

Preliminary Position of the Ministry of Education, Research, Development and Youth of the Slovak Republic to the Preparation of the Tenth EU Framework Programme for Research and Innovation

Over the last five years, the European Union has embarked on a twin green and digital transition to tackle climate change. This green and digital transition is the start of a new paradigm promising a more sustainable, liveable, competitive and resilient Europe. Research represents the fundamental engine for creating sustainable innovations and achieving climate transitions. The climate and biodiversity crises, COVID-19 pandemic, non-communicable disease epidemic, and rising health inequalities all clearly show us that societies and economies have reached their tipping point. Based on the lessons learned, we know that research and innovation play an essential role in tackling emerging threats and improving crisis preparedness. Therefore, the EU Framework Programmes for Research and Innovation, supporting excellent research, innovation and scientific cooperation across Europe and beyond, are key instruments to promoting European competitiveness, growth and employment. In the light of increasingly challenging geopolitical context, the European cooperation in research and innovation must be further strengthened in order to stimulate generation of breakthrough ideas and deployment of cutting-edge technologies across all Member States, while addressing global challenges and ensuring European open strategic autonomy.

Building on the experience of implementing the previous Framework Programmes, Slovak Republic considers the following areas to be important within the process of designing the tenth EU Framework Programme for Research and Innovation (FP10) running from 2028-2034:

1. FP10 in the context of strengthening the EU competitiveness

In order to boost the EU competitiveness, address global challenges, and reinforce open strategic autonomy, FP10 must fully harness the possibilities offered by research and innovation. Investments in high quality research is essential for building a knowledge-based economy, driving innovation and boosting competitiveness.

Excellence - based research should be the driving force of the next EU Framework Programme for Research and Innovation (FP), exploiting academia and companies' potential and capabilities to the full scale. It is important that FP contributes to the status of knowledge and science to the overall benefit of society and supports highest-quality solutions resulting from **trustworthy, fair and transparent evaluation** process that stimulates competitiveness. Therefore, we call to strengthen the so called "**blind evaluation**" process to increase trust, transparency and avoid various biases while incorporating a new assessment policy.

The success of our economies and societies is measured through economic growth, without regards of the costs to health and the environment. Wellbeing economies for healthier, sustainable and equitable societies will require strengthening the evidence base, transition to evidence based policy and practice in line with the European approach to put research and innovation, science and technology, to the centre of our economy. Therefore, the scale of current societal challenges and (possible) challenges of

tomorrow ask for increased common efforts which can be only supported by a **strong, predictable and stable budget**.

It is also important to avoid that programme's budget is fractured and overloaded with initiatives not related to research and innovation. FP10 should clearly define its goals and corresponding resources to be indubitably positioned among other areas of EU funding.

FP10 should focus on **leveraging public and private investments** and **stimulate public-private cooperation** by improving and strengthening jointly funded instruments and policies. Therefore, it is crucial to strengthen efficient and user-friendly possibilities to attract national, regional and private investments.

While acknowledging the importance of supporting excellent fundamental research as a driver of quality applied research and innovations in the EU, it is important that FP10 **strives for a balanced approach** between fundamental curiosity-driven research, applied research, development, and innovation, as well as collaborative projects at low to middle Technology Readiness Levels. Furthermore, the balanced approach needs to consider (directional) top-down and bottom-up approaches and include knowledge creation, knowledge application and scaling up with attention to impact and valorisation.

Research infrastructures (RIs) represent a significant instrument for enhancing EU's competitiveness while also increasing visibility and attractiveness of the EU R&I ecosystem, supporting thus circulation of talents, brain-gain, and stimulating joint investments. RIs play a key role in the advancement of knowledge and technologies. They improve the efficiency and effectiveness of research and contribute to the overall advancement of the European innovation ecosystem. FP10 should ensure a better exploitation of R&D services and sustainability of existing and new RIs as knowledge hubs and pillars of competitiveness and access for researchers across the EU. As RIs generate a significant amount of research data, it is essential to continue to support further development of the **European Open Science Cloud** within the FP10 – under the Research Infrastructures area or Open Science area/pillar.

