



National Research Council of Italy

RENEW-ESSENCE 2030

Position Paper on FP9
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Introduction

The National Research Council of Italy (CNR) is the largest public research institution in Italy.

CNR counts more than 8.000 employees, of whom more than half are researchers and technologists. Some 4.000 young researchers are engaged in postgraduate studies and research training at CNR within the organization's top-priority areas of interest. A significant contribution also comes from research associates: researchers, from Universities or private firms, who take part in CNR's research activities.

For a research institution such as CNR, since the very beginning in 1984, the EU Research Framework Programmes (FP) have been a fundamental tool to complement its institutional activities as well as to build and strengthen its scientific partnerships. Therefore, CNR is paying a lot of attention to the potential objectives and structure of the next Framework Programme.

This position paper introduces the CNR vision on some major issues in transition from Horizon 2020 towards FP9, considering the challenges which the next programming period will face, and keeping, as it has been widely considered efficient, the "three pillars" structure of Horizon 2020. The purpose is to suggest driving concepts for the next FP, based on the CNR experience in knowledge production/management and technological & societal foresight in a changing world.

The next FP, as well as Horizon 2020, have to be considered as a political instrument, where research and innovation play their fundamental role in contributing to widening the knowledge and to the societal wellbeing, sharing the United Nations Sustainable Development Goals and supporting policy makers in adopting knowledge-based decisions. In FP9, **the EU citizens and the global society should be the final recipient of the actions even more than in previous FPs.**

In this context, knowledge should become the fil-rouge of the whole process where research support solutions in a shared value between RTOs, industry, public authority, civil society and environment.

In the 60th anniversary of the Treaty of Rome and in line with art. 179 of the EU Treaty, we should reinforce the idea that Research and Innovation, as other EU policies, should contribute to build a renewed concept of Europe, where the society acts simultaneously as driver and end-user of the interventions.

Renew-essence 2030, **the name we suggested for the next Framework Program, FP9, wishes to propose a renewed spirit for funding research and innovation, giving the central role to humans, their inter-relations and the interaction with the external environment. For this reason, we simplified the concept of FP9 as a Vitruvian Man harmonically composed of "Brains", as creativity and analysis (excellent ideas), "Arms", as transformation of resources (fabrication and exploitation), "Legs", as a coordinated sustainable journey towards shared objectives (societal goals).**

