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*Plenary sitting*

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# **REPORT**

on the assessment of Horizon 2020 implementation in view of its interim evaluation and the Framework Programme 9 proposal (2016/2147(INI))

Committee on Industry, Research and Energy

Rapporteur: Soledad Cabezón Ruiz

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## **EXPLANATORY STATEMENT - SUMMARY OF FACTS AND FINDINGS**

### **1. Procedure and Sources**

#### **1.1 Aims and timing of the report**

On 24 May 2016, the Rapporteur was entrusted with the task of preparing a report on the implementation of the Horizon 2020 Research FP (H2020).

The timing of the adoption by the EP of its implementation report was aligned with the timetable of the Commission who will adopt its Communication in October 2017 and its proposal for FP9 in spring 2018, to ensure the transmission of the EP's input for the interim evaluation of H2020 and the recommendations for the next research FP.

#### **1.2. Sources and methods**

The elaboration of this report took the analytical work done by the ITRE H2020 Working Group in place since 2015, which has held over 18 meetings with experts, stakeholders and the Commission and has elaborated a working paper on H2020. The EP monitors the implementing measures of H2020 and receives by DG RTD information dispersed to the Research Working Party of the Council. Answers to written questions to the Commission were a source of information, too.

The EPRS launched a European Implementation Assessment Study and has also published several other briefings and the Policy Departments within DG IPOL of the EP have commissioned several studies.

Two fact-finding missions were organised, to Portugal and Spain in November 2016 and to Germany and Poland in February 2017 and a Public Hearing on 'What future for EU-Research policy: taking stock and looking ahead' was organised in 29 November 2016.

The rapporteur has organised meetings with stakeholders and received many position papers from them. Official Commission reports and Communications were also valuable information sources.

*Paragraph 2, 3 and 4 are in the Annex.*

### **5. Vision of the rapporteur**

H2020 is the biggest research programme in the world. Its aim of responding to societal and economic challenges provides us with a starting point for this assessment in acknowledging its success, and examining those aspects that need to be improved so its ambitious goals can be achieved efficiently and sustainably, and difficulties in implementation arising from its complexity overcome.

Horizon 2020 has its origins within the framework of the Europe 2020 goals – which prioritise innovation, enhanced competitiveness, greater SME involvement, and excellence – and was shaped in particular by the economic crisis and de-industrialisation in Europe. H2020's three pillar structure, simplification, open science, the introduction of new challenges, the search for synergies between EU funds and widening participation to improve R&D ratios in the regions falling behind most, and gender mainstreaming, these all constitute new lines or ones that have been further strengthened as compared to the FP7, plus the approximate 30 % budget increase.

However, the deep and rapid changes facing European society (nationalist populism, xenophobia, international terrorism, inequalities, migration flows, technological progress, social and healthcare challenges, climate change or sustainability of natural resources) call for a new paradigm requiring answers from society's perspective and in its interest, while preserving the values and principles that characterise the EU.

Europe is unparalleled as the region in the world where the high level of economic and social development, laws, freedoms and well-being all combine to give it the added value they confer on its identity. These must be preserved in this new context and must understand that R&D is key to addressing it. Science must be understood in order to have a knowledge society at the service of its citizens and in their interests, a sustainable and inclusive society, where the scientific community and industry are means through which to achieve the ultimate aim of science that is by and for society.

H2020 has thus constituted a reaction to the changing world and the next FP9 should continue to follow this line. However, all EU stakeholders need to boost their commitment to R&D.

In 2015, the EU invested 2.03 % of GDP in R&D (2.04 % in 2014 and 1.74 % in 2005, with investment by individual countries ranging from 0.48 % to 3.26 %). This is far from the Europe 2020 Strategy's 3 % target, which only Finland (3.2 %), Sweden (3.2 %), Denmark (3.1 %) and Austria (3 %) achieved, closely followed by Germany (2.9 %), and well behind South Korea (4.3 %), Israel (4.1 %) and Japan (3.6 %).

These figures make clear the competition facing the EU and the disparities in Member States' investment in R&D. These must be reduced, not just so that the EU hits the 3 % target by 2020, but also so it can reach a higher figure enabling it to improve its global competitiveness and set its sights on 4 % in a not too distant future.

What is required to tackle the gaps between regions, in addition to budget, is highly qualified human capital, technological infrastructure and university-business collaboration. The more innovative countries have a well-balanced national R&D system involving top quality academic research that is open to collaboration and top quality human capital, with a framework for R&D funding and risk capital so that enterprises develop new technologies. There is also a high level of business-sector investment in innovation, and of collaboration and innovation networks between companies and the public sector.

Key to all this is progress on the European Research Area, on working towards a 3 % of GDP budget target for R&D in all Member States, on enhanced widening or synergies between EU funds and the FP (simplification, rule compatibility, RIS alignment and compliance with the additionality principle for funds), and on developing and maintaining technological infrastructure. In short, development and cohesion between regions has to come from

convergence on R&D, which would make the European Union more competitive.

Financing for innovation must be available at all stages, not just the close-to-market ones, and make greater headway in the internal innovation market through a proper regulatory framework alongside public policies so that businesses maintain and improve their competitiveness.

The role of young people and financing of disruptive innovation must not be underestimated. Funding should not just be directed at technological innovation; knowledge which can be applied in the medium or long term is also generated in the social sphere, but may be disregarded on account of there being too great a focus on the market and immediate results, and failing to take account of a more overall vision.

However, scientific excellence, basic research, must continue to be a FP key priority in order to tackle the challenges the future will bring. Europe has internationally recognised centres of excellence, but needs more outstanding centres and regions. Ensuring that researchers' pay is not a stumbling block hindering their mobility, and that in assessing a centre the impact of its projects is not the key consideration, overshadowing the excellence of the centre itself, is important, as is encouraging the opening and participation of new centres and bodies.

For R&D to meet societal challenges it must be understood as structural and not of the immediate moment. Education is key. The connection between R&D and education, starting in early stages of schooling and continuing throughout the whole educational path, is vital. Society's involvement in research should be promoted and its findings and activities made widely known within the context of science for schools. R&D should be seen as a medium-to-long-term route, with society, and the pre-university educational community in particular, being better informed about the FP. The countries with the best results in science and innovation have flexible education systems that foster creativity, critical thinking and active participation by pupils. Adding the term 'education' to the ERA, making it the EERA, should therefore be proposed.

This re-orientation of education systems, with the emphasis on highly qualified human capital, is key to responding with new jobs to manufacturing work being replaced by technology.

The continual university has a vital role to play as the main source of knowledge and conditions enabling it to draw closer to innovation are required; the relationship between universities and the industrial sector must be strengthened to improve enterprises' capacity to innovate. The intermediary role played by technology parks should be provided for in this respect.

With reference to the public-private relationship backing H2020, the aim here is to help improve innovation in the industrial fabric and develop areas of interest for research. However, there should be a study conducted on the differences between big enterprises and SMEs, analysing whether they have similar resource needs, assessing their impact and checking that benefits are fair in their social impact. It should be made clear whether big enterprises do require public research funding, apart from for specific projects requiring major infrastructure, big budgets and with a high added value for the whole of society in the EU, or whether, on the contrary, an innovative framework and progress in the internal innovation market would be the most efficient contribution public policies could provide. Resource efficiency and the impact of findings are necessary. As regards SME participation, the answer lies in their predominance in Europe's industrial fabric and their need to improve their R&D capacities and growth.

Moreover, a return on public investment has to be guaranteed – not just through the social benefits of job creation – but also through the introduction of criteria on social responsibility and fairness to ensure the public can benefit from advances to which the public sector has contributed.

Open science, championed by H2020 for its incremental potential for knowledge itself and the economy, must be stepped up. Likewise participation by all stakeholders, both public and private, in support and access must be part of the necessary equilibrium and feedback that will enable all of knowledge's potential to be used.

With reference to social networks, the SSHs are fundamental to studying new challenges such as terrorism, populism, migration flows and inequality, and as such should receive cross-cutting recognition in all other scientific disciplines.

Moreover, social and healthcare challenges require greater effort and a holistic vision; clear responses are needed to demographic changes, the rise in chronic diseases, precision medicine or access to technologies, making healthcare and social service systems sustainable. Public health, prevention, environmental health, technology, digitisation and the relationship between health and society must all fit into an overall framework offering an effective, comprehensive and efficient response through the reforms needed in the EU's welfare system.

The commitment to understanding and fighting cancer is a top priority, with programmes in this field strengthened, as well as a firm and serious strategy to combat microbial resistance. Appropriate financing, a suitable framework and coordination of EU R&D resources are all called for here.

Lastly the agri-food sector in Europe is facing challenges to sufficiency, competitiveness, and social and environmental sustainability. It needs to step up research and innovation, and a more suitable framework enabling SMEs, which have to compete with foreign multinationals, to develop and apply innovation.

Greater effort is needed on gender equality. In none of the sectors, apart from the advisory sector, has the minimum percentage of 40 % of women has been reached. Figures for women sitting on expert panels or involved in major projects or their coordination are also still low. Their participation in the various societal challenges or the industrial pillar does not match progress made on their involvement in technological careers. In short, cross-cutting gender mainstreaming must be demanded, especially in project development, the line-up of research and evaluation groups and the disaggregation of data in assessing outcomes, as gender equality must be seen and understood as being necessary to a more unified society and wealth through the inclusion of greater knowledge and other viewpoints and needs.

As regards international cooperation, the figures show a fall compared to FP7, which must be reversed. Scientific diplomacy can play a key role in resolving some recent societal challenges. Initiatives such as PRIMA must be acknowledged as, in seeking answers to major challenges such as food security or water availability, they can contribute indirectly to immigration by increasing cooperation between countries and regions and improving their development.

The H2020 interim review enables conclusions to be drawn and recommendations made for the forthcoming FP9 in which account must be taken of the continuity, predictability and stability

of the scientific community and ongoing projects. Aside from those adjustments that must be made to respond to new challenges, the structure and underlying basis of H2020 must be strengthened and the following implemented: greater transparency, clarity and simplification; less fragmentation; better assessment and feedback with researchers; and ex-post monitoring and measurement of the impact of public funding.

There must be sufficient resources for FP9 and they must be guaranteed. Budget cuts while it is underway must be avoided. FP9 must be funded as befits an ambitious R&D programme and guaranteed a budget of EUR 100 billion as a starting point therefore.

In short, knowledge can and must contribute to the well-being of society and to the EU's competitiveness in the world, for which reason H2020 has to be regarded as a success and FP9 strengthened.

## MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

### **on the assessment of Horizon 2020 implementation in view of its interim evaluation and the Framework Programme 9 proposal (2016/2147(INI))**

*The European Parliament,*

- having regard to 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)<sup>1</sup>,
- having regard to Council Regulation (Euratom) No 1314/2013 of 16 December 2013 on the Research and Training Programme of the European Atomic Energy Community (2014-2018) complementing the Horizon 2020 Framework Programme for Research and Innovation<sup>2</sup>,
- having regard to Regulation (EU) No 1290/2013 of the European Parliament and of the Council of 11 December 2013 laying down the rules for participation and dissemination in Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020)<sup>3</sup>,
- having regard to the Council Decision of 3 December 2013 establishing the specific programme implementing Horizon 2020 –the Framework Programme for Research and Innovation (2014-2020),
- having regard to Regulation (EU) No 1292/2013 of the European Parliament and of the Council of 11 December 2013 amending Regulation (EC) No 294/2008 establishing the European Institute of Innovation and Technology<sup>4</sup>,
- having regard to Decision No 1312/2013/EU of the European Parliament and of the Council of 11 December 2013 on the Strategic Innovation Agenda of the European Institute of Innovation and Technology (EIT): the contribution of the EIT to a more innovative Europe<sup>5</sup>,
- having regard to Council Regulations (EU) 557/2014, 558/2014, 559/2014, 560/2014 and 561/2014 of 6 May 2014<sup>6</sup> and Council Regulations (EU) 642/2014<sup>7</sup> and 721/2014<sup>8</sup> of 16 June 2014 establishing the Joint Undertakings funded under Horizon 2020,
- having regard to Decisions (EU) 553/2014, 554/2014, 555/2014 and 556/2014 of the European Parliament and of the Council of 15 May 2014 establishing the Article 185

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<sup>1</sup> OJ L 347, 20.12.2013, p. 104.

