



Department for  
Business, Energy  
& Industrial Strategy

# UK POSITION PAPER ON THE NINTH EU FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION (FP9)

March 2018

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# UK POSITION PAPER ON THE NINTH EU FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION (FP9)

As the European Commission and European Union (EU) Member States begin work to develop the Ninth Framework Programme for Research and Innovation, this paper sets out the UK government's position on how the programme can provide the greatest social and economic benefits for European citizens.

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## Introduction

Through close cooperation over many years, Europe has succeeded in becoming a world-leading centre of research and innovation. The principles of excellence and competitiveness that underpin European collaboration drive up the quality of research outputs and contribute to higher skills levels. The research and innovation partnerships that take place in Europe promote economic growth and address major societal challenges. The EU's Framework Programmes for Research and Innovation contribute to this.

As the UK builds the broadest and deepest possible partnership with the EU, we seek to continue to collaborate with our European partners on major research and innovation initiatives through a far-reaching science and innovation pact. This would enable the UK to participate in key programmes alongside our EU partners, and will include considering possible options for participation in the Ninth Framework Programme (FP9). The UK highly values its participation in EU Framework Programmes and, as a top five collaboration partner for all Member States, we have contributed towards the programme's benefits to citizens across Europe. As we make clear in our Industrial Strategy we believe that research and innovation are global endeavours, and that international collaboration is key to success in these areas.

The current Framework Programme, Horizon 2020, is a uniquely ambitious programme, promoting collaboration and competition for the benefit of all. Its prestige and value to the research and innovation community is demonstrated by the high number of excellent applicants for its open calls. It has proven flexible enough to respond to new and emerging needs and recent technological advances. The UK appreciates working in partnership with the European Commission, other Member States and Associated Countries across the spectrum of research and innovation. We have been an active partner, for example in innovative medicines research, where the UK is represented in over 90% of all projects<sup>1</sup>.

The interim evaluation of Horizon 2020 identified many strengths within the programme - strengths that must be maintained in FP9. However, we should seek to make FP9 even stronger, taking account of the recommendations of the Lamy Group report (*LAB-FAB-APP*)<sup>2</sup>. It is in the interests of all European citizens that FP9 should build upon the achievements of earlier Framework Programmes in strengthening Europe's science base, supporting ground-breaking innovation and tackling the challenges that are too large for any single country to handle alone. The European Commission has begun the process of designing FP9, in consultation with the EU's Member States. This paper sets out the UK Government's view on how this can best be achieved.

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<sup>1</sup> UK Participation in the Innovative Medicines Initiative [http://www.abpi.org.uk/media/1374/uk\\_participation\\_in\\_imi.pdf](http://www.abpi.org.uk/media/1374/uk_participation_in_imi.pdf)

<sup>2</sup> Report of the independent High Level Group on maximising the impact of EU Research & Innovation Programmes, July 2017: [http://ec.europa.eu/research/evaluations/pdf/archive/other\\_reports\\_studies\\_and\\_documents/hlg\\_2017\\_report.pdf](http://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf)

## Summary

1. **A continued focus on excellence is essential:** only by supporting the highest quality proposals can the programme achieve the greatest benefits for citizens.
2. **Open to the World:** the EU and its Member States should facilitate and strengthen collaborative working with other countries on shared priorities for mutual benefit.
3. **A mission-oriented approach** could provide a useful framework for tackling large scale societal challenges and European priorities, determined via a flexible and consultative approach.
4. **FP9 should further reduce the administrative burden for participants** so that they can focus on producing excellent research and innovation.
5. **Spreading excellence:** Member States and Associated Countries should seek to widen participation, supporting the development of underrepresented groups as well as regions, to strengthen European research and innovation as a whole.
6. **European added value:** FP9 should complement national research and innovation funding programmes, concentrating on where it can add most value.
7. **Tackling Europe's innovation gap and future industrial competitiveness requires an ambitious approach,** taking full advantage of research successes, understanding emerging opportunities, considering the wider industrial landscape and focusing on European added value. EU and national or regional-level strategies should be aligned where possible to ensure a coherent research and innovation landscape.
8. **FP9 must demonstrate its benefits** in enhancing growth and providing wider social benefits. The impact of the programme as a whole, and of its individual instruments, should be carefully evaluated to ensure they remain effective, and unproductive instruments should be discontinued.
9. **FP9 needs to rationalise the number of partnership instruments** whilst ensuring those that are effective can continue to succeed. The Commission should consider ways to make it easier for organisations to join or leave partnerships.

