



*European Economic and Social Committee*

**INT/858**  
**Horizon Europe**

## **OPINION**

European Economic and Social Committee

**a) Proposal for a regulation of the European Parliament and of the Council establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination**

[COM(2018) 435 final – 2018/0224 (COD)]

**b) Proposal for a decision of the European Parliament and of the Council on establishing the specific programme implementing Horizon Europe – the Framework Programme for Research and Innovation**

[COM(2018) 436 final – 2018/0225 (COD)]

Rapporteur: **Gonçalo LOBO XAVIER**

Referral	a) European Parliament, 14/06/2018 Council, 25/06/2018 b) European Parliament, 14/06/2018 Council, 27/06/2018
Legal basis	a) Article 173(3), Article 182(1), (4) and (5), Article 188 TFEU; and Article 7(5) of the Euratom Treaty b) Article 173(3) and Article 182(4) TFEU
Section responsible	Single Market, Production and Consumption
Adopted in section	02/10/2018
Adopted at plenary	17/10/2018
Plenary session No	538
Outcome of vote (for/against/abstentions)	187/1/2

## 1. Conclusions and recommendations

- 1.1 The EESC welcomes the fact that the European Commission has made it clear that Research and Innovation (R&I) must continue to be an essential **EU priority** also in the context of the next Multiannual Financial Framework 2021-2027. The EESC is most pleased to observe that many of the recommendations made by the Committee for the Horizon 2020 mid-term evaluation have been taken up in areas such as collaborative research and mobility, as well as steps to strengthen innovation, overcome disparities among regions, promote science and innovation activities among citizens, remedy low success rates and reduce the administrative burden<sup>1</sup>.
- 1.2 The EESC emphasises that science, research and innovation must be key elements of the European community-building process and therefore supports the Horizon Europe approach of bringing citizens closer to these activities and achievements. For this purpose, effectively communicating not only the opportunities of the programme but also the effects of innovation and research activities on citizens' lives must be part of the strategy to encourage more support from Member States for this effort.
- 1.3 The EESC supports the design of R&I missions as part of the strategy of Horizon Europe to achieve more impactful R&I outcomes and to really change the way citizens perceive science and its impacts in their day-to-day lives. The EESC calls for urgency in defining strategic missions that can stimulate research and innovation ecosystems across Europe and that boost collaborative research as the main vehicle to deliver knowledge and create impact. Missions should focus on a specific, quantifiable and achievable target and should be open to all possible participants, capturing excellence from different parts of Europe.
- 1.4 The EESC supports the fact that missions will be open to diverse, bottom-up solutions and cover the whole R&I lifecycle. As missions should address medium to long-term goals, the high importance of low Technological Readiness Level (TRL) research should also be reflected in their approach. They should not be focused only in linear innovation models, which often are restricted to incremental innovation, but should explicitly incentivise disruptive innovation models.
- 1.5 The EESC as the representative of organised civil society is open to actively contributing to the co-design process and supports the idea of the missions, but one must not forget that bringing decisions too close to final users may limit the missions' scope and disruptiveness. The mission boards should have high quality and sufficient critical mass from all stakeholders, so as to avoid incremental research or, at the opposite extreme, missions that are far beyond existing technical/technological capacities.
- 1.6 The EESC highlights the European Innovation Council (EIC) as an important instrument to support breakthrough innovation and boost entrepreneurship and competitiveness at EU level. In this way, and taking into account the European landscape, the EESC believes that the EIC should particularly focus on very innovative and breakthrough SMEs and start-ups.

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<sup>1</sup> [OJ C 34, 2.2.2017, p. 66](#) and [Information report on Horizon 2020 \(evaluation\)](#).

