

**Reflections of ALLEA  
on the EC Green Paper 2007**

**ALLEA | All European Academies**



## I Introduction

The debate on ERA has been intensified in 2007, especially after the EC issued its *Green Paper. The European Research Area: New Perspectives* (COM (2007)161). This was accompanied by a working document (SEC (2007)412/2) devoted to the present R&D situation in Europe. A preliminary analysis of the debate was published by the EC in September 2007.

ALLEA initiated a survey on the ERA and sought the opinions of its member Academies back in 2006. A synthesis of their views was set out in the February 2007 ALLEA Statement: *Challenges of the Future: Reflections of ALLEA on ERA* (February, 2007).

A High-level Conference on 'The Future of Science and Technology' was organized by the Portuguese Presidency and the EC in Lisbon, (Oct. 8-10, 2007). Commissioner, Dr. J. Potočnik stressed that this Conference should come closer to

- a shared and ambitious vision for ERA;
- a strong sense of co-ownership of ERA by all concerned;
- an idea of possible broad orientations for future actions;
- a momentum to move forward and deliver.

Summing up, the message from the Conference was – Member States should act! By extension this of course means that all Academies should act.

It is not only at the Conference in Lisbon that the problems of ERA have been discussed. Many international and national R&D institutions have now analysed the “Green Paper” and formulated answers to questions raised in it. ALLEA has also asked its member Academies to formulate their views, taking into consideration both the earlier ALLEA Statement and the Green Paper. In this Statement we present a synthesis of the views expressed concerning the debate on ERA by Academies and the various relevant ALLEA meetings.

## II Some conceptual considerations

1. Academies agree with many of the Green Paper positions: in particular as regards instruments, research mobility, sharing of knowledge and expensive infrastructure, fostering public engagement, creating an effective patenting system, stressing quality requirements, etc.
2. But Academies have pointed out several fundamental assumptions in the *Green Paper* which appear problematic and require clarification:
  - **Division of responsibility.** There is concern about the division of responsibility, and the relationship between the research policies of the EU and those of member states. The picture presented in the Green Paper gives the impression that the policy of the member states is subordinate to that of the EU, and that there should be more normative organization of European research based on formalised networks. Academies believe on the contrary that this relationship should be reversed: the ERA will be built by member states on the basis of their aspirations; EC instruments should be a catalyst to bring national, regional and European processes into synergy. This means supporting excellence in research through the ERC wherever it is found, streamlining Framework

Programmes enabling research mobility, supporting technology platforms, changing the regulatory environment, etc. These points, and especially the importance of national and regional activities and general regulatory frameworks, were emphasised in the ALLEA statement. We notice with pleasure that at the Lisbon Conference (Oct. 2007), Commissioner J. Potočnik laid emphasis on the same principles.

- **Coordination.** The *Green Paper* strongly emphasizes the need to coordinate the research policies of the member states. It must however be remembered that the European research system has national differences which in turn derive from different histories and traditions, institutional conditions and political priorities. This diversity is a real strength because it gives Europe a broad research base, and it should be turned to advantage. A first step in this direction is the discussion at the Lisbon Conference (Oct, 2007) in the Session 'Optimising research programmes and priorities'. The summary of this session emphasises that different types of research need different programming processes. The rules and regulation of FP7 show that the drive towards simplification should be continued, even though some significant results have already been achieved.
- **Fragmentation.** The *Green Paper* sees what it identifies as the 'fragmentation' of European research as a major problem and a weakness. Academies by contrast consider that diversity, as suggested above, could be considered to be one of the strengths of Europe. Research in large-scale international facilities (CERN, JRC, EMBL, etc) is certainly extremely valuable, but a major part of research is carried out by comparatively small research units working within a national university or research institute. The problem is not fragmentation, but the quality of research. Both member states and the EC should place particular value on it; this can be achieved by strengthening of the European Research Council.

