

European Research Area A MAASTRICHT FOR RESEARCH

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Research and innovation are at the core of the Europe 2020 agenda which aims to get Europe out of its current crisis. For the first time, the Lisbon Treaty empowered the European Union to achieve the European Research Area (ERA). Although ERA was announced as a political priority by European institutions and explicitly added to the Lisbon Treaty, it is still far away from its realization. Completing ERA will require the support and effort of all Member States, European Institutions, and the stakeholders committed to research.

As stated by the Council in its progress report of 2010 on the realisation of ERA, "much progress has been made, but the fact that the same issues as at the start of ERA in 2000 remain at the forefront of the policy debate shows that there is still a long time to go". Therefore, **a new ERA framework is needed to bring ERA to a more ambitious level.**

With the communication "A Reinforced European Research Area - Partnership for Excellence and Growth" of July 17, 2012, the EC acknowledged the heterogeneity of performances and organization of research systems at the national level and provided a set of priorities. The path chosen in this Communication consists of a framework of national reforms on a voluntary basis, aiming to remove some obstacles to internationalization, to create more cooperation (European peer review, greater mobility of researchers, involvement of stakeholders), and to form intra-European competition. This framework should be completed by 2014, as stated in the conclusions of the European Council of March 2012, and should rely solely on political arrangements between Member States, rather than on EU directives.

The construction of ERA has to result from a European initiative. In doing so, single MS actions must be combined with EU orientation and incentives. Therefore, **the European Parliament takes political initiatives to strongly propose the issue of the realization of the ERA to the European public opinion.** Based on the recent ERA communication, the most far-sighted and courageous approach should take the form of directives and, in the long run, of a constitutional commitment of European research in the next legislature 2014-2019.

In this context, **the European Parliament should be the promoter of actions and initiatives to look for consensus within the European scientific community and institutions. Namely, the time has come to speed up and boost the European Research Area whose completion requires a strengthened political commitment, both at national and EU levels. Research needs to be seen not as a cost for the Union, but rather as its best investment for the future.**

The inclusion of research actions in the "Country specific recommendations" that the EU is now sending every year within the new "European semester" is going in the right direction, as it is tackling national reforms with a European perspective. However, more binding instruments should be launched in parallel to complete these recommendations. Hence, an ERA framework Directive could be the appropriate, ambitious instrument to lead all Member States, or at least a group of pioneers under an enhanced cooperation, to launch a *Maastricht for Research* and to make ERA a reality.

MOST IMPORTANT GAPS FOR THE ACHIEVEMENT OF ERA

Low level of investment and human resources

After three centuries of near monopoly on research and seventy years (from the 1930s to the end of XX century) of shared leadership with the United States, Europe is struggling to keep up with old and new competitors.

The level of investment in research and development in the EU, during the period 2008-2010, was low compared to the rest of the world. In 2010 (Source of data: Eurostat 2012) the gap widened: investment fell 2.0% of the European GDP, while in the US remained at 2.68% and Japan at 3.39%. In addition, in the same year, European private investment in R&D was lower than in the rest of the world: 1.23% in Europe against 2.02% in USA and 2.70% in Japan. This trend is confirmed also by looking to human resources as shown by the Unesco Institute for Statistics in 2009, with an increase of the number of researchers in Asia and a corresponding decrease in Europe. In 2007, 41.4% of the world's researchers were based in Asia (in 2002: 35,7%) while only 28.2% of the world's researchers were in Europe (in 2002: 32%).

Fragmentation and low coordination

Europe must overcome another big obstacle -the fragmentation of research policy- for restoring its leadership position in the knowledge society and knowledge economy. In each of the major countries that compete with Europe - primarily United States and Japan, but also Brazil, Russia, India, China (BRIC) - research and technological development policy is coordinated by a single centre. On the contrary in Europe, research policy is carried out by the European Commission and, at the national level, by the 27 MS. This explains the heterogeneous performances in science and technology across Europe and the difficulty of organizing potential holistic approaches at the European level. Moreover, the complexity of too many financial schemes, conflicting systems, and administrative burdens weaken and sometimes prevent, the process of development and circulation of knowledge in Europe.

In any case, the level of funding explicitly coordinated among different countries and/or available for cross-border cooperation remains relatively modest in Europe, both in absolute terms and in comparison with funding allocated on a purely national basis. Joint programming -one of the most interesting initiatives launched in recent years to enhance cross-border operations- is highly valued when the countries involved engage stable collaborations. However, **the lack of a long-term political commitment by the MS is the major difficulty for transnationally coordinated research, beyond the EU provision.**

Knowledge application

Europe must innovate methodologies and processes for promoting the application of research results to all its economic and social components. This is essential for the development of new lifestyles that contribute to the functionality of the whole

European system. Improving knowledge sharing between universities, public research organisations and industry is essential for ensuring that publicly funded research results contribute to economic output and can effectively support innovation and the development of new competitive services and products. However, strategic and comprehensive approaches to research results sharing in Europe are not yet common and in many instances there is insufficient awareness about this topic. Academia needs to develop strategic partnerships with the private sector, developing effective collaboration channels on the issue of the University third mission. Moreover, academic research should benefit from the initiatives that are set up by industries such as Joint Technology Initiatives (JTIs).

This commitment has to be placed at the centre of every project for the future of Europe and should be regarded as the engine for an innovative and socially cohesive society.