Research data represent both – a necessity, but also a huge benefit and potential for the whole European R&D environment and economy. Slovakia perceives the research data as a foundation, the initial element from which information, knowledge, ideas, innovation, and ultimately breakthroughs emerge. Discovery and knowledge are part of scientific research. **Data-driven economy's** strong demand should be reflected. Because of ever-increasing use of data by AI, the FP10 should reflect the **research integrity and ethics** in research (taking similar policy like Gender equality in Horizon Europe programme – make an eligibility criterion - to have on place structures and policy procedures to ensure responsible research practice, to prevent research misconduct), **AI** and the **research security**, ideally as a horizontal issue, and introduce concrete measures in order to minimise possible negative impacts.

In the context of the ongoing geopolitical situation and boosting EU's open strategic autonomy, the EU cannot afford to stand still without properly exploring opportunities and challenges enhancing support for research and development involving **technologies with dual-use potential** offers. We are aware that it is necessary to take measures at the EU level, however, Slovakia is not in favour of changing the current direction and nature of FP. FP10 should keep focus exclusively on civil applications, while going further based on the current set-up. Such scenario depends on potential measures that could be implemented through modified implementation parameters where needed within the legal provisions of existing programmes. As dual-use technologies may commonly include classified information and the evaluation process will include specific measures and procedures to protect such information, it may be reasonable create a specific sub-program.

Moreover, as a support for legal provisions and existing programmes, the measures should focus on **technical standardization** as a tool to promote the creation and use of technical standards, aiming to ensure **quality, safety, compatibility, and interoperability, efficiency**, and to facilitate the **international exchange of technologies**. In this context, not only legislative and financial support for European technical standardization appears important, but also the tangible strengthening of its position and utilization for improving quality, safety, innovation, and trade within Europe. The international system of technical standards, of which we are a part, perceives innovations through their close connection to the market. Innovations are part of a chain that allows something new to find a place in the world if there is a market for it. Many innovations create new markets, with technical standards supporting innovations as technical standards are "market-relevant."

Bringing **deep-tech innovations** to the market should remain a key objective for the FP10 as one of the main drivers of competitiveness. Deep-tech innovations are indispensable in creating solutions to the most pressing global challenges facing Europe. We have seen that the immense interest in the instruments offered by the European Innovation Council (EIC) in the ongoing Horizon Europe programme has unfortunately not been adequately matched by the available funds. We consider the resulting very low success rates and the shift in the EIC's behaviour from a high-risk fund to a traditional investment fund as its main shortcomings. The introduction of larger investment rounds under STEP further accentuates these aspects. Therefore, we propose to shift larger investments away from EIC to other more appropriate EU funds, and refocus EIC back to its initial mission of an early high-risk fund. Uptake of new technologies is a recognised critical weak point of the EU's ecosystem. Therefore, we ask to match funding available to basic research with that available for innovation to better respond to the very high demand and give the needed boost to the EU's competitiveness. We also see a significant gap in smaller scale funding and investments that would help start-ups with **breakthrough deep-tech ideas** to mature and be better prepared for schemes and investments, such as provided by the EIC Accelerator. Further synergies between relevant national programmes and EIC should be explored in order to create **a clear funding pathway** for deep-tech start-ups and companies.

2. Advancement of the European Research Area through Impactful FP10

FP is a main policy instrument that contributes to the advancement of the European Research Area (ERA). While it is inevitable to take measures at the national and regional level, Slovakia calls to better align FP10 with ERA Policy Agendas. The FP10 should promote cross-border collaboration between all Member States and Associated Countries. The specific focus should be paid to the areas which bring the most EU-added value and are defined as common values and principles of the **Pact for R&I and future governance of ERA**. The current EU research and innovation landscape is influenced by general considerations on **open strategic autonomy** and security of the Union. Therefore, we believe that to strengthen the role of the EU in the **international R&I race, openness and global collaboration** remain the fundamental principles. It is inevitable that the principle "**as open as possible, as closed as necessary**" is maintained, while FP10 should strive to be attractive for third-country associations.