### 1. Excellence is essential

1.1 The three pillars structure has proved successful in Horizon 2020 and should be retained for FP9. In particular, Pillar 1 ('Excellent Science') has very wide support within the research and innovation community and a strong and well-deserved reputation for the quality of the work it supports. The UK believes it is essential that this pillar is retained in FP9.

1.2 Both the European Research Council (ERC) and Marie Skłodowska-Curie Actions (MSCA) are strong and successful programmes. ERC grants encourage the brightest minds across the EU and beyond to further outstanding endeavours, spurred by the prestige of the competition and the substantial funding available. It is well managed, with a well-defined offering that appeals to outstanding researchers across the world. MSCA boosts mobility in researchers across the EU and world-wide, providing training and career support as well as

helping to improve employment conditions. This plays a key role in supporting excellence and building the skilled workforce required for innovation and growth in Europe.

1.3 However, although Pillar 1 is referred to as the excellence pillar, excellence is not – and should not be – confined to this pillar. To increase impact, and ensure value for money to citizens, it is essential that excellence continues to be the driving force across the whole Framework Programme, with funding allocated to the best projects based on competition. Across the programme it will be important to retain the balance between bottom-up, researcher-driven activities and more top-down, challenge-driven programmes, to ensure that the basic, underpinning research is not reduced, and that the programme remains attractive to Associated and Third Country partners.

## **2. Open to the World**

2.1 Many of the challenges faced by Europe are global issues, and can be better tackled in collaboration with researchers beyond the EU. There is scope to improve on the current situation in Horizon 2020, making FP9 more open to the world. The UK supports the Lamy Group recommendation to open up FP9 to association by the best and participation by all, based on reciprocal cofunding or access to funding in their partner country. Associated and Third Countries have much to contribute to FP9, and the Commission and Member States should continue to work with these countries to ensure their voices are heard. The terms of association and third country participation should be fair and should not seek to unnecessarily restrict, or to create undue financial or administrative burdens for new partners. As well as being open it must be accessible, with streamlined application processes for new members and reasonable legal requirements.

2.2 On innovation in particular, there have to date been limited opportunities to engage strategically with strong knowledge economies such as Japan, South Korea, Canada and Australia where there may be opportunities for mutual benefit. Such collaborations deliver more than research outcomes, as companies, and especially SMEs, utilise such opportunities to develop new customer or supplier relationships and access global markets. A clear framework for identifying such opportunities should acknowledge differences between research objectives and innovation/competitiveness objectives and the related risks and benefits for the European value chain. Opportunities to synergise with instruments, such as GlobalStars, under the EUREKA framework to develop such activities should be explored.

## **3. A Mission-Oriented Approach**

3.1 The Lamy Group report recommended that FP9 should adopt a mission-oriented, impact-focused approach to address global challenges. It has been suggested that such missions could be a useful way to engage the public and inspire an interest in science and innovation. The UK has recently started to explore a similar challenge-oriented approach, for example through our Industrial Strategy Challenge Fund, and our Grand Challenges.

3.2 The UK feels that a mission-oriented approach, as suggested in the Lamy report, could provide a useful framework for tackling large scale societal challenges or exploiting market opportunities within FP9. The United Nations Sustainable Development Goals could form a suitable starting point for identifying possible missions, although participating states should be involved in the selection of missions, and they should reflect European priorities. There would be value in selecting missions that appeal to the general public, however the

focus should be on creating missions that address key societal challenges and produce excellent research and innovation, rather than popularity.

