

# Colloquium

## **Past and future of the EU Framework Programme for Research and Innovation : an outlook**

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# CNRS, ERC, COST - short description

**Centre National de la Recherche Scientifique**, CNRS, is a public-funded institution they instigates research in all scientific disciplines. With 32 000 researchers, engineers and technicians, the CNRS is at the forefront of international research and is the world's first producer of scientific research papers. **Teams**.

**European Research Council**, ERC, is a EU public body for funding of scientific and technological research driven by an independent Scientific Council and implemented by an EU Executive Agency. More than 10 000 individual researchers funded so far with over 75 000 team members. **Individuals**.

**Cooperation for Science and Technology**, COST, is an intergovernmental framework for European researchers to jointly develop their own ideas and new initiatives across all scientific and technological disciplines through trans-European networking of nationally funded research activities. 45 000 researchers connected through COST Actions. **Networks**.

# CNRS, ERC, COST - common principles => **ISE** Advocacy

They cover **all scientific disciplines and technologies**, from the humanities and social sciences to biological sciences, nuclear and particle physics, information sciences, engineering and systems, physics, mathematical sciences, chemistry, Earth sciences and astronomy, and ecology and the environment. **Interdisciplinarity**.

They are **investigator-driven**, researchers are free to develop their own ideas and new initiatives and carry out research projects on subjects of their choice across all fields of S&T, and to choose the forms of partnerships. **Bottom-up**.

They promote **excellence** through a Europe-wide competitive approach; they offer the conditions to giving European and worldwide visibility to outstanding researchers. Research **integrity** is a key principle.

They promote **frontier research** through break-through, innovative approaches, methodologies and partnerships, and autonomy, catalysing the creation of a more efficient European research system, offering an **adequate environment** and a positive research culture.

# CONSOLIDATED VERSION OF THE TREATY ON THE FUNCTIONING OF THE EUROPEAN UNION 2016

## TITLE XIX

### RESEARCH AND TECHNOLOGICAL DEVELOPMENT AND SPACE

#### Article 179 (ex Article 163 TEC)

1. 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, and encouraging it to become more competitive, including in its industry, while **promoting all the research activities deemed necessary by virtue of other Chapters of the Treaties.**

# How research entered the European process

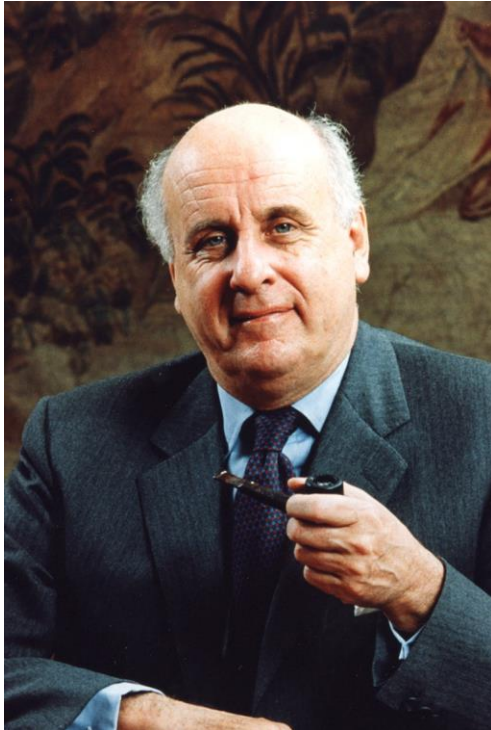
The European Union's research policy is as old as the European Union project.

The first elements appeared at the early 1960s with **three treaties**. Both, the first one **CECA** (on coal and steel) and the second one **Euratom** (on nuclear energy) included provisions for research funds. The third treaty, which established the **EEC** (European Economic Community), had no mention of research as such, but one of his articles made it possible to launch a certain number of research programmes in areas then considered priorities: health, energy, environment, etc.

In the same period, **intergovernmental initiatives** were launched, such as **CERN** (1951) establishing a European Council for Nuclear Research, and **COST** (1971) allowing researchers to connect European wide and beyond.

These were years when everything seemed possible, where European countries sought to unite to prevent the return of the wars of the past and ensure a peaceful future and **Science was considered key for Peace**.