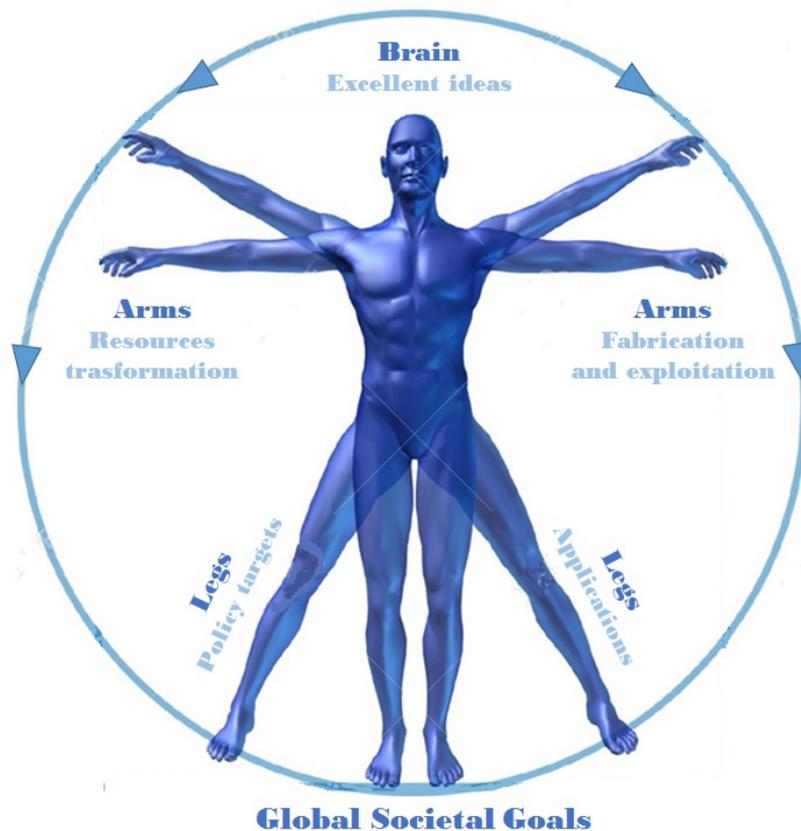


Figure 1 FP9 as a Vitruvian Man

The concept of FP9 as a Vitruvian Man harmonically composed of "Brain", as creativity and analysis, "Arms", as transformation of resources, fabrication and exploitation, "Legs", as application acting as a coordinated sustainable journey towards shared objectives driven by global societal goals.

This being said, FP9 should:

- a) **safeguards its nature of exclusively research oriented instrument**, conceived to strengthen the EU's scientific and technological base, adding also The European Defense Research Programme, mainly throughout the cooperation among the countries and **not including financial instruments**, which can indeed be conveniently funded through other Programmes, without reducing the FP9 budget;
- b) **contributes to reduce the EU divide** in scientific and technological skills and capability.

EU research funds should be therefore used to:

- 1) **facilitate, catalyze, structure the cooperation between public authorities, research institutions and industry at transnational level, also by promoting excellent pan-European research infrastructures;**
- 2) **promote counterfactual actions**, i.e as breakthrough ideas or as EU has done in addressing the Rare Diseases.

The **intrinsic nature of research has to be preserved**, where curiosity, serendipity, connectivity and infrastructures should feed appropriate instruments to populate a mission-

oriented programme. In this regard, top-down and bottom-up actions should be adequately balanced, where the first should definitely involve co-fund from Member States or big industry.

The implementation of our idea for FP9 requires a coherent process with an effective and efficient governance. Bearing in mind the ongoing **simplification process, mutual trust between EC and stakeholders** should be strengthened, taking into account **principles of the beneficiaries** as well as national regulations. *(See also CNR position on Horizon 2020 interim evaluation).*

In order to achieve the goals and to fulfil the fundamental requirements set up within the EU strategies on research and technological development, we first strongly **recommend a substantial increase of the budget of FP9**, despite Member States' budgets constraints. In addition, due to the complexity of the socio-economic-environmental system and the limited budget for research, actions should impact and clearly address the **EU added-value**.

Excellence in research

We strongly believe that all the instruments under the H2020 excellence pillar are fundamental for the development of a "top scientist" base across Europe.

ERC already became a worldwide recognized best practice in terms of funding mechanism for Blue-sky research, allowing researchers to experiment and to take unbeaten paths towards tackling grand societal challenges, even if some solutions are not yet to come. However, there are certain weaknesses that should be addressed in FP9 to ensure a better use of the ERC instrument.

- **Increase the number of funded grants by allowing projects with a smaller budget.** This would be particularly effective for scientific areas, such as mathematics, which do not require major equipment costs;
- **remove the non-re-entry constraint** to those who have already submitted ERC proposals, including non-winning ones;
- in order to avoid inequality in the evaluation of CVs across EU, take into account different national habits in signing scientific papers;
- in order to ensure a better usage of frontier-research results, **foster linkages with other pillars and areas** and in the support of collaborative frontier-research;
- in order to increase the circulation of top scientists across Europe while nurturing the excellence culture, **some calls could be addressed to ERC grants to be spent (and eventually displaced) outside the Principal investigator Country/Institution.** (this will also reduce the perception that ERC favors the concentration of EU funds in few Countries).

The **MSCA** are definitely an important asset for European researchers, covering several aspects of research thanks its different actions. MSCA are very important in shredding new knowledge and collaboration at EU level. The current level of success rates is indeed very low.

- It is therefore important to strengthen the MSCA network across Europe, **increasing the budget allocated to MSCA actions;**

- while maintaining the bottom-up approach in terms of thematic and the characteristics of excellence, a geographical quota for grants should be foreseen accordingly to the priorities of EU international cooperation;
- **the Marie-Curie Research Training Networks should be simplified**, without any distinction between different levels of experience of researchers, in order to allow industries to identify the most appropriate candidates for their needs regardless the academic title.