### III Key issues in the Green Paper: the ALLEA view

- **The European Research Area Vision**  
This is presented in the *Green Paper* by listing key actions and horizontal concerns. What is lacking is any description of the concept of the knowledge-based society (the main aim of the Lisbon agenda), or any attempt to answer the question: "Why does research matter?" The ALLEA Statement of February, 2007 sets out the main characteristics of a knowledge-based society; the question about the significance of research is answered in the LERU paper of August, 2007. Academies agree with the LERU vision of a European Research Area: "a dynamic and creative enterprise capable of reinvigorating European research as a catalyst for social and economic benefit within Europe and a powerful contribution to development of a more just and sustainable global community. Europe must continue to be a major contributor of new intellectual capital." The European Research Area should balance creatively "the strengths of national systems with the opportunities offered by the scale of the European economy" and the EU system "should make a distinctive, enabling contribution that complements national and regional efforts that are well-adapted to national perceptions, priorities for capacity building, and are relevant to their individual economic, social and

cultural needs.” We strongly support the idea that the vision of the European Research Area must be formulated in such a way as to give new impetus to researchers and students, to society and policy-makers, to industry and innovators. Again the LERU statement is well-formulated and worth citing: “The European Research Area could aspire to develop as an interactive research ecology wherein regional-, national- and European-level processes interact in a coherent and optimal fashion, and wherein the ERA is not just that research activity funded by the Commission, but the totality of European research irrespective of its source of funding.”

- **Realising a single labour market for researchers**

Academies support the principles established in the European Charter for Researchers and the Code of Conduct for their Recruitment. The future of the European Research Area depends upon strong support for activities that promote young researchers. In this context, mobility plays an important role but as a means, not as an end in itself. The goals of any research that relies upon mobility must always be clearly determined, not least in relation to the diversity mentioned above. One of the main tasks for member states is in fact to support excellence as a prerequisite for mobility. The ERC has an important role to play here; structural funds should also be used to strengthen research centres in those member states where this is possible. The development of a single labour market in Europe is still however impeded by the wide diversity of labour laws and social systems. The process of bringing the legal and social systems of member states closer together must have a high priority.

Fostering the European Research Area and nurturing researchers cannot be successful without education at secondary and tertiary level (cf. statements by LERU and EUA). Education is a critical resource for the sustainability of society. Research and education (European Higher Education Area) play an integral role in the creation of knowledge, and are closely linked to the process of innovation (the European Innovation Area).

Academies would like to lay emphasis on the role of women in the European Research Area. Although the Framework Programmes took a positive stand against discrimination against women, much remains to be done over and above to the formally defined criteria. If women’s participation in science is to be fostered, the primary goal must be to bring about changes in the measures, barriers and handicaps that relate to maternity and child care.

- **Developing world-class research infrastructures**

Academies consider the process of identification of infrastructures at the European level and building of the *ESFRI roadmap* of extreme significance, and welcome all initiatives to advance this process. In defining transparent and common principles in the EU, it is essential to take account of national characteristics and priorities. Beside the pan-European and world-wide infrastructures needed for 'big science', localized infrastructures should be developed that take advantage of opportunities in the scientific community, respect the needs of a member state or of a region, and always have regard for excellence in research. The enhancement of localized infrastructures must not however encourage any profound structural divergence between the member states. The process of building and operating European infrastructures will inevitably entail problems in legislation including intellectual property rights. The ALLEA Standing Committee on Intellectual Property Rights is analysing such problems.

- **Strengthening research institutions**

There is strong support from all the stakeholders for the strengthening of research institutions. This is a complex problem - indeed the core problem of the European Research Area - involving excellent researchers, modern infrastructures and proper funding; nor must one forget databases, IT facilities, and links to society.

Academies note that there have been suggestions in the course of the debate that the system of research structures in member states should be centrally prescribed. The various national research bases certainly face challenges in dealing with global problems or interdisciplinary research, but they should be given opportunities rather than regulatory prescriptions. The recent ALLEA Conference 'Emerging Regional Cooperation' (Oct. 18-19, 2007), attended by many Academies from South-East Europe together with partners from other European regions, emphasized a shared concern about the regulation of research structures. In the Summary of the Conference it was stressed that there is no fixed model for research structures and that every country follows national experiences and traditions in order to enhance the synergy of national and international research. In this context, universities and research performing organizations (including some Academies) are working hard to find a balance between autonomy and political pressures; the latter include various forms of directive funding, the detailed regulation of student numbers, and the allocation of university places to different kinds of education.

The scientific community uses peer-review widely in order to evaluate institutions and funding applications. The need to harmonize the peer-review system is accepted, and the first steps have been taken (see the results of the ESF/EuroHORCs Conference on Peer-Review in Prague, 2006). Another issue to which the scientific community pays considerable attention is research integrity. Here ESF, EUA, ALLEA and others have initiated meetings and conferences in order to identify the strengths and weaknesses of research processes.

An attractive research climate is an important factor in strengthening research institutions. This depends in part on infrastructure and salaries, which in Europe are unfortunately lower than in other parts of the world ([cordis.europa.eu](http://cordis.europa.eu)). While there is obvious room for improvement in these respects, a good research climate also depends on having the right conditions for excellence, and career and funding opportunities for researchers together with facilities and access. The ERC scheme of starting grants is a step in the right direction, but not enough. The conditions for leadership in research must be created in every member state.

