



Comments by CNRS, CSIC and MPS to the European Commission's Green Paper on "The European Research Area (ERA): New Perspectives"

I. Introduction

Three major European Research Performing Organizations (RPO) focusing on basic research, namely the Centre National de la Recherche Scientifique (CNRS) of France, the Consejo Superior de Investigaciones Científicas (CSIC) of Spain and the Max Planck Society (MPS) of Germany, welcome the European Commission's initiative to issue the Green Paper on the European Research Area (ERA), assessing the progress made within the Lisbon Strategy, proposing lines of action for achieving the ERA and launching a dialogue among all stakeholders on the questions raised in the Green Paper.

In this document, the three Organizations would like to bring to the attention of the European Commission one aspect of European research that is regrettably missing from the original edition of the Green Paper on the ERA, namely the role and importance of the Research Performing Organizations in the European research landscape and as engines of European integration. This omission seems to arise from an incomplete analysis of the European research landscape.

Another issue CNRS, CSIC and MPS feel necessary to point out is a differentiated view of the phenomenon of "fragmentation": Duplication of efforts in science does not constitute "fragmentation" but is important for creating synergies, complementary viewpoints, exploring different aspects of a given subject as well as validating results, provided that work is carried out with transparency as well as in open competition. "Fragmentation" is the lack of communication, resulting in compartmentalisation, lack of transparency and inhibition of open competition. "Coordination" to "avoid duplication" is not likely to lead to breakthroughs. The highly successful North American research model does not rely on stronger coordination of research efforts than Europe, but fosters quality through open communication, transparency and open competition.

In this context, CNRS CSIC and MPS welcome the establishment of the European Research Council (ERC) in the 7th Framework Programme as an important part of the ERA and as the recognition of frontier research as part of the innovation chain. The ERC will contribute to building the ERA through transparency and competition, with its independence guaranteed in the long run by an autonomous governing structure, like that of other successful agencies, such as the DFG of Germany or the NIH in the US.

II. The research performing organizations in the European landscape

One of the central features of the European research landscape is the presence of strong Research Performing Organizations (RPO), alongside the universities and the Research Funding Agencies (RFA). The roles of these three types of institutions are quite distinct: RPOs focus on research challenges based on a long-term vision of society's needs, universities have education as their main mission and engage in research, while RFAs provide funds to academic research performers ensuring quality through competition.

European RPOs make up a rich and diverse variety, ranging from organizations dedicated to specific thematic areas (for example, medical or marine research) to multidisciplinary organizations carrying out research in all areas of knowledge, as well as organizations covering complementary parts of the full spectrum from basic research to industrial development. RPOs are instruments for long-term research strategy in Europe that combine strategic vision with operational capabilities and are thus complementary to the role of RFAs, whose horizon is that of the projects they fund (i.e. 3-5 years), permitting them to adapt rapidly to the changing research landscape.

In some European countries, such as in Germany, France or Spain, the RPOs assemble a large fraction of the research community and produce the major part of the country's excellent research. As an example, most high-level scientific awards, including Nobel prizes and Fields medals, of the last 50 years in Germany, France and Spain are associated with the Max-Planck Society, the CNRS and the CSIC.

The central role of RPOs in European research can be appreciated by their relative budgetary weight within EUROHORCs, the organization that assembles the heads of 37 European RPOs and RFAs. Out of a total budget of 18 B€ managed by the member organizations, the 14 RPOs manage 60% of that budget. Also, according to OECD figures, RPOs are responsible for approximately 40% of the total cost of public sector R&D in Europe.

In view of the above discussion, it is surprising that the Green Paper seems to overlook the role of RPOs in its vision of the ERA, as instruments of long-term research strategy in Europe. Indeed, when describing the research landscape the Green Paper states that *"Most European institutions lack critical mass and, within the confines of sub-optimal national systems, have difficulties meeting expectations with the resources available to them."* If in this statement the term "European institutions" refers to the RPOs it is clearly inaccurate. There are certainly instances of "lack of critical mass and dispersion of resources" in Europe due probably to a proliferation and specialisation of small institutions. However, in view of the key role of RPOs in Europe, the "defragmentation" of research in Europe by assembling these small institutions requires at the same time the full participation of RPOs, even if they themselves do not suffer from these shortcomings.

III. Response to the Green Paper

The three European Research Performing Organizations welcome the intention of the European Commission to assess progress made thus far in the realization of a European Research Area, and to propose lines of action for making the ERA a reality. The debate initiated by the Green Paper is important for facilitating discussions with the various political, economic and research bodies concerned, for examining the research policy initiatives needed to formulate harmonized objectives and for implementing these initiatives via the competent bodies in support strategies and mechanisms.

