



NETH-ER VISION PAPER for FP9 **KNOWLEDGE FIRST**

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Key principles

- Excellent knowledge base, to be achieved by competition
- Cooperation, to strengthen European industry
- Impact on society through open standards

Key conditions

- A modern, knowledge-oriented budget
- A strong and coherent 'knowledge first' policy

INTRODUCTION

Research and innovation are key drivers for a knowledge-based society, productivity, economic growth and new as well as better job opportunities. Research and innovation are two sides of the same coin and are crucial for addressing global challenges and improving quality of life continuously. They are at the heart of an inclusive European Union and strengthen our European public values and culture, including human rights, democratic institutions and the rule of law. Investments are needed to maintain the world-class level of European science and strengthen Europe's power of innovation. Europe must take a leading role and develop its already strong knowledge-based society in the world by maximally employing its talent and other resources. Therefore, the unparalleled European Framework Programme for research and innovation must rise to its full potential during Framework Programme 9 (FP9), the successor of Horizon 2020, and must be strongly secured to the principles of **excellence, cooperation and impact**. The future of Europe needs a modern and knowledge-oriented budget. Therefore, the condition has to be met that at least 15% of the EU budget post 2020, and no less than 120 billion euros should be allocated to FP9. It is also crucial that FP9 will be a part of a coherent **Europe-wide policy** to put **'knowledge first'** to leap towards a sustainable future.

All things considered, there are three leading principles, and two conditions must be met for Europe to take a leading role as a knowledge-based society:

Key principles

- **Excellent** knowledge base, to be achieved through competition
- **Cooperation**, to strengthen European industry
- **Impact** on society through open standards

Key conditions

- A modern, knowledge-oriented **budget**
- A strong and coherent **'knowledge first' policy**



Excellence in research should continue to be achieved through competition, such as in the highly successful European Research Council (ERC), as well as in other renowned European competitive research and innovation programmes. Competition mobilises talents and resources and is required to build the best possible research communities. However, competition, as is cooperation, is not a goal in itself but only a means to reach the goal of excellence.

Cooperation is the key for reaping the maximal benefits from competitive systems for research excellence and is also the key for ensuring the competitiveness of Europe's industry in a globalised world. FP9 can bring together actors along the whole value chain and develop world-class innovation ecosystems to optimise the benefits of Europe's excellent knowledge base for both our industries and society. All stakeholders in the public and private sectors, government, industry, research and education and societal organisations need to collaborate with respect for each other's ambitions, codes and arenas.

Impact on society is an important goal of FP9. Citizens must have the opportunity to engage in research. Open science facilitates the creation of impact in society while also engaging citizens in research. The impact of European investments in research and innovation should eventually be tangible to European citizens in the form of new products, services and solutions for recognisable problems. This requires clear communication of the results and impact of FP9-projects. Excellence, cooperation and impact can only bear fruit in solid financial soil and within a strong and coherent 'knowledge first' policy.



KEY PRINCIPLES

1. Excellent knowledge base, to be achieved through competition and cooperation

FP9 must accommodate investigator-driven research. This will facilitate the development of new lines of research leading to the unexpected and ground-breaking results necessary to fuel essential fundamental transitions in society and the economy and create sustainable markets.

To maintain and grow an excellent knowledge base, excellence must remain the most important selection criterion in the open competition and selection of research proposals. Geographic origin should not be a criterion at all. Excellent researchers and talents from all over Europe (national, disciplinary and sectoral) therefore need to have equal access to FP9.

The ERC has proven, through its fostering of open competition, to be a requisite and cornerstone for Europe's excellent knowledge base. In FP9 the ERC should continue to support new and emerging fields of scientific research and freedom of academic pursuit. It is highly recommended to expand the ERC Synergy Grant, as barriers between scientific and scholarly disciplines must be removed to bring together the maximum number of best scientists and scholars to face grand scientific, societal and economic challenges, most notably the Sustainable Development Goals of the United Nations.

2. Cooperation, to strengthen European industry

The excellent knowledge base should help Europe's industry stay ahead of its competitors in a globalised world. To that end, FP9 must accommodate market-oriented research and innovation by establishing and maintaining excellent and effective innovation ecosystems throughout Europe while also attracting necessary expertise from outside the EU. These ecosystems should cover all aspects of the knowledge value chain and should enable multidisciplinary and cross-sectoral cooperation. For example, it is essential that the competitiveness and impact of European industry is increased through the joint development of Key Enabling Technologies.

To bring our knowledge to bear on the economy and society, innovation must be stimulated throughout the entire value chain and close cooperation of all actors in the innovation ecosystem is necessary to ensure the highest European added value. FP9 needs to support the development of excellent European clusters, Innovation Hubs and Smart Partnerships for regional impact to optimise the benefits of EU cooperation.