# Three personalities played a key rôle for R&I



[Etienne Davignon](#)

1981-1985



[Antonio Ruberti](#)

1993-1994



[Philippe Busquin](#)

1999-2004

# First funds for Research

Everyone will agree on three political figures who played a key role in this process, **Antonio Ruberti**, **Etienne Davignon** and **Philippe Busquin** (I would add Janez Potocnik).

After the first initiatives, it took a long time for the first framework programme to appear, it was in the early 1980s with the aim of organising the multiple initiatives taken over the years, placing them in a coherent “**framework**”; this while implementing a multi-annual rather than annual budget.

Two essential programmes were set up, ESPRIT, the first major European technological programme in information technologies, and SCIENCE, a smaller programme for upstream, fundamental research.

The first framework programme (FP1) started 40 years ago in 1984.

# Change of approach

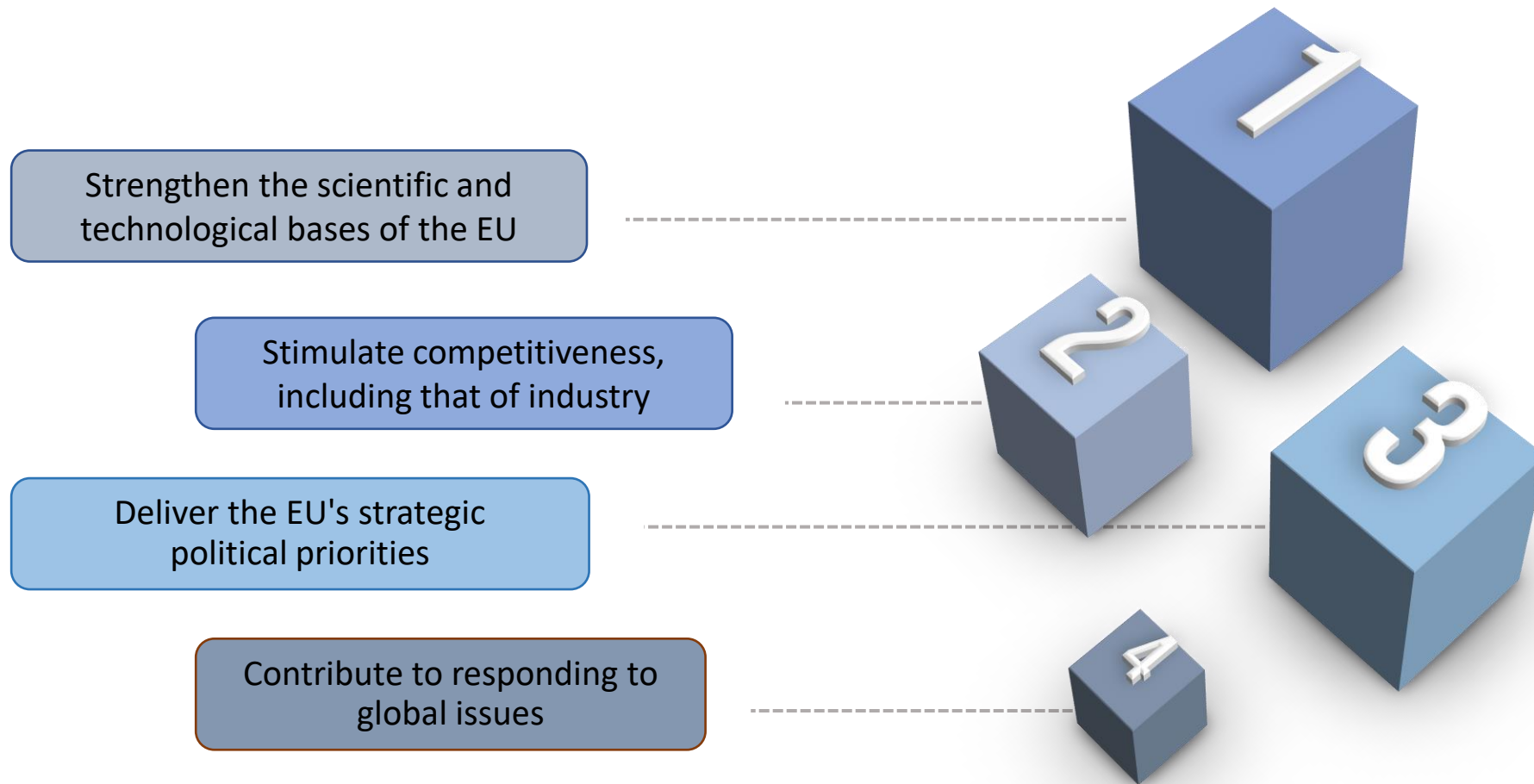
The logic of intervention had changed, **European competitiveness** was now clearly inscribed enshrined in the treaty. It again took a long time to allow a new interpretation of the EU Treaty and open it to competition between individuals on a European scale, and thus see the birth of the ERC in 2006.

