



## **European Research Area for All**

### **Preliminary position of the Ministry of Education, Science, Research and Sport of the Slovak Republic on the design of the 9th EU Framework Programme for Research and Innovation**

Research, development and innovation are one of the most important areas of the European policy significantly contributing to the development of society and improving the quality of citizens' lives. The EU Framework Programmes for Research and Innovation, supporting excellent research, innovation and scientific cooperation across Europe and beyond are key to promoting European competitiveness, growth and employment. In addition to the research results, the Framework Programmes also provide broader societal, economic and political benefits, notably through their emphasis on cooperation among researchers from all countries and regions. It is, therefore, necessary to pay specific attention to the design of the new Framework Programme. We found the current Horizon 2020 Framework Programme successful, what was demonstrated by the historically highest interest of researchers and innovators, not only from Europe but from all over the world. However, Horizon 2020 has become a "victim" of its own success as due to the overall financial allocation, it has not been possible to support all the excellent projects and consortia. The future Framework Programme (FP9) should build on the success of Horizon 2020, but it is essential to make it more accessible to the participants.

Building on the experience of implementing the previous Framework Programmes as well as the expected social and economic development, we consider the following areas to be important within the process of designing the FP9:

1. FP9 as the key to the European Research Area for All;
2. FP9 overall structure;
3. Excellence, impact and European added value;
4. Contribution to the solutions of megatrends, societal challenges and future technologies;
5. Synergies and widening participation.

## 1. FP9 as the Key to the European Research Area for All

The Framework Programmes represent the backbone of the European Research Area and contribute to the achievement of the EU overall goals. We believe that the FP9 should principally reflect on the needs of all the participants involved in building the European Research Area. It is therefore inevitable that FP9 is open to all states, regions and participants, so that a truly unified European Research and Innovation Area can be established.

FP9 should, likewise Horizon 2020, remain a **research and innovation** programme and support the **entire innovation process** – from basic research to close-to-market solutions. For the programme's success, it is extremely important to ensure an adequate balance between research and innovation.

We are of the view that it is important to place emphasis on **collaborative research and innovation** throughout the whole innovation process. Cooperation in research and innovation at all levels is truly an essential European added value. Horizon 2020 has partially shifted from traditional grant funding to funding through joint initiatives and financial instruments. On the other hand, basic research is more or less primarily supported through the European Research Council (ERC). As a result of this, the mutual European institutional cooperation on the projects with a lower Technical Readiness Level (TRL) gradually disappears.

**Grant funding for projects** should remain the basis for research and innovation support in Europe. Mainly the projects with a lower TRL are very risky and cannot be financed by financial instruments. On the other hand, it is possible to make greater use of **financial instruments** in innovative projects with a higher TRL, or when the results of the research are introduced to the market. We consider the financial instruments to be a suitable complementary form to grant funding.

We believe there is a need to ensure an **appropriate balance between large projects on the one hand and small and medium-sized projects on the other hand**. Small and medium-sized projects are easier to implement and coordinate, making more effective use of financial resources, and their socio-economic impact is significant. They provide more room for participation of newcomers and address the same challenges from a different point of view, and thus offer different solutions, or diversification of the risk of failure. We see the potential for large projects mainly when dealing with grand, current and urgent societal challenges.

**Openness** should be one of the main principles of the FP9. It is necessary to build on three O's - Open Innovation, Open Science and Openness to the World. Open science and innovation can trigger radical scientific progress and create innovation in the near future.

An important issue to be reflected in the FP9 is the prevention of "**brain drain**" not only from Europe but also within the EU. It is important to support global competitiveness of Europe along with the balanced scientific and innovation development across Europe. This effort should further strengthen the role of new Framework Programme in creating favourable working conditions for researchers, based on the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

FP9 should encourage participants from all countries to participate in European research and innovation projects. It is therefore needed to set such a remuneration policy which enables that no participant are discriminated, regardless of the country of origin and the sector. It is necessary to find adequate solutions for **reimbursement of personnel costs** so as not to demotivate large groups of researchers. This mainly concerns the different salary rating for different participants in the same projects.

**Companies, and in particular small and medium-sized enterprises (SMEs)**, play a key role in the European economy. They are, at the same time, the main driving force behind the implementation process of innovation and technology transfer. FP9 should continue to support innovative SMEs and promote innovation in a wider sense.

