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Horizon Europe: Risks and challenges for EU research and innovation policies

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Abstract

In June 2018, the European Commission presented its proposal on Horizon Europe, the next programme for research and innovation to follow the current Horizon 2020. Now that Europe is back on track with its goal of becoming a knowledge-based, sustainable and inclusive society, it must devote even more attention and resources to ensure the basis of its future economic growth and societal development. Only with a sufficient budget can Horizon Europe match up to its ambitions to face the growing geopolitical and societal challenges.

Introduction

Between January and March 2018, the European Commission ran a public consultation on future European Union (EU) funds in investment,

research and innovation, small and medium-sized enterprises (SMEs), and the single market. The Horizon Europe stakeholder consultation synopsis report¹ summarises the more than 4 000 responses submitted.

Almost half of respondents (46 %) replied as individuals, followed by business and industry representatives (17 %) and universities (14 %). Some 90 % of survey respondents reported having experience of the Horizon 2020 programme.

According to most stakeholders, the main obstacles to the current programme achieving its objectives are: very complex procedures; high administrative burden; lack of flexibility to react to unforeseen circumstances; insufficient synergies between the EU programmes/funds;

¹ https://ec.europa.eu/info/publications/horizon-europe-stakeholder-consultation-synopsis-report-swd-2018-309_en

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and the difficulty of combining EU action with other public interventions and private finance.

On the other hand, most stakeholders expressed their satisfaction with the existing three-pillar structure of Horizon 2020 and asked for minor refinements, such as a better linkage between pillars for better coverage of the whole knowledge chain.

EUR 100 billion for the period 2021-2027

Horizon Europe, the 9th framework programme, is the EU's main instrument for investments in research and innovation for the period 2021-2027. The proposed budget allocation of EUR 100 billion for 2021-2027 includes EUR 97.6 billion under Horizon Europe (out of which, EUR 3.5 billion will be allocated under the InvestEU Fund) and EUR 2.4 billion for the Euratom Research and Training Programme (See [Graph 1: The evolution of EU's research & innovation budget](#)).

Horizon Europe will introduce the following main new features:

- Introduction of a European Innovation Council (currently a pilot for 2018-2020) supporting breakthrough innovation and helping start-ups and companies scale up their ideas. Examples of new measures include a funding instrument for early stage and one for development and market deployment activities.
- EU-wide research and innovation missions targeting societal challenges and industrial competitiveness that are co-designed

with citizens, stakeholders, the European Parliament and Member States.

- Emphasis on openness with the “open science” principle being central to Horizon Europe, requiring open access to publications, data, and research data management plans.
- A new approach to partnerships, streamlining the number of partnerships that the EU will develop or co-fund with partners from industry, civil society and funding foundations, for greater effectiveness and impact.
- Reduced administrative burden for beneficiaries and programme administrators through simpler rules.

Three Pillars: Open Science; Global Challenges and Industrial Competitiveness; Open Innovation

Like Horizon 2020, the new programme will also be implemented through three pillars: the Open Science pillar supports frontier research projects, the Global Challenges and Industrial Competitiveness pillar addresses societal challenges and industrial technologies, and the Open Innovation pillar is focused on scaling up breakthrough and market-creating innovation. (See [Graph 2: Structure and objectives of Horizon Europe](#)).

The Open Science pillar (EUR 25.8 billion) would continue to focus on excellent science and high-quality knowledge.

The Global Challenges and Industrial Competitiveness pillar (EUR 52.7 billion) would directly support research relating to societal challenges, reinforce technological and industrial capacities by, inter alia, integrating the Horizon 2020 “societal challenges and leadership in enabling industrial technologies” into five clusters (i.e. health; resilience and security; digital and industry; climate, energy and mobility; and food and natural resources).

The Open Innovation pillar (EUR 13.5 billion) would aim at making Europe a frontrunner in market-creating innovation via the European Innovation Council (EUR 10 billion), which would become a one-stop shop for innovators.

About two-thirds of Europe's economic growth over the last decades has been driven by innovation. The investment conditions in Europe have improved since the Investment Plan for Europe, the Juncker Plan, was launched. However, there is still a sizeable investment gap in Europe.

Investment in higher-risk activities such as research and innovation is still inadequate, which can be harmful for the industrial and economic competitiveness of the EU. Infrastructure investment activities in the EU stood at 1.8 % of EU's gross domestic product (GDP) in 2016, down from the 2.2 % in 2009. Moreover, it is important to assess the EU's structural investment needs in the face of technological change and global competitiveness, including for innovation, skills, infrastructure, SMEs and the need to address

key societal challenges such as sustainability and population ageing.

