

## Czech Position on the Green Paper - From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding

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Science, research, development and innovation are sectors with extremely high impact on the knowledge based society. The dynamics of financing research systems are as important for sound development of human welfare as the dynamics of changing conditions of natural resources availability. In the current interconnected world big challenges facing European and global societies can be successfully resolved only when research and innovation efforts are joined properly.

The Czech Republic considers the uncompromised accent on ***excellence of research activities*** to be the leading principle for financing research and innovation in the coming programming period. In order to take full advantage of the knowledge potential of Europe, it is important to provide ***access based on excellence***<sup>1</sup> to smaller Member States to such activities as Joint Programming, European Innovation Partnerships and research infrastructures. The Czech Republic considers frontier research as a precondition to top - level innovation. Besides innovation based on research, support to innovation in the broad sense with European added value, including non-technological innovation (like new business models, design, new ways of marketing etc.) must be ensured. Radical changes in technologies cannot be properly used without changes in the environment surrounding them.

In addition to this, the ***priorities and resources*** available on the European level, relevant to research and innovation should be coordinated and streamlined (FP7, CIP, EIT). Considering the name of the new framework we underline the importance of the well established ***trademark*** of the “FPs”, which should be taken into consideration while choosing a name for the new strategic framework, thus ensuring the ***continuity*** of endeavours on European level in research and innovation.

- **Working together to deliver on Europe 2020**<sup>2</sup>

The new strategic framework should make European research and innovation more attractive for researchers and innovators in the first place by **simplifying the access and rules of participation** to the programmes.<sup>3</sup>

The CZ supports an effort to move towards the use of uniform and user-friendly IT tools for all EU programmes supporting research, development and innovation. Such

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<sup>1</sup> The excellence to be secured by using international peer review for the evaluation of projects

<sup>2</sup> Detailed Czech views on the thematic and horizontal themes of the new framework are in Annex 1 to this document.

<sup>3</sup> Detailed Czech views on simplification are in Annex 2 to this document.

arrangement would indeed result in savings of financial resources and synergies allowing the coverage of the whole innovation cycle. Existing inter-personal contacts and knowledge accumulated by EEN staff<sup>4</sup>, and the experience of national contact points for the FP7 gathered over the last years should be taken into consideration.

The EU funding should **cover the whole innovation cycle from ideas to market in a limited number of strategically chosen areas** reflecting the challenges of our society.

The Joint programming initiatives should be in the centre of such endeavours, linked to the European Innovation Partnerships. More demonstration and innovation activities should be an integral part of such a concept. A framework designed in this way could increase the EU added value, as joining forces on national levels within the Joint programming initiatives would be complemented by problem solving on EU level. Nevertheless, calls by the EC, or the participation of the EC in the Joint Programming initiatives should provide access based on excellence to these activities for researchers and innovators from Member States (and third countries), which are not partners in a particular Joint programming theme. The same mechanism could be applied for the EIP initiatives.

A stronger link between the successor of CIP and FP7 should be created. For example direct support to the projects enabling the R&D results (especially those stemming from a programme in the common strategic framework for R&D support) to reach the market could be provided. In other words, much stronger, aggressive market-oriented, practical support of individual projects in the programme at the end of the innovation cycle would be an asset.

It is also important to scrutinize all phases of the full innovation cycle, especially how, and to what extent the phases are financially supported. For example, insufficient financing seems to prevail in the following phases of the innovation cycle: initial phase of the invention development (lack of seed capital), proof-of concept phase (lack of capital and companies carrying out proof-of-concept).

When speaking of tackling societal challenges and European innovation partnerships we would like mention the application of the demonstrator approach (outlined by the Expert Panel on Services Innovation in February 2011). Demonstrators provide a way of de-risking innovation, and catalyzing large scale improvements in economic performance, by providing a staged process in which a range of solutions are initially developed, tested and then selected for further rounds of support.

The size of a project and the number of consortium participants should express the project's objectives. Not only scientific and economic criteria have to be applied in all cases, as the European programmes for research and innovation are also community

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<sup>4</sup> Enterprise Europe Network - 600 partner organizations in 48 countries, around 2,500 partnership agreements per year involving European SMEs, 800 proposals submitted by SMEs to FP7 etc. Advantageous aspects of the EEN are serving SMEs (including small businesses and crafts), direct access to services given free of charge to SMEs without administrative burden for them and the fact it already is a one-stop-shop.

building tools. In the case of innovation support smaller scale projects are vital, because they are aimed at concrete issues and have higher impact on the target groups or area. Strategic, large-scale projects shall setup the milestone ideas, concepts or paradigms of fundamental importance for the EU. Smaller-scale, lower-budgeted projects should concentrate on practical developments and introduction of these concepts into practice (i.e. pilot, demonstration and replication projects).