<sup>2</sup> OJ L 347, 20.12.2013, p. 948.

<sup>3</sup> OJ L 347, 20.12.2013, p. 81.

<sup>4</sup> OJ L 347, 20.12.2013, p. 174.

<sup>5</sup> OJ L 347, 20.12.2013, p. 892.

<sup>6</sup> OJ L 169, 7.6.2014, pp. 54-178.

<sup>7</sup> OJ L 177, 17.6.2014, p. 9.

<sup>8</sup> OJ L 192, 1.7.2014, p. 1.

P2Ps funded under Horizon 2020<sup>1</sup>,

- having regard to the Issue papers for the High Level Group on maximising the impact of EU research and innovation programmes of 3 February 2017<sup>2</sup>,
- having regard to the Commission Horizon 2020 Monitoring Reports 2014 and 2015,
- having regard to the report from the Commission to the Council and the European Parliament entitled ‘The European Research Area: time for implementation and monitoring progress’ (COM(2017)0035),
- having regard to the Commission communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions entitled ‘European Defence Action Plan’ (COM(2016)0950),
- having regard to the report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled ‘Implementation of the strategy for international cooperation in research and innovation’ (COM(2016)0657),
- having regard to the Commission communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled ‘European Cloud Initiative – Building a competitive data and knowledge economy in Europe’ (COM(2016)0178) and the accompanying Commission staff working document (SWD(2016)0106),
- having regard to the Commission communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled ‘On the Response to the Report of the High Level Expert Group on the Ex Post Evaluation of the Seventh Framework programme’ (COM(2016)0005),
- having regard to the report from the Commission to the European Parliament and the Council entitled ‘Annual Report on Research and Technological Development Activities of the European Union in 2014’ (COM(2015)0401),
- having regard to the Commission reports of 2014 and 2015 entitled ‘Integration of Social Sciences and Humanities in Horizon 2020: participants, budgets and disciplines’,
- having regard to the Commission staff working document entitled ‘Better regulations for innovation-driven investment at EU level’ (SWD(2015)0298),
- having regard to the Commission communication to the Council and the European Parliament entitled ‘European Research Area: Progress Report 2014’ (COM(2014)0575),
- having regard to the Commission communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled ‘Research and innovation as sources of renewed growth’

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<sup>1</sup> OJ L 169, 7.6.2014, pp. 1-53.

<sup>2</sup> [http://ec.europa.eu/research/evaluations/pdf/hlg\\_issue\\_papers.pdf](http://ec.europa.eu/research/evaluations/pdf/hlg_issue_papers.pdf).

(COM(2014)0339),

- having regard to the Commission staff working document entitled ‘Second Situation Report on Education and Training in the Nuclear Energy Field in the European Union’ (SWD(2014)0299),
  - having regard to the Commission staff working document entitled ‘FET Flagships: A novel partnering approach to address grand scientific challenges and to boost innovation in Europe’ (SWD(2014)0283),
  - having regard to the report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled ‘Second Interim Evaluation of the clean sky, fuel cells and hydrogen and innovative medicine initiative Joint Technology Initiatives Joint Undertakings (COM(2014)0252),
  - having regard to the Opinion of the European Economic and Social Committee on the Role and effect of JTIs and PPPs in implementing Horizon 2020 for sustainable industrial change (CCMI/142),
  - having regard to its resolution of 16 February 2017 on the European Cloud Initiative<sup>1</sup>,
  - having regard to its resolution of 14 March 2017 on EU Funds for Gender Equality<sup>2</sup>,
  - having regard to its resolution of 6 July 2016 on synergies for innovation: the European Structural and Investment Funds, Horizon 2020 and other European innovation funds and EU programmes<sup>3</sup>,
  - having regard to its resolution of 13 September 2016 on Cohesion Policy and Research and Innovation Strategies for Smart Specialisation (RIS3)<sup>4</sup>,
  - having regard to Rule 52 of its Rules of Procedure, as well as Article 1(1)(e) of, and Annex 3 to, the decision of the Conference of Presidents of 12 December 2002 on the procedure for granting authorisation to draw up own-initiative reports,
  - having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on Budgets, the Committee on Regional Development and the Committee on Women’s Rights and Gender Equality (A8-0209/2017),
- A. whereas Horizon 2020 is the EU’s largest centrally managed R&I programme, and the world's largest publicly funded R&I programme;
- B. whereas, in negotiating Horizon 2020 and the current Multiannual Financial Framework (MFF), Parliament asked for EUR 100 billion, rather than the EUR 77 billion initially agreed; whereas the budget seems very limited if Horizon 2020 is to fully explore excellence potential and adequately respond to the societal challenges currently faced

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<sup>1</sup> Texts adopted, P8\_TA(2017)0052.

<sup>2</sup> Texts adopted, P8\_TA(2017)0075.

<sup>3</sup> Texts adopted, P8\_TA(2016)0311.

<sup>4</sup> Texts adopted, P8\_TA(2016)0320.

by European and global society;

- C. whereas the report of the High Level Group on maximising impact of EU Research and Innovation Programmes and the interim evaluation planned for the third quarter of 2017 will lay the foundations for the structure and content of FP9, on which a proposal will be published in the first half of 2018;
- D. whereas the economic and financial crisis was a determining factor in the design of Horizon 2020; whereas emerging challenges, new political and socio-economic paradigms and continuing global trends are likely to shape the next Framework Programme (FP);
- E. whereas the FP must be founded on European values, scientific independence, openness, diversity, high European ethical standards, social cohesion and equal access by citizens to the solutions and answers it provides;
- F. whereas investments in R&D are essential for European economic and social development and global competitiveness; whereas the importance of excellent science for fostering innovation and long-term competitive advantages needs to be reflected in the funding of FP9;

### ***Structure, philosophy and implementation of Horizon 2020***

1. Considers that, more than three years after the launch of Horizon 2020, it is time for Parliament to develop its position on its interim evaluation and a vision of the future FP9;
2. Recalls that the objective of Horizon 2020 is to contribute to building a society and an economy based on knowledge and innovation, and to strengthen the scientific and technological base and ultimately the competitiveness of Europe by leveraging additional national R&D funding, both public and private, and by helping to attain the target of 3 % of GDP for R&D by 2020; regrets that the EU invested only 2.03 % of GDP in R&D in 2015, with the individual figures for different countries ranging from 0.46 % to 3.26 %<sup>1</sup>, while major global competitors are outperforming the EU on R&D expenditure;
3. Recalls that the European Research Area (ERA) faces direct competition with the world's top-performing research regions and that the strengthening of the ERA is therefore a collective European duty; encourages the relevant Member States to contribute adequately to meeting the target of 3 % of EU GDP for R&D; notes that an overall increase to 3 % would bring an extra amount of more than EUR 100 billion per year for research and innovation in Europe;
4. Stresses that the evaluation of FP7 and monitoring of Horizon 2020 show that the EU FP for research and innovation is a success and brings clear added value to the EU<sup>2</sup>;

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<sup>1</sup> EPRS study of February 2017 entitled 'Horizon 2020, the EU framework programme for research and innovation. European Implementation Assessment'..

<sup>2</sup> With over 130 000 proposals received, 9 000 grants signed, 50 000 participations and EUR 15.9 billion of EU funding.

recognises there are still possibilities to improve the FP and future programmes;

5. Considers that the reasons for its success are the multidisciplinary and collaborative setting and the excellence and impact requirements;
6. Understands that the FP intends to incentivise industry participation in order to increase R&D spending by industry<sup>1</sup>; notes that industry participation, including SMEs, is significantly higher than in FP7; recalls, however, that on average industry has not sufficiently increased its share of R&D spending as agreed in the Barcelona Council conclusions<sup>2a</sup>; asks the Commission to assess the European added value and relevance to the public of funding for industry-driven instruments such as Joint Technology Initiatives (JTIs)<sup>3</sup>, as well as the coherence, openness and transparency of all joint initiatives<sup>4</sup>;
7. Notes that the programme budget, management and implementation is spread over 20 different EU bodies; queries whether this results in excessive coordination efforts, administrative complexity and duplication; calls on the Commission to work towards streamlining and simplifying this;
8. Notes that Pillars 2 and 3 are mainly focused on higher Technology Readiness Levels (TRLs), which could limit the future absorption of disruptive innovations that are still in the pipeline of research projects with lower TRLs; calls for a careful balance of TRLs in order to promote the entire value chain; considers that TRLs may exclude non-technological forms of innovation generated by fundamental or applied research, particularly from social sciences and humanities (SSH);
9. Calls on the Commission to offer a balanced mix of small, medium and large-sized projects; notes that the average budget for projects has increased under Horizon 2020 and that larger projects are more onerous as regards preparation of the proposal and project management, which favours participants with greater experience with FPs, creates barriers for newcomers and concentrates funding in the hands of a limited number of institutions;

## ***Budget***

10. Stresses that the current alarmingly low success rate of less than 14 %<sup>5</sup> represents a negative trend compared to FP7; emphasises that oversubscription makes it impossible to make funding available for a large number of very high-quality projects and regrets that the cuts inflicted by the European Fund for Strategic Investments (EFSI) have deepened this problem; calls on the Commission to avoid making further cuts to the

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<sup>1</sup> Two-thirds of the 3% of GDP for R&D should come from industry. See Eurostat private R&D expenditure: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsc00031&plugin=1>

<sup>2</sup> [http://ec.europa.eu/invest-in-research/pdf/download\\_en/barcelona\\_european\\_council.pdf](http://ec.europa.eu/invest-in-research/pdf/download_en/barcelona_european_council.pdf)

<sup>3</sup> In total, the seven JTIs account for more than EUR 7 billion of the Horizon 2020 funds, approximately 10 % of the whole Horizon 2020 budget and more than 13 % of the actual available funding for Horizon 2020 calls (approximately EUR 8 billion per year over seven years).

<sup>4</sup> See Council conclusions of 29 May 2015.

<sup>5</sup> EPRS study of February 2017 entitled 'Horizon 2020 EU framework programme for research and innovation - European Implementation Assessment'.