The framework programmes have become a **powerful financial instrument** making it possible to implement the European strategy of technological development and competitiveness, it represents today the third EU budget behind the common agriculture policy and the cohesion programmes (structural funds).

But we, the **research communities**, think that this is not enough, as if the budget has grown over the last twenty years, the framework programmes cover more and more subjects (including defence, always banned, under discussion today today), the budget for everyone becoming more and more insufficient. Politicians want always more, always better, always faster.



# Horizon Europe Objectives (FP9)



# Researchers are key to achievements

The time has come to demand an adjusted budget, better research environments, better working conditions, better careers (let's stop calling “young researchers” individuals who have completed 8 years of studies and training, who have a series of diploma, and who have 10 to 25 years of experience), in brief, **means adapted to the ambitions displayed.**

Let's stop wasting researchers' precious time that they should be committing to their research instead of having to constantly search for funds, which disrupts their projects and weakens competitiveness, to be able to ensure a minimum of continuity in their work.

The **10th framework programme** must be one that breaks with the logic of the past where researchers were asked to do always more with always less, to “catch up” without being able to afford it.

# The way to progress (10th FP)

After a first phase driven by Commissioners responsible for research and technological development, Philippe Busquin, Janez Potocnik, and their successors, the development of the **European Research Area** has become a major political objective of the European Commission and Member States.

In this process, **networking and collaborative research**, including basic research and public-private partnerships, must be fully recognised, while programmes **funding individuals**, such as MSCA and ERC, **must be strengthened**.

It is necessary to modify the structure of the **next framework programme** in order to reduce fragmentation and break down silos, to better adapt it to the R&I cycle, to ensure the continuity of research and development of technologies, to simplify the rules and to facilitate access for all, increase trust and increase funds for researchers. We must help find the solutions sought.

# Some Questions for the Future => **ISE** first proposals

*Which are the **major successes** of the current HE (2021-2023) and which are the **major “roadblock”/threats for success**?*

***What major challenges** (scientific, social, economic, technological) should still be attempted to be addressed in the second half of HE (2025-27) and further addressed by a future FP (FP10)?*

*Which **sub programmes** of HE should be **preserved and strengthened in a future FP** (i.e., FP10) and which **should be altered**? How far a future FP (i.e., FP10) should keep/alter the current basic **three-pillar architecture of HE** (i.e., Pillar 1: Excellent Science; Pillar 2: Global Challenges and European Industrial Competitiveness; Pillar 3: Innovative Europe)?*

*What would be a **catalyst to overcome current roadblocks of HE** and be implemented in a future FP (i.e. FP10)? What should be the **most important innovations to be considered in a future FP** (i.e., FP10)?*

# *Which are the major successes of the current HE (2021-2023) and which are the major “roadblock”/threats for success? - 1*

## **Successes**

The **ERC** is a major achievement. In addition to its well-established success in fostering frontier research, as exemplified by the achievements of the researchers it has funded, one can also mention:

- the strong momentum by third countries (UK, Switzerland) to be part of the funding scheme
- the success of ERC funded researchers applying for EIC grants.

This carries a message beyond the sole ERC: funding curiosity-, investigator-driven research works.

The **MSCA** is another major success, presently somewhat underestimated. One of the important MSCA achievements is its attractiveness for researchers from all over the world, a large proportion of whom remain in the EU. MSCA beneficiaries have a high profile and excellence and are moving towards careers in the academic sector, or in the R&I sector at large.