Slovakia supports the **continuation** of the current **pillar and cluster structure**, which has proven to provide a clear framework of reference. However, with a number of new instruments with own sets of rules being added over time, FP has become very complex, not-easy to navigate. We call to boost **simplification and rationalisation of various instruments**. In this context, the **lump sum funding scheme** has proved to be efficient. With intentions of correcting the weaknesses of the ongoing Horizon Europe, we would like to see a stronger interplay and connections between various schemes across the pillars.

Despite political willingness to increase coherence and linkages with other EU programmes, there are still many barriers to making synergies operational. Given different rules and implementing structures, and varying scale and scope of programmes, promoting synergies at project level remains difficult. There is a need **to improve and operationalise synergies from the design stage**, utilise them with other EU programmes – as well as with national and regional RD&I investments - to leverage the impact of the Framework Programme. It is important to enhance synergies and connections among all components of the FP. Creating a clear and understandable funding pathway would serve to increase impact and reach along the whole value chain.

EU Missions are a way to bring concrete solutions to some of our greatest challenges. While we believe EU Missions offer a unique possibility to mobilise external resources and bring other MFF programmes together, the real potential has not been fulfilled yet. Except the R&I stakeholders, EU missions must engage with sectoral ministries at the national level, regional level structures and citizens. The current governance model and implementation should be reassessed. Slovakia supports **a mission-oriented approach** in R&I at the EU-level, while prefers a rather **simplified governance** and **early involvement** of the Member States. Furthermore, to reach the full impact and the full capacity, EU missions could be recognised as independent structures in the future working on its own terms in complementarity with the next FP.

European Partnerships, as a long-term instrument of the FP, have been able to prove they can achieve policy impacts, while focusing on the systematic and transformational approach towards objectives. Division of European partnerships into three current categories works well. However, in relation to further develop ERA and overcome the R&I landscape fragmentation, it is important to **strengthen synergies, linkages and teaming up** of European partnerships **with other MFF programmes, national, and regional programmes** to deliver on the ambitious twin transitions and contribute to the EU priorities while avoiding any duplication. EU partnerships must bring together a broad range of interested actors to work towards a common goal, and turn research results into tangible socio-economic impact. Therefore, we call for more **openness** and **transparency** in terms of new participants, activities and results. It is crucial to avoid any so-called “Closed Club” within any type of partnership. To improve performance, simplifying **implementation** and **minimizing the administrative burden** of the European partnerships is necessary.

The EU is only as strong as its weakest point. Therefore, EU must act together. Slovakia considers the so called **Widening measures** as a step in the right direction to narrow the persisting innovation gap between the Member States. The Widening measures should be primarily focused on supporting research excellence through targeted assistance to high-quality researchers from less experienced Member States. Such measures have already proved their impact and received a positive response in the research and innovation community across a number of engaged Member States. We believe that such instruments for increasing the participation in FP, **stimulate cooperation** and **open long-existing networks** should be further strengthened in the future. Widening needs to be better integrated with the other parts of the FP10 – Widening must be **mainstreamed** across all pillars reflecting the structure of the next FP and increased even **financially** to enable newcomers and less experienced applicants to take more active role. FP10 should retain key elements while simultaneously integrating other actions across the programme.

Except the scientific and economic impact, it is important to focus on the **societal impact** of the FP10 projects. We need to continue placing greater emphasis on the impact of projects, both on the economy and society. **Social sciences, arts and humanities (SSH)** are an essential element of the activities needed to tackle each of the societal challenges and should be given an enhanced role as a cross-cutting issue.