- 1.7 The EESC agrees that Horizon Europe should bring in social sciences and humanities (SSH) in a systematic way. SSH should be approached in conjunction with the technological approach. Innovation goes far beyond technology, and bringing together the different visions, trade-offs and challenges will better shape the R&I landscape in Europe. The EESC believes that going "beyond technology" would boost SSH across Horizon Europe.
- 1.8 The EESC supports the "open science" policy approach as a means to focus on excellent science and high-quality knowledge. Open science is vital for the overall scientific development of the European institutions, but one should consider introducing a certain timeframe for publishing all the scientific results in order to assure that all project outcomes will be made available in suitable repositories and within well-defined timeframes. The EESC welcomes open access to publications and research data, but regular consultation with research stakeholders regarding future requirements in open science is strongly recommended. The established opt-out possibilities should be maintained under Horizon Europe.
- 1.9 The EESC agrees that the redesigned pillar structure will improve internal coherence, in particular through the integration of industrial technologies into Pillar 2, enhancing the contribution of industry to tackling global challenges, and matching supply with demand for new solutions. This approach is very appealing, and one suggestion would be to favour consortiums that close the innovation cycle, i.e., include the academic partners that create, the solution providers that develop innovative solutions, and the final users that express their needs so they can operate in a sustainable manner.
- 1.10 The EESC also welcomes the aim of further simplifying state aid rules to facilitate the combination of different funds that can be instrumental in overcoming the major disparities between Member States and regions in terms of the number of successful R&I projects. Synergies among the different Union funding programmes and Union policies, namely with structural funds through compatible regulations, are vital for guaranteeing the greatest impact of R&I projects.
- 1.11 The EESC highlights the fact that supporting the mobility of researchers via Marie Skłodowska-Curie Actions (MSCA) is also fundamental to further strengthening the European Research Area, while EU and national policies must aim at adequate and attractive working conditions for professionals to avoid the "brain drain" phenomenon that is truly counterproductive for the achievement of cohesion in the EU. In addition, it is vital to strengthen support for early career researchers in the ERC programme.
- 1.12 The EESC believes that special focus should be placed on science education and science communication in the pillar of "Strengthening the European Research Area". This would strengthen the science with and for society within this pillar and consequently within Horizon Europe.

## 2. General comments

- 2.1 The EESC welcomes the Commission's recent effort to boost European growth through new and measured European policies supported by increased promotion of R&D+I activities that can provide European leadership in many areas<sup>2</sup>. The European community of innovators and researchers has achieved many goals in recent years, but it remains the case that this situation is not fully valued by European citizens for several reasons, such as the lack of communication, poor commitment from the community or even citizens indifference to scientific achievements. Therefore, it is crucial to change this attitude within European society, not just in the short-term but also in order to contribute to a long-term innovation and scientific ecosystem embedded in society as a whole.
- 2.2 The EESC supports the approach that it is by defining key global challenges that citizens' views can be changed, as part of a very strong effort to mobilise and engage society for the European project. Boosting Europe's competitiveness through innovation is fundamental, and must be in leaders' minds when setting policy priorities. One cannot simply say that R&D+I activities make a major contribution to job creation and growth. It is not enough simply to provide information that two-thirds of economic growth in Europe today arises from RDI activities. Member States must take part in this collective effort.
- 2.3 The EESC welcomes the proposal for a new European R&I Programme to support and boost R&I at EU level for 2021-2027, and its main features, namely the focus on open science, global challenges and industrial competitiveness, and open innovation. The EESC strongly believes that the co-creation approach, engaging all the stakeholders in the knowledge and innovation community, is the basis to boost European competitiveness, job creation, social cohesion, in particular combating youth unemployment, and environmental protection in line with the UN 2030 Agenda and the Sustainable Development Goals (SDGs).
- 2.4 The Horizon Europe Programme seems to reflect the Commission's priority to build an innovation and scientific ecosystem that could enable the EU to improve its competitiveness through structural activities that will have an economic and social impact. This is confirmed not only by the proposed increase in the financial package but also by the activities projected under the three pillars of the programme.
- 2.5 The EESC supports the main new elements that are highlighted by the Horizon Europe proposal, namely: (i) supporting breakthrough innovation through the European Innovation Council; (ii) creating more impact through mission-orientation and citizen involvement: R&I missions; (iii) strengthening international cooperation; (iv) reinforcing openness through a stronger open science policy; and (v) rationalising the funding landscape through a new approach to European Partnerships.
- 2.6 The establishment of EU bottom-up research and innovation **missions** focused on global challenges and industrial competitiveness might be a good way to get society more engaged in science and innovation activities. This approach might be a successful way to involve society

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<sup>2</sup> [OJ C 197, 8.6.2018, p. 10.](#)

and citizens in the missions that are to be defined, and will create a sense of community that could be essential to achieving significant results and impact. The role of organised civil society in this process, once again, could be crucial.

