



**Ireland's Preliminary Views
on the
9th EU Framework Programme
for
Research and Innovation**

August 2017

Executive Summary

Ireland proposes that FP9 should adopt the ambitious goal of establishing the EU as the global leader in the generation of new knowledge through scientific research and in applying that knowledge through innovative solutions to pressing societal and economic challenges.

A consequence of becoming a global leader in innovation is that EU enterprise will be the most competitive in the world, producing disruptive technologies and creating new markets. To realise this vision FP9 should emphasise European added value, place the EU Citizen at the centre of the programme and be open to the world – *a global, collaborative FP9*.

Ireland favours strong continuity between Horizon 2020 and Framework Programme 9 (FP9). In particular, the following successful elements of Horizon 2020 should be carried forward and strengthened in FP9:

1. The Three Pillar structure¹;
2. The pursuit of societal and economic impact;
3. The integration of research and innovation;
4. Excellence as the overriding criterion for the award of funding;
5. Maximising EU added value;
6. The European Research Council with its mandate of funding excellent, frontier research; and
7. Marie Skłodowska-Curie Actions.

The top challenges Ireland identifies for FP9 are as follows:

1. **Underfunding** – excellent projects not securing funding;
2. **Complexity** – the programme design and operation should be simplified to make it more appealing to both applicants and participants;
3. **Enterprise** – maximising the participation of enterprise will drive competitiveness and underpin growth in EU industry;
4. **Gender** – equality and mainstreaming should be facilitated across the programme;
5. **Humanity and Social Sciences** – should be integrated with STEM across the programme; and
6. **Multi- and Inter-disciplinary Research** – collaboration should be actively facilitated.

Ireland supports proposals for a mission-oriented² approach to programming in FP9. Such a focused approach should lead to greater synergies between research programmes and sectors. It should create critical mass in strategically important areas and ultimately maximise the societal and economic return on the investment for the EU. The UN 2030 Agenda for Sustainable Development should be adopted as the preferred framework for selecting missions and setting targets in FP9. The UN Agenda is comprehensive, of global strategic importance and will facilitate EU added value to complement the national plans for achieving the Sustainable Development Goals. FP9 will require a broader definition of *impact* to better encompass longer-term and societal and economic impacts.

Both single and multiple beneficiary projects are required, however collaborative projects should remain the bedrock of FP9 as they offer the greatest potential to create EU added value. Collaboration will be particularly important for tackling societal challenges, where it is necessary to bring together public, private and third sector stakeholders.

¹ Excellent Science; Industrial Leadership; and Societal Challenges.

² A mission-oriented approach strives to develop complete solutions to specific societal challenges, rather than focusing on individual technologies or market sectors. This approach typically spans several sectors and engenders collaboration between different technological and scientific disciplines.

Ireland is of the view that open calls should predominate across FP9. However, themed calls will be important for addressing identified capacity or infrastructure deficits and for balancing the overall research portfolio.

Ireland welcomes the proposed European Innovation Council (EIC). The EIC should provide EU added value to national systems by facilitating elite funding³ and 'patient capital' for highly innovative companies.

The Research Window of the European Defence Action Plan should be entirely separate from FP9 because the nature and ethos of a civilian research programme is fundamentally different from that of a defence one.

³ Elite funding refers to funding for companies with high growth potential pursuing disruptive innovations.

1. A Vision for FP9

Ireland proposes that FP9 should adopt the ambitious goal of establishing the EU as the global leader in the generation of new knowledge through scientific research and in applying that knowledge through innovative solutions to pressing societal and economic challenges.

A consequence of becoming a global leader in innovation is that EU enterprise will be the most competitive in the world, producing disruptive technologies and creating new markets. To realise this vision FP9 should emphasise European added value, place the EU Citizen at the centre of the programme and be open to the world – *a global, collaborative FP9*.

Research and innovation are indispensable for addressing the economic and societal challenges that the EU and the world are facing. Therefore, the EU's 9th Framework Work Programme for Research and Innovation should be an integral part of the EU response to these challenges.