A number of trends are changing the nature of social risks and increase the importance of human capital, adaptability and flexibility. Our health and social workforces are shrinking, our societies are ageing, labour markets are changing, all whilst going through a green and technological transition. A strong life-course and preventative perspective to health, social and welfare policies remain unrecognised and underestimated in research areas. The **social determinants of health (SDH)** are the non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. Research priority objectives with focus to highlight the importance of upstream factors, typically outside of health care delivery, that are necessary to reduce health disparities and maintain healthy communities and populations are welcomed.

FP10 must re-evaluate the **communication strategy**, take more engaged approach and support the participatory activities focused on citizens and society in order to strengthen **trust** towards **science** and **democratic principles**.

Open science and **FAIR data** should be among the FP10 priorities. We need to focus on reinforcing, accelerating, and maximising the benefits of FAIR and open research data in Europe, within scientific communities, and through research infrastructures. This will lead to an increase in the overall research and innovation performance of the ERA and strengthen the outreach to and impact on industry and society.

It is important to provide sufficient funding throughout the R&I process of FP10, including for **close-to-market R&I** and **proof-of-concept** work. However, while increased funding is an absolute necessity for R&I, it is necessary to unify regulatory frameworks across borders, for instance on VAT and intellectual property. The approach of testing AI in regulatory sandboxes, is very valid, but needs to be broadened to the entire EU.

3. The European research ecosystem, including improving the opportunities in ERA research careers

To further develop competitive edge, Union needs **talents** that are crucial for strategic knowledge value chains. In relation to ensure the EU attracts and retains R&I talent and skills, it is important that FP10 promotes an **attractive working environment** for research and innovation talent beyond its traditional function as a mere R&I funding programme. Despite the growing pool of talent, the quality of research and innovation jobs in Europe remains a concern. Europe must critically evaluate its role in the global landscape and establish frameworks to foster diversified **research careers**, developing a policy to encourage “non-physical” investments. Specific focus should be paid to the building of strategic competences, training, reskilling and upskilling the labour force, empower **early career-stage researchers** and **research management and administration (RMA) professionals** through dedicated funding streams and budget lines. Similarly, this also pertains to the mobility of researchers to well established institutions and their professional motivation. MSCA Doctoral Networks are specifically important tool for development of international networks of excellently trained early stage researchers and should not be focused solely for training of future innovators. Preparing researchers with strong academic background as leaders in university education is important, as well.

Research projects have become the backbone of R&I funding landscape with importance of RMA profession increasing adequately. Preparing and managing European research project proposal remains a complex tasks and research managers and administrators play an irreplaceable role in this process. Therefore, the **RMA profession** should be recognized and acknowledged across the programme, also through relevant support scheme and creation of an RMA Academy.

As we witnessed during the COVID-19 pandemic, the loss of trust in science can impact public health and democracy directly. In order to better face potential challenges of tomorrow, FP10 must put emphasis on strengthening the societal **trust in science**, research and innovation, while encouraging more public participation. FP10 must ensure systematic support that advancing **ethics and research integrity** will be of the utmost importance to ensure the high quality of science, to preserve the trustworthiness of the research system and its results and ensure a fruitful relationship between science and society (strong support for educational activities in field of ethics in research and research integrity). Strict rules for use of AI tools in proposal preparation and in academic publishing should be formulated and enforced.

The changing geopolitical landscape affects the core of whole research and innovation sector while making it vulnerable. Slovakia calls for a rebalancing of international cooperation in research and innovation in the light of Union's interests, values and principles to develop and safeguard the Union's strategic autonomy, while preserving an open economy and pursuing a level-playing field and balanced reciprocal openness. Therefore, improving **research security** is key to protecting the EU's open strategic autonomy. FP10 must ensure that existing tools are enforced systematically while identifying and tackling any remaining gaps.

The ongoing Horizon Europe programme launched the process towards increasing **gender equality** in the European research ecosystem. The next FP10 should built on this by focusing on the implementation of such measures and monitoring of achieved results.