- 2.7 The EESC also appreciates the fact that Horizon Europe is going to support "Public Private Partnerships (PPPs)" as an efficient instrument for boosting collaborative research focused on industry-driven R&I, emphasising fewer partnerships with higher impact. Europe must accept the fact that there is still a long way to go to achieve a lean process in terms of efficient collaboration between academia and industry. There are, of course, many good examples and best practices, but there is also room for improvement. "PPPs" are one of the tools to reduce the existing gap between those two different but complementary worlds: academia and industry/the market.
- 2.8 The EESC once again<sup>3</sup> urges the Commission to continuously make efforts to reduce the level of bureaucracy within the Horizon programme. Therefore, the EESC welcomes the Commission's proposal on having less bureaucracy and a better "time to market"/level of response to the proposals, as can be seen, for example, in Horizon 2020, in relation to the specific "SME Instrument". Simplification must be a main aim within Horizon Europe, namely regarding time to grant and subsequently entering the market, constant funding rates, reduced number of instruments, limited use of timesheets, widespread use of lump sums, etc.
- 2.9 The EESC believes that, along with reducing bureaucracy, improving simplification, and a more visible campaign to attract SMEs to innovation and R&I activities, the concept underlying the European Innovation Council (EIC) is very welcome, especially with regard to boosting commercialisation, scale-up innovations, and entrepreneurs. In fact, the EESC believes that, under this strategy, the degree of success might increase if we keep in mind that some of the start-ups and ideas have not succeeded in the past, for various reasons that the EIC wishes to address. We must not forget the need to make European culture less risk-averse and, in this connection, the EIC will contribute to this effort and should consider high-risk R&I actions in its overall goals and evaluation criteria.
- 2.10 The EESC supports the idea of having more SMEs and start-ups involved in the programme but has some doubts regarding the scale-up proposal. Despite previous efforts throughout the framework programmes, SMEs should be more involved in activities based on R&I and Horizon Europe would be the best chance to get them "on board". The idea of greater involvement via capital might be a good one, but the message must be clear to all companies. The fact that SMEs still have a different perspective when it comes to "capital ownership" requires a full explanation from the programme in order to boost community participation and avoid misinterpretations. SMEs have a long tradition of capital based on family entrepreneurs, and proposals to "open" their capital to the market, funded by this programme, could raise specific questions. Therefore, the EESC urges the Commission to be very clear about this interesting proposal.

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<sup>3</sup> [OJ C 34, 2.2.2017, p. 66.](#)

- 2.11 The EESC also agrees with the principle that there would be no more EU financial investment for entrepreneurs without dialogue with the EU. This "motto", recently announced by Commissioner Moedas in a public session, demonstrates an ambitious idea of more direct interaction with entrepreneurs and candidates, but is also a very risky attitude: it is not yet clear what kind of resources are going to be allocated to the interviews with candidates, and the entire process still needs to be efficient. But the EESC is fully prepared to back this new approach and even offers its help to collaborate on the process by means of the expertise of its members and the backing of the civil society organisations that support their members.
- 2.12 Finally, the EESC also welcomes the efforts that seem to be being made to boost the synergy of funds between programmes. Synergies of funds may have a strong role to play in leveraging and boosting R&I capacities in different regions of Europe. Increasing synergies with other Union funding programmes and Union policies, namely with structural funds through compatible regulations, should be a key point. In fact, according to MFF regulations regarding cohesion funds, Member States can transfer up to 5% of their allocations from one fund to another, enabling them to transfer investment money to other key areas that have been identified. This could be another important step towards better involving Member States in achieving the goal of the innovation programme and taking the scientific agenda to another level. The EESC believes that only by involving the public and private sectors can the programme be considered a success story, with an impact on citizens' day-to-day lives. Another important aspect would be the harmonisation of the rules and regulations of the different funds, at least for the same types of activity, and particularly for research and innovation.

