YES	YES	YES	YES
1A	08 02 03 01 Improving lifelong health and wellbeing	Diff./non-diff.	YES	YES	YES	YES
1A	08 02 03 02 Improving food security, developing sustainable agriculture, marine and maritime research and the bio-economy	Diff./non-diff.	YES	YES	YES	YES
1A	08 02 03 03 Making the transition to a reliable, sustainable and competitive energy system	Diff./non-diff.	YES	YES	YES	YES
1A	08 02 03 04 Achieving a European transport system that is resource-efficient, environmentally friendly, safe and seamless	Diff./non-diff.	YES	YES	YES	YES
1A	08 02 03 05 Achieving a resource-efficient and climate change resilient economy and a sustainable supply of raw materials	Diff./non-diff.	YES	YES	YES	YES
1A	09 04 02 01 Leadership in information and communications technology	Diff./non-diff.	YES	YES	YES	YES

²³ Diff. = Differentiated appropriations / Non-Diff. = Non-differentiated appropriations.

²⁴ EFTA: European Free Trade Association.

²⁵ Candidate countries and, where applicable, potential candidate countries from the Western Balkans.

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework:	Number 1A	Heading 1A Competitiveness for growth and jobs
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DG: RTD,CNECT			Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021- 2024	TOTAL ²⁶
• Operational appropriations											
08 02 02 01 Leadership in nanotechnologies, advanced materials, biotechnology and advanced manufacturing and processing	Commitments	(1)	5,000	8,000	8,500	8,500	8,000	7,500	7,000		52,500
	Payments	(2)		0,500	5,300	8,050	8,500	8,450	7,950	13,750	52,500
08 02 03 01 Improving lifelong health and wellbeing	Commitments	(1a)	5,714	9,143	9,714	9,714	9,143	8,572	8,000		60,000
	Payments	(2a)		0,571	6,057	9,200	9,714	9,658	9,086	15,714	60,000
08 02 03 02 Improving food security, developing sustainable agriculture, marine and maritime research and the bio-economy	Commitments	(1b)	1,429	2,285	2,429	2,429	2,285	2,143	2,000		15,000
	Payments	(2b)		0,143	1,514	2,300	2,429	2,414	2,271	3,929	15,000
08 02 03 03 Making the transition to a reliable, sustainable and competitive energy system	Commitments	(1c)	5,714	9,144	9,714	9,714	9,143	8,571	8,000		60,000
	Payments	(2c)		0,572	6,057	9,200	9,714	9,657	9,086	15,714	60,000
08 02 03 04 Achieving a European transport system that is resource-efficient, environmentally friendly, safe and seamless	Commitments	(1d)	2,143	3,428	3,643	3,643	3,429	3,214	3,000		22,500
	Payments	(2d)		0,214	2,272	3,450	3,643	3,621	3,407	5,893	22,500
08 02 03 05 Achieving a resource-efficient and climate change resilient economy and a sustainable	Commitments	(1e)	5,000	8,000	8,500	8,500	8,000	7,500	7,000		52,500
	Payments	(2e)		0,500	5,300	8,050	8,500	8,450	7,950	13,750	52,500

²⁶

The amount is indicative and will depend on the final amount for DG RTD and DG CNECT under the above mentioned challenge(s) /theme(s).

supply of raw materials											
TOTAL appropriations for DG RTD	Commitments	=1+1a - e	25,000	40,000	42,500	42,500	40,000	37,500	35,000		262,500
	Payments	=2+2a - e		2,500	26,500	40,250	42,500	42,250	39,750	68,750	262,500
09 04 02 01 Leadership in information and communications technology	Commitments	(1f)			5,000	5,000	7,500	10,000	10,000		37,500
	Payments	(2f)				0,500	5,000	5,250	7,750	19,000	37,500
TOTAL appropriations for DG CNECT	Commitments	=1f			5,000	5,000	7,500	10,000	10,000		37,500
	Payments	=2f				0,500	5,000	5,250	7,750	19,000	37,500
		(3)									
TOTAL appropriations for DG RTD, CNECT	Commitments	=1+1a - f	25,000	40,000	47,500	47,500	47,500	47,500	45,000		300,000
	Payments	=2+2a - f		2,500	26,500	40,750	47,500	47,500	47,500	87,750	300,000