The simplification of rules should always reflect the objective of the simplification. In order to raise the participation of SMEs, more attention should be paid to their real needs. This also applies for evaluation criteria and indicators of monitoring and impact. Regarding innovation the measures should be linked with economic factors, such as profit, turnover rate, or on the other hand creating of new jobs or their preservation, expansion of production etc. The research has its specific criteria and should be measured by different means depending on the type of research (curiosity-driven research, applied research). Basic research can be measured by standard indicators like number of citations in respected media (impact factor), by positions in various contests and also by number of international patents, more precisely PCTs. Applied research may be measured by number of inventions converted into commercial products or services. Evaluation methodology should be consulted with stakeholders, including civil society organisations, where appropriate.

Even if the Cohesion policy has a different objective than the FP or CIP<sup>5</sup>, the new framework should take into account the emerging scientific capacities built from Structural funds in the coming years in the regions of the new Member States (e.g. the continuation of the research potential scheme).

- **Tackling societal challenges**

The agenda driven research from idea to market should be performed in chosen areas, clearly contributing to the competitiveness of Europe. We support the science **for society** direction in the new framework, and at the same time we emphasise the need to preserve the **bottom up approach** in a continuation of the Cooperation Specific Programme. In the case of innovation, bottom-up activities foster ideas and innovativeness of participants, because they are not limited so strictly. Also, this approach contributes to better commercialisation, because the participants have day-to-day experience with market needs. Top-down programmes should draw from the experience of successfully implemented bottom-up projects.

Another outcome of the public consultation, which was done on the national level, was a considerable number of suggestions highlighting the growing importance of evidence based policy making, and the need for European support of studies leading to a policy making approach based on analyses and **foresight exercises**.

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<sup>5</sup> Detailed Czech views on CIP are in Annex 3 to this document

Raising the awareness of general public on the importance and practical impact of EU-funded research and pan-European R&D collaboration projects is a crucial point. Responsible EU leaders could consider the potential value of establishing high-profile European training courses “how to write on science and technology”. The impact of such professional training would be huge, at least in many new Member States. Involvement of citizens may be induced through systematic and consistent explanation of correlation among level of science, capability to compete and quality of life.

Activities attracting interest and involvement of public could include:

- Popularization of science through media
- Enterprise Europe Network as a intermediary between the EC and general public
- Showing the benefit from real projects (more examples of successful projects)
- Special school subjects devoted to relationship between research and innovation should be offered not only at universities but also throughout the school system generally.

- **Strengthening competitiveness**

The new strategic framework should contribute to the competitiveness of the EU, and then it must also support research driven by the needs of the European industry. Hence we recommend that the new framework should comprise activities together with the corresponding tools of the science ***for competitiveness***. The new concept of innovation should be reflected within the most sub programmes of the new framework and even within the projects themselves. The innovative approach can be reflected also by the choice of evaluation criteria.

The participation and involvement of industry in the EU programmes supporting research can be, apart from the above mentioned simplification needs, generally supported by financing research projects done by research organisations for the benefit of industry, by joint initiatives between research organisations and industry, by financing demonstration and pilot activities and by various tax incentives related to research. We consider research for the benefit of SMEs, the research done by SMEs and the Joint Technology Initiatives as very good tools, which should be continued and strengthened as well as the demonstration activities in the new framework. The JTIs should be continued, taking into account the findings of the interim evaluation of this tool done under FP 7. Based on experience, the Czech Republic regards support of programmes like EUREKA and COST from the EU level to be of vital importance for the European research and innovation. Also, increased attention should be devoted to IPR acquisition conditions, number of participants in a project and projects’ terms of payment. Companies should have the right to partially influence content of the project. The intellectual property rights regarding outputs of

each project should be clarified and accessible by the companies involved. The projects' goals should have prospective commercial benefits for the companies.

Regarding the type of SMEs to be supported at EU level, start-ups and smaller, innovations pursuing companies (up to 50 employees) should be enhanced, since these companies are often considered to be the most innovative. To facilitate SME activities in the EU programmes, it is advisable to reduce time and workforce capacities needed to run the projects – by reducing paperwork particularly in application and execution phases of the projects.

As for lighter, more open and faster implementation schemes more bottom-up projects, inclusion of aspects of marketing as well as final commercialization of products, higher financial support (now in eco-innovation the EU contribution makes only 50% of eligible costs), less bureaucratic procedures and overall simplification of the approval process would be highly appreciated. A certain flexibility in terms of covered areas could be useful; with view to fast changing conditions emerging needs could be tackled in due time.