### 3. **The Horizon Europe (2021-2027) proposal**

- 3.1 The Commission's proposal for Horizon Europe is based on an announcement of a major achievement: a EUR 100 billion R&I programme that is already a step forward for a science- and innovation-based European knowledge society. In this regard, the fact that Member States agreed to this budget increase demonstrates not only a political commitment but also a clear message to the world: Europe wants to lead the way on innovation, and the funding conditions to do so have thus been created.
- 3.2 Besides the financial increase, there are a few new and innovative ideas that the EESC wants to highlight as points taken directly from the proposal that are important for this opinion. Therefore we would like to mention the following items in brief:
- a) **The three-pillar structure of Horizon Europe:** as stated by the EC, Horizon Europe is not a revolution but an evolution. Thus it is based on three main pillars: Open Science, which includes the ERC, MSCA and research infrastructure; Global Challenges and Industrial Competitiveness, which comprises five clusters: health; inclusive and secure society; digital and industry; climate, energy and mobility; and food and natural resources; and the Open Innovation Pillar, with the EIC, the European innovation ecosystems and the EIT. The three pillars will be underpinned by activities to strengthen the European Research Area.
  - b) **The creation of the European Innovation Council (EIC)** to help the EU become a leader in market-creating innovation; Europe has been pursuing this objective for many years, yet despite these efforts, despite excellent ideas, and despite a very strong innovative and

scientific community, the level of growth and job creation does not reflect the level of commitment. Thus, the Commission's proposal will establish a one-stop shop to bring the most promising high-potential and breakthrough technologies from the lab to market deployment, and will help the most innovative start-ups and companies scale up their ideas. The new EIC will help identify and fund fast-moving, high-risk innovations with strong potential to create entirely new markets. It will provide direct support to innovators through two main funding instruments, one for early stages and the other for development and market deployment. It will complement the European Institute of Innovation and Technology (EIT). The EESC believes that the EIC should focus on very innovative and breakthrough SMEs and start-ups.

- c) Within the EIT, proposals for future EIT Knowledge and Innovation Communities (KICs) will be indicated in the EIT Strategic Innovation Agenda (SIA). The EESC believes that these should not be significantly increased and should be kept to a limited number in line with the principle of simplification of the R&I landscape. In addition, the future KICs should guarantee the representation of different European countries, namely regarding the innovation hubs' location. The entrepreneurship fostered by the academic pillar (e.g. entrepreneurial education; fostering strong non-disciplinary collaboration between industry and academia; and identifying prospective skills for future innovators) should be reinforced.
- d) The establishment of EU R&I **missions** focused on global challenges and industrial competitiveness. This approach might be a successful way to involve society and citizens in the missions that are to be identified and will create a sense of community that could be essential to achieving significant results and impact. Examples could range from the fight against cancer to clean transport, plastic-free oceans, or safe and clean water for all. These missions will be co-designed with citizens, stakeholders, the European Parliament and Member States. The EESC, as the representative of organised civil society, is open to actively contributing to this co-design process.
- e) **Maximising the innovation potential across the EU and strengthening the European Research Area:** support will be doubled for Member States that exhibit a low R&I performance potential. Moreover, synergies with European Structural and Investment Funds (e.g. Structural and Cohesion Funds) will make it easy to coordinate and combine funding and help regions embrace innovation and gain leverage at EU level.
- f) **More openness:** the principle of "open science/open innovation" will become the modus operandi of Horizon Europe, requiring open access to publications and data. This will promote dissemination and exploitation, assist market uptake and increase the innovation potential of results generated by EU funding.
- g) **A new generation of European partnerships and increased collaboration with other EU programmes:** the expectation is that Horizon Europe will streamline the number of partnerships that the EU co-programmes or co-funds with partners such as industry, civil society and funding agencies, in order to increase their effectiveness and impact in achieving Europe's policy priorities. Horizon Europe will promote effective and operational links with other future EU programmes, like cohesion policy, the European Defence Fund, the Digital Europe Programme and the Connecting Europe Facility, as well as with the international fusion energy project ITER.
- h) **The Joint Research Centre (JRC),** the Commission's science and knowledge service, will continue to contribute by means of scientific advice, technical support and dedicated research.