Research Infrastructures

Several EU measures have been adopted to ensure that Europe supports the use of its present large and excellent endowment of nationally owned Research Infrastructures and the development of newly needed pan-European Research Infrastructures of strategic interest. In this respect, focusing and making the best use of the financial support provided by the EU framework programmes will be determinant. The action of ESFRI, the European Strategy Forum for Research Infrastructures should be strengthened and focused to the support of improved policy-making by international and independent "peer review" evaluation of existing and new infrastructures in an overall strategic landscape. This should accompany the implementation of roadmaps and aim at the best service of European researchers while increasing the attraction of the best researchers at international level.

Research careers and mobility

The prerequisite for an effective ERA is the **achievement of a full freedom of movement of researchers**, which is still incomplete. ERA has to be pervasive, well connected and organized for researchers to easily move within Europe, where and when their knowledge and skills would require it. Last but not least, the realization of an effective ERA will also contribute to the attraction of the best non-European researchers. The lack of portability throughout Europe of publicly funded grants is the most important impediment, while the lack of open and transparent recruitment procedures could represent one of the main barriers to mobility. Still more fundamental obstacles are related to social security and pension rights, as well as to the lack of recognition of diplomas awarded by the MS in other countries. The experience of the ERC (unrestricted competition based on excellence only, peer review, bottom-up approach) is already changing the European landscape and some member States are taking the inspiration from its model in their national funding agencies. But all these initiatives are based on a voluntary approach of MS.

The Marie Curie programme, by supporting the complete career path - from PhD training, through individual fellowships to international and intersectoral staff exchanges, and ensuring attractive mobility opportunities and working conditions, has strongly contributed to training a generation of "European researchers" and its goals should be further promoted both at EU level under Horizon 2020 and at national level.

In the future, greater attention should also be given to exchanges of researchers between academia and industry. The Europe 2020 strategy of the EU states that increasing the level of investment in research to 3% of GDP will require over one million more researchers. The private sector is foreseen to be the source of much of this additional R&D investment, thus employing more researchers with both a strong

academic background and the ability to translate that knowledge into products or services. Therefore skills for employability are vital in the context of opening non-academic careers to PhD holders.

PRIORITIES AND KEY-ACTIONS

The European Union has to be more ambitious and – by implementing binding targets for Member States in relation to investment in research and by defining a ERA Framework Directive – has to set the **goal of a true Maastricht for Research**.

The discussion and the political initiative promoted by the European Parliament should be focused in particular on the following priorities:

1. *De-fragmentation*. Coordination and consistency between national and EU research programmes are required in order to have common priorities for European strategic objectives. A stronger political commitment by the MSs is certainly needed in order to support such a goal. In this respect, an action at EU level (e.g. through the tool of a **ERA directive**) could represent an important contribution to bind and orient MS decision. Coordination is also necessary to carry on with an organic strategy of internationalisation of European research, making best use of potential global partnerships.
2. *Cross-border cooperation*. This goal requires to implement minimum rules for ensuring interoperability of funding schemes, such as common principles and standards, rules for grant/funding applications, evaluation and reporting, as well as synchronisation of calls for proposals. In particular, there is a need for a more efficient ERA instrument for pooling national resources, in order to finance public as well as private research, especially in the context of Joint Programming Initiatives (JPIs).
3. *Research Infrastructures*: A better synergy between national, EU public research funding and Structural Funds should be implemented both for an optimal operation and exploitation of existing research infrastructures and for the realisation and sustainability of the new ones. The access of industry as user and as co-developer of new technologies should also be facilitated. The EU has to take the lead for supporting the open access operation by the national owners and to help the organisations of these infrastructures to be open to international evaluation and competition in view of raising the research quality within ERA. Member States must be encouraged to take the European Strategy Forum for Research Infrastructure (ESFRI) as guidance for defining their own national roadmaps.
4. *Knowledge sharing*. Cooperation between industry, public authorities and academia is essential. To this extent, PPPs (Private Public Partnerships) should be developed and increased.
5. *A European Research career*. The attractiveness of a research career, at every stage should be boosted. The mobility of researchers is essential for the realization of a future generation of European researchers. Consequently, it has to be facilitated through the implementation of a set of appropriate measures, such as portability of national grants, coordinated systems of social security, transparent publication of competitions, implementation of the Charter and Code of Conduct for researchers etc. All researchers, including early stage researchers/doctoral candidates, have to be recognised for the contribution they give and treated as professionals in every EU country. MS should endeavour to

create recruitment and employment conditions of researchers more and more comparable in order to achieve the long-term goal of a single European system.

6. *Innovative Doctoral programmes.* Schemes and actions aimed at the realisation of transnational innovative doctoral programs, such as those within the Marie Skodowska-Curie Actions, should be strongly supported, again in view of creating a new generation of European researchers, by awarding the involved institutions with a proper EU recognition. This should be particularly for interdisciplinary and industrial doctoral programs that are maintaining the basic goal of a PhD (i.e. forming “to” research “through” research) and are able to promote and to incentivize stable and balanced relations between academia and the private sector. This would be of benefit for the whole three levels of the Bologna Process, *allowing better employment rate* for either bachelor or master degrees.
7. *ERA Mark.* It must be supported the proposal of awarding with an ERA mark research performing organizations and programs able to give significant contributions to a rapid implementation of ERA.