The future European Innovation Council (EIC) ought to be founded on these collaborative structures, bringing together research institutes, institutions of higher education, governments, organisations and companies, including SMEs. This will create the right setting for start-ups to scale up, create new sustainable European and global markets and allow European industry to take a leading position in the

global market. The EIC must exploit financial tools that are maximally tailored to facilitate and attract venture capitalists and business angel investments. The EIC should complement the early support for innovators for example through the Knowledge and Innovation Communities of the European Institute for Innovation and Technology (EIT). Transdisciplinary collaboration in the knowledge triangle of education, research and industry must be fully facilitated in FP9. For the sake of collaboration, the EIC must not grant single beneficiaries.

3. Impact on society through open standards

FP9 must accommodate collaborative research between science, society and industry. To have a greater impact on society, FP9 should fully embrace open science and open innovation. To optimise the impact of research, publishing research articles 'open access' must be the standard. Research data must be as open as possible and closed only when necessary, following the FAIR principle: Findable, Accessible, Interoperable and Reusable to stimulate its optimal (re)use. Open science and open innovation should also create more opportunities for international cooperation with partners outside the EU. Joint research and innovation is needed to collaboratively engage in future opportunities and challenges and build communities that cross borders. Global expertise and the brightest minds are therefore crucial to make significant progress at the forefront of research and innovation in Europe.

Furthermore, research must be brought closer to society. Citizens must have the opportunity to engage in research in a secure and responsible way. This can be done by involving citizens and civil society:

- in setting the research agenda and conditions;
- in collecting data;
- by providing access to research results;
- in transferring knowledge towards society.

Moreover, clear communication to society at large about the results and impact of FP9-projects is essential. Dissemination of the results and their impacts will help tackle the potential danger of decreased trust in public knowledge institutions and will contribute to the development of evidence-based policies and procedures in all sectors of society.

The potential added value of missions in FP9 can contribute to making the results of research and innovation more tangible for society at large. For these missions to be successful, however, it is crucial that they have well-defined thematic goals. Missions should therefore focus on topics where a European approach has a distinct added value and should be generated bottom-up as well as top-down in broader national and European policy initiatives. Particularly in the missions, the social sciences and humanities have an important role to play in understanding and addressing societal and scientific challenges and opportunities. FP9 must therefore equally reach out to all scientific disciplines and should accommodate cooperation between these disciplines.



KEY CONDITIONS

1. A modern knowledge-oriented budget

A dramatically increased budget for research and innovation is an inevitable requirement. Europe needs to shift the focus and balance of its Multi-annual Financial Framework (MFF). A modern knowledge-oriented European budget should be in line with the Lamy group's call to double the budget for FP9. This underlines that a minimum of 15% of the EU budget should be dedicated to FP9, with an absolute budget of at least 120 billion euro. Furthermore, to realise a coherent 'knowledge first' policy, financial backing should also be dedicated to research and innovation in other consolidated headings of the MFF.

In the current framework programme, only one of the four excellent proposals is funded, and overall success rates have never been this low. Europe cannot afford this waste of its talents and potential. To ensure that the best researchers and innovators are included in FP9, the success rate of proposals **evaluated as excellent** must be at least 50%. To make sure these researchers and innovators are able to spend their time and resources efficiently, further simplification is needed. For example, the regulatory framework (and participant portal) could be designed in a more user-friendly manner.

Next to striving for excellence and collaboration collectively in the EU, all Member States should strive for this individually as well. They should adhere to the Lisbon agreement and invest at least 3% of their GDP in research and innovation. Evidence shows that only countries with a strong knowledge base can be successful in FP9, building on excellent research and innovation communities.

2. A strong and coherent 'knowledge first' policy

To allow Europe to use all of its potential as a knowledge economy as well as that of the European Research Area, the Dutch knowledge community calls for the introduction of a Europe-wide coherent 'knowledge first' policy that connects all efforts in relevant policy areas, programmes (including FP9) and instruments that support the research and innovation ecosystem. Coherence is needed both at EU-level and at the level of the Member States. This will permit Europe to clarify and optimise the contribution of research and innovation in important policy areas, such as Europe's regional, structural and agricultural policies, and it will help to create synergies between the various areas and programmes for knowledge-based growth and societal challenges. Reducing the innovation gap requires optimised synergies between EU research and innovation policy and other EU policies, such as the Structural and Investment Funds (ESIF). Europe needs regional commitment to realise a stairway to excellence and build knowledge- and innovation-friendly environments. This can partly be realised by allocating at least 15% of the ESIF budget to enhance interregional collaboration, capacity-building projects and the creation of research and innovation infrastructures. This is in line with the recommendation of the Lamy-group to achieve synergies with ESIF.