Horizon 2020 budget;

11. Highlights the budgetary pressures facing the Union's Framework Programmes for Research and Innovation; regrets the adverse effect that the payment crisis in the EU budget had on the implementation of the programme during the first years of the current MFF; notes, inter alia, the artificial delay amounting to EUR 1 billion worth of calls in 2014 and the significant reduction in the level of pre-financing for the new programmes; highlights in this context that, in accordance with Article 15 of the MFF Regulation, a frontloading of resources was implemented in 2014-2015 for Horizon 2020; underlines that this frontloading was fully absorbed by the programme, demonstrating its strong performance and capacity to absorb even more; emphasises that this frontloading does not change the overall financial envelope of the programmes, leading to fewer appropriations respectively for the second half of the MFF; calls on the two arms of the Budgetary Authority and the Commission to ensure an adequate level of payment appropriations in the upcoming years and to make every effort to prevent a new payment crisis towards the last years of the current MFF;
12. Stresses that Horizon 2020 must be primarily grant-based and geared towards funding fundamental and collaborative research in particular; insists that research may be a high risk investment for investors and that funding research through grants is a necessity; emphasises, in this connection, that in any case many public bodies are legally excluded from accepting loans; regrets the tendency, in some cases, to move away from grants and towards the use of loans; recognises that financial instruments should be available for high TRL, close to market activities as part of InnovFin financial instruments, and outside of the FP (e.g. EIB, EIF schemes);
13. Underlines the fact that several Member States are not respecting their national R&D investment commitments; stresses that the 3 % of GDP target needs to be met and hopes that this target can be raised to the level of the EU's largest global competitors as soon as possible; calls on the Commission and the Member States, therefore, to drive national strategies to reach that objective and calls for the earmarking of parts of the Structural Funds for R&D activities and programmes, especially investments in capacity-building, research infrastructure and salaries, as well as supporting activities for the preparation of FP proposals and project management;

### *Evaluation*

14. Confirms that 'excellence' should remain the essential evaluation criterion across all three pillars of the FP, while noting the existing 'impact' and 'quality and efficiency of the implementation' criteria, which might help to indicate a project's added value to the EU; invites the Commission, therefore, to explore ways to take into consideration under the 'impact' and 'quality and efficiency of the implementation' criteria: the lack of involvement of the underrepresented EU regions, the inclusion of the underrepresented fields of science, such as SSH, and the exploitation of research infrastructure financed by European Structural and Investment Funds (ESIF), which seem to be important for the successful implementation of the ERA and for providing synergies between FPs and ESIF;
15. Calls for better and more transparent evaluation and quality assurance by the evaluators;

stresses the need to improve the feedback given to participants throughout the evaluation process and urges that complaints made by unsuccessful applicants that the Evaluation Summary Reports (ESRs) lack depth and clarity on what should be done differently in order to succeed be taken into consideration; calls on the Commission, therefore, to publish, in conjunction with the call for proposals, detailed evaluation criteria, to provide participants with more detailed and informative ESRs and to organise calls for proposals in such a way as to avoid excessive oversubscription, which badly affects researchers' motivation and the reputation of the programme;

16. Calls on the Commission to provide a broader definition of 'impact', considering both economic and social effects; stresses that the assessment of the impact of fundamental research projects should remain flexible; asks the Commission to maintain the balance between bottom-up and top-down calls and to analyse which evaluation procedure (one or two stage) is more useful to avoid oversubscription and to conduct quality research;
17. Calls on the Commission to assess to what extent a more precise thematic focus would make sense in the context of sustainability;
18. Calls on the Commission to make the participant portal more readily available and to extend the network of National Contact Points, providing it with more resources, so as to ensure an efficient service for micro and small enterprises in particular during project submission and evaluation;
19. Considers that the European Research Council should engage in more collaboration projects across Europe, and in particular take on board low-capacity regions and institutions in order to disseminate EU R&I policy and know-how all over EU;

### *Cross-cutting issues*

20. Notes that the Horizon 2020 structure and societal challenges approach in particular are broadly welcomed by stakeholders; calls on the Commission to continue to enhance the societal challenges approach and emphasises the importance of collaborative research involving universities, research organisations, industry (especially SMEs), and other actors; asks the Commission to consider assessing the adequacy and individual budgets of the societal challenges on the basis of the current economic, social and political context during FP implementation and in close cooperation with the European Parliament;
21. Acknowledges the Commission's efforts to streamline the administration and reduce the time between the publication of a call and allocation of a grant; calls on the Commission to continue its endeavours to cut red tape and simplify administration; welcomes the Commission's proposal to introduce lump sum payments in order to simplify administration and auditing;
22. Calls on the Commission to assess whether the simplified funding model introduced for Horizon 2020 has, as intended, led to increased industry involvement; calls, in this connection, for the effectiveness of the funding model to be assessed;
23. Calls on the Commission to assess to what extent the use of national or specific

accounting systems instead of the system specified in the rules governing participation in the programme could make for a significantly simplified accounting procedure and thus reduce the error rate in connection with the auditing of European funding projects; calls, in this connection, for closer cooperation with the European Court of Auditors and for the introduction of a ‘one-stop audit’;

24. Notes that synergies between funds are crucial to make investments more effective; stresses that RIS3 are an important tool to catalyse synergies setting out national and regional frameworks for R&D&I investments and, as such, should be promoted and reinforced; regrets the presence of substantial barriers to making synergies fully operational<sup>1</sup>; seeks, therefore, an alignment of rules and procedures for R&D&I projects under ESIF and FP, and notes that an effective use of the Seal of Excellence scheme will only be possible if the above conditions are met; calls on the Commission to earmark part of ESIF for RIS3 synergies with Horizon 2020; calls on the Commission to revise the State Aid rules and to allow R&D structural fund projects to be justifiable within the FP rules of procedure, while at the same time guaranteeing their transparency; calls on the Commission and the Member States to ensure the correct application of the principle of additionality, which in practice means that the contributions of European funds should not replace the national or equivalent expenditure by a Member State in the regions where this principle applies;
25. Notes that the successful implementation of the ERA requires full usage of the R&D&I potential of all Member States; recognises the problem of the participation gap in the Horizon 2020 programme, which must be addressed both at EU and national level, including through ESIF; calls on the Commission and the Member States to adapt existing tools or to adopt new measures to bridge this gap, by, for example, the development of networking tools for researchers; welcomes the Spreading Excellence and Widening Participation policy; calls on the Commission to assess whether the three widening instruments have achieved their specific objectives: to provide an adequate budget and a balanced set of instruments that address existing disparities in the EU in the field of research and innovation; calls on the Commission and Member States to come forward with clear rules enabling the full implementation of the Seal of Excellence scheme and to explore funding synergies; asks the Commission to create mechanisms enabling the inclusion in FP projects of research infrastructure financed through ESIF; calls for the indicators used to define ‘underrepresented’ countries and regions to be reviewed and for the list of those countries and regions to be regularly verified during implementation of the FP;
26. Notes that according to the Commission’s annual reports on Horizon 2020 implementation for 2014 and 2015, the EU-15 received 88.6 % of the funds while the EU-13 received just 4.5 % – a figure even less than the funding for association countries (6.4%);
27. Welcomes efforts to secure better links between the ERA and the European Higher Education Area, with a view to facilitating ways of training the next generation of researchers; recognises the importance of incorporating STEM, research and

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<sup>1</sup> Large research infrastructure fits within the scope and goals of the ERDF, but ERDF funds allocated nationally cannot be used to co-finance it; construction costs associated with new research infrastructures are eligible under the ERDF, but operational and staff costs are not.

entrepreneur skills into Member States' education systems from an early stage in order to encourage young people to develop these skills, as R&D should be viewed in structural rather than cyclical or temporal terms; calls on the Member States and the Commission to enhance employment stability and attractiveness for young researchers;

28. Stresses the importance of closer cooperation between industry and the university and scientific establishment, so as to facilitate the creation of dedicated structures within universities and scientific centres for the purpose of forging closer links with the production sector;
29. Stresses that global cooperation is an important means of strengthening European research; confirms that international participation fell from 5 % in FP7 to 2.8 % in Horizon 2020; recalls that the FP should contribute to ensuring that Europe remains a key global player, while underlining the importance of science diplomacy; calls on the Commission to review the terms of international cooperation in FP and to establish concrete, immediate measures and a long-term strategic vision and structure to support this objective; welcomes, in this regard, initiatives such as BONUS and PRIMA;
30. Underlines the need to strengthen international cooperation within FP9 and to spread science diplomacy.
31. Recalls that SSH integration means SSH research in interdisciplinary projects and not an ex-post add-on to otherwise technological projects, and that the most pressing problems faced by the EU require methodological research that is more conceptually focused on SSH; notes that SSH are underrepresented in the current Framework Programme; calls on the Commission to strengthen the possibilities for SSH researchers to participate in the interdisciplinary FP projects and to provide sufficient funding for SSH topics;
32. Highlights the balance of research and innovation within the Horizon 2020 programme and calls for a similar approach to be taken in the next FP; welcomes the creation of EIC<sup>1</sup>, but insists that this should not lead to the separation of research from innovation or to further fragmentation of funding yet again; underlines that Horizon 2020 is not sufficiently focused on bridging the 'valley of death', which constitutes the main barrier to turning prototypes into production;
33. Calls on the Commission to clarify the objectives, instruments and functioning of the EIC and stresses the need to evaluate the EIC pilot results; calls on the Commission to propose a balanced mix of instruments for the EIC portfolio; stresses that the EIC should under no circumstances become a replacement for Pillar 2 and that Pillar 2 should not develop into an individual supporting instrument but rather should continue to focus on collaborative research; underlines the need to retain and strengthen the SME Instrument and the Fast Track to Innovation; invites the Commission to design mechanisms to better include SMEs in larger interdisciplinary FP9 projects in order to harness their full potential; calls on the Commission to keep KICs in the current EIT structure, stressing the importance of transparency and extensive stakeholder involvement, and to analyse how EIT and KICs may interact with the EIC; asks the

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<sup>1</sup> Commission communication entitled 'Europe's next leaders: the Start-up and Scale-up Initiative' (COM(2016)0733).

Commission to design a framework for private venture capital investments in cooperation with the EIC, so as to encourage venture capital investments in Europe;

34. Welcomes initiatives which bring the private and public sectors together to stimulate research and innovation; stresses the need for enhanced EU leadership in prioritising public research needs and for sufficient transparency, traceability and a fair level of public return on investment of Horizon 2020 in terms of affordability, availability and the suitability of end products, and particularly in some sensitive areas such as health, safeguarding the public interest and equitable social impact; calls on the Commission to further explore mechanisms, especially with a view to the long-term exploitation of all projects funded by grants provided by the FP, combining a fair public return and incentives for industry participation;
35. Welcomes the fact that Open Access is now a general principle under Horizon 2020; draws attention to the fact that the substantial number of publications linked to Horizon 2020 projects up to December 2016<sup>1</sup> shows that new policies on enforcing the sharing of data and knowledge are required in order to maximise research results and the amount of scientific data available; calls on the Commission to review the flexibility criteria that could be a barrier to that objective, and to increase knowledge and development;
36. Welcomes the Open Research Data pilot funding as a first step towards the Open Science Cloud; recognises the relevance and potential of e-infrastructures and supercomputing, the need for the involvement of public and private sector stakeholders and civil society, and the importance of citizen science in ensuring that society plays a more active part in defining and addressing the problems and in jointly putting forward the solutions; calls on the Commission and the public and private research community to explore new models that integrate private cloud and networking resources and public e-infrastructures and the launch of citizen agendas in science and innovation;
37. Welcomes the Commission's newly introduced concept of innovation hubs, which further strengthen the European innovation landscape by supporting firms, and SMEs in particular, in enhancing their business models and production processes;
38. Encourages the NCPs to be more involved in promoting projects awarded the Seal of Excellence, and in assisting in the search for other sources of public or private funding, whether national or international, for those projects, by strengthening the cooperation in this field within the network of NCPs;

### ***FP 9 recommendations***

39. Believes that the EU has the potential to become a world-leading global centre for research and science; believes, furthermore, that in order to promote growth, jobs and innovation to this end, FP9 has to become a top priority for Europe;
40. Welcomes the success of Horizon 2020 and the 1:11 leverage factor; calls on the

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<sup>1</sup> OpenAIRE report: In Horizon 2020, 2 017 out of a total number of 10 684 projects (19%) have been completed, while 8 667 are ongoing. OpenAIRE identified 6 133 publications linked to 1 375 Horizon 2020 projects.