3.3 The UK welcomes the Commission's efforts to discuss a mission-based approach, and looks forward to continuing to play its part in the process. The UK suggests that successful missions should:

- Avoid restricting the scope of the work carried out under them, and be flexible enough to allow them to react to future discoveries and events, to ensure they remain relevant.
- Have clearly articulated objectives and a vision of success, while recognising a range of possible successful outcomes, given the inevitable degree of risk and range of opportunities when pursuing ambitious goals.
- Promote cross-cutting, interdisciplinary activities at all technology readiness levels. They should consider how the socio-economic sciences and humanities can contribute to addressing these challenges.
- Be designed and selected in consultation with stakeholders in the research and innovation sectors, as this will be key to producing a workable structure and leveraging investment from other sources.
- Be aligned with wider goals and programmes, and supported by the surrounding framework conditions and policies in a coherent manner. However they should not diminish the 'bottom-up' nature of research funding instruments such as the ERC and MSCA.

3.4 Missions will need to be evaluated at suitable timescales, both during their period of operation and afterwards, to capture all forms of impact. This will be crucial to demonstrate their benefits. Partnerships, both public/public and public/private, also play a significant role within the current societal challenge approach and should continue in FP9.

## **4. Simplification**

4.1 Research and innovation are inherently collaborative undertakings, where the greatest advances can be made where diverse groups cooperate to pool resources and knowledge to solve problems. FP9 has an important role to play in helping to remove barriers to new participants, to remain open to society, and to encourage collaboration and knowledge sharing.

4.2 As the interim evaluation of Horizon 2020 acknowledges, great progress has been made with the simplification of Framework Programmes during the move from FP7 to Horizon 2020. This has been much appreciated by stakeholders. However that does not mean the process is complete. A resource-intensive application process can favour experienced actors and act as a deterrent to applicants, especially when combined with low success rates, making this a potential barrier to accessibility too. This can be particularly off-putting for the small and medium-sized enterprises on which we rely for innovation, and for third country participants who often have something new to offer the programme.

4.3 While there is a balance to be struck between forcing existing participants to adapt to changing rules, and simplifying existing procedures to encourage fresh participation, the Commission should examine potential barriers such as applicants having to navigate multiple websites, or lack of clarity on the way personnel costs, third party contracts and risks need to be calculated<sup>3</sup>. There should also be clear processes for discontinuing or modifying instruments when they don't add value, or when they duplicate other initiatives.

## **5. Spreading Excellence and Widening Participation**

5.1 As outlined above, a continued focus on research and innovation excellence is vital to retain Europe's strengths in these areas and maintain the quality, impact and reputation of the Framework Programmes. There are pockets of excellence across Europe, with varying strengths and weaknesses in each country's research and innovation ecosystems.

5.2 As competition from around the world grows, Europe must ensure it is working together to stay at the forefront of advances in research and technology and their subsequent exploitation, and that collectively Europe is as competitive as possible in these new and emerging fields. Both the EU and individual members of the programme must play their part in this, with members taking a leading role and determining strategies for improving overall quality and capacity.

5.3 Horizon 2020 sought to address these capacity differences by introducing its spreading excellence and widening participation instruments. Although these have not been running for very long, early assessments look promising, and these activities should be continued to allow a more thorough evaluation of their effectiveness to take place. It is worth reinforcing that these activities should not replace a focus on excellence throughout the programme. Activities such as these in support of capacity building should be kept distinct from the rest of the Framework Programme, to avoid undermining the overall impact of the programme.