The success rate of the submitted projects to the Horizon 2020 has significantly decreased, which has had the consequence of demotivating researchers. It is a loss for Europe that not all projects rated as excellent could be funded. One solution is a substantial **increase in the FP9 budget**, at least to €100 billion. At the same time, it is necessary to improve linkages among various funding instruments (national resources, European structural and investment funds, etc.) and strengthen the mechanisms for implementing the “Seal of Excellence” in all participating countries.

We believe that the FP9 should also take into account the **macro-regional aspect**. The conception of the four existing EU Macro-regional strategies (MRS) is the result of a joint effort of the EU to respond to challenges and opportunities in the relevant European regions. The MRS are politically established platforms seeking to create international partnerships, projects and initiatives representing an important innovation in terms of territorial cooperation and cohesion. They play an important role in the process of building a coherent and competitive European Research Area. Due to inadequate links with European financial mechanisms, however, the MRS have not yet been able to sufficiently develop their potential. Considering our experience with the European Union Strategy for Danube Region (EUSDR) implementation, we are convinced that MRS are appropriate platforms for building research and innovation partnerships that can provide significant added value through the use of appropriate Framework Programme instruments.

## 2. FP9 Overall Structure

FP9 should be as **simple as possible in terms of structure, defining objectives and implementation**. The **three pillar** structure has proven itself and could be maintained also in FP9. However, it is necessary to create a balance and better linkage between all pillars, in order to achieve an adequate synergic effect. We believe it is essential to strengthen the significance of the “Societal Challenges” pillar in order to flexibly respond to the current urgent societal challenges.

One of the primary objectives of support in FP9 should be investing in **human capital**. The Marie Skłodowska-Curie Actions have been for a long time one of the most successful projects with a significant impact on the development of international, intersectoral and interdisciplinary mobility as well as the career development of researchers in the European Research Area. In this context, we

emphasize the need to further strengthen the support, especially for early stage researchers, both through financial measures and links to the other European Programmes and initiatives.

**Supporting excellent research at the frontier of knowledge**, within the framework of the ERC, should be maintained, or even strengthened. The ERC is the veritable showcase of the European research. Excellence as a fundamental principle of supporting ERC projects must be preserved. At the same time, the measures to encourage the increase of participation of researchers from all EU Member States need to be taken.

**FP9 should continue to support research close to the market, the development of new products and services, and the support of innovation** with a reasonable participation of industry, including SMEs. These projects should follow a bottom-up approach, with an emphasis on the economic impact of the project results (revenue and job creation).

The new Framework Programme should **be more accessible to participants, more understandable and transparent**. Over the past period, the Framework Programme has become too complex, containing a large number of different initiatives, instruments and sub-programmes difficult to understand and difficult to orient in. It contains a large number of different joint initiatives and partnership instruments (e.g. JPIs, JTIs, cPPPs, Article 185 initiatives, EIT, ERA-NETs, etc.), which means that the implementation and funding structure of the Programme is ambiguous and sometimes difficult to understand for new participants. Supplementary funding from national sources is needed, which disadvantages mainly the smaller Member States. FP9 should be accessible mainly for newcomers, smaller institutions and SMEs. We see some room for simplification in these areas.

The FP9 structure should be more flexible so that the programme could timely address emerging challenges. The support for a **bottom-up** research and innovation should be used to a greater extent. This is also related to the use of **TRL**, which we consider to be an understandable method of defining public support for different stages of research and innovation (from idea to market application). However, in order to increase cooperation between excellent research institutions and industry, there should be more balanced calls across the entire TRL scale.

The European Commission has made significant steps in terms of **simplifying** Horizon 2020. They are perceived by the participants very positively. However, we believe that simplification is an ongoing learning process, during which an adequate balance between monitoring and trust is important. We see more simplification possibilities in a more flexible remuneration policy, with a greater emphasis on the impact and reduction of administrative burdens.

The quality of **project evaluation** is key to the success of the entire programme. We consider the Horizon 2020 evaluation system to be transparent. However, this system is in every case based on people, so a degree of subjectivity inevitably becomes part of it. Clear guidelines and the preparation of experts are therefore very important. Hence the database of evaluators needs to be further expanded, particularly from specific under-represented groups (women, experts from the EU13 countries and the entrepreneurial sector). It is also necessary to focus on the quality of the Evaluation Summary Reports (ESR), which can be influenced by an increase in the number of consensus meetings, that can also be carried out virtually. In terms of the project evaluation system, we believe that a greater emphasis should be placed on the real impact of projects. Submitted project proposals should also include a modeling of their socio-economic impact, which should be linked to the EU global objectives.

In terms of the **level of project funding**, it is positive that research and innovation activities can be funded up to 100% of eligible costs. At the same time, we believe that removing funding based on the size of enterprises was not a step in the right direction. We think that in particular large companies should co-finance their participation in innovative projects.