Commission to propose an increased overall budget of EUR 120 billion for FP9; considers that beyond the budget increase, a framework incorporating innovation is needed and calls on the Commission, therefore, to clarify the concept of innovation and its different types;

41. Notes that the EU faces numerous significant and dynamic challenges and calls on the Commission, in conjunction with the European Parliament, to provide in Pillar 3 a balanced and flexible set of instruments responding to the dynamic nature of emerging problems; underlines the need to provide a sufficient budget for the specific challenges in Pillar 3, as well as the need for regular revision of the adequacy of those challenges;
42. Calls on the Commission to retain a balance between fundamental research and innovation within FP9; notes the need to strengthen collaborative research; underlines the importance of better involvement of SMEs in collaborative projects and innovation;
43. Encourages the Commission to enhance synergies between FP9 and other dedicated European funds for research and innovation, and to establish harmonised instruments and aligned rules for those funds, both at a European and national level, and in close cooperation with the Member States; calls on the Commission to continue to take into account in future FPs the important role which standardisation plays in the context of innovations;
44. Notes that FP9 should tackle the possible problem of oversubscription and low success rates faced of Horizon 2020; suggests that the reintroduction of the two stage evaluation procedure be considered, with a unified first stage and specified second stage dedicated to the selected applicants; calls on the Commission to ensure sufficiently comprehensive ESRs with indications on how the proposal could be improved;
45. Stresses that European added value must remain an undisputed core component of the framework research programme;
46. Calls on the Commission to separate defence research from civil research in the next MFF, providing two different programmes with two separate budgets that do not affect the budgetary ambitions of civilian research of FP9; calls on the Commission, therefore, to present to Parliament the possible ways for financing the future defence research programme in accordance with the Treaties, with a dedicated budget with fresh resources and specific rules; highlights the importance of parliamentary oversight in this respect;
47. Considers that the Future and Emerging Technologies programme has great potential for the future and represents a good tool for spreading innovative ideas and know-how at national and regional levels;
48. Underlines the need, in the context of the Paris Agreement and the EU's climate objectives, to prioritise funding for climate change research and climate data collection infrastructure – particularly as the United States is considering significant budgetary cuts to US environmental research institutions; to ensure that 100 % of the energy challenge funds are allocated to renewable energy, end-use energy efficiency technologies, smart grids and storage; to ensure adequate funding for research in areas such as low-input agriculture, healthy food and diversity, the sustainability dimension of

transport, water management and biodiversity;

49. Stresses that FP9 for R&I should strengthen societal progress and the competitiveness of the EU, creating growth and jobs and bringing new knowledge and innovations in order to tackle the crucial challenges faced by Europe, as well as delivering further progress towards developing a sustainable ERA; welcomes in this respect the current pillar structure of the FP and calls on the Commission to retain this structure for the sake of continuity and predictability; asks the Commission therefore to continue work on coherence, simplification, transparency and clarity of the programme, on improving the evaluation process, reducing fragmentation, duplication and avoiding unnecessary administrative burdens;
50. Recognises that administrative tasks and research to a large extent cancel each other out; stresses, therefore, the importance of keeping reporting obligations to a minimum in order to prevent red tape from obstructing innovation and to ensure an effective use of FP9 funding, while also ensuring the autonomy of research; encourages the Commission to intensify its efforts on simplification to this end;
51. Notes that the Commission is referring increasingly frequently to output-based support; calls on the Commission to define 'output' more precisely;
52. Calls on the Commission and the Member States to increase synergies between FP and other funds and to tackle the problem of research deficiencies faced by convergence regions in some Member States, in application of the principle of additionality; regrets that financial allocations from the Structural and Investment Funds can lead to a reduction in national R&D spending in regions where those funds apply, and insists that these must be additional to national public expenditure; calls also on the Commission and the Member States to ensure that public funding for R&I is considered an investment in the future rather than a cost;
53. Notes that effective investment in research and innovation under the Structural Funds is only possible if the groundwork has been properly laid in the Member States; calls, therefore, for closer linkage between country-specific recommendations for structural reforms and investments in R&I;
54. Underlines the need for new higher excellence centres and regions and the importance of continuing to develop the ERA; stresses the need to provide more synergies between FP, EFSI and ESIF in order to achieve this goal; calls for policies to remove barriers such as lower salaries that are faced by Eastern and Southern countries in order to avoid brain drain; calls for the excellence of the project to be prioritised over the excellence of leading 'elite' institutions;
55. Takes the view that there is a need to include stronger incentives to use ESI funds for R&I investments where there are country-specific recommendations to that effect or where weaknesses are identified; concludes that the ESI Funds for R&I investments will deliver EUR 65 billion in the period 2014- 2020; proposes, therefore, that the established ESI Funds performance reserve in the Member States is used to invest a substantial proportion of the revenue from the Structural Funds in R&I;
56. Welcomes the principle and the potential of the Seal of Excellence, as a quality label for

synergies between ESI Funds and Horizon 2020, but notes that it is insufficiently applied in practice, caused by the lack of finance in the Member States; believes that projects – that have been submitted for funding under Horizon 2020, passed stringent selection and award criteria with a positive outcome, but could not be funded due to budget constraints – should be financed by ESI Funds resources, if these resources are available for that purpose; points out that a similar mechanism should also be defined for collaborative research projects;

57. Calls on the Commission to provide increased levels of support in FP9 for young researchers such as pan-European networking tools and to reinforce funding schemes for early-stage researchers with less than two years of experience after PhD completion;
58. Observes that the Marie Skłodowska-Curie actions are a widely recognised source of funding among researchers and promote the mobility of researchers and the development of young researchers; takes the view that, in the interests of continuity, it would be desirable for Marie Skłodowska-Curie actions to continue to be funded in FP9;
59. Calls on the Commission and Member States to continue to encourage private investments in R&D&I that must be additional and not substitutive to the public ones; recalls that two-thirds of the 3 % R&D GDP target should come from the private sector<sup>1</sup>; appreciates efforts made by industry hitherto and, in view of the generally scarce resources for public R&D spending, calls on the private sector to engage more in R&D spending, as well as in Open Access and Open Science; calls on the Commission to determine the degree of participation of large industry (be that through loans, grants or at their own cost), depending on the extent of the European Added Value of the project and its potential to be a driving force for SMEs, while considering the specificities and needs of each sector; asks the Commission to monitor the ‘in kind’ contributions in order to make sure that investments are real and new;
60. Calls on the Commission to improve the transparency and clarity of rules for public-private cooperation within FP9 projects following the results and recommendations stemming from the evaluation; asks the Commission to verify and assess the existing instruments for public-private partnerships;
61. Highlights the fact that, irrespective of the SME Instrument, industry involvement should continue to be supported, since industry has the necessary expertise in many areas and makes a significant financial contribution;
62. Regrets the mixed set of results achieved by the gender equality focus in Horizon 2020, as the only target reached is the share of women in the advisory groups, while the share of women in the project evaluation panels and among project coordinators, and the gender dimension in research and innovation content, remain below target levels; stresses the need to improve participation and gender mainstreaming in FP9 and to reach the target levels set in the Horizon 2020 regulation and calls on the Commission to undertake a study to explore the barriers or difficulties that may be conditioning an underrepresentation of women in the programme; encourages Member States, according to the ERA objectives, to create a gender-balanced legal and political environment and

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<sup>1</sup> See Council conclusions of 29 May 2015.

to provide incentives for change; welcomes the Commission's Guidance on Gender Equality in Horizon 2020<sup>1</sup>; recalls that according to this guide, gender balance is one of the ranking factors to prioritise proposals above threshold with the same scores;

63. Notes that the next FP will have to take into consideration the UK's departure from the EU and its implications; notes that R&I benefits from clear and stable long-term frameworks, and that the UK has a leading position in the field of science; expresses the wish that networks and collaboration between the UK and the EU can continue in the field of research, and that, subject to certain conditions, a stable and satisfying solution can be found quickly, so as to ensure that the EU does not miss out on the scientific results generated in Horizon 2020 and FP9;

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64. Instructs its President to forward this resolution to the Council and the Commission.

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<sup>1</sup> See Horizon 2020 Programme Guidance on Gender Equality in Horizon 2020. [http://eige.europa.eu/sites/default/files/h2020-hi-guide-gender\\_en.pdf](http://eige.europa.eu/sites/default/files/h2020-hi-guide-gender_en.pdf)

## ANNEX

### 2. Origin, structure and purpose of the Horizon 2020 Framework Programme

#### 2.1. Main issues to understand about the research framework programmes

European research policy has a legal base in the Treaty of Lisbon<sup>1</sup> which also introduced a legal basis for the creation of a European Research Area<sup>2</sup>. So far, the European Commission has not taken legislative action in this domain and European research policy implementation has until now relied on soft law approaches. With the Research Framework Programmes, the EU started to become a player in research funding, with the main initial focus being on financing collaborative projects involving several Member States. Broadly speaking, only about 5% of the overall available European GBAORD<sup>3</sup> is funded by the FP. Around 80% of the GBAORD is confined to Member States, and 15% is implemented by longstanding European intergovernmental organisations such as ESA, CERN, etc.<sup>4</sup>

Still, the GDP allocated to R&D is still comparatively low in the EU-28 in relation to Japan or the US. Moreover, most of the EU Member States, especially those in which the Excessive Deficit Procedure was launched, have cut their spending on R&D&I due to the economic crisis. The EU's share of world gross expenditure on research and innovation fell by 5% in the years from 2000 to 2013.

The first framework programme was established in 1983 for a four-year period. During the subsequent 30 years, successive FPs have provided financial support for the implementation of European research and innovation policies.

With the introduction of the European Research Area (ERA), the Open Method of Coordination and many other soft law approaches, the Union has started to coordinate national research policies (and eventually also national research programmes) since 2000. The FPs have always of course had a structuring effect on the national research systems, with the main idea of EU funding being to incentivise and leverage more national research funding. It was only with the introduction of 'ERA instruments' as of FP 6 (ERA-NETs, Article 185 initiatives), however, that this structuring influence became more evident and moved from the project level (at researcher and/or research unit level) to the Member State/funding bodies – or programme – level<sup>5</sup>.

The introduction of the ERA was accompanied by the launch of the Lisbon process and the definition of the Barcelona goal for national research funding to reach 3% of GDP in 2010. This goal was renewed by another call for research funding to reach 3% by 2020 – the so called Europe 2020 Strategy (A strategy for smart, sustainable and inclusive growth) which was launched in March 2010. Today, the attainment of the 3% target is monitored by the Commission in the context of the European Semester<sup>6</sup> which is anchored upon extensive Member State reporting to the Commission. According to figures from 2015, the EU only invested 2.03%, with the individual figures for different countries ranging from

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<sup>1</sup> See Title XIX, Research and technological development and space, Articles 179 to 190 TFEU.

<sup>2</sup> Article 182(5) TFEU.

<sup>3</sup> GBAORD: Government budget appropriations or outlays for research and development.

<sup>4</sup> Numbers have not significantly changed since 2009.

<sup>5</sup> Arnold, Erik et alia: 'Understanding the Long Term Impact of the Framework Programme' Final report, December 2011.

<sup>6</sup> The European Semester provides a framework for the coordination of economic policies between the countries of the European Union. It allows the EU Member States to discuss their economic and budget plans and to monitor progress at specific times throughout the year. Having assessed the EU governments' plans (which detail the specific policies each country will implement to boost jobs and growth and prevent/correct imbalances, and their concrete plans to comply with the EU's country-specific recommendations and general fiscal rules), the Commission presents each country with a set of country-specific recommendations, along with an overarching Communication.

0.46% to 3.26%.<sup>1</sup>

In terms of topics funded, the purpose of the FPs has changed gradually from initially being an industry-focused programme to slowly opening up to basic research activities in universities. With the exception of the introduction of the European Research Council (ERC) funding for basic and frontier research only, the common feature of the FPs over the years was that they were always mission-oriented programmes serving commonly defined goals. The process in place for their adoption is through the co-decision procedure (now called the ordinary legislative procedure).

Finally, with the launch of the seven flagship initiatives in the context of the Europe 2020 Strategy in March 2010, the European Innovation Union<sup>2</sup> was introduced and with it the prerogative for innovation and competitiveness in Europe also moved into the research policy domain. H2020 is now one of the main tools with which the Innovation Union is being implemented.

## 2.2. Horizon 2020 - Overview

There is extensive information on H2020, its structure, rules and functioning<sup>3</sup>, that does not need to be repeated here in detail. The description of the H2020 programme is limited to an illustration of the most relevant issues for the recommendations by the European Parliament.

As such, H2020 differs enormously from previous FPs insofar as it made the move to more research-generated innovation compulsory and introduced a more interdisciplinary impact-oriented societal challenge approach in contrast to the previous more mono-disciplined and sectoral approach taken until FP7. The approach of formulating mission-oriented programmes with predefined research results and prescribed research methods was abandoned in favour of a more openly defined societal challenge-oriented approach, in which the results are left open-ended and evolve over time. This approach also favours the early involvement of societal actors and opens the programme up to newcomers. Issues of transversal importance, such as the SME instrument or measures to improve synergies between H2020 and the structural funds, were also introduced.

H2020 is the world's biggest Research and Innovation programme with nearly €80 billion of funding available over 7 years (2014 to 2020), and places the emphasis on excellent science, industrial leadership and tackling societal challenges. Its goals are to ensure that Europe produces world-class science, to foster innovation, and to make it easier for the public and private sectors to work together in delivering research and innovation.

Horizon 2020 is built around three main objectives:

- 1) Support for 'Excellent Science' – including grants for individual researchers from the European Research Council and Marie Skłodowska-Curie fellowships (formerly known as Marie Curie fellowships);
- 2) Support for 'Industrial Leadership' – including grants for small and medium-sized enterprises and indirect finance for companies through the European Investment Bank and other financial intermediaries;
- 3) Support for research to tackle 'societal challenges'. During negotiations between the European Parliament and the Council it was decided to support research aimed at meeting seven broad challenges:
  1. Health, demographic change and wellbeing

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<sup>1</sup> 'Horizon 2020, the EU framework programme for research and innovation. European Implementation Assessment'. European Parliament Research Service.

<sup>2</sup> [http://ec.europa.eu/research/innovation-union/index\\_en.cfm?pg=key](http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=key).

<sup>3</sup> e.g. EPRS Briefings, H2020 Participant Portal, National Contact Point websites, etc.

2. Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bio-economy
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, the environment, resource efficiency and raw materials
6. Inclusive, innovative and reflective societies
7. Secure and innovative societies

It also has two specific objectives:

- 4) Spreading excellence and widening participation
- 5) Science with and for society

and two separate institutions:

6) European Institute of Innovation and Technology (EIT)

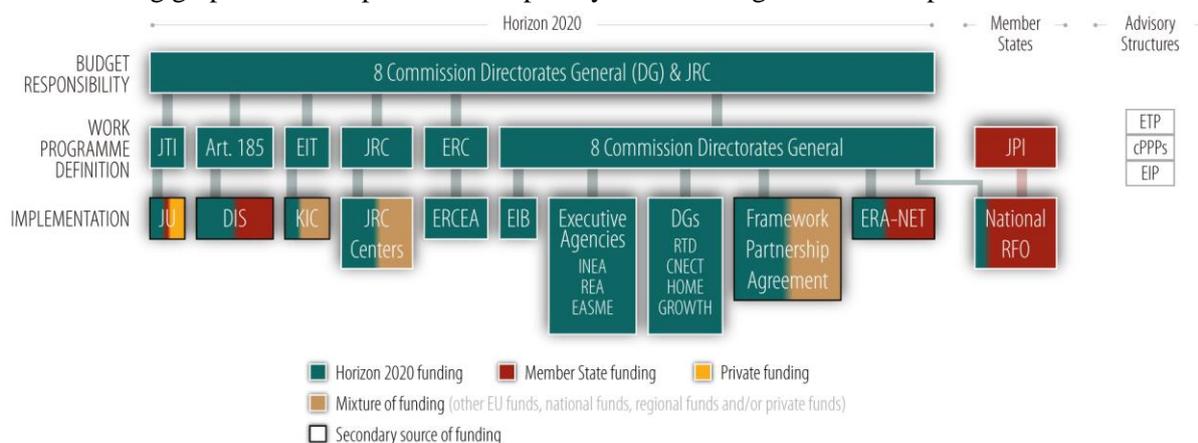
7) The non-nuclear direct actions of the Joint Research Centre.

A number of priorities will be addressed across and within all three pillars of Horizon 2020. These include gender equality and the gender dimension in research; social and economic sciences and humanities; international cooperation; and fostering the functioning and achievement of the European Research Area and Innovation Union, as well as contributing to other Europe 2020 flagships (e.g. the Digital Agenda). At least 60% of the overall Horizon 2020 budget should be related to sustainable development, and climate-related expenditure should exceed 35% of the budget.

The management and implementation of the programme is complex. The overall budget for H2020 is managed by 9 different Commission Directorates-General and the JRC. Overall, 22 bodies implement different parts of the Horizon 2020 budget:

- five Commission DGs
- four executive agencies
- four public-public partnerships (P2Ps)
- seven public-private partnerships (PPPs)
- the European Institute of Innovation and Technology (EIT)
- the European Investment Bank (EIB).

The following graph tries to capture the complexity of the management and implementation of H2020



The specific programme is implemented by multiannual work programmes. Implementing powers are conferred on the Commission to adopt work programmes for the implementation of the specific programme. Several programme committees (each pillar has a number of committees and there is a main overall ‘strategic configuration’ committee) were set up to assist the Commission in preparing the work programmes. The preparation of work programmes also involves the consultation of stakeholders. For this purpose 19 Horizon 2020 Advisory Groups have been set up as consultative bodies to represent the broad constituency of stakeholders ranging from industry and research to representatives of civil society. Additional open and targeted consultation activities aim to obtain further views and contributions, including from the Enterprise Policy Group, the contractual Public-Private Partnerships (cPPPs), European Innovation Partnerships and European Technology Platforms.

### **3. The transition from FP 7 to Horizon 2020 and main improvements brought by Horizon 2020**

The FP7 Final Evaluation Report by the High Level Expert Group<sup>1</sup> confirms that the move from FP7 to an adapted structure under H2020 was beneficial for the European research community and the logical next step at the time of the launch of H2020. The total budget of H2020 has been increased to about 77 billion euro which is nearly 50% more than the FP7 budget. H2020 integrated elements from FP7 and existing, previously separate, funding programmes (CIP and EIT), which also accounts for the increase in the budget. However, in 2015, the planned budget for H2020 was cut by 2.2 billion euro to support the European Fund for Strategic Investments (EFSI). These cuts did not affect the ERC, Marie Skłodowska-Curie Actions and the ‘Spreading excellence and widening participation’ programme, but fell on ‘Excellent Science’ (cut by 209 million euro), ‘Industrial Leadership’ (cut by 549 million euro) and ‘Societal Challenges’ (reduced by 1 billion euro).

The main improvements brought by H2020 as compared to its predecessor programmes can be summarised as follows<sup>2</sup>:

- High share of newcomers<sup>3</sup> in H2020 grant participation

The share of newcomers in 2014 and 2015 amounts to 49.0% of all participants on average for the entire H2020. The different programme parts display large differences in the share of new participants. The lowest share of newcomers is found in the Excellent Science Pillar, with the ERC having 1.4% of newcomer participations from calls in the first two years of Horizon 2020. The highest share of newcomers was recorded in the SME Instrument, where almost 79.6% of the participations came from organisations that had not taken part in FP7. The average for the Societal Challenge actions was 27.9% and within Industrial Leadership it was around 27.1%.

The share of newcomer participation per Member State differs between the EU-13 and EU-15. On average the EU-13 has a higher share (30.6%) of newcomer participation than EU-15 (24.7%). Malta and Romania had the highest shares of newcomer participation at 42.9% and 40.0% respectively, while Greece and United Kingdom had the lowest at 16.3% and 15.6%.

- Much shorter time-to-grant

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<sup>1</sup> Commitment and Coherence: Ex-Post-Evaluation of the 7th EU Framework Programme (2007-2013), November 2015:

[https://ec.europa.eu/research/evaluations/pdf/fp7\\_final\\_evaluation\\_expert\\_group\\_report.pdf#view=fit&pagemode=None](https://ec.europa.eu/research/evaluations/pdf/fp7_final_evaluation_expert_group_report.pdf#view=fit&pagemode=None)

<sup>2</sup> Horizon 2020 Monitoring Report 2015:

[http://ec.europa.eu/research/evaluations/pdf/archive/h2020\\_monitoring\\_reports/second\\_h2020\\_annual\\_monitoring\\_report.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf)

<sup>3</sup> Newcomers are defined as not having participated in FP7.

Compared to FP7, the first two years of implementation of Horizon 2020 have shown a significant reduction in the time that elapsed between the closure of a call and the signature of the Grant Agreement (the so-called time-to-grant – TTG). Under Horizon 2020, the Commission has committed itself to signing grant agreements within a period of eight months (245 days) for actions other than ERC actions. The average for both 2014 and 2015 is 90.7%. This constitutes a significant 33.4% improvement on the average TTG for the whole of FP7 (303 days).

- Proven simplification

Compared to FP7, the design of Horizon 2020 brought a number of important simplifications:

- ✓ A radically simplified funding model.
- ✓ Under the MSCA, the use of simplified forms of grants.
- ✓ Streamlined ex-ante checks.
- ✓ Reduced requirements for work-time recording.
- ✓ Reduced audit burden.
- ✓ Faster granting processes.
- ✓ Fully paperless proposal and grant management.

#### **4. Main areas of concern with the current H2020 implementation**

The European Parliament has also identified areas of concern based on consultations with representatives of the research community in Europe:

- Oversubscription - Lower success rate in H2020 as compared to FP7

The average success rates are substantially lower in H2020 than in FP7 (average of 19% from 2007 to 2013<sup>1</sup>) and different potential reasons for this are currently being discussed. These include research budget cuts in Member States, a less prescriptive approach in drafting the call texts in the work programmes allowing for more newcomers, and broader application of the two-stage proposal schemes.

Furthermore, the increased attractiveness of the programme also explains the growing interest in Horizon 2020. In total, over 8 500 more proposals were submitted in 2015 than in 2014. This is reflected in lower success rates in 2015 than 2014 throughout Horizon 2020: in terms of numbers of proposals, from 13.2% to 10.7%, and in terms of funding, from 14.2% to 10.9%.

One worrying finding is the fact that an ever larger number of high quality proposals scoring above the threshold in the project proposal evaluation cannot be funded. A mere 22.7% of the proposals which scored above the threshold were retained for funding in 2015. This constitutes a significant decrease of 8.8 percentage points compared to 2014. In total for Horizon 2020, about one in four high quality proposals submitted was selected for funding. In numbers, 25 116 high quality proposals in the first two years of Horizon 2020 were not funded<sup>2</sup>. This means that 77.3% of successful proposals could not be funded. The Commission calculates that H2020 would have needed an additional EUR 41.6 billion in the first two years to fund all proposals deemed excellent by independent evaluators. The extrapolated figure for the years to come until the end of the programme amounts to an additional EUR 145.6 billion

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<sup>1</sup> Seventh FP7 Monitoring Report 2013, see page 10:

[http://ec.europa.eu/research/evaluations/pdf/archive/fp7\\_monitoring\\_reports/7th\\_fp7\\_monitoring\\_report.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/fp7_monitoring_reports/7th_fp7_monitoring_report.pdf)

<sup>2</sup> Horizon 2020 Monitoring Report 2015:

[http://ec.europa.eu/research/evaluations/pdf/archive/h2020\\_monitoring\\_reports/second\\_h2020\\_annual\\_monitoring\\_report.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf)

if H2020 is to exploit European excellence potential to the maximum.