This paper sets out Ireland's preliminary views on the design and implementation of FP9. This paper was prepared under the auspices of the cross-Government High Level Group on Horizon 2020, which is chaired by the Department of Jobs, Enterprise and Innovation. Section 2 outlines general principles that should apply across the programme, while Section 3 addresses specific issues that arise in the design of the programme.

2. General Principles

Ireland favours strong continuity between Horizon 2020 and FP9. In particular, the following successful elements of Horizon 2020 should be carried forward and strengthened in FP9:

1. The Three Pillar structure⁴;
2. The pursuit of societal and economic impact;
3. The integration of research and innovation;
4. Excellence as the overriding criterion for the award of funding;
5. Maximising EU added value;
6. The European Research Council with its mandate of funding excellent, frontier research; and
7. Marie Skłodowska-Curie Actions.

This section sets out a number of cross-cutting principles that should underpin the design of FP9.

2.1 Budget

It is imperative that FP9 is allocated a budget that is commensurate with the strategic importance of the programme for the future of the EU. Its strategic importance must be a fundamental consideration during the negotiations on the next Multi-annual Financial Framework.

2.2 Excellence

Excellence should continue to be the primary criterion for the award of EU funding. Open competition, between researchers, innovators and ideas, based on independent expert review, is the most effective mechanism for promoting quality research and driving innovation across the EU.

⁴ Excellent Science; Industrial Leadership; and Societal Challenges.

The European Research Council (ERC) should be retained along with its mandate to fund excellent, frontier research across all disciplines. The ERC and the Marie Skłodowska-Curie Actions (MSCA) should be strengthened with the allocation of an increased budget.

2.3 Impact

A broader understanding of impact, encompassing societal, environmental and human considerations, in addition to economic ones, should be adopted for the evaluation of proposals. This is necessary in order to capture the full contribution that research and innovation make to European society.

A coherent balance between high and low Technology Readiness Level (TRL) projects will be crucial for FP9. Therefore, impact in FP9 should recognise both incremental 'safe bets' and disruptive, higher risk 'long-shots'.

2.4 European Added Value

The pursuit of European added value, *i.e.* the creation of value beyond what can be achieved by member states acting individually, should be foremost in the design and implementation of FP9 programmes. Greater attention should be paid to the alignment and coherence between national and EU programmes in order to maximise synergies and ultimately, the combined impact of the national and EU investments.

In addition, FP9 should support national strategies for the UN Sustainable Development Goals.

2.5 The EU Citizen

Citizens should participate in the co-design of the FP9 research agenda in order to underscore the relevance and importance of research for the EU Citizen. Furthermore, there should be a heavy emphasis on translating the research outcomes into meaningful, tangible benefits for citizens (societal and economic impact).

2.6 EU Enterprise

FP9 should seek to maximise participation by enterprise, both SMEs and Multi-National Corporations, in order to promote an innovative, competitive and resilient enterprise ecosystem in the EU. FP9 should establish Europe as the global leader in strategically chosen technologies, based on existing strengths and future opportunities and needs.

FP9 should seek to leverage the public investment under the programme, both EU and national, by stimulating private investment, where appropriate, in order to maximise the overall impact of the programme.

2.7 Simplification

The Commission made considerable progress on simplification in Horizon 2020 relative to FP7. However, Horizon 2020 is still a complex web of work programmes, actions, instruments and consortia which can be daunting for first-time users. This complexity is compounded by the overlapping Article 185 and 187

initiatives. Therefore, Ireland calls for significant further simplification and standardisation in FP9, specifically;

- Review programmes and instruments for their continued relevance and effectiveness and merge or wind them down if they are found to have outlived their usefulness.
- Reduce the reporting burden on participants and pilot a greater acceptance of beneficiaries' local (institutional) governance and financial practices.