#### **4. Science and innovation for all Europeans**

- 4.1 Citizens must be aware of the European potential and achievements regarding science and innovation activities. These activities truly are a part of everybody's lives and are a real opportunity to involve society in the European project. The concept and the measures proposed by the Commission are ambitious, and are a "never-ending process", but this is also the best opportunity to get citizens engaged with European values linked to innovation and science for all.
- 4.2 Science education and science communication must be considered a fundamental approach to getting everyone involved with the European project. Setting public involvement as a priority within Horizon Europe will represent a clear step forward on delivering the R&I outputs to the market and to our daily lives. The co-creation process based on a multi-stakeholder approach would constitute a clear message for public involvement in the R&I landscape. Social innovation with public involvement and trust in innovation will be crucial to encouraging new governance, production and consumption patterns.
- 4.3 Dissemination, communication and exploitation of the success of European science and innovation seems to be somewhat ineffective. Citizens value other regions' innovations and fail to recognise "European achievements" even when they see them. This must change, for several reasons: besides the idea of getting "European value" from the investments that are made by Europe, it is also important to be proud of EU achievements and goals in connection with the European project for all.
- 4.4 Europe is often criticised for its "lack of investment" and "lack of a culture of risk and entrepreneurship". The general idea of the EC proposal is to address these challenges and to create a new narrative regarding these ideas. Science and innovation activities' contribution to constructing a better and more inclusive Europe is part of the change that is needed to avoid misunderstandings regarding the European project, and certainly represents a good contribution to getting citizens more involved and making them proud of being part of the solution. It is also important to counteract inaccurate ideas about the use of European funds in local communities: if citizens were to recognise that "taxpayers' money" is being used well, this would be a good step towards countering extreme populist narratives that must be contested.
- 4.5 The programme should, in particular, contribute to the strengthening of the European Research Area by ensuring that most of its funding be used for collaborative research involving participants from Member States and/or Associated Countries, in order to offer significant EU added value. Collaboration among European researchers, industries (including SMEs), and other public and private institutions has been instrumental in creating the ERA and is a trademark of the European R&I Framework Programmes, which are very much appreciated by stakeholders and must be preserved in Horizon Europe.
- 4.6 Horizon Europe activities shall be primarily delivered through calls for proposals. It should be ensured that most of the Horizon Europe budget is spent via competitive calls that are run directly by the European Commission or its executive agencies in a transparent and efficient

way, and that the number and budget of missions and partnerships should be capped at reasonable levels so as to rationalise the R&I landscape, in line with the main aim of simplification.

- 4.7 Horizon Europe must streamline the needs and urgent priorities highlighted in the stakeholder consultation launched at the beginning of 2018 as a part of the impact assessment<sup>4</sup> exercise. The aim of the stakeholder consultation was to gather the views of interested citizens and stakeholders on the design of Horizon Europe, namely with regard to fostering R&I across the EU; supporting education, skills and training; and ensuring a clean and healthy environment and the protection of natural resources.
- 4.8 In order to actively contribute to the cohesion of the different regions within Europe, the increase in financing for the European Research Council is welcome, particularly if it will be assigned first and foremost to early career researchers, as the group that offers the highest possible potential for the future of Europe. The brain drain from peripheral regions towards other areas must be stemmed and early career researchers' empowerment must be made a reality.
- 4.9 In order to improve the appropriation of research outcomes by the civil society, it is important to underline the fundamental role of social innovation. It is also important to underline the importance of Social Economy Enterprises and overall stakeholders, which alongside industry and SMEs, today constitute an important part of the European economic system.