Because most of the projects carried out on EU level are based on international cooperation, it would be useful to provide a unified partner search instrument for each future CIP programme. That way companies interested in taking part in the CIP can more easily find and join a consortium preparing a project in their field of interest. This would also facilitate the entrance of new companies into the programme. Until now, in many cases experienced companies were more successful in obtaining funding which lead to a narrow portfolio of companies involved in EU level programmes.

Concerning the RSFF tool, unfortunately, the Czech Republic was not able to take large advantage of its use, as most of the organisations who could have considered a loan for the construction of research infrastructures do not have sufficient revenues to reimburse the loan in a timeframe acceptable for the EIB. The new framework could take into consideration the fact that not all Member States were able to use RSFF and CIP financial instruments (equity financing and guarantees), and try to analyse the reasons of this fact.

Whereas the results of the science for science activities are traditionally well reported in scientific literature, either on paper or by electronic tools, the science for society and the science for competitiveness should introduce tools informing on the progress achieved within them. Results and programmes should be continuously evaluated including an assessment of their impact. Such an approach should take the gender dimension into consideration in order to ensure that the impact of European policy making is gender fair.

According to a research made by the EEN in the CZ, very few project outputs of CIP and FP7 programmes are actually covered by any IPR protective measures. The reason is that the existing formal IPR procedures in EU are time-consuming,

expensive and largely complicated so that most of the SMEs tend to avoid them. Also, IPR related procedures like IPR enforcement are time and money consuming.

- **Strengthening Europe's science base and the European Research Area**

Without deepening the science base, Europe cannot meet in a long run either the requirements of the target oriented research or the industry driven research. Hence the Czech Republic supports the science *for science* activities running on the line of the European Research Council.

The CZ highly appreciates the **progress that the ERC achieved** during its short functioning. The ERC projects represent the top of global research performance. The CZ supports the raising of the budget for the ERC. The CZ also supports the ERC effort to introduce new instruments aimed at increasing application potential of results obtained in the ERC research projects. Moreover, we submit for consideration to introduce a further instrument, an “exploratory award” (EA) aimed at the preparation of the current “starting grant project”. The EA should be designed exclusively for the principal investigators who intend to realize their starting grant in an abroad research institution. We believe that such an EA can bring more young talented researchers into EU and simultaneously it can contribute to better exploitation of talents from the new Member States.

Generally, there is consensus in the scientific community to allow **open access** to publication where possible, but the concern is about the funding for such arrangements.

Considering the development of **human resources for research, development and innovation**, in addition to the funding of existing schemes of Marie Curie actions, a better coordination between DG Education and Culture, and DG Research and Innovation should be established, a status of a European PhD. student defined, a new tool for the support of mobility for tertiary educated technical staff of European RIs developed. Marie Curie actions and other early-stage researchers support schemes should pay close attention to support for work-life balance and dual career partnerships in European research and innovation. A similar tool to the Marie Curie Actions could be considered for the company research to enable innovative SME-related mobility. Companies with high innovation potential can exchange their experience in performing innovation activities. Companies with high potential can exchange their experience and/or best specialists in innovation. We are aware that some of the current mechanisms under FP7 allow for the mobility of SME's in a limited scale but a larger movement of new fresh ideas and skilled people across Europe may substantially contribute to the competitiveness of the EU industry.

The **research infrastructures including e-infrastructures** (RIs) of Pan European reach and significance should be identified and a stronger mechanism of support for **operational costs** and **transnational access based on excellence** by the EC

established. The role of ESFRI, as a leading forum in the process of defining and evaluating the RIs of Pan European reach and significance should be strengthened and redefined.

Considering the **international cooperation** we believe that the strategy of the EU should vary from state to state. Such an approach could be applied even to specific activities of the ERA e.g. to human resources or research infrastructures. In this context it will be important to define who will be made responsible to speak for the European Union on different levels. The international cooperation with non-EU countries should be supported primarily by EU institutions offices located in countries of strategic interest. Such institutions should provide consistent feedback on research, development, market and processes in their region of action. Specific support schemes should be created to enable direct technological cooperation of innovative EU companies with these non-European partners. Such network of institutions offices could be complemented by already existing networks (e.g. Enterprise Europe Network operates in 48 countries).

The number of tools in the new strategic framework should not increase. New tools should be introduced with utmost caution.

- **Governance**

The European Commission should particularly ensure effective coordination between science for society activities and science for competitiveness from inception of these directions. The synergies between programmes and activities as FP7, CIP, JTI, ETPs, LIFE+, EIPs, and LLP should be investigated and established.

The Czech Republic welcomes the **governance** of the FP7 through the existence of Programme committees, and would like to continue in the same or similar way, with the influence of the Programme committee members on the choice of priorities and the direction of calls under the new strategic framework.