2.8 Gender

FP9 should build on the progress made in implementing gender equality and gender mainstreaming in H2020 as a cross-cutting issue. It should include concrete measures to counteract unconscious gender bias. Ireland endorses the recommendations in the Helsinki Group on Gender in Research and Innovation's position paper on the H2020 interim evaluation and FP9. Specifically, Ireland identifies four key objectives for FP9:

1. Gender balance of participants;
2. Gender balance of assessment panels;
3. Integrating the gender dimension in research and innovation content; and
4. Funding of research projects on gender related issues through the *Science with and for Society* programme.

2.9 Humanities and Social Sciences

There should be broad and deep engagement with the Humanities and Social Sciences (HSS) in FP9. The challenges to inter-disciplinary research outlined in Section 2.10 are particularly acute for linking HSS with STEM.

- While FP9 should continue to have a programme area specifically focused on HSS, HSS should also be an integral part of all other programme areas.
- The Commission should actively monitor the integration of HSS in calls across the programme.
- HSS experts should participate in the formulation of all work programmes and the appraisal of applications, where appropriate.
- Mission-oriented calls should explicitly require applicants to address societal impacts and to consider non-technological forms of innovation.

2.10 Multidisciplinary and Interdisciplinary Research

The structure of H2020 is not conducive to multidisciplinary or interdisciplinary research (with some exceptions, such as the Health area). The vertical, sectoral or discipline-based demarcation between programmes within both the Industrial Leadership pillar and the Societal Challenges pillar serves to perpetuate a disjointed, discipline-centric approach to research. FP9 should adopt a more streamlined and integrated approach to programming. The Commission should consider joint meetings of programme committees, or a strengthened role for the strategic configuration, to facilitate this.

2.11 Priority Missions

Ireland supports proposals for a mission-oriented⁵ approach to programming in FP9. Such a focused approach should lead to greater synergies between research programmes and sectors. It should create critical mass in strategically important areas and ultimately maximise the societal and economic return on the investment for the EU. The UN 2030 Agenda for Sustainable Development should be adopted as the preferred framework for selecting missions and setting targets in FP9. The UN Agenda is comprehensive, of global strategic importance and will facilitate EU added value to complement the national plans for achieving the Sustainable Development Goals.

2.12 Cohesion

Social and economic cohesion is an explicit goal in the EU's underpinning treaties (Single European Act, Lisbon Treaty). However, there are pronounced regional disparities in participation and success rates in Horizon 2020. FP9 should nurture capacity building for excellence across the member states so that all can compete effectively in an excellence-based programme.

In the 2014-2020 budgetary period, coordination between cohesion policy and other EU policies contributing to regional development has been strengthened by laying down common provisions for the European Structural and Investment (ESI) Funds. These provisions should be expanded under the next Multi-annual Financial Framework to encompass FP9 and thereby facilitate greater alignment and synergies between the ESI Funds and FP9.

2.13 Open Science

FP9 should support the transition to new 'open' ways of conducting research with the goal of increasing the circulation of knowledge, fostering collaboration and stimulating innovation. Specifically, FP9 should promote Open Access and FAIR⁶ data.

2.14 Open to the World

Research and Innovation are increasing international and collaborative endeavours. Many of the societal challenges facing the EU and the world are of such a scale that large, multidisciplinary teams are required in order to make meaningful progress. Furthermore, in order to become world leaders, EU researchers and companies must collaborate with the leading researchers and companies worldwide. Therefore, FP9 should actively support collaboration with the USA and Asian countries, among others.

⁵ A mission-oriented approach strives to develop complete solutions to specific societal challenges, rather than focusing on individual technologies or market sectors. This approach typically spans several sectors and engenders collaboration between different technological and scientific disciplines.

⁶ Findable, Accessible, Interoperable and Reusable.

3. Specific Challenges

3.1 Excellent Proposals not Securing Funding

A recognised issue in H2020 is that of excellent proposals, *i.e.* those scoring above threshold, not receiving funding. If this state of affairs is allowed to persist in FP9 it may pose a significant threat to the effectiveness of the programme. In addition to wasting resources on the preparation of unsuccessful bids, it will dissuade the best researchers and innovators from applying to the programme. Proposed mitigating measures include:

- A more explicit exposition of expected impacts in calls.
- Greater use of two-stage assessment, but without lengthening the time-to-grant.
- More precise and actionable feedback (Evaluation Summary Report) to unsuccessful applicants.
- Reduce the number of calls/topics in order to fund a greater proportion of excellent proposals.
- Explore synergies with the ESI Funds.
- Seek to restrict re-application based on performance in previous submissions, where appropriate.
- Explore greater use of co-funding between the Member States and the European Commission. However, the design of co-funded programmes should take into consideration funding constraints prevailing in smaller member states.

