REPUBLIC OF CROATIA
MINISTRY OF SCIENCE, EDUCATION AND SPORTS

Position

on

Green Paper
From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation Funding

The creation of a European Research Area (ERA) was initiated in 2000 to improve the coordination of research efforts across Europe and to avoid overlaps and duplications. Besides the construction of a space where researchers, technology and knowledge circulate freely, the ERA also facilitates the idea of an effective European-level coordination of national and regional research activities, programmes and policies, as well as initiatives implemented and funded at the European level. The Innovation Union proposes to set the end of 2014 as the deadline for achieving the goal of a genuinely unified European Research Area in which all actors, from both the public and the private sector, can operate and cooperate freely and, as a result, be more competitive globally.

In the context of forthcoming accession to the European Union and full integration in the European Research Area, Croatia has been facing the challenge of permanent alignment of its science system with the changes and developments at the European level.

Today's economic, social and environmental challenges are driving a profound transformation of our world. In the decades to come these challenges will increasingly affect our current patterns of living, working, learning, communicating, consuming and sharing resources. Several concurrent crises have unfolded in the last decade, concerning climate, biodiversity, fuel, food, water, and more recently, the global financial system. Accelerating carbon emissions indicate a mounting threat of climate change, with potentially disastrous consequences to humanity.
Croatia highly welcomes the current focus of research agenda on grand challenges, since it considers them the foundation of overall development and progress. Also, Croatia is very interested in addressing the great sustainability challenges, since it bears responsibility for the Adriatic Sea which largely affects the eco-system of Croatia, but also those of the entire Europe and beyond. Similarly, addressing climate and energy challenges is extremely important for Croatia as a tourist country that wants to maintain a clean environment and develop eco-agriculture as its market niche.

The next framework programme should address these challenges in a way which enables all countries in Europe to draw benefit from research, build societies of social well-being and prosperity, and bolster private sector competitiveness and sustainable development. Transition to a green economy has been identified as one of the major challenges around which Europe should join actions and forces, but not only on the short run.[1] A set of issues, such as climate change, energy, food, health, sustainable consumption and production, freshwater, emerging technologies and demographic changes, should be given more attention and resources in the future Framework Programme. In this context, the **industrial** policy and development of SMEs should be given more prominence. Technology sectors

[1] It constitutes a strong case for governments as well as the private sector to engage in this transformation. For governments, this transition would involve levelling the playing field for greener products by phasing out harmful subsidies, reforming policies and incentives, strengthening market infrastructure, introducing new market-based mechanisms, redirecting public investment, and greening public procurement. For the private sector, this transition would involve responding to these policy reforms and incentives through increased financing and investment, as well as building skills and innovation capacities to take advantage of opportunities arising from a green economy.

should be assisted in developing knowledge in generic technologies, such as biotechnology, ICT, and nanotechnology, and applying it in medium-tech and low-tech industries.

The structure of the future Framework Programme should contribute to facing grand challenges and solving societal needs. Therefore, the development of industry aimed at advancing manufacturing in line with the concept of "smart specialization" should be listed as a grand challenge. Also, we believe it is necessary to put more effort in encouraging the design of smart specialization processes for EU regions (especially at NUTS2 level and by group of countries).

At the same time, social sciences and humanities (SSH) will play a key role in facing challenges on the level of their social implications and will analyse possible solutions to these challenges. SSH ascribe meaning to technological progress and innovation competitiveness and reflect upon social ramifications of the technological and economic globalisation. The R&D sectors will not solve problems of social inequalities occurring as an imminent consequence of the transition to knowledge-based society and linked to technological backwardness, structural unemployment, concentration of financial power in a small number of countries, narrow interests of multinational companies, etc. Therefore, the importance of SSH in addressing global challenges should grow rather than decrease.

In line with the Europe 2020 strategy, Europe's main goal is to increase competitiveness and achieve smart, sustainable and inclusive growth.

Modern economies increasingly rely on knowledge and innovation. Businesses have to continually develop their products and services if they are to remain competitive. Keeping up-to-date with rapidly changing markets, technologies and competitors is a critical component both for business success and more sustainable futures. Creating a positive climate for innovation in all organisations – be they public, private or voluntary – has a crucial role in stepping up productivity.

