POLICY FOR RESEARCH AND TECHNOLOGICAL DEVELOPMENT

European policy for research and technological development (RTD) has been an important area of European legislation since the first Community Treaties were signed, and was extended in the early 1980s with the establishment of a European framework programme for research. Since 2014, most EU research funding has been grouped under Horizon 2020, the 8th EU Framework Programme for Research and Innovation covering the 2014-2020 period, which is aimed at ensuring the EU’s global competitiveness.

LEGAL BASIS

Articles 179 to 190 of the Treaty on the Functioning of the European Union (TFEU).

OBJECTIVES

Since the Single European Act, the aim of the EU’s RTD policy has been to strengthen the scientific and technological basis of EU industry and to make it more competitive at international level. Furthermore, Article 179 of the TFEU specifies that ‘the Union shall have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely’.

ACHIEVEMENTS

A. Research framework programmes

The first framework programme (FP) was established in 1983, for a four-year period. During the subsequent 30 years, successive FPs have provided financial support for the implementation of EU research and innovation (R&I) policies. FPs have become a major part of research cooperation in the EU, gradually growing in size, scope and ambition. Their objective has also evolved from supporting cross-border collaboration in research and technology to encouraging a truly European coordination of activities and policies. Today, Horizon 2020, the 8th FP, is the biggest and most ambitious, with a budget of nearly EUR 80 billion. In addition, cohesion policy and other EU programmes offer research-related opportunities, among them the European Structural and Investment funds, COSME, Erasmus+, the LIFE programme, the Connecting Europe Facility and the EU’s health programmes.
B. (International) coordination and collaboration

The European Research Area Net (ERA-NET) scheme was launched in 2002 with a view to supporting the coordination and collaboration of national and regional research programmes and stepping up the coordination of programmes carried out in the Member States and associated countries through networking, including through the ‘mutual opening’ of programmes and the implementation of joint activities. In this same spirit of coordination and cooperation, Horizon 2020 covers the operational costs of COST, an intergovernmental framework for European Cooperation in Science and Technology designed to help coordinate nationally funded research at EU level. It anticipates and complements the activities of the FPs. Horizon 2020 furthermore coordinates its activities with the intergovernmental EUREKA initiative to promote international, market-oriented R&I. Through EUREKA, research organisations and industries are introducing new products, processes and services to market.

C. European Institute of Innovation and Technology

The European Institute of Innovation and Technology was created in 2008 with a view to stimulating and delivering world-leading innovation through the creation of highly integrated Knowledge and Innovation Communities (KICs). The KICs bring together higher education, research, business and entrepreneurship in order to produce new innovations and new innovation models that can inspire others to follow suit.

Participation

A typical EU-funded project involves legal entities, i.e. universities, research centres, businesses (including small and medium-sized enterprises (SMEs)) and individual researchers from several Member States and from associated and third countries. The FP is implemented through specific programmes. The EU has several means at its disposal to achieve its RTD objectives within these specific programmes:

— Direct actions carried out by the Joint Research Centre (JRC) and entirely financed by the EU;

— Indirect actions, which may be: (i) collaborative research projects carried out by consortia of legal entities in Member States and associated and third countries; (ii) networks of excellence — a joint programme of activities implemented by a number of research organisations, integrating their activities in a given field; (iii) coordination and support actions; (iv) individual projects (support for ‘frontier’ research); or (v) support for the training and career development of researchers, mainly for the implementation of Marie Skłodowska-Curie actions (MSCA).

THE HORIZON 2020 PROGRAMME

In November 2011, the Commission brought forward its legislative package for Horizon 2020, the EU’s current FP for 2014-2020. Horizon 2020 is the first EU programme to integrate R&I, with strengthened support for public-private partnerships (PPPs), innovative SMEs and the use of financial instruments.

By introducing a single set of rules, Horizon 2020 simplifies matters significantly and addresses challenges in society by helping to bridge the gap between research and the
market, for example by helping innovative enterprises to develop their technological breakthroughs into viable products with real commercial potential. This market-driven approach includes creating partnerships with the private sector and Member States to harness the resources needed.

Horizon 2020 also focuses on clarifying objectives, simplifying procedures, and avoiding duplication and fragmentation. In addition, attention is paid to broadening participation in EU programmes on the part of SMEs and industry, female researchers, newer Member States and third countries. Horizon 2020 also aims for a better uptake and use of results by companies, investors, public authorities, other researchers and policymakers.

Horizon 2020 is focused on three main pillars:

— Excellent Science: supports the EU’s position as a world leader in science with a dedicated budget of EUR 24.4 billion, including an increase in funding of 77% for the European Research Council (ERC);

— Industrial Leadership: aims to help secure industrial leadership in innovation with a budget of EUR 17.01 billion. This includes an investment of EUR 13.5 billion in key technologies, as well as greater access to capital and support for SMEs;

— Societal Challenges: EUR 29.68 billion is set aside to address seven European societal challenges: health, demographic change and wellbeing; food security, sustainable agriculture, marine, maritime and inland water research, and the bioeconomy; secure, clean and efficient energy; smart, green and integrated transport; climate action, resource efficiency and raw materials; Europe in a changing world — inclusive, innovative and reflective societies; and secure societies — protecting the freedom and security of Europe and its citizens.