• TOTAL operational appropriations	Commitments	(4)	25,000	40,000	47,500	47,500	47,500	47,500	45,000		300,000
	Payments	(5)		2,500	26,500	40,750	47,500	47,500	47,500	87,750	300,000
• TOTAL appropriations of an administrative nature financed from the envelope for specific programmes(08 01 05)		(6)	0,131	0,134	0,136	0,139	0,142	0,145	0,148		0,975
TOTAL appropriations under HEADING 1A of the multiannual financial framework	Commitments	=4+ 6	25,131	40,134	47,636	47,639	47,642	47,645	445,148		300,975
	Payments	=5+ 6	0,131	2,634	26,636	40,889	47,642	47,645	47,648	87,750	300,975

This table shows the annual source of financing of EMPIR. However, the budget for EMPIR will be implemented by the budget line 08.0204 Horizontal activities of Horizon 2020.

Heading of multiannual financial framework	1A	Heading 1A Competitiveness for growth and jobs ‘Administrative expenditure’							
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EUR million (to three decimal places)

		Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	TOTAL
DG: RTD									
• Human resources		0,131	0,134	0,136	0,139	0,142	0,145	0,148	0,975
• Other administrative expenditure									
TOTAL DG RTD	Appropriations	0,131	0,134	0,136	0,139	0,142	0,145	0,148	0,975

TOTAL appropriations for HEADING 1A of the multiannual financial framework	(Total commitments = Total payments)	0,131	0,134	0,136	0,139	0,142	0,145	0,148	0,975
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EUR million (to three decimal places)

		Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021 - 2024	TOTAL
TOTAL appropriations under HEADINGS 1 to 5 of the multiannual financial framework	Commitments	25,131	40,134	47,636	47,639	47,642	47,645	445,148		300,975
	Payments	0,131	2,634	26,636	40,889	47,642	47,645	47,648	87,750	300,975

3.2.2. Estimated impact on operational appropriations

- ☐ The proposal/initiative does not require the use of operational appropriations
- ☒ The proposal/initiative requires the use of operational appropriations, as explained below:

Commitment appropriations in EUR million (to three decimal places)

Indicate objectives and outputs ↓			Year 2014		Year 2015		Year 2016		Year 2017		Year 2018		Year 2019		Year 2020		TOTAL	
	Type	Average cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Total Number	Total Cost
Establishment and operation of the EMPIR																		
Output*, **	R&D projects		25	50,000	40	80,000	47	95,000	47	95,000	47	95,000	47	95,000	47	90,000	300	600,000
Subtotal for specific objective No 1			25	50,000	40	80,000	47	95,000	47	95,000	47	95,000	47	95,000	47	90,000	300	600,000
TOTAL COST			25	50,000	40	80,000	47	95,000	47	95,000	47	95,000	47	95,000	47	90,000	300	600,000

1 The EU contribution to the total costs shall not exceed EUR 300 million.

(*) The administrative costs of *EURAMET e.V.* for the implementation of EMPIR, within a ceiling of EUR 30 million [5%], will be covered by the participating States. without any Union contribution.

(**) An average cost of EUR 2 million is assumed for each EMPIR project. The overall programme budget of EUR 600 million is estimated to fund approximately 300 projects.