Unfortunately, the Green Paper does not include a discussion on the legal framework for the continued development of the ERA. According to the relevant articles of the EC Treaty, research policy falls within the area of responsibility of the Member States, while the Commission, whose competency includes the economic competitiveness of Europe, deals with research through the Framework Programs and other measures that derive unambiguously from the EC Treaty. At present, this does not include either the coordination of research in Europe or representation in research-related matters. RPOs are ready to engage in the debate on the future of research in Europe launched by the Commission, as they are key stakeholders in the knowledge economy and essential contributors to the ERA. A central instrument in this process will be the "Open Method of Coordination" which already is used by the member states and which might gradually be extended to include other stakeholders in the ERA.

A. The research infrastructures

It would be meaningful for the EU to coordinate and co-finance large infrastructures that cannot be realized at a national level. It must, however, be ensured that both decision-making and responsibility are in the same hands: the EU may only play an active part insofar as is commensurate with its financial participation. Implementation is a real challenge. Up to now the Commission, after independent identification of the different projects (through ESFRI), has mainly communicated with the Member States at the level of ministries. However, it must be stressed that it is the national agencies and research organisations that will be called *in-fine* to provide the majority of the resources for the projects chosen. The EU must establish a level of collaboration with the European national agencies and RPOs before agreeing on a common policy and implementation plan, associating also regional authorities who are decision makers for EU cohesion policy instruments.

Moreover, provision should be made to include new facilities and infrastructures being developed by member states within the Infrastructures identified by ESFRI. While the ESFRI approach should be continued for large infrastructures, a European policy on lower scale infrastructures should be developed in parallel (mesoscopic instruments 7 -20 M€). While the level of funding may be supported by a single major member state, such policy will avoid duplication of resources and ensure efficient management of funding while providing access to other member states.

A European framework to facilitate the emergence and operation of new forms of research infrastructures of pan-European interest is needed. Tax (VAT) and mobility of personnel problems have to be solved in flexible schemes that keep the acquisitions of existing pan-European institutions (e.g. ESRF, CERN, ESA, ESO) while avoiding the high-level agreements needed to implement them (intergovernmental treaties etc). However, there are different types of infrastructures of European interest, ranging from simple associations of funding agencies bound by memoranda of understanding, or the establishment of independent civil structures to large intergovernmental entities. A common management scheme would be very heavy and inapplicable in some cases. A set of solutions with European character should be prepared and proposed for the establishment of new infrastructures.

B. The RPOs as engines of European integration

This section, which focuses on the role of European RPOs in building the ERA, presents comments to two particular "dimensions" of the Green Paper: (3) Strengthen research institutions, which in the initial version of the Green Paper focuses mainly on linking universities and (5) Optimizing research programmes and priorities, which focuses on linking funding agencies and programme owners. The RPOs would like to bring forth their role in these two dimensions, to underscore their commitment to building the ERA by connecting with each other and with all the other research players, and to propose instruments for promoting these connections at the European level.

While RPOs were initially founded to promote national goals, their own needs and, above all, the borderless nature of scientific research have led them to establish operations in neighbouring and far-away countries, forge alliances and launch joint ventures to carry out research collaboratively outside their national borders. As examples we can mention the CSIC and Max Planck institutes in Italy, the CNRS "joint research units" in Austria or the Netherlands, or the "associated laboratories" established on a project basis.

Thus, as it happens with the large national industrial companies that, over the last four decades, expanded beyond their national borders to become European and even global players as soon as conditions permitted them to do so, in the same way the large national research performing organizations, such as the Max Planck Society in Germany, the CNRS in France or the CSIC in Spain, are adopting a European logic and are becoming an engine of European integration and a force for overcoming fragmentation along national or regional lines, since by acting toward the consistency of their own organisation they are an accelerating factor for building the ERA.

The integration of the European dimension in the strategy of the RPOs is particularly visible in their involvement in collaborative projects sponsored by the European Commission within FP6. Indeed, in Germany, France and Spain RPOs were collectively the largest recipients of FP6 contracts, accounting for 44.3 % of receipts in France (compared with 10.5% for universities and 36.8% for industry), 35.3% of receipts in

Germany (compared with 26.2% for universities and 34.1% for industry) and 32% of receipts in Spain (compared with 29.3% for universities and 28% for industry).¹

While the actions of the Commission serve to initiate and catalyse the structures that will lead to the ERA, some RPOs are already deeply engaged in the very actions that the Commission wishes the ERA to accomplish and other RPOs are gearing up to such joint actions, building up and at the same time benefiting from the establishment of the ERA.