A number of priorities are 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 achievements of the European Research Area and the Innovation Union, as well as contributing to other Europe 2020 flagship initiatives (e.g. the Digital Agenda). There are also dedicated budgets for ‘spreading excellence and widening participation’ and ‘science with and for society’.

In order to encourage SMEs to get involved, the Commission has a dedicated financial instrument providing grants for R&D and assisting with commercialisation, through access to equity (finance for early and growth-stage investment) and debt facilities (e.g. loans and guarantees).

In November 2013, Parliament adopted the multiannual financial framework (MFF), allocating Horizon 2020 a budget of EUR 77 billion (at 2013 prices). However, in June 2015 the adoption of the European Fund for Strategic Investments (EFSI) lowered the amount to EUR 74.8 billion.

Horizon 2020 has already attracted the world’s best research institutions and researchers, and supported and developed the EU’s skilled human capital of 340 000
Researchers. Scientific publications on Horizon 2020 projects have contributed to major scientific breakthroughs.

Its successor, Horizon Europe (COM(2018) 0435), will boost the EU’s competitiveness and help it to deliver on its strategic priorities. According to the Commission, the new programme is expected to directly increase GDP by an average of 0.08% to 0.19% over 25 years and generate an estimated gain of up to 100 000 jobs in R&I activities during the investment phase (2021-2027). The economic activity generated by the programme is expected to foster an indirect gain of up to 200 000 jobs between 2027 and 2036, of which 40% will be highly skilled.

**ROLE OF THE EUROPEAN PARLIAMENT**

For more than 20 years, Parliament has been calling for an increasingly ambitious EU RTD policy and a substantial increase in total research spending in the Member States to maintain and strengthen the EU’s international competitiveness. Parliament has also advocated for more collaboration with non-EU partners, the close integration of activities between the Structural Funds and the FPs, and a targeted approach to optimise the involvement of SMEs and facilitate the participation of promising weaker actors. Parliament has furthermore insisted on simplifying procedures and building more flexibility into FPs to make it possible to shift resources to more promising areas and to react to changing circumstances and newly emerging research priorities.

In the trilogue negotiations on the Horizon 2020 package, which resulted in an agreement with the Council in June 2013, MEPs succeeded in securing a number of changes to the proposal, in particular the insertion of two new objectives with separate structures and budget lines:

— Stepping up cooperation and dialogue between the scientific community and society and increasing the attractiveness of R&D careers for young people;

— Widening the range of participants in the programme by teaming up institutions, pairing research staff and exchanging best practices.

In addition, SMEs will receive at least 20% of the combined budget of the ‘industrial leadership’ and ‘societal challenges’ pillars. Furthermore, 7% of the combined budget of these pillars is earmarked for the new dedicated SME instrument, which is intended to increase SME involvement in Horizon 2020-funded projects (e.g. by facilitating the outsourcing of research for non-research-intensive SMEs and supporting cooperation between them). A new Fast Track to Innovation programme was launched in 2015 to cut the time ‘from idea to market’ and increase the involvement of SMEs and industry. Open access to scientific publications resulting from Horizon 2020 funding is mandatory in most cases.

In order to adjust the balance between small, medium and large projects, 40% of the future and emerging technologies budget (part of pillar 1) is earmarked for light, open and responsive funding of collaborative projects (FET Open). MEPs have also earmarked 85% of the energy challenge budget (part of pillar 3) for non-fossil-fuel energy research.
During the negotiation of the EFSI budget in 2015, Parliament succeeded in reducing the maximum Horizon 2020 contribution to EFSI from EUR 2.7 to EUR 2.2 billion. These cuts did not affect the ERC, the MSCA or the ‘Spreading excellence and widening participation’ programme, but mainly hit the ‘Excellent Science’ (budget cut by EUR 209 million), ‘Industrial Leadership’ (budget cut by EUR 549 million) and ‘Societal Challenges’ (budget reduced by EUR 1 billion) pillars.

To avoid the multiplication of PPPs resulting from the implementation of Horizon 2020, stricter evaluation of the creation and operation of such structures has been introduced. In its communication on the interim evaluation of Horizon 2020 (COM(2018) 0002), which provides a solid evidence base for designing future activities and initiatives, and in response to Parliament’s recommendations, the Commission highlighted some possible improvements to the programme’s implementation. In fact, the results have been used to lay the foundations of the structure and content of Horizon Europe, on which a proposal was presented in June 2018 (COM(2018) 0435).

Here is a list of some of Parliament’s most recent resolutions and reports on Horizon 2020:


