Polish Chamber of Commerce for High Technology – IZTECH

Position Paper on the 10th Framework Programme

About Polish Chamber of Commerce for High Technology - IZTECH:

Polish Chamber of Commerce for High Technology (IZTECH) is non-profit organisation associating ca. 200 scientific institutions, universities, high-tech enterprises and other economic entities operating in various technological sectors in Poland. The Chamber's mission is to integrate the high-tech environment, support high-tech initiatives, digital and energy transformation, develop international cooperation and promote Polish technological solutions in Europe and around the world.

IZTECH Working Group on the EU Horizon Europe Research and Innovation Framework Programme (2021-2027) is a grassroots Think Thank gathering of representatives of organisations associated within IZTECH and invited experts who have experience and knowledge in the field of the European Union Framework Programmes and project implementation. More on the Group and its activities: https://www.iztech.pl/en/working-group-on-the-he/

Introduction to the Position Paper:

We strongly believe that the forthcoming 10th Framework Programme (FP10) aims to build upon the successes of its predecessors while embracing a forward-looking approach that fosters inclusivity, flexibility, and efficiency for the sake of the European R&I landscape. Therefore, this document outlines key focal points and strategies that underpin the foundation of FP10 representing the voice of the Polish high-tech sector through the Polish Chamber of Commerce for High Technology - IZTECH_PL.

The momentum requires recognition of the diverse and dynamic nature of various challenges. Those should be reflected in the priorities of the FP10.

The current geopolitical situation and in particular the war in Ukraine (next to the EU borders) shows that research on defence and civil security solutions are critical for the further existence of the European Union. The creation of the European Defence Fund was a very good decision. However, the reduction of funds for Civil Security Research is not well assessed by both the industrial and scientific community. Thus, it is highly important that in FP10 sufficient funding will be dedicated for these both purposes, i.e. civil security research and defence research.

Artificial intelligence (AI) and robotics are technologies of major importance for the development of the economy and society. The integration of robotic technology with emerging technologies such as artificial intelligence, machine learning, blockchain, and 5G can greatly enhance the capabilities and applications of robotics. Ethics should guide human behaviour in addressing this newly available powerful technology in the right direction. Future FP should focus on exploring the synergies between these technologies and developing novel approaches that leverage their combined potential.

The rapidly advancing climate changes demand decisive intervention in the latest technologies, which should be dedicated to solving problems and demonstrate flexibility and speed in implementation. It is also necessary to take actions dedicated to social acceptance for research and innovation as well as

implementations aimed at combating the negative effects of climate change. This is one of the key tasks for the future FP.

In the Position Paper we are raising the following 10 points:

1. **New budgetary framework:** new enhanced budget for FP10 to sustainably cover all the Technology Readiness Levels (TRLs).
2. **Flexibility and reduced complexity of topics in the scope of competitions and clusters**.
3. **Changing the paradigm of Missions:** a distinct legal framework and budget allocation**.**
4. **Redefining the approach towards Partnerships:** incorporating best practices.
5. **Widening Package:** reforming the Package with interdisciplinary, thematic, and horizontal instruments.
6. **EIC vs. EIT:** fostering synergies between the European Innovation Council (EIC) and European Institute of Innovation and Technology (EIT), aiming for further simplification.
7. **Social Readiness Level:** introducing the Social Readiness Level as a general criterion in FP10 calls.
8. **Empowerment of RMAs within the research and innovation ecosystem:** dedicating budget, schemes and actions.
9. **Synergies with other EU and national funding:** enhancing the leverage effect for Research and Innovation (R&I).
10. **Support for SMEs:** developing dedicated and horizontal instruments.

Rationale:

1. **New budgetary framework**.

Horizon Europe reveals low success rates and high oversubscription, which limits the European potential in creating highly competitive research and innovation, leading to many high-quality projects being left unfunded. Increasing budget can ensure that more innovative and impactful research projects receive the necessary support to advance European competitiveness on the global stage.

Therefore, the budget for the FP10 should be double that of Horizon Europe sustainably covering all the TRLs. Any additional new activities (such as the Missions) should receive funds from other sources.

Increasing budget can ensure that more innovative and impactful research projects receive the necessary support to advance European competitiveness on the global stage.

Moreover, it is essential that FP10 funds are allocated in a manner that supports a wide range of TRLs. This approach ensures a balanced investment across the entire innovation spectrum, from early-stage research to the development of market-ready technologies. By doing so, we can foster a more robust and sustainable innovation ecosystem that nurtures ideas from inception to commercialization.

Additionally, separating the funding sources for new initiatives like the Missions is a strategic move to prevent dilution of resources dedicated to core research and innovation activities. By securing alternative funding streams for these initiatives, we can protect the integrity and focus of FP10 funding, ensuring it remains dedicated to driving scientific excellence and technological advancement across Europe.

In summary, a significant increase in the FP10 budget, combined with a strategic allocation of funds and distinct financing for new activities, will empower Europe to achieve its full potential in R&I. This

approach will not only enhance success rates and reduce oversubscription but also ensure that Europe's innovation landscape remains competitive and dynamic.

2. **Flexibility and reduced complexity of topics in the scope of competitions and clusters**.

The current practice reveals that often the topics for calls are not adequately keeping pace with evolving market trends. This disconnect highlights the need for greater flexibility and adaptability in the selection of these topics. To address this issue, it is essential to strike a suitable balance between bottom-up and top-down approaches in organising competitions, particularly within clusters.

A bottom-up ensures that emerging trends and technologies are promptly incorporated into the competitive landscape. Conversely, a top-down approach provides strategic direction and ensures alignment with broader organisational or governmental priorities. It helps maintain a structured framework that can guide participants towards areas of significant impact and relevance.

By integrating both approaches, we can create a more dynamic and responsive system that aligns better with market demands and enhance the overall effectiveness and relevance of the competitions. In clusters, where collaboration and specialisation are key, such flexibility can drive more meaningful innovation and sustainable growth.

Moreover, the trend towards the excessive complexity of R&D projects should be limited. Capturing the entire value chain in highly innovative projects is inherently challenging at the research level due to substantial interdisciplinarity. If securing funding necessitates the inclusion of all stakeholders from subsequent stages of the chain, projects tend to expand disproportionately, causing a shift in their focus and central objectives. Therefore, FP10 should not navigate towards increasingly larger projects and consortia which significantly limit the real possibility of benefiting from FPs and accompanying initiatives, and pushes industry out in favour of academia.

3. **Changing the paradigm of Missions**

The current approach to Missions necessitates a fundamental shift. To ensure their effective continuation, Missions should be supported by distinct legal frameworks and dedicated budgets. This change would enhance the ability to verify assumptions and assess performance indicators more accurately. Presently, Missions tend to emphasise ecosystem building and infrastructure support, often at the expense of addressing specific research problems, such as the development of new drugs.

To realign their focus, Missions should prioritise research endeavours, adopting a flexible strategic plan that accommodates emerging challenges and innovations. By doing so, Missions can better contribute to solving pressing research issues while still maintaining essential support for infrastructure and ecosystems. This strategic shift would not only facilitate the integration of cutting-edge developments but also ensure that Missions remain relevant and effective in addressing both current and future scientific and societal needs.

In summary, the evolution of Missions should involve a dual focus: maintaining foundational support for ecosystems and infrastructure while intensifying efforts on targeted research problems. This balanced approach, underpinned by robust legal and financial structures, would enable Missions to adapt swiftly to new challenges and deliver impactful results.

4. **Redefined approach towards Partnerships**

The current process for selecting Partnerships is overly complex and often results in overlapping initiatives. Moreover, there is a concentration of efforts in certain regions and countries while others are lagging behind. To address these issues, we propose a redefined approach towards Partnerships based on the detailed evaluation of the current mechanism, their impacts and results for the European

Research Area, society and economy. The most successful partnerships should serve as a model for the development of future initiatives of this kind. This will not only make the process more manageable but also ensure that the partnerships we pursue are more focused and impactful.

Partnerships should be strategically aligned with the priorities of the European Union, Member States and Associated Countries, focusing on areas of joint interests. This alignment will enhance coherence and maximise the benefits derived from these collaborations. To achieve this, we need to establish clear criteria and processes for partnership selection and evaluation. Moreover, Partnerships should explore their potential for enhancing international collaboration in selected regions and sectors.

Additionally, each partnership should be thoroughly elaborated with detailed objectives, expected outcomes, and defined roles for all parties involved. This clarity will help in tracking progress, measuring success, and making necessary adjustments over time. By adopting these measures, we can create a more efficient, transparent, and effective partnership model that better serves our goals and priorities.

5. Widening Package

The priority for the European Union should be to use the full potential of innovation in all Member States and regions of the Union and to combine the efforts of all entities involved in reducing barriers to innovation and the implementation of high technologies in Europe. It is crucial to introduce specific and practical mechanisms to support this process, as well as mechanisms for the effective inclusion of new institutions, in particular the so-called “islands of excellence” from the EU regions with a low participation in the EU Framework Programmes: Horizon 2020 and Horizon Europe.

Therefore, there is a critical need to both maintain and expand the Package of selected instruments to support the interdisciplinary nature of various projects and their horizontal nature.

Simultaneously, it is essential to allocate specific instruments, such as Excellence Hubs, to designated thematic areas or clusters. This targeted approach facilitates the development of comprehensive innovation ecosystems, fostering synergies and maximising the impact within these specialised domains. By concentrating resources and efforts, Excellence Hubs can drive substantial advancements in their respective fields, promoting innovation and collaboration on a larger scale.

Additionally, it is crucial to introduce tailored solutions for Small and Medium-sized Enterprises (SMEs) from Widening countries within the framework of the future European Innovation Council (EIC) Accelerator instrument. SMEs in these regions often face unique challenges and barriers that can hinder their growth and ability to innovate. By addressing their specific needs through dedicated support mechanisms, the EIC Accelerator can help these enterprises overcome obstacles, access vital resources, and contribute more effectively to the broader innovation landscape.

Lastly, unbiased Widening aspects appear pivotal. Incorporating gender aspects into Horizon Europe, such as including them as additional criteria for evaluation, has notably bolstered positive trends. Hence, we advocate for the advancement of measures aimed at unbiased Widening to guarantee the full integration of the ERA's potential.

In summary, the Widening Package aims to balance the preservation of a versatile, interdisciplinary approach with the strategic allocation of resources to thematic clusters, while taking action through the entire FP10. This strategy not only enhances the overall innovation capacity but also ensures that excellence from Widening countries receive the necessary support to thrive in a competitive and rapidly evolving R&I market contributing significantly to the competitiveness of the European Union.

6. EIT vs. EIC

Comparing the European Institute of Innovation and Technology (EIT) with the European Innovation Council (EIC) reveals significant disparities, particularly concerning the attractiveness of their offers to many companies. The EIT often faces criticism from these companies due to its intricate procedures, number of allocations, and the substantial effort required to navigate the application process. On the other hand EIC reveals high concentration on innovation only in selected regions and countries. Addressing these issues, we call for not only reforming the EIT and EIC itself but also revamping the national support systems for participating entities such as universities and institutes.

To enhance the effectiveness fostering synergy between these two entities instead of duplicating capabilities, a more streamlined and efficient innovation ecosystem can be achieved. Moreover, leveraging the resources offered by both the EIC and EIT in conjunction with structural funds can amplify their impact and reach.

7. Social Readiness Level

When conducting advanced research and development projects related to, for example, deep tech, researchers should, from the very beginning, take into account the social and environmental implications of the activities carried out, so that the solutions created are in line with those that have a positive social and environmental impact. This proactive and implementation-oriented approach allows us to create solutions that are sustainable and respond to the challenges posed by sustainable development goals.

A no less important aspect is social technological readiness and natural human resistance to change. We therefore recommend that projects should include as an essential element of their activities:

- evaluation of the project in terms of social readiness level;
- researching the impact of technological solutions throughout the entire life cycle of the innovative solution, from raw material acquisition to waste utilisation, taking into account scenarios that minimise the impact on the environment and quality of life;
- the need to monitor R&D projects in respect of their social and environmental impact of the technology;
- the need for the project to design interventions based on social research aimed at minimising resistance to change and increasing awareness and rational assessment of the consequences of the solutions introduced. These activities should be carried out to minimise resistance to technological innovation, such as in the context of well-known social negative respond to next-generations of mobile communication technologies (eg. 5G, 6G), new vaccines (eg. COVID-19 and dynamic development of the anti-vaccine movement) or widespread use of hydrogen technology (commonly perceived as dangerous, explosive, uncertain), the development of nuclear power stations (which is attracting very strong opposition), necessary dietary change and inclusion of meat substitutes in the food industry from e.g. invertebrates, and many others.

Time is of the essence when it comes to dealing with complex issues arising from defined sustainability objectives. The mechanisms to prepare societies for innovations can significantly reduce the time it takes to implement and disseminate new technologies. We, therefore, recommend expanding the high-tech R&D teams by multidisciplinary approach with social scientists who are equipped to assess the response to implementation and suggest solutions aimed at minimising the effects of resistance

by designing interventions based on research of target groups. At the same time, we recommend that social research within technology projects should not compete with tasks strictly related to technology development. We see a risk here that if such a budget is not ring-fenced, the costs of technology R&D will consume resources that should examine the climate for innovation implementation, readiness and design response and monitor impact. In order to do this reliably, these elements need to be designed and surveyed on representative groups that describe the situation and behaviour, so that interventions that prepare the ground for technology deployment can be constructed in a targeted way on this basis.

