Czech Academy of Sciences

Position of the Czech Academy of Sciences on the Horizon Europe Framework Programme for Research and Innovation

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The Czech Academy of Sciences (CAS), as a key institution in the Czech Republic's research, development and innovation system, welcomes the proposal for the EU's 9th framework programme for research and innovation "Horizon Europe" (HE). It poses the most important tool for strengthening the EU's competitiveness in the global knowledge society, and for securing the continuation of funding for European research beyond 2020. EU framework programmes play an indispensable role in ensuring the highest standard of European science and achieving excellent research results of global importance that make a vital contribution to stimulating economic and regional development across Europe.

Acquainted with the HE proposal presented by the European Commission on 7 June 2018, as well as with the modifications approved by the European Parliament on 12 December 2018, and the partial general approach adopted by the EU Council on 30 November 2018, the CAS hereby offers the following remarks addressing the main elements of the programme and drawing attention to some looming issues.

The CAS acknowledges the fundamental role of the framework programme for research and innovation in setting the direction of scientific and research activity within Europe, including its contribution in building the European Research Area, and appreciates the proposed 30% increase in HE funding in comparison to the previous framework programme. **Increase in the budget proposed by the European Commission is considered positive by the CAS yet insufficient for the achievement of established objectives, especially for the improvement of the success rate of those applicants** whose project proposals are evaluated as excellent but cannot be funded due to insufficient funds.

Though fully conscious of the current political situation relating to the UK's departure from the EU and the tense negotiations of the next multiannual financial framework, **the CAS deems doubling of the budget compared to the previous Horizon 2020 framework programme desirable for the sake of the development of science and in light of the expectations therein.** By doing so, the EU would also demonstrate its continued determination to meet its commitment from 2000, reaffirmed in 2010 in the Europe 2020 strategy, to spend 3% of its GDP on research and development. In line with the abovementioned, **the CAS expresses its full support for the European Parliament's request to increase the allocation for the future framework programme to EUR 120 billion**. It is necessary to add however, that the proposed amount is still below the optimal level that would provide European science with a solid basis for its prosperity and guarantee the EU a leading position in the world knowledge competition and research driven economy.

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In terms of the next framework programme's structure **the CAS in the first place calls for the reinforcement of tools aimed at supporting curiosity driven research** as the most important source of new knowledge, data and results enabling the emergence of innovation and a means to consolidate the position of European research in the global context. In this regard, the CAS welcomes the preservation of the European Research Council (ERC), which, thanks to its unique status based on its full decision-making autonomy, has become the front-runner of the EU's research and development support. The CAS also appreciates the proposed increase in the ERC's budget, which will allow at least a partial reduction in the backlog of high-quality applications placed on the reserve list due to limited funding.

Simultaneously, **the CAS welcomes further profiling of Marie Skłodowska-Curie actions (MSCA)**, whose purpose lies in capacity building and support of the circulation of human resources in the EU and it shall in that sense **be clearly distinguished from the ERC Starting grants**. This instrument has already proven beneficial for early career researchers in the process of seeking appropriate employment opportunities in Europe. MSCAs have become a key element for supporting mobility, professional anchoring and career development of young researchers, who deserve further material support that is vital for building a high quality human resources base necessary for the future development of European science.

Although the support for exceptionally gifted researchers in the form of ERC and MSCA grants is adequate to the present needs at the proposed level, **the possible continued reduction in the support of basic research for tackling contemporary societal challenges as implied in the concept of the pillar II of the next framework programme raises our concern**. This worrying tendency, which is increasingly evident in the last framework programmes greatly underestimates the fact that it is precisely basic research, which ensures that the methods and tools applied in the projects are not mere modifications of already-known and tried-and-tested approaches. The CAS therefore stresses the need for support of the entire value chain at all technology readiness levels (TRL) in the announced calls.

The CAS expresses its deep concern over the proposed reduction in the share of financial means for research infrastructures compared to the Horizon 2020 programme. Research infrastructures constitute the essential element of facilitating excellent research, markedly influencing its global competitiveness, contributing significantly to international and interdisciplinary cooperation, to knowledge circulation, and constituting a fundamental building block of the European Research Area. Moreover, research infrastructures play an essential role in strengthening European cohesion particularly through the development of less developed regions. The EU

should therefore strive to increase the respective budgetary allocation to ensure that economically stable conditions are in place for their effective functioning, development and sustainability. In addition, the reduction of this vital financial support is creating a perception of inadequacy in the research infrastructures themselves and thereby damaging their public image. We need to be highlighting their crucial role in scientific diplomacy and in building international scientific relations, and not least in creating equal opportunities and strengthening cohesion across the EU.

The CAS appreciates the newly introduced concept of the Missions and urges that **the emphasis in the selection of Missions shall be placed on their European added value** to make sure they correspond with the interests and needs of EU citizens. Missions should be ambitious yet sufficiently specific and well targeted in order to aspire to realistic and clearly demonstrable benefits. The main condition for the success of Missions will be the transparency of their implementation and, more importantly, the ability of EU representatives to communicate their results and benefits to the public in a clear and effective manner. At the same time, the thematic content and focus of Missions should take into account the territorial makeup and diversity of Europe and address territorial-specific or trans-regional issues. The topic of fresh water could serve as a good example with related issues ranging from environmental impact, landscaping, disaster prevention – of drought as well as floods – to the transport and energy sectors, to food safety issues, and to possible impacts on other sectoral policies.

The CAS also fully supports the preservation of the FET Flagship concept, which serves as a suitable platform for supporting excellent research, while concentrating capacities on key topics that have the potential to open up new segments of technologies in the longer term.

The CAS welcomes the establishment of the European Innovation Council (EIC), which will encompass tools for the support of breakthrough innovation and serve as a single entry point for project proposals with a high potential for scale-up and direct market application. However, **continuous joint monitoring of the effectivity of the parallel functioning of the EIC and the European Innovation and Technology Institute (EIT) is necessary to avoid overlap between their activities, to maximize their impact**, and to achieve complementarity and mutual reinforcement. Each of these organizations should build on their strengths not duplicate the practices of the other. While the EIC is expected to serve primarily as a funding body, the EIT can offer the innovators its broad innovative ecosystem and a base for further development.

The CAS fully supports the continuation of pursuing actions aimed at fulfilling the concept of open science and related plans to share data and research results

through the European Open Science Cloud (EOSC); while **simultaneously drawing attention to the potential risks in terms of intellectual property rights security and protection of potentially patentable or otherwise commercially exploitable data**. For effective operation of open access instruments, provided data must not only be accessible, easily traceable, systematically stored and well described, but also quality, integrity and reproducibility must be checked. In this context, the CAS points to the high demands placed on storage size, data operations, the need for robust and transparent data protocols and the necessity for responsible and consistent approach to secondary processing and interpretation of accessible data. Operations leading to generating metadata files must be under control of their original authors in order to preserve their integrity and ensure the reusability of data and the reproducibility of their usage. Taking into account the complexity and cost of this process, **the CAS welcomes the European Parliament's proposal to classify expenditures on the fulfilment of the FAIR principles as eligible costs for all HE projects,** so that they do not pose increased financial burdens for investigators. At the same time, the CAS calls for the need to specify the conditions for meeting the request for data provision in tender dossiers in order to avoid misinterpretations and unnecessary sanctions for failure to comply with this requirement.

The CAS encourages gradual simplification of rules and reduction of the administrative burden for beneficiaries, and advocates for further amplification of this trend. Despite the progress made, there is still considerable scope for further improvement. A key role in the simplification process is played by synergic linkages with other EU programmes, in particular the European Structural and Investment Funds (ESIF). The CAS appreciates the proposed possibility to transfer up to 5% of funds from the cohesion funds to other European programmes and calls on all relevant participants, including national providers, to continue harmonizing the rules between the framework programme and other R&D&I support measures. The CAS considers it important to make **HE funding rules complementary and as close as possible to the rules for ESIF, so that synergies between the two instruments are maximized. Special attention should be paid to the Seal of Excellence awarded to applications highly evaluated in one of the framework programme schemes but not funded**. In order for this award to serve as a meaningful certificate of quality, it is necessary to ensure its recognition in other European or national programmes, with minimal requirements for the modification of the original proposals.

The CAS expresses its support for the issues of inclusiveness, including gender balance. The CAS takes the view that the principles applied in the current framework programme, be it gender equality in research teams and evaluation panels, or

considering the gender dimension in research itself, should be maintained in HE across its individual parts at least at the same level. The respective measures belong to the very foundation of a modern liberal democratic society, to whose principles the Czech Republic adheres. The CAS therefore appreciates the European Parliament's proposal to increase the MSCA grant funding for researchers on maternity or parental leave.

In connection with the aforementioned, the CAS adds that **openness to the outside world should remain one of the basic principles of the next framework programme**. Participation of third countries in joint research and innovation projects doubtlessly enriches European science with new thinking approaches, knowledge and methods and thus contributes to the establishment of the EU's position as a world scientific power. The CAS therefore opposes proposals to restrict the participation of non-member countries in the future framework programme.

About the Czech Academy of Sciences

The Czech Academy of Sciences (CAS) is the largest public non-university research-performing institution in the Czech Republic, running an assembly of 53 research institutes with over 9000 employees. The CAS covers a wide range of areas from natural, through biological and chemical, to technical sciences, as well as humanities and social sciences. Apart from its primary mission of conducting top-quality research, the CAS aims to contribute to the advancement of knowledge and education, and transformation of new findings for practical use. To this end, the CAS operates a range of renowned application laboratories and research infrastructures, including ELI Beamlines, HiLASE and BIOCEV, and provides entry points to a broad variety of research infrastructures of pan-European or global relevance.