***Recommendation for Pillar 1. Reinforce both ERC and MSCA.***

# Which are the major successes of the current HE (2021-2023) and which are the major “roadblock”/threats for success? - 2

## Threats and Hurdles

**a. Lack of collaborative basic research.** Within Pillar 2, a serious limitation that began with Horizon 2020 (FP8) is the lack of specific funding for collaborative basic research, becoming now a serious obstacle for obtaining high quality of the output of the projects.

**b. Better conditions for researchers.** ISE welcomes the recently approved “European Framework for Research Careers” but expresses its concern about its implementation and about the dilution of research activity in a panoply of other activities, certainly essential to good research, but which should derive from the research performance goal. Mechanisms and resources must be put in place to leverage better conditions, employability, adequate salaries, stability, work-life balance, and access to social rights (medical coverage, sick and maternity leaves, pensions), as they are essential for creating conditions to retain and attract talents to researchers’ careers. They are also necessary to develop intra-European mobility.

**c. Limitations to academic freedom.** Increasing threats against science and researchers are observed. Limitations to the freedom of research, either because research goes against the views of the government, or in the name of security issues. Keeping a balance between the risks which might follow from collaborating with researchers from third countries and openness is essential. A lack of understanding of the open character of academic research leads to establishing detrimental barriers slowing or even preventing worthy projects to flourish. ISE calls on the EU to protect the Academic freedom of researchers.

**d. Administrative burden and lack of trust.** The transition from institutional funding to competitive project funding was implemented to improve the performance of the research system. Without challenging the advantages of competitive funding, there is now a shared sentiment that there is too much competitive funding and too little institutional funding. Among the disadvantages are the negative impact of project funding on researchers’ precarity, and the dramatic increase of the time spent by researchers *on applying for funding* at the expense of *doing research*. Moreover, at EU level, the administration of HE actions remain extremely complex, and time-consuming for research teams. As a result, the system is biased in favour of researchers who can rely on an experienced administration or can afford to hire private consultancies. Overall, it is as if the present attitude of the Commission towards researchers were grounded on the notion that researchers are at best unreliable, or, worse, not really trustworthy. A radical change would make a huge difference.

# *What major challenges (scientific, social, economic, technological) should still be attempted to be addressed in the second half of HE (2025-27) and further addressed by a future FP (FP10)?*

**a. The geopolitical context** has changed in a radical way in the last few years: the war against Ukraine, the rise of authoritarian regimes and populist parties which threaten democratic processes and freedom of thought; the growing awareness that Europe cannot rely as before on the military and diplomatic umbrella provided by the USA.

*Impact for R&I policies: Discussions around sovereignty, as well as strategic and security preparedness, must be taken into account more substantially for R&I policies.*

**b. Climate change.** Although it is not a new phenomenon and the scientific understanding of its causes has been high for several years, the public awareness of its impact has increased significantly because of warm temperatures, draught and floods, forest fires, etc.

*Impact for R&I policies: A major R&I effort in that direction, with applications to food and nutritional security, human health, biodiversity and environmental sustainability (incl. soils) is now required and more acceptable socially.*

**c. Technology gap.** In some essential technological innovation (AI, batteries...), Europe has become aware that it is lagging behind its main competitors. Major plans have been or are being put in place, which will hopefully allow us to catch up.

*Impact for R&I policies: We know that to avoid a similar situation for the next disruptive technologies, we have to address two main blockages:*

- overcome the adversity to risk by European industrial companies and financial sector,*
- raise the level of investment in basic or low TRL research.*

**d. Migrations and demographics.** Birth rates in all of the EU member states do not guarantee population stability, that impacts also the national university populations becoming insufficient to meet demand. Compounded with the low quality of academic careers, which discourages EU nationals from getting PhDs and embracing academic careers.