Table: Overall Success Rates<sup>1</sup>

Success Rates				
	Eligible proposal success rate	EU financial contribution success rate	Applications success rate	Share of High Quality Proposal funded
<b>2014</b>	13.2%	14.2%	15.4%	31.5%
<b>2015</b>	10.7%	10.9%	11.2%	22.7%
<b>Total</b>	<b>11.8%</b>	<b>12.3%</b>	<b>13.1%</b>	<b>26.3%</b>

Source: Corda, calls in 2014 and 2015, Signed Grants cut-off date by 1/09/2016 (excluding grants to named beneficiaries)

- Participation by third countries dropped by half

Horizon 2020 should contribute to maintaining the status of Europe as a key global player, in direct competition with the world's top performing research regions. To achieve this, the programme should have a strategic vision and structure to support Europe in this. It should fulfil a strategic role when it comes to European co-ordination/prioritisation. In a nutshell, Horizon 2020 should be open, but in a strategic way.

However, the share of third country participation in FP7 was higher (i.e. 4.0% for all projects and 4.3% for collaborative projects). In H2020, third country participation in internationally open collaborative projects increased from 2.1% in 2014 to 2.8% in 2015, and for all projects from 1.7% in 2014 to 2.0% in 2015.

This has to do with the fact that the Commission has taken a radically new approach to international collaboration in H2020 as compared to FP7, changing the funding regime for third countries and abandoning the former INCO. The latter was replaced by strategic programming and roadmaps including flagship initiatives for collaboration with targeted non-EU countries. Much emphasis was also placed on multilateral funding through Member States. However, and especially when addressing the societal challenges as defined in H2020, a global approach requiring the involvement of all actors worldwide is imperative.

- Insufficient definition of impact in H2020 projects

There are some concerns about the fact that the underlying definition of impact for H2020 projects poses problems for both project evaluators and researchers carrying out the project. In the long run, a fuzzy definition of impact will also disappoint research funders who will not be satisfied with the research outcomes. Collectively and especially when addressing societal challenges, the Commission and national governments will need to improve tracking outcomes and impact as well as broaden the definition of what constitutes impact. Different types of research produce different types of impact and evaluation processes need to reflect this. This discussion is connected with the need to better determine the place of innovation and the corresponding TRLs in research programme and project formulation. An overhaul of the H2020 indicators measured by DG RTD is needed.

It is to be noted that the legal base of H2020 states that it should support all stages of the research and innovation chain, so a concentration only on higher TRL levels is not a legal obligation but a political choice. The currently required high TRLs in Pillar 3 make it hard for vast sectors of the research landscape, such as universities, to compete. Focusing only on higher TRLs, while important to boost European industrial competitiveness, may limit the future absorption of disruptive innovations that are still in the pipeline of research projects with lower TRLs.

<sup>1</sup> Same source as for footnote 15.

Generally, TRLs are based on a narrow perception of innovation as a linear model. TRLs thus do not capture the full complexity and bandwidth of innovation and exclude non-technological forms of innovation generated by fundamental or applied research, particularly from SSH research.

To a considerable extent, whole areas of research are being excluded from Horizon 2020 simply because the value they bring to society is not reflected well in the current impact and innovation definitions.

- Lost focus on the European Research Area

It seems that current policymakers both in Member States and the Commission have lost interest in ERA. ERA progress reports have been launched since 2013 and one would as a consequence assume that a better database for ERA monitoring would also lead to common targets or corrective measures which would make the realisation of ERA successful. This is still not the case.

There are some concerns about this Commission's reluctance to continue with the European Research Area project which is even anchored in the Treaty of Lisbon. H2020 should not come on top of what Member States are doing nationally and operate in isolation from them, but should be intrinsically linked, coordinated and aligned with Member States' activities (as also laid down in the TFEU). H2020 should act as a pull factor for ERA to work better and should demonstrate clear EU added value. The overall poor progress made by Member States in reaching the 3% goal for GDP allocation to R&D by 2020 is intrinsically linked to this lost focus on ERA. In this respect joint programming, in which Council began to play a bigger role, is essential for ERA because it incentivises countries to prioritise nationally and enhances capacity building by collaborating across borders. Council should play a stronger role in defining common grand societal challenges that are then reflected in the Joint Programming Initiatives and in Horizon 2020.

The introduction of the 3 O's<sup>1</sup> by Commissioner Moedas, after having declared that ERA was completed, reduced the potential of European research policy to marginal operational details within the much wider scope of ERA.

Taking ERA seriously would also improve the discussion on cohesion versus excellence within Europe. ERA is about capacity building, about national and regional coordination across borders, fostering mutual learning, avoiding redundancies and acting in a more strategic and efficient manner. Transnational cooperation has always been a good test bed to gather experience in order – at a later stage – to compete better when participating in H2020.

- Addressing the innovation valley of death

The innovation process is characterised by the existence of a hard step between the development of an innovative product and its commercialisation. This gap is known as the innovation 'valley of death'. SMEs are specifically vulnerable to this issue. They therefore need support to overcome this gap. A potential European Innovation Council (EIC), as proposed by Commissioner Moedas, should try to analyse the gaps and take action where needed.

A lot has been done already with the introduction of the Fast Track to Innovation and the SME Instrument which focuses on very high TRLs. However these had very low success rates (7%). One possibility, rather than investing even more, could be to decomplexify the EU funding landscape. There might be enough out there, but information on it is lacking.

This should not be the sole task of H2020 and other programmes should play a bigger role. H2020 cannot be overburdened to solve everything.

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<sup>1</sup> Open Science, Open Innovation, Open to the World. Speech by Carlos Moedas, Commissioner for Research, Science and Innovation at the conference 'A new start for Europe: Opening up to an ERA of Innovation' in Brussels, 22 June 2015.

- Widening participation

Despite the Sharing Excellence and Widening Participation instruments launched in the Horizon 2020 programme with its total budget of 816 million euro, there has been no significant increase in the share of low-performing European countries and regions in the framework programme.

Europe needs cohesion in terms of excellence and competitiveness and Horizon 2020, together with efforts by each Member State, are instruments to achieve that goal.

26.4.2017

## OPINION OF THE COMMITTEE ON BUDGETS

for the Committee on Industry, Research and Energy

on assessment of Horizon 2020 implementation in view of its interim evaluation and the Framework Programme 9 proposal (2016/2147(INI))

Rapporteur: Nils Torvalds

### SUGGESTIONS

The Committee on Budgets calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

- A. whereas the Europe 2020 strategy aims to devote 3 % of the EU's GDP to research and development activities;
  - B. whereas enabling scientific excellence remains the core pillar of the Horizon 2020 Framework Programme for Research and Innovation;
  - C. whereas it has been estimated that each euro spent on EU Research and Innovation (R&I) generates approximately EUR 11 of direct and indirect economic effects through innovations, new technologies and products<sup>1</sup>;
  - D. whereas EU investment in frontier research and innovation is of key importance as R&I activities bring substantial EU-level added value, increase the competitiveness of the EU as a whole, and pave the way for economic growth and job creation;
1. Highlights the successful implementation of Horizon 2020, as demonstrated by the growing number of proposals submitted, a high number of which are of excellent quality; underlines that the simplification of procedures, the optimisation of internal processes, and the reduction of the time-to-grant were significantly improved under Horizon 2020, as well as good budgeting practices for participants and agencies; calls for further improvements in this direction in the FP9 to ensure a simple, clear structure that is accessible for all applicants; calls for the continuation of the very successful funding

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<sup>1</sup> European Commission, 2015, Commitment and Coherence – Ex-Post Evaluation of the 7th EU Framework Programme, p. 5.

scheme based on grants and financial instruments in order to maintain the competitiveness of European research institutions and companies in an increasingly fierce global environment;

2. Welcomes the programme's emphasis on SMEs, their increased participation, and the outstanding absorption of the programme's budget dedicated to SMEs; considers, nevertheless, that the aim set by the Commission of EUR 8.65 billion for SME involvement is insufficient; calls for more ambitious quantitative and qualitative targets; asks the Commission to explore further and propose new methods for coordinating the actions of COSME, the new EIC and Horizon 2020 for the purpose of removing the remaining obstacles to SME participation and to better promote the programme among SMEs;
3. Recalls that in order to create competitive products and services that flow from ideas and research, it is vital to invest in the advancement and modernisation of science, technology and the entrepreneurial environment, to develop partnerships between public institutions and the private sector, and to involve the academic community in development processes in order to direct the results of scientific research towards meeting the needs of society;
4. Emphasises that EU funding cannot replace national efforts and calls on Member States to reverse the trend of cutting resources for R&I activities; believes that this has led to a higher number of applications and has contributed towards the lower success rates of proposals;
5. Notes with great concern that the success rate for Horizon 2020 has significantly dropped from the level enjoyed by its predecessor (FP7) in the previous period, with only about one in four of the high quality proposals receiving funding; recalls that if all of the 25 000 high quality proposals were to be funded, EUR 41.6 billion more would have been needed in the first two years of H2020<sup>1</sup>; regrets these lost opportunities for the EU to deliver knowledge-based, sustainable, and inclusive economic growth as foreseen in the EU2020 strategy;
6. Observes that ESI funds and Horizon 2020 should be planned more effectively so that they complement each other in the best possible way;
7. Highlights the budgetary pressures facing the Union's Framework Programmes for Research and Innovation; regrets the adverse effect that the payment crisis in the EU budget had on the implementation of the programme during the first years of the current MFF; notes, inter alia, the artificial delay amounting to EUR 1 billion worth of calls in 2014 and the significant reduction in the level of pre-financing for the new programmes; highlights in this context that, in accordance with Article 15 of the MFF Regulation, a frontloading of resources was implemented in 2014-2015 for Horizon 2020; underlines that this frontloading was fully absorbed by the programme, demonstrating its strong performance and capacity to absorb even more; emphasises that this frontloading does not change the overall financial envelope of the programmes, leading to fewer appropriations respectively for the second half of the MFF; calls on the two arms of the Budgetary Authority and the Commission to ensure an adequate level of payment appropriations in the upcoming years and to make every effort to prevent a new payment crisis towards the

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<sup>1</sup> European Commission, 2016, Horizon 2020 Monitoring Report 2015, p. 11.

last years of the current MFF;

8. Urges the Commission to ensure that the target shares of the EU financial contribution relating to climate and sustainability in H2020 are achieved;
9. Regrets the EUR 2.2 billion cut made to H2020 to provide for the European Fund for Strategic Investments; stresses Parliament's commitment to mitigating the negative impact of such cuts in the annual budgetary procedure; recalls its position that new programmes should be financed by fresh money to the budget; calls for consideration to be given in the next MFF to increasing FP9 resources with the funds redeployed to EFSI to address these issues in part;
10. Notes that H2020 and the next FP will have to take into account the UK's departure from the EU, and that the UK will become a third country and have conditions attached to its continued participation; expresses the wish that solutions be found quickly, given the UK's leading position in R&I and its significant role in scientific collaboration across the EU;
11. Draws attention to the enormous untapped potential of R&I in Europe and the need to retain scientific talent; emphasises the importance of reinforcing funding for fundamental research in the area of excellent science and industrial leadership; regrets that existing programmes, such as Future and Emerging Technologies, Marie Skłodowska-Curie actions or Innovation in SMEs, are highly oversubscribed; calls for business incubators to be established in universities with a view to developing start-ups and self-employment; encourages the Union to continue working towards highly ambitious funding programmes in the future; urges the Member States to increase the financial resources for all highly oversubscribed programmes;
12. Welcomes the introduction of the European Innovation Council (EIC) and asks the Commission to present an analysis of how the EIC will complement rather than detract from existing research programmes;
13. Stresses that the EU budget should mirror the ambitious goal of Horizon 2020 of making the EU a world-leading economy and a society based on research and innovation.

## INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

<b>Date adopted</b>	24.4.2017
<b>Result of final vote</b>	+: 27 -: 2 0: 0
<b>Members present for the final vote</b>	Lefteris Christoforou, Gérard Deprez, José Manuel Fernandes, Eider Gardiazabal Rubial, Ingeborg Gräßle, Bernd Kölmel, Zbigniew Kuźmiuk, Clare Moody, Siegfried Mureşan, Jan Olbrycht, Paul Rübig, Petri Sarvamaa, Jordi Solé, Patricija Šulin, Monika Vana, Daniele Viotti, Tiemo Wölken Marco Zanni, Stanisław Żółtek
<b>Substitutes present for the final vote</b>	Nicola Caputo, Ivana Maletić, Pier Antonio Panzeri, Nils Torvalds, Marco Valli, Derek Vaughan, Rainer Wieland, Tomáš Zdechovský
<b>Substitutes under Rule 200(2) present for the final vote</b>	Karin Kadenbach, Ramón Luis Valcárcel Siso

## FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

27	+
ALDE	Gérard Deprez, Nils Torvalds
ECR	Zbigniew Kuźmiuk, Bernd Kölmel
EFDD	Marco Valli
PPE	Lefteris Christoforou, José Manuel Fernandes, Ingeborg Gräßle, Ivana Maletić, Siegfried Mureşan, Jan Olbrycht, Paul Rübig, Petri Sarvamaa, Ramón Luis Valcárcel Siso, Rainer Wieland, Tomáš Zdechovský, Patricija Šulin
S&D	Nicola Caputo, Eider Gardiazabal Rubial, Karin Kadenbach, Clare Moody, Pier Antonio Panzeri, Derek Vaughan, Daniele Viotti, Tiemo Wölken
VERTS/ALE	Jordi Solé, Monika Vana

2	-
ENF	Marco Zanni, Stanisław Żółtek

0	0

Key to symbols:

+ : in favour

- : against

0 : abstention

30.3.2017

## **OPINION OF THE COMMITTEE ON REGIONAL DEVELOPMENT**

for the Committee on Industry, Research and Energy

on the assessment of Horizon 2020 implementation in view of its interim evaluation and the Framework Programme 9 proposal (2016/2147(INI))

Rapporteur: Matthijs Van Miltenburg

### **SUGGESTIONS**

The Committee on Regional Development calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

1. Takes the view that research excellence and competitiveness must remain the underlying principles of the EU Framework Programme for Research and Innovation, while the ESI Funds should target regional growth and cohesion; is therefore opposed to any criteria or quotas in the new Framework Programme which aim to influence geographic distribution or cohesion; calls on the Commission to evaluate the Horizon 2020 support instrument entitled ‘Spreading Excellence and Widening Participation’ and, should it prove successful, to also retain this instrument within the 9th Framework Programme in order to achieve a balanced development of research activities across the EU;
2. Notes that the Framework Programme and the ESI Funds have both differences and similarities in terms of aims and focuses; notes that the introduction in the Common Provisions Regulation of thematic objective 1 on strengthening research, technical development and innovation strongly increased the uptake of the research results; takes the view that further efforts must be made to maximise synergies at programme level and project level; encourages the Commission to further analyse territorial patterns of Horizon 2020 and ESI Funds spending in order to identify particular areas where synergies in funding allocation should be increased and to set up a database of best practices for projects and to indicate paths for possible future synergies;
3. Recalls the Stairway to Excellence (S2E) EU budget pilot project, which continues to support regions in 13 Member States in developing and exploiting the synergies between the ESI Funds, Horizon 2020 and other EU funding programmes;
4. Takes the view that a Research and Innovation Strategy for Smart Specialisation (RIS3) is

a suitable vehicle to build, reform and strengthen regional innovation ecosystems; points out that based on the priorities identified in the RIS3, inter-regional cooperation should be developed as this will enable value chains to be created throughout the EU; asks the Commission to strengthen the further development of the European Institute of Innovation and Technology Knowledge and Innovation Communities (EIT KICs) with the RIS3 hubs; calls on the Commission, the Member States and regions to intensify their efforts to improve the quality of smart specialisation strategies and the effective implementation of their strategies;

5. Takes the view that that ESI Funds can be used to build up and enhance research and innovation (R&I) infrastructure and capacities and thus enable Member States to achieve excellence in R&I; points out that ESI Funds can be used for innovation transfer, promoting public and private investment in R&I and developing links and synergies between enterprises, research and development centres and the higher education sector; expresses its wish that ESI Funds were used for the promotion of centres of competence and innovation hubs, in particular those of European interest;
6. Takes the view that effective investments in R&I from the ESI Funds can only take place if Member States have their framework conditions in order; recalls the importance of fulfilling relevant ex-ante conditionalities in cohesion policy, such as those on smart specialisation, in order to ensure that ESI Funds have a significant impact on innovation; calls, therefore, for a strong and balanced link between country-specific recommendations for structural reforms concerning R&I, and investments in this field;
7. Calls on the Member States to improve the conditions for innovation, research and development, in particular by aiming to increase combined public and private investments in research and development (R&D) to 3 % of GDP by 2020 and to boost R&I activities in less developed regions in particular; observes that there is a clear link between national investments in R&D and the amount of successful project applications under the Framework Programmes;
8. Takes the view that there is a need to include stronger incentives to use ESI funds for R&I investments where there are country-specific recommendations to that effect or where weaknesses are identified; concludes that the ESI Funds for R&I investments will deliver EUR 65 billion in the period 2014- 2020; proposes, therefore, that the established ESI Funds performance reserve in the Member States is used to invest a substantial proportion of the revenue from the Structural Funds in R&I;
9. Welcomes the principle and the potential of the Seal of Excellence, as a quality label for synergies between ESI Funds and Horizon 2020, but notes that it is insufficiently applied in practice, caused by the lack of finance in the Member States; believes that projects – that have been submitted for funding under Horizon 2020, passed stringent selection and award criteria with a positive outcome, but could not be funded due to budget constraints – should be financed by ESI Funds resources, if these resources are available for that purpose; points out that a similar mechanism should also be defined for collaborative research projects;
10. Regrets the fact that the Horizon 2020 programme budget has been cut by EUR 2.2 billion in order to finance EFSI's guarantee fund; is of the opinion that the EU must stay internationally competitive and should not lose its R&I potential; underscores that the FP9

and the ESI Funds need to be properly budgeted under the post-2020 Multiannual Financial Framework in order to be able to provide suitable backing for research; proposes therefore to increase the budget for FP9 to a total amount of EUR 100 billion, including a larger dedicated budget for the SME Instrument, which should be secured for the whole duration of the programme;

11. Calls on the Commission, in drawing up the 9th Framework Programme and the future ESI Funds regulations, to ensure that framework conditions are improved and simplified so as to boost synergies and complementarity between sector-specific R&I policies, the Structural Funds, and R&I funds and programmes; points out that FP9 should continue to primarily focus on projects on the lower and middle-high technology readiness levels (TLRs), where projects on the high TRLs should primarily remain in the domain of ESI funds;
12. Notes that state aid rules apply to the ESI Funds, but not to Horizon 2020, while they can both fund similar projects with similar objectives; stresses that this causes unnecessary problems regarding the synergy between these funds; underlines that an ‘equal treatment’ approach in relation to procedures, e.g. on state aid and eligibility costs for the ESI Funds and the FP, should become the leading principle; urges the Commission to come forward with a review of the relevant state aid rules, especially regarding Seal of Excellence projects, and to define which projects will no longer fall within the scope of state aid rules.

## INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

<b>Date adopted</b>	21.3.2017
<b>Result of final vote</b>	+: 30 -: 1 0: 2
<b>Members present for the final vote</b>	Pascal Arimont, Franc Bogovič, Andrea Cozzolino, Rosa D'Amato, Krzysztof Hetman, Marc Joulaud, Constanze Krehl, Andrew Lewer, Louis-Joseph Manscour, Martina Michels, Iskra Mihaylova, Jens Nilsson, Andrey Novakov, Mirosław Piotrowski, Stanislav Polčák, Liliana Rodrigues, Fernando Ruas, Monika Smolková, Ruža Tomašić, Ramón Luis Valcárcel Siso, Matthijs van Miltenburg, Lambert van Nistelrooij, Derek Vaughan
<b>Substitutes present for the final vote</b>	Andor Deli, Josu Juaristi Abaunz, Ivana Maletić, Demetris Papadakis, Tomasz Piotr Poręba, Julia Reid, Davor Škrlec, Damiano Zoffoli, Milan Zver
<b>Substitutes under Rule 200(2) present for the final vote</b>	Luigi Morgano

## FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

30	+
ALDE	Iskra Mihaylova, Matthijs van Miltenburg
ECR	Andrew Lewer, Mirosław Piotrowski, Tomasz Piotr Poreba, Ruža Tomašić
EFDD	Rosa D'Amato
PPE	Pascal Arimont, Franc Bogovič, Andor Deli, Krzysztof Hetman, Marc Joulaud, Ivana Maletić, Andrey Novakov, Stanislav Polčák, Fernando Ruas, Ramón Luis Valcárcel Siso, Milan Zver, Lambert van Nistelrooij
S&D	Andrea Cozzolino, Constanze Krehl, Louis-Joseph Manscour, Luigi Morgano, Jens Nilsson, Demetris Papadakis, Liliana Rodrigues, Monika Smolková, Derek Vaughan, Damiano Zoffoli
	Davor Škrlec

1	-
EFDD Group	Julia Reid

2	0
GUE/NGL Group	Josu Juaristi Abaunz, Martina Michels

**Key to symbols:**

+ : in favour

- : against

0 : abstention

3.5.2017

## **OPINION OF THE COMMITTEE ON WOMEN'S RIGHTS AND GENDER EQUALITY**

for the Committee on Industry, Research and Energy

on assessment of Horizon 2020 implementation in view of its interim evaluation and the Framework Programme 9 proposal (2016/2147(INI))

Rapporteur: Vilija Blinkevičiūtė

### **SUGGESTIONS**

The Committee on Women's Rights and Gender Equality calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

- having regard to Article 2 and Article 3(3), second subparagraph, of the Treaty on European Union (TEU) and Article 8 of the Treaty on the Functioning of the European Union (TFEU),
- having regard to Articles 14(1) and 16 of 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<sup>1</sup>,
- A. whereas the Horizon 2020 programme, in line with the requirements of Article 16 of its Regulation, mainstreams gender equality and the gender dimension in research and innovation as a cross-cutting issue in each of the different parts of the work programme;
- B. whereas there are three mainstreaming objectives under Horizon 2020, namely: fostering equal opportunities and gender balance in project teams, ensuring gender balance in decision-making, and integrating a gender dimension into research and innovation content, which should be qualitative;
- C. whereas the EU is committed to promoting gender equality and ensuring gender mainstreaming in all of its actions; whereas research and innovation are key drivers for European economic growth and the greater representation of women in research contributes to the spread of innovations; whereas tapping into the full potential of women's skills, knowledge and qualifications will contribute to boosting growth, jobs and

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<sup>1</sup> OJ L 347, 20.12.2013, p. 104.