Conclusion

Horizon Europe, the 9th framework programme, is expected to strengthen the EU's scientific and technological base in order to help tackle the major global challenges and contribute to achieving the Sustainable Development Goals. At the same time, it should boost the Union's competitiveness, including that of its industries. The new programme will help deliver on the Union's strategic priorities and support the development and implementation of Union policies.

While Horizon Europe will remain clearly focused on supporting European excellence in research and innovation, European industrial competitiveness, and tackling global challenges, there are natural links to the regional policy dimension. These include for example the role of regional Research, Development, and Innovation ecosystems in supporting and accelerating technology dissemination and take up by regional SMEs.

The Horizon Europe proposal also states that “the European Regional Development Fund will support the building of research and innovation ecosystems in the Member States in terms of infrastructures, human resources, modernisation of the public and private sectors, and (inter)regional cooperation networks, such as clusters structures”.

As the EU lags behind its main international competitors when it comes to the commercial exploitation of the outcome of EU-funded research and innovation, we suggest the introduction of the concept of “first EU commercial exploitation”, in order to maximise the impact and added value of the EU’s spending (gross domestic spending on research and

development in the EU in percentage of GDP, which is below 2 %, and lags behind Korea, 4.2 %, Japan, 3.1 %, USA, 2.7 %, China, 3.3 %), a less restrictive definition of innovation (to ensure access for innovative SMEs), and including a 20 % target for SME participation (including start-ups) in the Horizon Europe programme.

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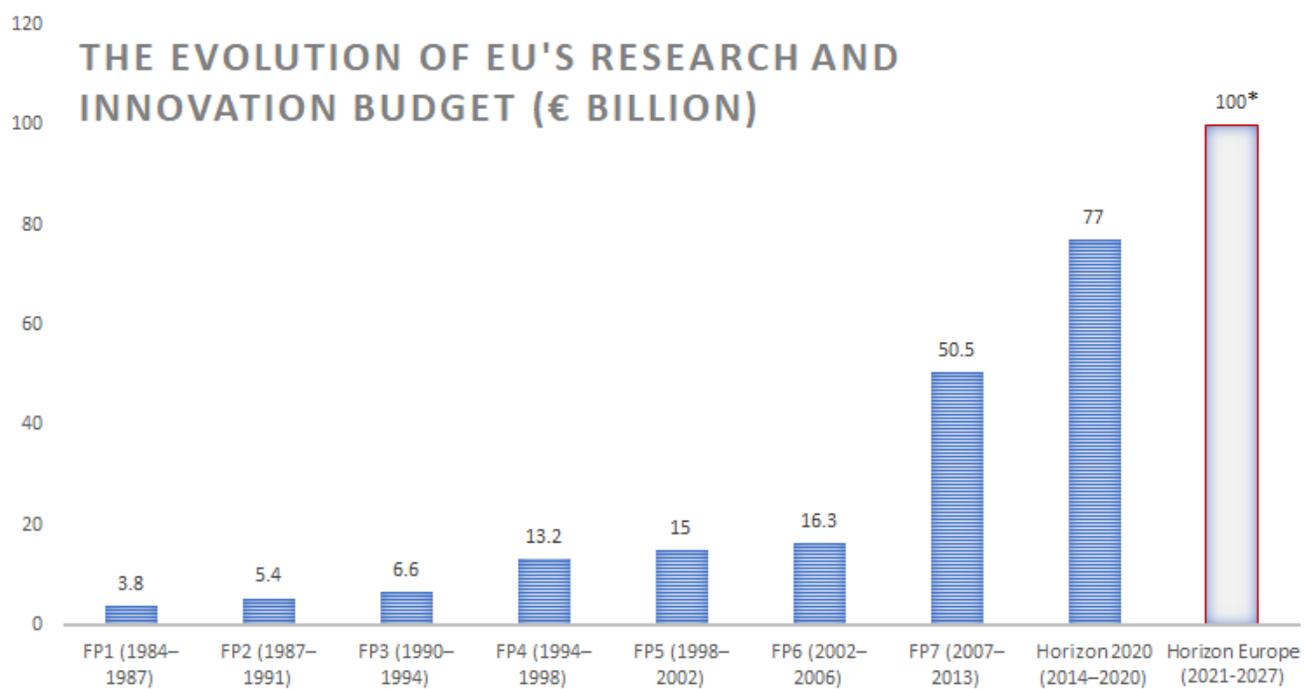
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Graphs

Graph 1: The evolution of EU's research & innovation budget

Source: Eurostat



*Including €2.4 billion for Euratom.

Graph 2: Structure and objectives of Horizon Europe

Source: European Commission, *EU Budget for the future: Horizon Europe (June 2018)*





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