3.2 European Innovation Council

Ireland welcomes the proposed European Innovation Council (EIC). The EIC should provide EU added value to national systems supporting scale-up by facilitating elite funding⁷ and 'patient capital' for highly innovative companies. The EIC should support small, high-risk ventures that are unlikely to have their funding needs met by the market. The alignment and interface of the EIC with national innovation supports must be carefully considered so as not to duplicate or disrupt national systems. In evaluating proposals the EIC must assess the project team as well as the proposals and be cognisant of opportunities in global markets.

The primary financial support mechanism for high risk, early stage companies should be grants, rather than Financial Instruments (FI). The imperative for companies to generate a commercial return with FI will inhibit riskier but potentially higher pay-off R&I and ultimately undermine attempts to foster disruptive, market creating technologies.

3.3 Balancing Curiosity-driven and Close-to-market Research

The portfolio approach to research topics or missions, to be piloted in the final H2020 work programme, 2018-20, should be built upon so that each portfolio contains a spectrum of projects from fundamental to applied, *i.e.* low to high TRLs.

FP9 should reflect the continuum between fundamental and applied research and support a broad spectrum of research in all areas of the programme.

3.4 Single *versus* Multiple Beneficiary

While a mix of both instrument types is required, collaborative projects should remain the bedrock of FP9 as they offer the greatest potential to create EU added value. This will be particularly important for

⁷ Elite funding refers to funding for companies with high growth potential pursuing disruptive innovations.

tackling societal challenges, where it is necessary to bring together public, private and third sector stakeholders.

- A single model of collaboration should be adopted across all programme areas and TRLs.
- The creation of smaller more focused and more agile consortia should be encouraged.
- Single beneficiary awards are particularly important for curiosity-driven research and researcher career development; hence the existing models for the ERC and MSCA should be retained.
- Single beneficiary awards should continue to be available for higher TRLs / close-to-market projects in the European Innovation Council programme (SME Instrument and FastTrack to Innovation).

3.5 Themed and Open Calls

FP9 should continue to utilise both themed (top-down) calls and open (bottom-up) calls. Bottom-up calls are fundamental for the Excellent Science Pillar. However, they can and should also be used in the Societal Challenge pillar, provided they are framed within a guiding envelope of an overarching mission. In this way EU resources can be marshalled for the greatest societal and economic impact. This can be achieved by formulating less prescriptive calls which emphasise the desired outcome or impact rather than the approach (research agenda, technology, non-technological innovation etc.).

Bottom-up calls in specific platform research areas relevant to a mission can support and complement top-down calls. Top-down calls are important for addressing identified capacity or infrastructure deficits and for balancing the overall research portfolio. They also provide the ability to respond to immediate and unforeseen challenges e.g. the outbreak of the *Zika* virus.

3.6 The European Defence Action Plan

The Research Window of the European Defence Action Plan (EDAP) should be entirely separate from FP9 for two fundamental reasons:

- i. The nature and ethos of a civilian research programme is fundamentally different from that of a defence one. Openness; collaboration; the free movement of researchers and ideas; and the dissemination of results and technology are the hallmarks of the civilian programme. In contrast defence research is closed, restrictive and secretive.
- ii. The EDAP research programme is intended to build capacity in the European defence sector and therefore there is a possibility that other considerations such as excellence, openness, stimulating innovation and driving competitiveness would be compromised.

Research and innovation on the security and protection of citizens (Societal Challenge 7) should be retained in FP9. However, Ireland does not favour building formal links between the EDAP and FP9 in search of synergies due to the risk of compromising the core values and civilian focus of FP9.

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