European competitiveness;

- D. whereas the share of women in advisory groups during the period 2014-2015 was 51.9 %<sup>1</sup>; whereas this was the sole indicator on women's participation that met its established target, which in this case was 50 %; whereas the share of women experts registered in the expert databases was 31.1 % and the share of women participating in the evaluation panels was 36.7 %<sup>2</sup>; whereas both of these figures did not meet their respective targets of 40 %;
- E. whereas the gender dimension in research and innovation content was visible in 36.2 % of granted projects<sup>3</sup>; whereas during the period 2014-2015, the share of women participants in Horizon 2020 projects was 35.8 % of the total workforce, including non-researchers<sup>4</sup>;
- F. whereas Horizon 2020, like all EU programmes, aims to achieve Europe 2020 and other international commitments, such as COP21 and the 2030 Agenda for Sustainable Development, including Sustainable Development Goal (SDG) 5 for gender equality; whereas these goals will not be achieved without new innovation, research and development; stresses, however, that the programme is complementary to Member States' own investment in research and innovation;
1. Notes the positive changes made in recent years in terms of equality between women and men in the fields of research, development and innovation, but draws attention to the strong vertical and horizontal segregation affecting women in academia and the presence of cultural and institutional barriers;
  2. Welcomes the fact that Horizon 2020 provides support for research bodies in implementing gender equality plans; welcomes also the Commission and the European Institute for Gender Equality's joint project aimed at creating an online tool for gender equality plans, as a means of identifying and sharing best practices with relevant stakeholders;
  3. Stresses the importance of maintaining as close relationships as possible with scientists from the United Kingdom in order to avoid any interruption or loss of knowledge in the area of medical research;
  4. Welcomes the fact that gender balance among personnel is one of the ranking factors in the Horizon 2020 evaluation criteria but, given that women make up just 35.8 % of the workforce; calls on the Commission to introduce a minimum participation requirement of 40 % of the under-represented sex in the next Framework Programme; welcomes, moreover, the fact that applicants have the opportunity to include training and specific studies on gender as eligible costs in their proposals;
  5. Welcomes the specific indicators used to monitor the implementation of a gender equality perspective in Horizon 2020, but regrets the fact that only 36.2 % of the signed grants in the same period took into account the gender dimension in the research and innovation

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<sup>1</sup> Horizon 2020 Monitoring Report 2015, [http://ec.europa.eu/research/evaluations/pdf/archive/h2020\\_monitoring\\_reports/second\\_h2020\\_annual\\_monitoring\\_report.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf).

<sup>2</sup> Ibid

<sup>3</sup> Horizon 2020 EU Framework Programme for Research and Innovation, EPRS Study, February 2017.

<sup>4</sup> Ibid

content<sup>1</sup>; calls on the Commission, therefore, to include the undertaking of a gender impact assessment as an ex-ante conditionality to apply to all grants under Framework Programme 9;

6. Notes that there are currently no indicators to assess the percentage of projects that specifically address matters of gender equality and issues closely linked to gender equality, such as: health (maternal and new born health in particular), poverty-related and neglected diseases, which disproportionately affect women and children, food and nutrition, water and sanitation, and access to resources; notes, in this regard, the lack of indicators to measure the percentage of calls for proposals that seek out such projects; calls on the Commission to include indicators on all these issues in future Horizon 2020 annual monitoring reports and in the new Framework Programme;
7. Welcomes the gender balance reached in Horizon 2020 advisory groups, where women's participation was 52 % in 2014 and 2015; regrets, however, the fact that the share of women experts registered in the expert databases and the share of women in evaluation panels did not reach the target of 40 % of participation of the under-represented sex; calls on the Commission to propose new measures to address this state of affairs;
8. Welcomes the fact that one of the objectives in 'Science with and for Society' is to ensure gender equality, in both the research process and research content; welcomes, furthermore, the grants 'Support to research organisations to implement gender equality plans' and 'Promoting Gender equality in H2020 and the European Research Area'; deploras, however, that there are no specific lines in the budget for the objectives outlined in Horizon 2020;
9. Considers that a further review is needed in order to assess the results of Horizon 2020, based on reliable and comparable indicators such as the percentage of women participants and women project coordinators in the programme, and in order to propose adjustments to the specific actions where required with a view to securing better results;
10. Requests that the Commission increase the budget for Horizon 2020 in order to boost the number of participating universities and research institutions, and calls on the Member States to facilitate access to dedicated grants for women researchers and scientists, in order to foster equality in scientific careers and boost competitiveness in the EU;
11. Calls on the Member States to further strengthen gender mainstreaming within Horizon 2020 and the future Framework Programme 9, and to support and reinforce the dialogue between research institutions, businesses and related social partners; calls for the development of gender equality targets in strategies, programmes and projects at all stages of the research cycle;
12. Calls on the Commission and the Member States to step up their efforts to overcome remaining structural gender inequalities among researchers, particularly in working conditions – such as pay gaps and discriminatory contractual arrangements – and in the representation of women on the governing boards of research institutions and

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<sup>1</sup> Horizon 2020 Monitoring Report 2015, pp. 53-217.  
[http://ec.europa.eu/research/evaluations/pdf/archive/h2020\\_monitoring\\_reports/second\\_h2020\\_annual\\_monitoring\\_report.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/h2020_monitoring_reports/second_h2020_annual_monitoring_report.pdf)

universities<sup>1</sup>;

13. Stresses the need to promote female entrepreneurship through the SME instrument, so as to encourage women to consider entrepreneurship as a relevant career option, by facilitating access to credit, cutting red tape and other obstacles for women's start-ups, with a view to achieving smart, sustainable and inclusive growth; underlines, moreover, the importance of support programmes for women entrepreneurs and for women in science and academia and urges the EU to support these programmes in a more tangible manner, including through positive action such as networking and mentoring programmes, as well as by creating adequate conditions and ensuring equal opportunities with men at all ages for training, advancement, re-skilling and re-training;
14. Calls on the Commission and the Member States to increase the number and impact of awareness-raising and information campaigns pertaining to Horizon 2020 with a view to attracting more girls into STEM fields and boosting women's participation in research projects; calls on the Commission to evaluate the targeting and success of information campaigns in increasing the participation of women in research projects;
15. Encourages the Member States to promote measures and action to foster the leadership potential of women and their participation in decision-making, using specific tools such as mentoring, networking and role models for women's career advancement;
16. Calls on the Commission to adopt a qualitative approach in the Horizon 2020 interim evaluation report and to use the interim evaluation report to develop specific gender participation and inclusion measurements for use in the ex-post evaluation of Horizon 2020;
17. Calls for the maintenance of an independent line of funding for gender-specific structural change projects (such as GERI for 2014-2016), as well as for other gender equality topics in research and innovation;
18. Calls for the inclusion of a robust gender equality strategy and measurable targets in the Framework Programme 9 proposal and for more developed and tangible requirements on gender inclusion in the basic regulation to be proposed for the new Framework Programme; considers it important to continue to support gender equality as a cross-cutting objective and as a specific area eligible for funding in each of the different parts of the work programme.

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<sup>1</sup> She Figures 2015. [https://ec.europa.eu/research/swafs/pdf/pub\\_gender\\_equality/she\\_figures\\_2015-final.pdf#view=fit&pagemode=none](https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf#view=fit&pagemode=none)

## INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

<b>Date adopted</b>	25.4.2017
<b>Result of final vote</b>	+: 22 -: 0 0: 6
<b>Members present for the final vote</b>	Maria Arena, Beatriz Becerra Basterrechea, Viorica Dăncilă, Arne Gericke, Anna Hedh, Mary Honeyball, Teresa Jiménez-Becerril Barrio, Elisabeth Köstinger, Agnieszka Kozłowska-Rajewicz, Kostadinka Kuneva, Angelika Mlinar, Maria Noichl, Marijana Petir, Terry Reintke, Liliana Rodrigues, Michaela Šojdrová, Ernest Urtasun, Elissavet Vozemberg-Vrionidi, Jadwiga Wiśniewska, Anna Záborská, Jana Žitňanská
<b>Substitutes present for the final vote</b>	Stefan Eck, Rosa Estaràs Ferragut, Mariya Gabriel, Ildikó Gáll-Pelcz, Kostadinka Kuneva, Marc Tarabella, Monika Vana

## INFORMATION ON ADOPTION IN COMMITTEE RESPONSIBLE

<b>Date adopted</b>	30.5.2017
<b>Result of final vote</b>	+: 50 -: 2 0: 5
<b>Members present for the final vote</b>	Bendt Bendtsen, Xabier Benito Ziluaga, José Blanco López, Reinhard Bütikofer, Jerzy Buzek, Angelo Ciocca, Edward Czesak, Jakop Dalunde, Pilar del Castillo Vera, Christian Ehler, Ashley Fox, Adam Gierek, Theresa Griffin, Hans-Olaf Henkel, Kaja Kallas, Barbara Kappel, Krišjānis Kariņš, Seán Kelly, Jaromír Kohlíček, Peter Kouroumbashev, Zdzisław Krasnodębski, Miapetra Kumpula-Natri, Janusz Lewandowski, Paloma López Bermejo, Edouard Martin, Angelika Mlinar, Nadine Morano, Dan Nica, Angelika Niebler, Morten Helveg Petersen, Miroslav Poche, Michel Reimon, Herbert Reul, Paul Rübig, Massimiliano Salini, Algirdas Saudargas, Jean-Luc Schaffhauser, Neoklis Sylikiotis, Evžen Tošenovský, Claude Turmes, Vladimir Urutchev, Kathleen Van Brempt, Henna Virkkunen, Lieve Wierinck, Anna Záborská, Flavio Zanonato, Carlos Zorrinho
<b>Substitutes present for the final vote</b>	Soledad Cabezón Ruiz, Jude Kirton-Darling, Constanze Krehl, Barbara Kudrycka, Olle Ludvigsson, Florent Marcellesi, Marian-Jean Marinescu, Marisa Matias, Markus Pieper, Sofia Sakorafa, Anne Sander, Pavel Telička, Anneleen Van Bossuyt
<b>Substitutes under Rule 200(2) present for the final vote</b>	Fabio Massimo Castaldo, Nicola Danti, Gabriele Preuß

## FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE

<b>50</b>	<b>+</b>
ALDE	Kaja Kallas, Angelika Mlinar, Morten Helveg Petersen, Pavel Telicka, Lieve Wierinck
ECR	Edward Czesak, Ashley Fox, Hans-Olaf Henkel, Evžen Tošenovský, Anneleen Van Bossuyt
GUE	Xabier Benito Ziluaga, Jaromír Kohlíček, Marisa Matias, Sofia Sakorafa
PPE	Bendt Bendtsen, Jerzy Buzek, Christian Ehler, Krišjānis Kariņš, Seán Kelly, Barbara Kudrycka, Janusz Lewandowski, Marian-Jean Marinescu, Nadine Morano, Angelika Niebler, Markus Pieper, Herbert Reul, Paul Rübig, Massimiliano Salini, Anne Sander, Algirdas Saudargas, Vladimir Urutchev, Henna Virkkunen, Anna Záborská, Pilar del Castillo Vera
S&D	José Blanco López, Soledad Cabezón Ruiz, Nicola Danti, Adam Gierek, Theresa Griffin, Jude Kirton-Darling, Peter Kouroumbashev, Constanze Krehl, Miapetra Kumpula-Natri, Olle Ludvigsson, Edouard Martin, Dan Nica, Miroslav Poche, Gabriele Preuß, Flavio Zanonato, Carlos Zorrinho

<b>2</b>	<b>-</b>
ENF	Angelo Ciocca, Jean-Luc Schaffhauser

<b>5</b>	<b>0</b>
Verts/ALE	Reinhard Bütikofer, Jakop Dalunde, Florent Marcellesi, Michel Reimon, Claude Turmes

**Key to symbols:**

+ : in favour

- : against

0 : abstention