To make use of Europe's potential, a coherent EU 'knowledge first' policy must support FP9 by connecting researchers, citizens, companies and public institutions, among others, through ESIF. This also means that education should be an integral part of the European 'knowledge first' policy. The optimal exploitation of research, innovation results and human capital requires an effective transfer of knowledge to all potential users. Therefore, research, innovation and education must join forces in integrated policies, programmes and projects. Aligning the regulatory framework of all European programmes that are supportive of research and innovation, such as the ESIF, will help support the implementation of an European policy that puts 'knowledge first'.



Colophon

This paper was drafted to support the European Commission's consultation process for the next EU Framework Programme for research and innovation.

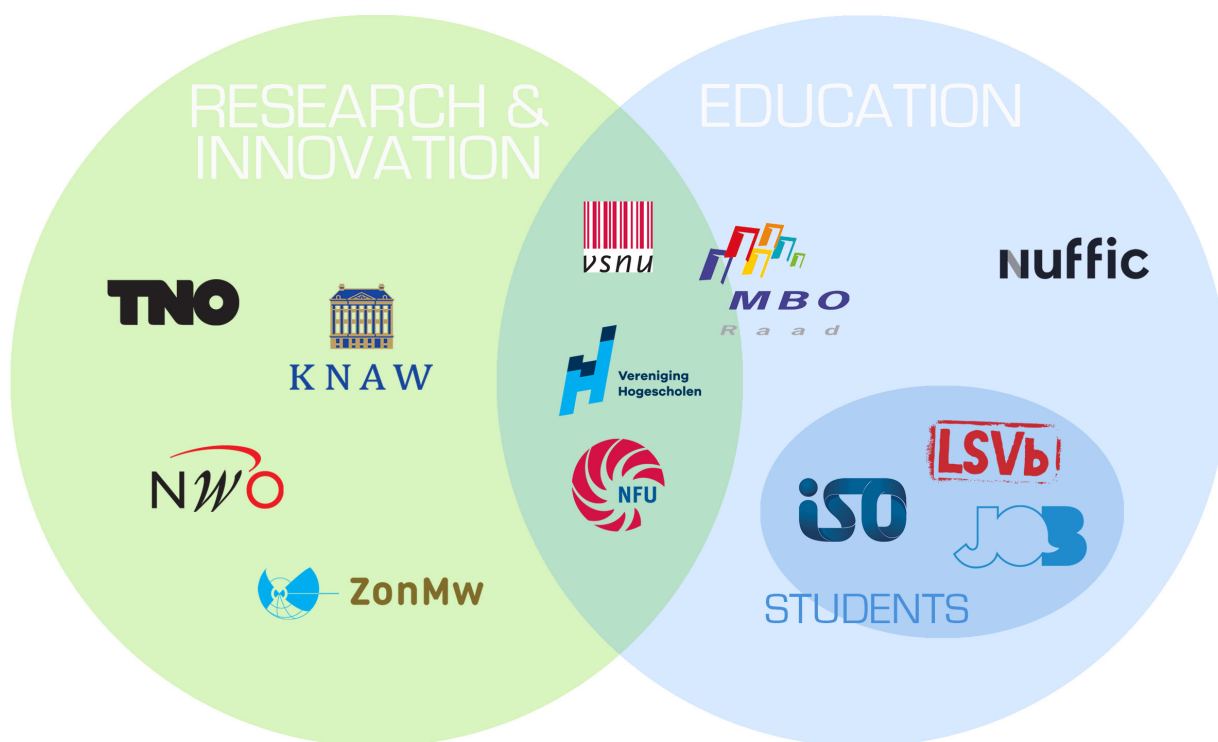
Neth-ER is a Brussels-based association of twelve Dutch organisations working in the field of education, research and innovation. Neth-ER looks forward to helping shape the future of EU knowledge policy together with European institutions, national governments and stakeholder organisations.

Neth-ER members:

- Association of Universities in the Netherlands (VSNU) (www.vsnu.nl)
- Netherlands Association of Universities of Applied Sciences (VH) (www.vereniginghogescholen.nl)
- Netherlands Association of Vocational Education Colleges (MBO Raad) (www.mбораad.nl)
- Netherlands Federation of University Medical Centres (NFU) (www.nfu.nl)
- Netherlands Organisation for Applied Scientific Research (TNO) (www.tno.nl)
- Netherlands Organisation for the internationalisation of education (Nuffic) (www.nuffic.nl)
- Netherlands Organisation for Scientific Research (NWO) (www.nwo.nl)
- Netherlands Organisation for Health Research and Development (ZonMw) (www.zonmw.nl)
- Royal Netherlands Academy of Arts and Sciences (KNAW) (www.knaw.nl)

Neth-ER associated members:

- Dutch National Student Association (ISO) (www.iso.nl)
- Dutch National Student Union (LSVb) (www.lsvb.nl)
- Union of Vocational Students (JOB) (www.jobmbo.nl)



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