1. RPOs are establishing joint operational structures and promoting strong collaboration among their researchers, thus creating bridges throughout Europe.
2. RPOs are deeply involved in building and managing world-class infrastructures and making them available to sister organizations throughout Europe, thus contributing to a solid European base for carrying out research.
3. RPOs are strongly pursuing excellence, as attested by their Nobel prizes, Fields medals and other distinctions, thus becoming the flagships of European science.
4. RPOs actively work in sharing knowledge, particularly with industry, thus acting as engines of innovation in Europe.
5. RPOs work on a bilateral basis to coordinate their long-term vision, their strategies, programmes and priorities, thus creating synergies and exploiting complementarities throughout Europe.
6. RPOs are open to the world through collaboration, as attested by their networks and offices abroad and by their joint actions with their international partners, thus becoming global players in research, for the benefit of European science.

Thus, RPOs, beyond their initial national orientation, act on a European and world scale and structure actively the ERA through their own regional, national and transnational instruments and funding schemes, which complement efficiently those of the European Commission. In addition, RPOs have incorporated the three trans-dimensional concerns (Science & society, Competition & cooperation, European diversity) in their mode of operation: they are aware and try to address societal needs, they compete on the European territory and cooperate in order to foster excellence in European research, and work towards preserving European diversity by being multi-disciplinary and complementary.

In connecting European research institutions by strengthening universities without the implication of RPOs, which have a long tradition of collaboration across borders, may be detrimental to the competitiveness of the ERA. One model for bringing together small and large research players could be that of regional clusters such as those created recently in France, Germany or Spain². These regional clusters that integrate small local players and large RPOs may serve as a model for gathering critical mass in a specialized field, creating European centres of excellence preserving the identity of universities and research organisations and bringing them in contact with industry.

¹ Data from "La lettre européenne de l'ANRT" No. 222, June 2007

² For example RTRA and "pôle de compétitivité" in France, the « Excellence Initiative » in Germany and the "Regional clusters" in Spain.

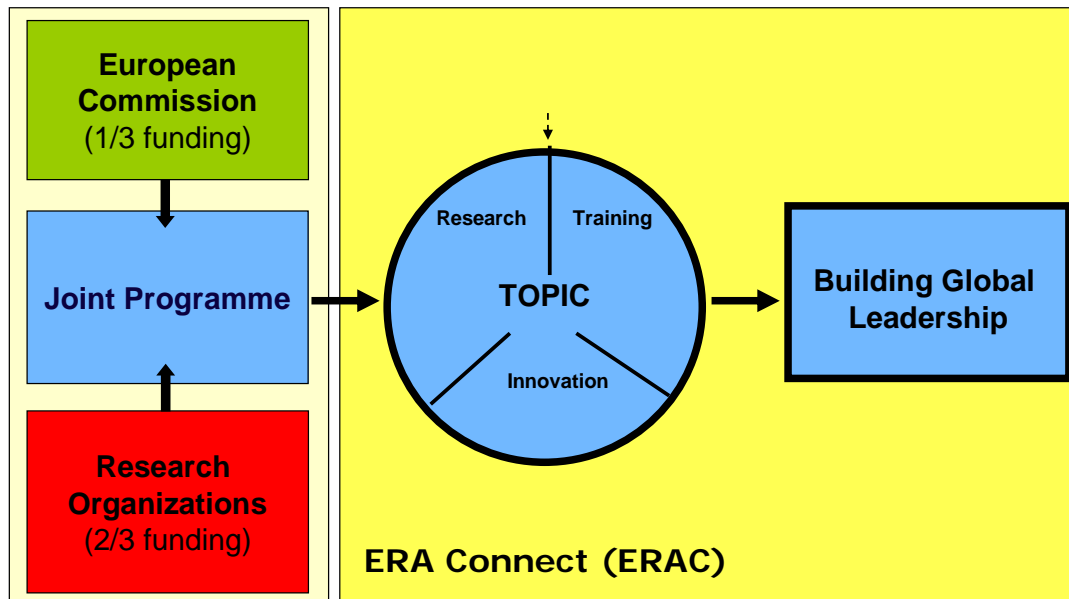
In its endeavour to connect durably the different players of the ERA into a coherent Europe-wide whole, the Commission has promoted two particular instruments focused each on a specific category of players: the Networks of Excellence, that bring together researchers in a particular thematic area throughout Europe, and the ERANETs that assemble funding program “owners” (such as Research Funding Agencies, Ministries, or Regional authorities) to run a joint program with Europe-wide coordination. CNRS, CSIC and MPS believe that a third type of instrument is needed to connect durably some of the central (but “forgotten”) players of the European research landscape, the RPOs. Thus, the three European Organizations would like to propose a scheme for connecting RPOs, tentatively named “ERA Connect” (ERAC).