In the broader context, the funding of research institutes depends mostly on national research councils. The present situation shows that Europe (with the exception of certain Nordic countries) is far from the Barcelona target of 3% of GDP invested in R&D. It is not sufficient to blame industry for its small contribution towards achieving the targets. Experience in successful countries over all the world has shown that public funding must steadily be increased; only then will the partnership between public and private R&D be developed, and knowledge be turned into added value through innovation. This is exactly where the Member States must act (see Lisbon Conference, Oct., 2007) to give substance to their R&D strategies. The role of the EC in coordinat-

ing this process is important. The structural funds should be used more intensively for enhancing or building up research infrastructures.

- **Sharing knowledge**

Academies agree with the general principles of sharing knowledge set out in the 'Green Paper'. This is again, however, a complex problem for which education is of fundamental significance. The diffusion and exploitation of knowledge require recipients, and as knowledge becomes more and more complicated, so society in general and policy-makers and innovators in particular need to train themselves continuously. The digital era has opened up many new possibilities in this respect. For researchers, the development of online libraries, repositories of scientific information and databases of publications, patents, etc., linked with the opportunities of Grid and GEANT, is of great importance. There are on the other hand several bottlenecks in sharing and exploiting knowledge. The European patent system needs to be developed, but unfortunately the negotiations have so far not had any results. The IPR problems related to the exploitation of research results are often neglected and not managed properly. Advised by its Standing Committee on Intellectual Property Rights, ALLEA has repeatedly brought its objections to the present IPR system in Europe to the notice of the EC and other bodies (see ALLEA Statement on the FP7).

We would like to call attention to the recommendations of the OECD *Principles and Guidelines for Access to Research Data from Public Funding*. These recommendations should be implemented throughout Europe. The European institutions are currently very actively working on these problems: EUA, ESF, EuroHORCs, ALLEA, LERU, together with national academies and research councils, have all issued statements on such matters as open access, IPR, knowledge transfer, etc.

Relations between science and society have long been an issue in all the debates about the European Research Area. Recently, an Expert Group appointed by the DG for Research has issued a Report *Taking European Knowledge Society Seriously* (EUR 2270, 2007). In this Report the focus is on how to link education with engagement which involves all the stakeholders – the scientific community, policy-makers, industrial actors, and the public (society in general). We endorse the main message of the Report: that the key element for moving towards a knowledge-based society is education at all levels. We do not agree with the ideology of the EURAB Report *Research and Societal Engagement* (EURAB 07.013) that takes a narrower view encompassing only researchers and societal actors, and mainly advances proposals to researchers for changing their mind set. Worse still, the EURAB document increases the mistrust for science in society by proposing “to develop further mechanics for societal actors to improve their research capacities.”

- **Optimizing research programmes and priorities**

It is the opinion of a number of Academies that the coordination and optimisation of national and regional research programmes and priorities should be approached selectively. Indeed, for investigator-driven research the benefits of self-organization are much more important than any external pressure. For society-driven research, the effects of joint programmes and priorities are evident. For industry-driven research the driving force is more related to private funding, and may result in tough competition. What is important is that legal and administrative barriers may hamper the processes

of joint programming, opening up programmes and policy coordination. This is where both EU and member states should pay more attention.

Clearly, the ERA-NET programmes (see ERA-NET Review, 2006) and the ESF-EUROCORES and COST activities have played an important role in consolidating the European scientific community. We consider that article 169 should be used more widely than before.

We agree with the proposals envisaged in the *Green Paper* for establishing joint programmes for society-driven research. The potential of research across Europe should be used wisely.

Optimisation, however, has time horizons. In the *Green Paper* time scales are not mentioned at all. It is impossible to optimise everything within the next few years, say within the time limit of the FP7. The step-by-step approach to optimisation should be emphasized clearly.

- **Opening to the world: international cooperation in S&T**

The statement in the *Green Paper* “The European Research Area should therefore be open to the world” suggests pushing on an open door. Academies believe that European research is in principle open to the world. Nevertheless, support for joint programmes between Europe and US, China, India, Japan etc. is important because here the diversity of Europe may appear to be an obstacle. There are many international organizations like UNESCO, ICSU, IAP/IAC, etc which run global projects and unite the scientific community right across the world. But there are many unanswered questions. Are, for instance, administrative and legal regulations helpful to international cooperation? Are S&T in Europe sufficiently protected from the personal and financial points of view?