We should, therefore, focus on increasing research capacity by investing in the development of R&D projects, including R&D infrastructure and world-class scientific research and know-how centres, with the aim of supporting the development of a knowledge-based economy in Croatia and generating new business activities by encouraging and commercializing innovation as well as the development and use of new technologies.

This involves development and investment activities directed towards key development and priority areas in R&D. In addition to R&D projects in companies and science institutions for research result transfer, investments should be made into modernisation of R&D equipment. Development priorities should be determined based on the principle of excellence. Consequently, due to the added value gained through international cooperation and to improved material conditions in these organisations, participation in other EU programs, and in particular in the Framework Programme, will intensify.

The future common framework programme is expected to contribute to further strengthening of the ERA. In this context, we give the following general observations which we would like to be considered in elaborating a formal proposal for the Common Strategic Framework.

- **Simplification** of the programme's administrative and financial procedures is crucial in ensuring the greatest possible benefit for the research community. Moreover, simplification and continuity principle should be applied to the overall structure of the programme and its funding schemes. This will ease the procedure for beneficiaries as they will continue to operate in a system they are familiar with.

- Rather than funding large-scale projects exclusively, **small to medium-scale cooperative projects** should be retained in order not to exclude smaller actors. In that respect, appropriate instruments should be designed for capacity building, targeting smaller actors and helping them fully exploit their potential.

- It is vital to preserve b**ottom-up funding** in the new programme to balance out top-down activities. There is a need for a support of the initiatives and project ideas coming from the research community. This kind of support will boost flexibility and competitiveness. Also, a bottom-up approach should be seen as a key to capacity building in the countries and regions lagging behind the main actors.

- The emphasis on human resources should be maintained through continued implementation of **Marie Curie Actions**. This instrument should provide a full support to researchers' mobility and career development, addressing issues of social security, pensions and employment conditions. By ensuring free movement of research and knowledge, the "fifth freedom" should be implemented across the European Research Area.

- Within the Innovation Union and the ERA, **COST and EUREKA** should supplement the new strategic framework. Their activities should not overlap and should be mutually supportive. The roles of COST and EUREKA in contributing to the ERA should be made clear and the benefits of the new programme should be ensured and assessed on the basis of their added value.

- We notice a constantly increasing number of **initiatives and bodies related to the ERA**. It is essential that each body has an accurately defined mandate and that the work carried out by each body is complementary. A high level of coherence across all ERA-related bodies and instruments should be ensured and further fragmentation is to be avoided.

- More focus should be placed on research output and uptake, contributing more broadly and significantly to innovation, competitiveness, growth, social cohesion and sustainable development. Also, it will be increasingly important to explore and make synergies with other instruments, programmes, policy areas at the regional, national and European level, as well as to integrate the global dimension (transnational cooperation to further stimulate interdisciplinary research and cross-sector collaboration for the future involving thematic areas).

- International cooperation with "third countries" **and** opening up the ERA to the rest of the world is inevitable and requires the definition of a joint strategy with specific priorities on bilateral, multilateral and regional bases, in order to start the cooperation with respect to global challenges on the global level.

- The results and outcomes of EU funding activities should be made more visible and presented to the public. Success rates in many areas of FP7 are relatively low. The future programme, in correlation with other EU instruments (such as the Structural and Cohesion Funds), should do more to foster capacity building in all areas.

Innovation

Successful establishment of Europe as a knowledge-based economy depends on accelerating development and quality transformation of the science and technology sectors. These steps should be taken in achieving this goal:

- intensify investments in the research and development sector based on the criterion of excellence;

- intensify investments in research and innovation infrastructure;

- facilitate transformation of those systems to increase their efficiency;

- encourage research partnerships;
- promote private sector research and development projects aimed at the development of new products and processes;
- strengthen the support system for ensuring the quality of young researchers;
- build strong connection between academia and industry;
- promote joint research and development projects by research institutes, universities and the business sector with a view to achieving more efficient and productive knowledge transfer and establishing a favourable climate for their joint development through the creation of clusters of excellence;
- support and encourage mobility - free movement of researchers, knowledge and technology;
- establish of a common database for partners search for EU programmes/projects;
- simplify the application and evaluation processes, simplify the language;
- consider the European application for funding at the national level as well if the purpose of the programme is the same;
- introduce technology transfer classes/courses to study programmes for future scientists/researchers to raise the awareness of this issue early on.