5.4 Additionally, the UK feels the following measures may assist with the spreading excellence agenda:

- Widening participation should not be considered on a purely geographical basis. COST, for example, considers geography, career stage and gender balance in its inclusiveness policy. A broader approach to increasing the involvement of various under-represented groups in European research could also contribute to the spreading excellence agenda.
- Dedicated expert support could be provided to organizations in widening countries to provide help and advice during the application process. This could help to address the lack of experience present in some areas. This could be targeted directly at potential applicants, at representatives from institutions, or at national contact point networks.
- Greater support could be provided to Member States and Associated Countries through further use of the Policy Support Facility, to stimulate more effective use of national resources.

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<sup>3</sup> Any changes to administrative procedures should maintain appropriate safeguards to ensure proper use of public funding.

## **6. European Added Value**

6.1 Horizon 2020 has provided strong European added value through its ability to tackle challenges at a scale unachievable for individual countries, by successfully bringing together diverse research and innovation actors with a wide range of knowledge, skills and facilities to work collaboratively on these issues, and to target market failures. In particular Horizon 2020 facilitates multilateral research and innovation collaboration at a scale found in no other programme or agreement. It is crucial that these capabilities are prioritized when designing FP9, so that FP9 has its own clearly defined contribution to the European research and innovation landscape, and so that it complements national activities without duplicating them.

6.2 Potential new developments in FP9 – such as missions and the European Innovation Council – should also consider how they can best provide European added value. This could be through scale of funding provided, scope of challenge addressed, by opening up access to markets or supply chains, or through facilitating multilateral collaboration.

## **7. Innovation**

7.1 Innovation is crucial for Europe's future economic competitiveness and growth, and the UK has made it a priority in our Industrial Strategy. However further action is needed to tackle Europe's innovation gap and in particular, as noted by the European Innovation Council (EIC) High Level Group, we must succeed in converting European scientific leads and ideas with breakthrough potential into the 'scale up' companies that will create a significant proportion of Europe's future economic growth. We agree with the High Level Group that support for SMEs is fragmented and difficult to navigate at all levels (European, national and regional), and believe that a well-defined initiative under the banner of the EIC that complements and adds scale and value to investments that are made at a national, regional or local level could deliver clear European added value. Furthermore, focusing EU funding and efforts on the 'best in class' would shine a light on high growth potential SMEs and help companies with disruptive technologies 'crowd in' essential further private investment and grow.

7.2 FP9 should be ambitious, and help to position Europe as a global innovation leader in today's growth sectors, and stimulate the creation of markets of the future. To do so, private investment in research and innovation must be incentivised and FP9 should seek to maximise participation of industry of all sizes, while focusing financial support on SMEs, in order to promote an innovative and competitive ecosystem with capacity to absorb new innovations and technologies. Support focused on innovation and cross-border industry-driven collaborative research and innovation that seeks to deliver competitive advantage has a critical role to play in bringing in private sector investment, but also in helping SMEs engage with future customers and suppliers across the value chain, while also working with key knowledge base partners including Research and Technology Organisations. Future and Emerging Technologies (FET) Flagships should be evaluated properly once they have had time to mature, and the Commission must ensure they complement investments and priorities being taken forward at a national level. FP9 must also be prepared to learn lessons from approaches taken forward in countries with a strong innovation system, for example the USA or South Korea.

7.3 To increase the European added value of innovation activities, there should be greater coordination between EU instruments, and with other national and international initiatives (such as EUREKA). This requires both the process used to identify and prioritise such initiatives, and the subsequent mechanisms to leverage investments at national level, to be fit for purpose. Continued oversight as projects progress is also key. A closer link between roadmaps and regional and national policies, and a deeper involvement of national funding bodies are essential. It will be important to achieve a well-considered balance of funding between high and low technology readiness levels in FP9, so that there are no gaps in support across the wider innovation landscape. As the High Level Group of Innovators highlight, it is important to amplify, not duplicate, existing innovation ecosystems. European initiatives might provide greater added value by focusing on larger, higher risk interventions.

7.4 Businesses do not operate in isolation, and the wider industrial landscape must be considered, including supply chains, new markets, infrastructure and regulation, to create a coherent supportive environment for innovation to flourish.