Moreover, conventional technologies may turn out ineffective in achieving the ambitious goal of Europe's climate neutrality by 2050. We need green investments in new technologies to change the way we produce and consume today so as to reduce environmental impacts and use resources more efficiently. The interest and investment in new environmental technologies is growing rapidly, but implementing these technologies is not a simple matter. That is why we need to promote and build strong market acceptance and recognition of Environmental Technology Verification as a catalyst of green transformation, very important if we want to build Europe's competitive position in the global market.

8. Empowerment of RMAs within the research and innovation ecosystem

It is crucial to foster European excellence and efficiency by acknowledgement of RMAs. Dedicated funding must be secured to enhance the professionalisation, networking, and recognition of RMAs within the framework of FP10, both within the European Union and Associated Countries.

The European Research Area Policy Agenda should incorporate a strategic approach towards bolstering the role of RMAs. This involves not only ensuring adequate financial support but also implementing initiatives to enhance the skills, competencies, and collaboration opportunities for RMAs across different research domains.

Moreover, fostering international collaboration and exchange of best practices among RMAs is essential for maximising the impact of research investments and promoting innovation on a global scale. By elevating the status and capabilities of RMAs, we can catalyse the translation of research outcomes into tangible societal benefits, driving progress and prosperity for all.

9. Synergies with other EU and national funding

Synergies with other EU and national funding sources are essential for maximising the impact and efficiency of investments in research and innovation. In the current financial perspective, efforts have been made to streamline processes and enable synergies, particularly between cohesion policy and Horizon Europe. However, despite these efforts, significant differences persist between the two regimes, which can complicate the synergy process.

To address this complexity, further adjustments are necessary. One approach could involve the development of further block exemptions and budgetary alignments to harmonise the frameworks of cohesion policy and FP10. These adjustments would not only simplify the research and innovation pathways but also enhance coordination and coherence across funding streams.

Moreover, ensuring thematic synergies is crucial to prevent duplication and overlap in funding schemes. By strategically aligning thematic priorities and objectives, synergies can be optimised to support complementary initiatives and foster cross-cutting collaborations. This requires close collaboration between funding bodies and stakeholders to identify synergistic opportunities and align investments with overarching strategic goals.

Furthermore, enhancing transparency and communication mechanisms is vital for facilitating the identification and exploitation of synergies. Clear guidelines, regular consultations, and dedicated support structures can help stakeholders navigate the complex funding landscape and leverage synergistic opportunities effectively.

In summary, while progress has been made in facilitating synergies between EU and national funding sources, further efforts are needed to overcome existing challenges and maximise the impact of investments in research and innovation. By implementing targeted adjustments, promoting thematic synergies, and enhancing communication mechanisms, we can create a more coherent and effective funding ecosystem that drives transformative innovation and sustainable development.

10. **Support for SMEs**

Further support for SMEs in applying for FP10 funds is needed. There is no doubt that SMEs are the backbone of Europe's economy. They represent 99% of all businesses in the EU and they employ around 100 million people, account for more than half of Europe's GDP and play a key role in adding value in every sector of the economy. Moreover, SMEs bring innovative solutions to challenges like climate change, resource efficiency and social cohesion and help spread this innovation throughout Europe's regions. They are therefore central to the EU's twin transitions to a sustainable and digital economy[1].

However, participation of SMEs in the EC Framework Programmes is still not satisfactory. Thus, we recommend introducing further mechanisms supporting participation of SMEs in research and innovation programmes. Examples of potential measures are as follows:

- simplification of applications for funding is needed (in particular in the ones which are dedicated for SMEs),
- incentives for consortia to involve SMEs (e.g. at least 30-40% budget should be allocated to SMEs) should be introduced in all programmes,
- simpler mechanisms of reporting should be further applied (e.g. lump sum mechanism),
- constant measuring of participation of SMEs in the programme should be performed and lessons learnt should be taken.

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[1] https://single-market-economy.ec.europa.eu/smes_en

Other:

One critical aspect requiring attention is simplification. The current landscape of competition topics within these programmes often exhibits high complexity in particular for SMEs, necessitating the simultaneous consideration of numerous horizontal aspects within a constrained budget. Unfortunately, this can lead to the dispersion of funding and curtailment of research and innovation opportunities.

Introducing simplifications and flexibility into the application and evaluation processes is paramount. Adopting a bottom-up approach can empower innovators and researchers, allowing for more organic

and responsive solutions to emerge. By reducing bureaucratic hurdles and embracing adaptability, these programs can better serve their intended purpose of fostering innovation and driving economic growth.