The **Future Emerging Technologies** (Open, Proactive, Flagship), regardless the pillar in which they will be placed, **should be budgetary reinforced**. CNR consider FETs one of the most successful instruments of the Framework Program and strongly believes that FET Flagship should be extended to all the appropriate scientific domains **with no relevant ICT component**.

Support to competitiveness

The next Framework Programme should **sustain innovation processes exclusively based on research** and on the cooperation among different actors, aiming at the quadruple helix collaboration.

FP9 should pave the way to a new “Renaissance” (or to “renew the essence”), based on knowledge which will led - de facto - to an economic growth as much as possible widely distributed across Europe. In this context, **public money cannot finance actions too close to the market**, but they should instead feed the creation of a right environment for such market. The **industry should play the role of catalyst towards the alignment of shared EU objectives**, strategies and common agendas, therefore the **Joint Undertakings should be more transparent**, also in terms of openness and access, in order to respect the FP principles, as well as the relevant articles of the Treaty. Here below some:

- As described in the introduction, **EC contribution to industry should be limited to research activities, and preferably to low-medium Technology Readiness Levels or provided its co-funding**.
- **The single beneficiary instrument, as the one for SMEs, should be extended also to public bodies**, while the financial instruments such as Access to risk finance, should be outside the research and innovation framework programme, while maintaining a clear link with it. In this context, the EC should play the role of hub and link in strengthening the coordination between different innovation driven instruments. **A user-friendly platform for promoting innovation to public or private funders is welcome**.
- **Synergies with Structural Funds must be improved significantly**, also providing specific articles in the EU Financial Regulation and in the State Aid Rules, in order to avoid operational clash, as happened for funding the proposals awarded by the ‘**Seal of Excellence**’.
- **Seal of Excellence** should be **extended to public bodies and no-profit organizations**, in order to provide funders with diversified typologies of proposals to invest in research and innovation.
- **Funding for research and innovation through the structural funds should also be increased and rules of participation for Structural Funds and FP9 should be harmonized and simplified**.

- The definition of innovation should be widened from concentrating on commercial products to social, cultural, service-based and institutional innovation.

Societal Challenges

The civil society and the well-being of EU citizens should be the main driver and objective of the actions. Products and technologies should serve to this aim, preserving the environment and human rights. The concept of sustainability has therefore to be widened, where the **societal, economic and environmental aspects are included in a shared value**. The resources, their transformation and the human activities cannot be addressed in silos, since an integrated “solution oriented approach” is required. For these reasons, activities funded under FP9 should follow these guidelines:

- **The impact should be mainly societal then economic.**
- **The “Focus areas approach” introduced in Horizon 2020 should be preserved as political driver, and thematic calls should be replaced by bottom-up calls without any specific topic or means for implementation.** This requires an adaptation of the evaluation processes.
- **United Nations Sustainable Development Goals seem to be** the most appropriate narrative to address societal challenges in a changing world, easily understandable by general public and media.
- **Specific topics should be maintained only when co-fund and EU alignment are shown** (such as in ERANETs, art. 185, JTIs, EJP). This approach should allow, at the same time, a rationalization of the Program Committees configurations.
- The number of instruments and Bodies responsible for implementing Horizon 2020 (JTI, P2P, DIS, Agencies etc.) create a complex landscape, that should be **streamlined, actively reduced or drastically simplified**, in cooperation with the Member States.

Conclusions

The complexity of the present and foreseeable socio-economic & political scenario, with a diversity of cross-linked aspects, stakeholders and roles, requires an adequate approach.

FP9 should aim then to reinforce the role of research in providing solutions in a sustainable co-design of the world, and in a shared value with industry, public authorities, civil society and the environment.

Only research, and innovation (exclusively based on research), should be funded within the FP9.

Actions should clearly address EU added values, long-term vision and impact and should arise from an ex-ante impact analysis.

Bottom-up approach should be promoted, while specific topics should be introduced to facilitate joint undertaking, either from public or private funders.

A renewed spirit for funding research and innovation is needed, as the final goal of FP9 must be to provide innovative solutions for a better life for all humans and society.