B.1. The ERA Connect Scheme (ERAC)

The ERA Connect (ERAC) actions shall aim to facilitate the launching of joint programmes between research organizations, based on its European added value in research. The field of the potential topic must be of major interest for the Community as a whole. The ERAC action may build on a pre-existing basis or coordination experience between the research organizations involved in the topic identified. ERAC schemes shall be expected, where appropriate, to facilitate the development of a more global approach to the topics addressed, involving also non European research organizations. ERAC nets are expected to have an impact on durable cooperation (connecting aspect) between the research organizations beyond the joint programme supported partially by Commission funding. The main objective of the ERAC scheme is to contribute to the development and growth of the ERA through the joint activities of the RPOs that overcome institutional fragmentation across the European Research Area.

Funding shall be operated according to simple procedures that maintain the focus on excellence, encourage initiative and combine flexibility with accountability. By using competition on the basis of excellence at the European level, the ERAC will add value to existing research actions that are presently carried out by national RPOs on a national level.

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The ERAC scheme shall develop and strengthen the connection of research activities by providing

- a framework for Research Organizations implementing research programmes, including large-scale initiatives with own resources, and
- Community financial support for pooling resources for the purpose of joint activities on a European scale and above.

ERAC aims at:

- developing common, trans-national research programmes,
- facilitating the mobility of EU researchers across EU and associated countries and third countries,
- designing common strategies for the exploitation of project-derived achievements and assistance to spin-offs,
- moving the ERA towards networking of research organizations in Europe and above.

The cooperation in ERAC will provide support to actions aiming at enhancing the complementarity and synergy between the European stakeholders of research. Under ERAC, national and regional organizations shall identify research activities they wish to coordinate or open up mutually. The participants in these actions are therefore

institutions that have developed a strategic vision of their actions or wish to come together to mutualize their foresight exercise in a specific area so they can embark together on a common program. The networking and the mutual opening of research institutions require a progressive approach. The ERAC scheme therefore shall have a long-term perspective and shall be flexible in order to allow for the different ways in which research organizations are organized in different Member States or Associated States. These actions shall require participants from 5 or 6 different research organizations with a clear financial commitment. In the ERAC actions, the Commission shall provide an incentive to the organisation of joint programmes between national or regional research organizations by 'topping-up' joint trans-national funding with a Community contribution, in the range of 1/3 of the total, similar to that of the EranetPlus scheme, provided through a grant on the basis of an agreement between the Commission and the respective ERAC. The total duration of a given ERAC action may be seven years and with a positive interim evaluation after five years up to ten years. Furthermore, ERA-Connect consortia shall be open to participants from outside Europe. The total planned budget of the joint programme for the first seven years may have a financial volume of at least 150 million €. Detailed rules for the management and evaluation in the funded trans-national programme shall be defined by the institutional participants. The ERAC scheme may be implemented for FP8 but some pilot projects, for example in the area of ageing, may already be foreseen in FP7.

C. Open access, knowledge transfer and the patent system in the EU

The three European Organizations support the Commission's comments on open access, knowledge transfer and the patent system. However, in order to achieve the goals set out in the Green Paper, some Community actions are still necessary.

The digital era for the first time creates the opportunity to establish a system of worldwide availability of research results and scientific publications. However, the digital era has also brought about new technical means to restrict access to information, since scientific publishers, as the derivative right holders, can create a new scarcity of scientific information. Numerous scientific organizations signed the "Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities" in 2003. This declaration envisions a system of freely accessible scientific information in compatible formats that could lead the way to reaching the aims defined in the Green Paper.