In order to achieve greater competitiveness of all eligible sectors of Croatian economy, it is necessary to develop a culture of innovation in the region, increase the role of the R&D sector in the economy, encourage collaboration between industry and academia and support technology transfer and commercialisation of innovation. Creating conditions for implementing technology transfer and developing support for a knowledge-based economy should result in a considerable improvement of the position of Croatian economy and its sectors on European and global markets.

In the process of increasing competitiveness SMEs have a central role, since it is expected that the main orientation of new strategic RTD programmes will be on industry's commercialisation of research results. The Ministry of Science Education and Sports (MSES) therefore strongly supports investments in early-stage technology-based companies through venture capital. In this process, the private sector can have significant economic and financial effects. The MSES welcomed the establishment of the Western Balkans Technology Fund (a venture capital fund focused on technology in the Western Balkans) which can unleash the potential in the region with low national and private R&D funding and a low level of SME and industry participation in research activities. Early focus on the market ensures stronger competitiveness for new businesses. Market orientation should therefore feature prominently among the framework programme's objectives.
Venture capital should not be seen as an independent policy but rather as a policy linked to the Common Strategic Framework by instruments like Risk-Sharing Finance Facility (RSFF) and with calls for entrepreneurs, stimulating cross-border national venture capital with the European Investment Bank top–ups programme.

European Research Infrastructures
Europe has taken a major step forward in the development of a more coordinated approach for policy-making in the field of Research Infrastructure with the establishment of the European Strategy Forum on Research Infrastructures (ESFRI). Developing world-class research infrastructures is one of the key initiatives and an essential element to the reinforcement of the European Research Area. To continue this positive development, the support of RIs should be even more visible in the future common strategic framework for EU Research Innovation and funding.

Societal Challenges

Our main concern is related to Croatia's ability and the ability of other EU candidate and potential candidate countries (enlargement countries) to participate in the Common Strategic Framework. Croatia as an enlargement country and technology follower is in a similar position as the other counties which have recently received a full-fledged membership in the ERA. The main statements are provided in the Joint Position Paper on the future RTD Programme in Europe by „the EU Enlargement Countries Associated to FP7" which, among other topics, touches upon the issues of low success rates and low participation in FP7 as a result of various factors, including: imperfections of human capital, limited research infrastructure capacities, limited administrative capacities, scarce financial resources, restricted involvement in ERA governance structures and low level of SME and industry participation in research activities. Therefore, we fully endorse the Joint Position Paper Recommendations on the Future RTD Programme of Enlargement Countries.

EU research and innovation policy must be organised in such a way to **combine cohesion polices with research and innovation policies** through /1/ models of financing, /2/ specially tailored programmes for technology followers and /3/ formulation of priorities that respects national research needs. Models of financing, such as SEE.ERA.NET, which pool member and not-member states into consortiums with common interests (which are beneficial for the entire EU) is a good example. The enlargement countries still need programmes in which competition is not so fierce and where they can build knowledge and administrative capacities so they can compete in framework programmes on the same footing with the member states.

This is important since participation in framework programmes is indispensable in achieving scientific excellence. "Outsiders" are cut off from transnational cohesion processes in scientific research, which provide participants with co-funding, but, even more importantly, with insights into scientific trends, standards, culture and the know-how for conducting high-level scientific research. They also provide synergy in research and co-evolution of science policies, enabling researchers from the enlargement countries to contribute actively to each stage of a research project, from establishing common research problems and visions to sharing standards, protocols and procedures. In a nutshell, active participation is the best way to learn and acquire research skills necessary for conducting high-quality research. Therefore, the science policy of the European Union must prevent the subordination of integration policy principles by the exclusionary criteria of scientific excellence.