From the EU viewpoint, all cooperative activities should be supported, whether they are initiated by member states or by international institutions. In cooperation with developing countries it is essential to develop a perspective on mutual benefits which goes beyond capacity building, and in particular addresses issues of common concern.

#### **IV Research matters**

The Lisbon agenda aims at opening the road towards a knowledge-based society, and stresses the goal of building up a competitive economy with sustainable growth. Since that agenda was adopted, almost every strategy document has emphasised keywords such as innovation, entrepreneurship, knowledge infrastructure, venture capital, creative people, and mobility. The challenge to make Europe a better place to live is now widely accepted, together with the understanding that knowledge has become the main wealth of societies. Nevertheless, a broader view is needed, and the time for that is ripe – the *Green Paper* should rapidly become a *White Paper*.

We believe that a vision for the European Research Area should be based on the understanding that research matters. Focus on research rather than on instruments does not mean 'linear thinking' from research to applications. The world is a complex place, where education, research, industry, society, environment, etc are linked locally and globally into complicated

networks and patterns; it is through the proactivity of the single elements that new added values emerge.

Research matters because it is “a vital part of the social tapestry of a modern state” (LERU). Research not only contributes to innovation and to economic development, it is about man, society and the world, about culture and human perception, about inquiry into phenomena; it is a response to societal problems, to natural hazards and to climate change, a way of improving health and education and so on. Such a holistic view of the European Research Area should be balanced: neither competition nor social conditions should prevail in the Europe of Knowledge.

We believe that the ERC should be strengthened because it is so close to new ideas in research. Indeed the ERC is the major protagonist of the holistic view of research within the European Research Area. Scientists take 'research matters' very seriously because the credibility and integrity of the scientific system are key elements in its usefulness, and stand to be enhanced by the actions proposed at the recent conference in Lisbon on Research Integrity. The sciences and scientists in general are among the most trusted institutions and professionals in society. This depends upon ethical integrity. ALLEA and its member Academies strongly advocate ethics in science, and support the EC viewpoint that “all the research activities carried out under the FP7 shall be carried out in compliance with fundamental ethical principles”. This is extremely important in all fields of science, especially but not exclusively in medical research, data protection and privacy, national security, the collection of biological samples and research on animals.

The *Green Paper* characterizes the instruments needed for developing the European Research Area. The accompanying Report (SEC (2007) 412/2) includes data about the progress of ERA since 2000, actions at EU and national levels, efforts, performances, etc. The Annex to this Report also lists the barriers and difficulties encountered after the adoption of the Lisbon Agenda. But the analysis of earlier instruments is still far from complete. While it is clear that the impact of research is not always immediately obvious, the results of chapters called “Cooperation” in Framework Programmes should have been analysed in more detail in order to inform future steps. In 2007 we know that progress towards the 3% Lisbon goal has been slow. Moreover, the number of researchers in Europe is much lower than expected. These two examples force us to ask: is such a situation caused by lack of instruments, by incoherent national policies, by weak science-society relations, or by something else that we have missed?

As indicated above, we do not believe that 'fragmentation' should be used as a pretext for excessive regulation and normative organization. Academies note that the diversity of interests of member states stem from different economic, historical, cultural etc. circumstances. Far from being a weakness, it should be considered a strength. In this context, scale is important, especially for smaller countries with limited R&D budgets. Support for existing and new pan-European centres is certainly important but excellence in research should also be supported on a smaller scale, *i.e.* in member states.

The European Research Area will be created by member states, building on their aspirations, where European, national and regional processes are in synergy with EU aspirations as a whole, and have EC instruments as a catalyst. Coherence actually stems from member states and regions; any fragmentation comes not from research but from the applications and regulations; it is at this level that the EC should act. A further issue is that of differing R&D strate-

gies of member states, now fully documented (SEC (2007) 412/2). These strategies will only succeed if they are pursued with continuity as happened in Finland with notable success.

One of the focal points for ERA is how to attract the best and most talented people to work in Europe. The *Green Paper* fails explicitly to address the issue of an attractive research in this context. The WG of PESTO (Platform of European S&T Organisations) intends to issue a position paper on research climate. One of the starting ideas is that an attractive research climate will require not only funding and research facilities, together with other conditions, but also enthusiastic leadership. That will put emphasis on young people; it follows that the ERC starting grants are of importance. But is this instrument sufficient, and what will happen when the ERC grant is terminated? These questions have to be answered not only at the EU level, but also at the national level. All the stakeholders now need to answer the question: what should be done today in order to have good scientists tomorrow?