## **5. The role of enterprises**

- 5.1 The EESC must once again reiterate the fact that SMEs represent the most significant business community in Europe. SMEs are responsible for job growth and creation and therefore must be at the heart of the policy-making process. This proposal seems to reflect this idea, but at the same time the EESC draws the Commission's attention to the fact that there is no "one size fits all" solution for all Member States regarding how to boost SMEs' participation in Horizon Europe. Member States have different levels of growth and structural innovation ecosystems, and this must somehow be reflected in the specific measures proposed.
- 5.2 The EESC recognises the role of start-ups within innovation and scientific ecosystems, but draws the Commission's attention to the fact that entrepreneurs must have a business-oriented approach if they want to succeed. It is therefore desirable to give entrepreneurs some advice on the potential and needs of the market. Large companies must also be part of the process. Large companies provide more opportunities for start-ups and SMEs, not only due to the challenges that they create but also due to the business opportunities that normally accompany their activities. It is therefore a very good idea to create a more efficient innovation ecosystem that brings together all their realities.
- 5.3 The EESC draws the attention of the community of entrepreneurs, and of the Commission, to the need to develop a new narrative regarding industrial activities. The traditional industrial

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<sup>4</sup> [https://ec.europa.eu/info/publications/horizon-europe-impact-assessment-swd-2018-307\\_en](https://ec.europa.eu/info/publications/horizon-europe-impact-assessment-swd-2018-307_en).

sectors could really benefit from the activities of start-ups when these are geared towards the challenges that arise out of the digitalisation and robotisation of industrial activities – towards, for instance, the circular economy, or boosting the introduction of very advanced new manufacturing technologies through the participation of SMEs and start-ups and promoting their cooperation with large industries. The level of success could be increased if the start-up community were somehow to be made aware of the industrial challenges ahead.

## 6. Financial issues

- 6.1 The proposed budget allocation of EUR 100 billion (bn) for 2021-2027 includes EUR 94.1 bn under Horizon Europe, EUR 3.5 under the InvestEU Fund and EUR 2.4 bn for the Euratom Research and Training Programme. The Euratom programme, which funds research and training on nuclear safety, security and radiation protection, will have an increased focus on non-power applications such as healthcare and medical equipment, and will also support the mobility of nuclear researchers under the Marie Skłodowska-Curie Actions.
- 6.2 The indicative distribution of the Horizon Europe budget highlights a significant increase (around 20%) in the ERC budget and in Marie Skłodowska-Curie Actions (around 10%) in comparison to the Horizon 2020 Framework Programme 2014-2020. The EESC fully supports this increase and that the ERC should devote most of its budget to early career researchers in their most productive and creative phase (Starting Grant<sup>5</sup> and Consolidator Grant<sup>6</sup>).
- 6.3 The EIC budget represents the highest increase within Horizon Europe with a total amount of EUR 13.5 bn. Within the Global Challenges and Industrial Competitiveness pillar, the "food and natural resources" cluster shows the largest increase, to a total of EUR 10 bn. The cross-cutting pillar dedicated to "Strengthening the European Research Area" also shows a substantial increase in its budget to a total of EUR 2.1 bn. The EESC believes that these budgetary trends are welcome and will strengthen the European Research Area and build a stronger multi-actor R&I ecosystem across all European regions.

Brussels, 17 October 2018

Luca JAHIER

The president of the European Economic and Social Committee

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<sup>5</sup> For researchers of any nationality with 2-7 years of experience since completion of PhD, a scientific track record showing great promise and an excellent research proposal (<https://erc.europa.eu/funding/starting-grants>).

<sup>6</sup> For researchers of any nationality with 7-12 years of experience since completion of PhD, a scientific track record showing great promise and an excellent research proposal. (<https://erc.europa.eu/funding/consolidator-grants>).