## **8. Impact**

8.1 In order to support economic growth, increase Europe's global competitiveness, and mobilise researchers to address global challenges, FP9 should also focus on maximising the impact of funded research. The UK agrees with the Lamy Group recommendation that FP9 should have an increased focus on the purpose and impact of research and innovation, through investment that is ambitious, strategic and that ensures the efficient and effective use of public funding. These impacts should be communicated effectively to the public to demonstrate the social and economic benefits of European collaborative research.

8.2 While there has been an increased effort to fully integrate innovation into Horizon 2020, including support for SMEs, innovation services, and access to finance, under FP9 there must be a continued focus on maximizing the impact of the funded research. This includes continued support to de-risk and incentivize private sector research and innovation.

8.3 The UK recommends the Commission consider some of the mechanisms used at national level to assess the impact of research and innovation. In the UK, the Research Excellence Framework (REF) is conducted every few years to assess the quality of research from UK universities, including impact. The assessment of impact case studies accounts for 20% of the exercise and was added to the traditional assessment of excellence in 2014. It has served to recognise and to reward researchers and universities that have produced high quality research which also has real world application, and to encourage researchers to work with and spend time in industry and the wider economy.

8.4 The design of FP9 should incorporate the lessons learned from the evaluation of past Framework Programmes, and should itself be effectively monitored and evaluated for 'on-course' corrections and to inform future Framework Programmes. For both exercises, this would involve a critical evaluation of the impact of the whole programme, and of its individual instruments. Unproductive instruments should be modified or discontinued. With excellence remaining at its core, specific parameters for measuring success should be identified jointly with Member States and Associated Countries, with a view to adopting a broad understanding of research and innovation impact. This should recognise the diversity of contributions to knowledge and society, including the importance of blue-sky thinking, and encompass economic growth impacts and wider societal and environmental impacts.

8.5 Impact assessment should take a holistic and long-term view, and should not compromise the importance of supporting blue-sky thinking. The assessment of impact in basic research projects should remain flexible, and its relative weight in the evaluation procedure should be carefully considered. As the Lamy Group recognises in their report, the ERC has become a global beacon of scientific excellence, and it is essential that any increased focus on impact allows for ERC and MSCA to maintain their focus on world-leading research excellence.

## **9. Partnerships**

9.1 Partnership instruments, such as those that take place under Articles 185 and 187 of the Treaty for the Functioning of the EU, can offer European added value by facilitating the collaboration of groups across many countries, at a scale that could not be achieved at a national level – this must remain their focus in the next Framework Programme. The UK calls on the Commission to simplify the diverse and complicated nature of the partnerships landscape, to increase programme coherence and make it easier to navigate, and welcomes the Commission's intentions to act. However there are many successful partnerships at present, so actions to merge or remove instruments should be weighed up carefully based on evidence. Every partnership instrument should have a clear, justified place in the research and innovation landscape, complementing the core EU programmes or national objectives.

9.2 Going forwards the EU should consider ways to make it easier for organisations to join or leave partnerships. As projects evolve the required skills and expertise may change, so new partners may need to join, and old ones leave. This is especially important for long term partnerships (10+ years), and could stop them being viewed as a 'closed shop'. The governance and the strategic priorities of partnerships, particularly contractual Public Private Partnerships, need to be more transparent.

## **Conclusions**

The UK values its participation in the EU Framework Programmes, and we are keen to share our expertise. The UK believes that at the heart of a successful programme are a focus on excellence, and on providing European added value and impact. This paper has outlined some of those areas where the UK considers concrete action could be taken to improve the functioning and processes of the programme. This does not mean drastic change is needed. The vast majority of Horizon 2020 works well, and the Commission should avoid the temptation to make significant structural changes, which participants may find hard to navigate. The UK awaits the Commission's proposal with interest and intends to actively engage in the development of the programme, including discussing possible options for our future participation.



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