Here the recent data about the salaries of scientists in EU are alarming (press release of the EC, 13.11.2007) – they earn much less than their colleagues in the US, Australia and Japan and even India. This is a real challenge for policy-makers in member states; if they do not meet it, the proposals to make Europe attractive for brains will not be realized.

We think that the relations between all the stakeholders – research, education, industry, society at large, etc. should be developed into a solid partnership. There are so many excellent examples in Europe, and sharing experience should be supported (cf. European Science Open Fora), as should public-private partnerships for funding research.

Society all over the world faces numerous challenges that are both global and highly dynamic. Among them are energy security, climate change, spread of diseases and public health, inequalities in living standard with potential for conflicts, etc. The scientific community too must face precisely the same challenges. Clearly close interdisciplinary cooperation is needed between scientists, decision makers and society. Here the question “can science guide policies?” is extremely important. EASAC has mobilised the EU Academies into analysing a number of focal points needing the attention of the European Parliament. Several Academies have advised their national Governments on scientific aspects of certain issues. This task for the scientific community receives no mention in the 'Green Paper'.

Finally, the 'Green Paper' should be more definite about the timescales. The FP7 has started and the division of funding between the chapters is fixed. The growth in the FP7 budget is certainly welcomed by all the stakeholders. The question is what will happen in the future. We think that the preparation for the next FPs should start now, and that the new ERAB might coordinate that preparation, with European institutions taking an active part in it. There is a will to unite forces for coordination and strategic frameworks (PESTO).

## **V Academies: a final word**

We believe that European Academies, including Academia Europaea, and their organizations (ALLEA, EASAC, Euro-CASE, FEAM) have an important role to play in the creation of the European Research Area. Academies are by their nature strong advocates for excellence in research. Moreover their advisory role is another major asset not only at the national, but also at the European level; ALLEA for instance advises on policy for science, EASAC on science for policy, Euro-CASE on technological issues. We wish to emphasise that in many European countries the national Academies are the principal independent advisors to governments, par-

liaments and society as a whole. The standing of national Academies depends not so much on the prestigious prizes that they award as on their institutional and intellectual independence, and the objective statements that they issue on the basis of scientific evidence. In this sense, Academies serve as beacons for society. They furthermore stimulate discussion on the perspectives and directions of research, on science-society relations, on research integrity, on ethics, etc. Academies are well suited to international cooperation, not only in Europe but also worldwide; they maintain contacts with international unions in ICSU and ISSC, and with UNESCO.

As the federation of all European Academies, ALLEA is confident of its ability to marshal the voices of its members and speak with authority on behalf of the academic community; it is also willing and able to play a joint role, in collaboration with other European and international associations and federations, in the vital task of shaping the future of European research through the development of the ERA.

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- Scientific integrity links: <http://mctes.pt/scienceandtechnology/lisbonconference> & <http://www.esf.org/conferences/researchintegrity>

## **ANNEX: European Academic Federations**

### **ALLEA**

All European Academies – The European Federation of National Academies of Sciences and Humanities

53 Academies from 40 countries

Working Groups

Standing Committees (IPR, Ethics)

Publications, statements

<http://www.allea.org>

### **EASAC**

European Academies Science Advisory Council

23 Academies from the EU countries together with ALLEA and Academia Europaea

Analyses, statements, publications

<http://www.easac.org>

### **Euro-CASE**

European Council of Applied Sciences, Technologies and Engineering

20 Academies

Platforms on engineering issues

<http://www.euro-case.org>

### **FEAM**

Federation of European Academies of Medicine

14 Academies

Medical and public health issues

<http://www.feam.eu.com>

## **Acronyms**

ALLEA	All European Academies
EASAC	European Academies' Science Advisory Council
EC	European Commission
ERA	European Research Area
ERC	European Research Council
ERRIN	European Regions Research and Innovation Network
EU	European Union
EUA	European Universities Association
EURAB	European Research Advisory Board
EuroCase	European Council for Applied Sciences, Technologies and Engineering
EuroHORCS	Heads of European Research Funding Organisations
FEAM	Federation of European Academies of Medicine
FP	Framework Programme (European Commission)
IPR	Intellectual property rights
ISSC	International Social Sciences Council
LERU	League of Research Universities
ORI	Office of Research Integrity
PESTO	Platform of European Science & Technology Organizations
R&D	Research and development
S&T	Science & technology
UNESCO	United Nations Educational, Scientific and Cultural Organization