3.2.3. Estimated impact on appropriations of an administrative nature

3.2.3.1. Summary

- ☐ The proposal/initiative does not require the use of appropriations of an administrative nature
- ☒ The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

EUR million (to three decimal places)

	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	TOTAL
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HEADING 5 of the multiannual financial framework								
Human resources								
Other administrative expenditure								
Subtotal HEADING 5 of the multiannual financial framework								

Outside HEADING 5²⁷ of the multiannual financial framework								
Human resources	0,131	0,134	0,136	0,139	0,142	0,145	0,148	0,975
Other expenditure of an administrative nature								
Subtotal outside HEADING 5 of the multiannual financial framework	0,131	0,134	0,136	0,139	0,142	0,145	0,148	0,975

TOTAL	0,131	0,134	0,136	0,139	0,142	0,145	0,148	0,975
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The administrative appropriations required will be met by the appropriations of the DG which are already assigned to management of the action and/or which have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints,

²⁷ Technical and/or administrative assistance and expenditure in support of the implementation of EU programmes and/or actions (former 'BA' lines), indirect research, direct research.

3.2.3.2. Estimated requirements of human resources

- ☐ The proposal/initiative does not require the use of human resources,
- ☒ The proposal/initiative requires the use of human resources, as explained below:

Estimate to be expressed in full time equivalent units

	Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	TOTAL
• Establishment plan posts (officials and temporary agents)								
08 01 01 01 (Headquarters and Commission's Representation Offices)								
XX 01 01 02 (Delegations)								
08 01 05 01 (Indirect research)	1	1	1	1	1	1	1	7
10 01 05 01 (Direct research)								
• External personnel (in Full Time Equivalent unit: FTE)²⁸								
XX 01 02 01 (CA, INT, SNE from the 'global envelope')								
XX 01 02 02 (CA, INT, JED, LA and SNE in the delegations)								
XX 01 04 yy ²⁹	- at headquarters							
	- in delegations							
XX 01 05 02 (CA, SNE, INT — Indirect research)								
10 01 05 02 (CA, SNE, INT — Direct research)								
Other budget lines (specify)								
TOTAL	1	1	1	1	1	1	1	7

²⁸ CA= Contract Agent; LA = Local Agent; SNE = Seconded National Expert; INT = agency staff ('Intérimaire'); JED= 'Jeune Expert en Délégation' (Young Experts in Delegations).

²⁹ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

The human resources required will be met by staff from DG Research & Innovation who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints,

Description of tasks to be carried out:

Officials:

Participation in meetings of the EMPIR committee and the meetings of the EMPIR Research Council as well as workshops and dissemination events

Observer in EMPIR proposal evaluations

Negotiation and preparation of agreement with the DIS

Preparation of annual financing decision and related payments

Approval of the annual work plan

Monitoring of implementation based on the yearly reports, and coordination of the interim and final evaluations

Financial and legal auditing of the implementation of EMPIR

External staff n/a

3.2.4. *Compatibility with the current multiannual financial framework*

- ☒ Proposal/initiative is compatible with the current multiannual financial framework,
- ☐ Proposal/initiative will entail reprogramming of the relevant heading in the multiannual financial framework,
- ☐ Proposal/initiative requires application of the flexibility instrument or revision of the multiannual financial framework,

3.2.5. *Third-party contributions*

- The proposal/initiative provides for the co-financing estimated below:

Appropriations in EUR million (to three decimal places)

	2014	2015	2016	2017	2018	2019	2020	Total
Participating States	25,000	40,000	47,500	47,500	47,500	47,500	45,000	300,000
TOTAL appropriations co-financed	25,000	40,000	47,500	47,500	47,500	47,500	45,000	300,000

Co-financing details

A maximum European Union contribution of up to EUR 300 million shall be provided, subject to a contribution of at least EUR 300 million by the participating states between 2014-2024 from national budgets to EMPIR.

3.3. **Estimated impact on revenue**

- ☒ Proposal/initiative has no financial impact on revenue,
- ☐ Proposal/initiative has the following financial impact:
 - ☐ on own resources
 - ☐ on miscellaneous revenue