*Impact for R&I policies. We need to have a better knowledge of the socio-economic factors leading to emigration, and a better understanding of the causes of tensions around immigrant populations. Regarding early career researchers, we need to have an improved knowledge of their situations, careers, work contracts, etc. in the form, of an observatory\*, and the quality of researchers' careers has to be substantially improved in the coming years.*

Meeting those four challenges requires major efforts in research, both in general, and in some specific fields (spanning the life, exact and social sciences and humanities). It would be wrong, however, to think that the most efficient to address societal challenges is to focus on top-down research financing instruments. When basic research is properly financed, it can make radical changes, as has been demonstrated with the ERC.

\* On the so called REICO (observatory) project, see the amendments that ISE has proposed: <https://initiative-se.eu/2023/07/17/statement-on-the-planned-reico-observatory/>

# *Which sub programmes of HE should be preserved and strengthened in a future FP (i.e. FP10) and which should be altered?*

Some tracks on how the next FP10 could **keep or alter** the **current basic three-pillar architecture of Horizon Europe**.

## **Pillar 1 “Excellent Science”.**

- The ERC and MSCA need to be preserved, and the funding should increase.

## **Pillar 2 “Global Challenges and European Industrial Competitiveness”.**

- Collaborative basic research has to be upgraded to an integral part of the framework programme.
- Missions need to be assessed, the funds dedicated to research to be communicated, their impact to be measured.

## **Pillar 3 “Innovative Europe”.** The case for Pillar 3 is at this stage unclear:

- The EIC (European Innovation Council) is a new instrument. Its’ capacity to overcome the gap in European risk financing for innovations, in particular to raise venture capital, needs to be assessed.
- The EIT (European Institute of Innovation and Technology) now in its 15<sup>th</sup> year should be scrutinised, e.g. study its contributions to major European challenges like battery technologies, AI, semi-conductors... Also, how does the EIT articulate with the EIC and with the European Universities Initiative should be examined.

## **Transversal programme “Widening participation and spreading excellence”.**

It is crucial for helping researchers from those countries to get access to Horizon Europe, but insufficient. It’s not up to the FP to challenge cohesion but to guarantee fair access to all outstanding researchers in Europe to the FP. Adapted solutions must be found and better articulation with Structural Funds achieved.

Nevertheless, the three-pillar structure, rather appreciated, could also be changed to better respond to the R&I cycle.

**Simplification of the next FP structure and rules is key to allow for fair access to all.**



*What would be a **catalyst to overcome current roadblocks of HE** and be implemented in the future FP (FP10)? What should be the **most important innovations to be considered in a future FP (FP10)**?*

If the three-pillar structure was to be continued, ISE proposes some simple recommendations:

- Add Research Actions in Pillar 2 to create an upwards R&I spiral.
- Have truly interdisciplinary calls across clusters in Pillar 2 and adapted evaluation procedures not to eliminate interdisciplinary projects in any sub-programme of the FP.
- Increase trust in and flexibility for beneficiaries. Funding should allow for a researcher to explore a new relevant path even if it is not / not to this extent in the initial project, staying cost-neutral in the overall budget.
- Policy makers must define the objectives but should leave it to researchers and entrepreneurs to choose the paths to follow to achieve them. In this way, the pathways can compete because they are neither preferred nor excluded and the combination of the advantages of different approaches can be encouraged and move us more quickly towards the objectives.

# Researchers must engage

To reach the most suitable FP, **researchers must get involved** and

- propose **research activities according to European Union ambitions**
- contribute to the construction of the **ERA** and to discussions within the ERA Forum by working on
  - > two strategic plans 2021-2024 and 2024-2027
  - > assessment of research, researchers and research organisations; see CoARA
- **partner with other**, if public or private
- support the curiosity-driven research and training, that is **ERC and MSCA**
- engage in science diplomacy, science advocacy, freedom of research
- understand the European Union, **advise** the European Parliament and the Council who jointly exercise legislative and budgetary functions (europa.eu), **dialogue** with the European Commission

**Europe needs you.**

# To achieve common ambitions, help find the balance

**Subsidiarity – European added value – critical mass – excellence – People**

Find the balance:

Exploratory research versus applied research

Collaborative versus individual work

Emerging fields versus traditional fields

Rare disciplines versus established disciplines

National Priorities versus Joint Programming

European research area versus international cooperation

Open science versus Intellectual Property protection

Inclusiveness versus cohesion

...and more

**Thank you very much for your attention!**