The **topics of the calls** announced in the FP9 should be drafted in a broader cooperation with Member States and the scientific community. In FP9, we should strive for a greater balance between closed and open calls. Mainly in areas that are priorities for the EU, the calls should be designed more specifically, particularly in the area of expected impacts.

We believe that the FP9 should remain a **civilian programme**. European defense research should be funded independently of the Research and Innovation Framework Programme, while ensuring mutual coordination.

### 3. Excellence, Impact and European Added Value

**Excellence must remain the basic principle in supporting research and innovation at the European level.** Supporting excellent projects, however, means supporting also more risky projects with great potential impact but uncertain results. Supporting the best projects is the only way for Europe to remain a key player in research and innovation.

**Impact** is the second criterion to be taken into account when evaluating projects. Measuring the impact of projects is more complex, as research results are often implemented on a long-term basis. Currently we can measure economic impact relatively well, but measuring the societal impact is far more difficult. Research and innovation have, nevertheless, a significant impact on our lives as we encounter their results every day. The problem of impact measurement is also related to the nature of the research and may differ from one science area to another. In terms of the project evaluation system, greater emphasis has to be placed on the real impact of projects (both economic and societal). Therefore, the modeling of socio-economic impact should be introduced as early as the submission of projects. The impact of the FP9 as well as the impact of projects should be linked to the EU global objectives too. Generally, the impact of projects should be assessed more broadly than before. In addition to the quantifiable parameters, the socio-economic impact must also be taken into consideration. It would also be appropriate to introduce a criterion of economic effectiveness in the evaluation of projects.

**European added value** must be another key principle of the FP9. The Framework Programmes affect not only European research and innovation, but also the European Union as such, as scientific cooperation plays an important role in building a united Europe. This is mainly about collaborative research, researchers mobility and the sharing of research infrastructures.

The FP9 should be a real European Programme, not just an additional instrument to national programmes. Member States should refrain from pursuing partial national priorities and support a common European dimension and value. FP9 should be perceived as a complementary programme

to national programmes. Only in this way Europe will be able to respond to current societal and global challenges, as well as maintain the leading role in the key technologies of the future.

#### **4. Contribution to the Solutions of Megatrends, Societal Challenges and Future Technologies**

Europe, as well as the entire world, is facing new grand societal challenges and megatrends that will affect our future. The FP9 should reflect these megatrends, grand societal challenges and future technologies. To the main megatrends that will influence development in Europe and the world in the upcoming decades, may belong: (i) health and well-being; (ii) natural resources and energy; (iii) climate change and environment; iv) demography; (v) societal development; vi) globalization; (vii) economy, employment and productivity.

These megatrends and societal challenges are directly or indirectly influenced by the new, emerging technologies of the future. These will have a huge impact on both societal and economic development. For this reason, it is inevitable for the FP9 to support their development and enable their usage. Societal challenges and megatrends need to be addressed both locally and regionally.

#### **5. Synergies and Widening Participation**

We consider the **synergies** between Horizon 2020 and the European Structural and Investment Funds (ESIF) to be inadequate and practically non-functioning. One of the reasons is their relatively late implementation, so that several countries could not incorporate these synergies into their operational programmes. Another reason is the different nature of both funding instruments, which practically eliminates the possibility of building synergies. Therefore, the area of synergies in the FP9 requires substantial improvements, in particular the simplification and harmonization of rules, both at the national and European levels. For example, the FP9 should allow the co-financing of projects (e.g. MSCA Cofund, ERA-NETs, etc.) from the ESIF. This would increase the participation of smaller Member States in the Framework Programme. The “Seal of Excellence” is a very useful measure, which should be strengthened in the FP9. In the new programming period there is a need to harmonize the rules of the support and to introduce selected measurements from the Framework Programmes into the implementation of the ESIF. Hence the ESIF could play a key complementary role in increasing the participation of countries, regions and institutions with a low participation in the Framework Programme. It is also necessary to ensure synergies and cooperation with the other European programmes (e.g. Life, COSME, Interreg, etc.).

We consider the implementation of the specific **Spreading Excellence and Widening Participation** measures as a step in the right direction to balance the differences between the Member States that

are falling behind the innovative leaders. Teaming, Twinning, ERA Chairs, and COST received a positive response in the research community. It is at the same time, necessary to emphasize that these are long-term instruments whose results will only become apparent after 2020. We believe that such instruments for increasing the participation should be further strengthened in the future, even financially.