Nevertheless, copyright law still severely hinders the realization of the vision of the Berlin Declaration. Open access at large can only work if scientific authors are able to retain certain publication rights for themselves. In reality, however, they are generally forced to choose between licensing all rights to a publisher and not being published in a highly-ranked publication medium at all. Against this background, arises a conflict between research and copyright policies within the Commission, urgently needing to be resolved. For example, current copyright law should be evaluated with a view to finding ways in which the law guarantees scientific authors the right to publish their research results under an open access regime even if they have granted their publishing rights to a

commercial publisher. In order to avoid undue burdens for scientific publishers, publishers may be given a certain grace period after initial publication as well as the exclusive right to use their official citable format. Almost unlimited rights in the hands of the scientific publishers, however, do not meet the needs of a strong European Research Area. Thus, the three European PROs would like to suggest that the Commission introduce in the next edition of its Green paper a statement of the form:

"Current copyright law should be evaluated – and possibly amended – as to where it contains obstacles to reaching the aim of affordable and permanent access to scientific information."

European RPOs have been active in open archives (self-archiving for direct scientific communication), modelled after the successful example of the American base ArXiv. The general idea is to transpose to other disciplines, for instance life sciences or humanities, the techniques of pre-print filing that have become standard practice in physics and mathematics. The Commission could play a crucial role by expanding on this success and recommending its extension to the European Scale. The three European RPOs would suggest that the following statement be taken into consideration by the Commission: *"The European Research Area would greatly benefit from a generalized use of open digital archives, allowing authors to self-archive manuscripts of articles, before or after publication, as is already common in several disciplines. The movement towards open archives should be encouraged in all disciplines"*.

In the general field of intellectual property (IP) contract law, the law that governs the transfer and licensing of IP rights, legal uncertainty prevails: Essential differences between national legal systems provide a strong barrier to the international exchange of knowledge, technology, and culture. In the long run, there are two approaches to eliminating these negative practical effects of disparities between national legal regimes in IP contract law: The solution of choice would be a European regulation that creates an optional framework the parties can choose to govern their agreement instead of the diverse and incomplete national laws. An alternative could be the development of a model law. While this is the second best solution, the model law approach has probably the advantage that – in a European Union of 27 member states or more – it may be easier agreed upon than formal legislation in the form of a regulation. Unfortunately, we are far from achieving either of these two solutions: The already advanced efforts for the development of a European contract law do not address the particularities of IP contracts. The three European Organizations suggest therefore that the Commission take the following statement in consideration:

"Contract law in the field of intellectual property rights needs to be evaluated with a view to eliminating legal uncertainty and high transaction costs in the intra-European exchange of knowledge and innovation. New legal instruments should be considered to reduce existing barriers within the European Research Area."

CNRS, CSIC and MPS welcome the IP Charter proposed by the EU-Council on 25 June 2007 provided that this leads to a usable set of rules which in particular also take account of the needs of science. The RPOs are willing to contribute their particular expertise on the drafting of such rules to the discussion process. It should be stressed

that the IP Charter is encouraging for researchers only when the use of knowledge by the private sector is financially rewarded. This is a crucial point for RPOs in their relations with industry and the rule of a fair and equitable financial reward for use of public knowledge by industry should be officially recognised. Moreover, this rule follows the new State aid regulation³ on RTD which bans free transfer of results in collaborative projects between RPOs and industrial partners, since financial compensation that is not equivalent to the market price is equivalent to an indirect State aid.

The three European RPOs fully agree with the Commission that the introduction of a grace period in patent law is an urgent R&D specific issue. European researchers currently face a serious conflict after they have made an invention: The scientific community demands a broad discussion with a timely publication of research results. A patent application, on the other hand, requires that the invention has not been published before. A grace period would resolve this conflict, as it would protect patents from invalidation by publication of the invention by the patent applicant during a certain period prior to the filing date of the application. The Commission should therefore adopt a concrete proposal for the introduction of such a grace period in Europe.

IV. Summary and conclusion

In this document, the CNRS of France, the CSIC of Spain and the MPS of Germany have presented their common response to the European Commission's Green Paper on the ERA. The main omission the three organizations see in the Green Paper is the neglect of the central role and importance of the Research Performing Organizations in the European research landscape and the role they are already playing (and will continue to play) in the construction of the ERA. This omission was visible in all six "dimensions" of the Green Paper, and severely weakened the feasibility of its proposals. In this context, the three RPOs chose to address some of the issues that they felt were not adequately discussed in the Green Paper, namely concerning research infrastructures, the strengthening of research institutions, the optimization of research programmes as well as the issues of open access and knowledge transfer

The three Organizations would like to request that the Commission take their statement into consideration when revising the Green Paper, as they strongly believe that the contribution of the national research communities to building the ERA requires explicit inclusion of the RPOs in the Commission's strategy, since these organizations represent a large part of European public research and have already integrated the European dimension in their own strategy.

³ *Community framework for state aid for research and development and innovation (2006/C 323/01)*