

European research area: new perspectives

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PURPOSE : to present a Green Paper on “The European Research Area: New Perspectives”.

BACKGROUND : in 2008, the second cycle of the renewed Lisbon Agenda will be launched hence the need to review one of its core elements: the European Research Area (ERA). More than ever the ERA acts as a cornerstone of the European knowledge society – a society in which research, education, training and innovation are fully mobilised to fulfil the economic, social and environmental ambitions of the EU and its citizens.

CONTENT: in order to review the above, the Commission has prepared this Green Paper, the purpose of which is to raise a number of questions on how to deepen and widen the ERA so that it fully contributes to the renewed Lisbon strategy. It intends to launch a wide institutional and public debate with a view to preparing initiatives for 2008.

A new look at the European Research Area

A sense of urgency in revising the ERA stems from the fact that the globalisation of research and technology is accelerating and new scientific and technological powers are emerging in places such as China and India. Further, other emerging economies are investing increasing amounts of their GDP into R&D. This raises the question of whether the EU is able to sustain a competitive edge in knowledge and innovations – a matter which is at the centre of the renewed Lisbon Strategy for Growth and jobs. Fragmentation of public research diminishes Europe’s attractiveness for business as a location for R&D investment. The business sector is supposed to contribute two-third of the 3% of GDP R&D intensity target. Recent data suggest that EU-based companies have increased their global R&D expenditure by more than 5% in 2006, but this is still less than the rate of increase of R&D expenditure of their non-EU-based counterparts. In fact EU-based companies invest more in R&D in the US than US based companies do in the EU and this transatlantic net outflow of R&D investments is increasing. A substantial and sustained increase of business R&D investment is essential to break with the current stagnation of the EU’s overall R&D intensity at 1.9% of GDP and to progress towards national and EU targets. This Green Paper focuses on the factors affecting the performance of research systems in Europe, with a view to overcoming the fragmentation of efforts and policies and ensuring that Europe makes the most of globalisation in science and technology.

The European Research Area Vision

Building on key principles agreed unanimously in 2000, the ERA should comprise of:

- An adequate flow of competent researchers.
- World-class research infrastructures (such as networks, libraries etc.).
- Excellent research institutions.
- Effective knowledge sharing.
- Well-coordinated research programmes and priorities.
- A wide opening of the ERA to the world.

In addition, European research policy should be deeply rooted in European society. The right balance needs to be found between competition and cooperation and full benefit should be made of Europe’s diversity. The nature of research is such, that complex interdependencies exist between the above-mentioned features of the ERA. Some features will take longer to establish than others. However, this

systemic nature of ERA dictates that urgent action needs to be taken to progress as quickly as possible on all fronts – all the more so given the strong leverage effect this will have on increasing private investment in research and innovation and promoting a more competitive knowledge-based economy.

Based on the above, the Commission asks: Are there other elements which should be taken into account in the vision? What role should public authorities play to establish the ERA? What EU initiatives could best leverage overall public and private efforts to realise the vision?

Making the ERA a reality

This section analyses the situation of European research with respect to the six main dimensions of the European Research Area. For each of them, a number of questions are raised to provoke an open discussion among all those who have a stake in research.

The six main dimensions are:

Realising a single labour market for researchers

A key challenge for Europe is to train, retain and attract more competent researchers. However, mobility across borders or between academia and industry tends to be penalised rather than rewarded. This is why so many European graduates and doctorates either move away from research careers or pursue research in countries where they find better opportunities – mainly in the US. It is essential to establish a single and open European labour market for researchers, ensuring effective “brain circulation” within Europe. A number of questions are posed in a bid to answer these questions. For example, is there a need for a European framework to ensure portability of social security provisions for researchers across Europe and how can the EU increase the numbers and quality of researchers in Europe by attracting young research talents?

Developing world-class research infrastructures

Excellent research needs a range of high-quality research infrastructures. The Commission, therefore, asks: How can the EU effectively decide on pan-European research infrastructures and their funding? Should a European legal framework be developed to facilitate the emergence and operation of new forms of research infrastructures of pan-European interest? Is there a need to define common transparent principles for the management of, and access to, infrastructures of European interest?

Strengthening research institutions

Universities and public research organisations perform more than 35% of all research undertaken in Europe. However, their potential is not fully realised due to a significant dispersion of resources and activities, insufficient links with business and society and rigidities in their functioning. Further most European research institutions lack critical mass and, within the confines of sub-optimal national systems, have difficulties meeting expectations with available resources. The Green Paper suggests that research institutions should increasingly work in the context of European and global “virtual research communities” associating public and private organisations. To address this challenge the Commission asks: How can the resources of European research institutions be strengthened in the most cost effective manner? How can research actors be encouraged to create world-class virtual centres of excellence and is there a need for a European regulatory initiative to facilitate the creation of public-private-partnerships?

Sharing knowledge

Generation, diffusion and exploitation of knowledge are at the core of the research system. Access to knowledge generated by the public research base, and its use by business and policymakers, lies at the

heart of the ERA, where knowledge must circulate without barriers and throughout the whole of society. Patenting, nevertheless, remains inaccessible, complicated and costly in Europe and fragmented litigation fails to provide sufficient legal certainty. Finally, to work efficiently and effectively in full symbiosis with European society, the ERA requires the development of new channels and innovative approaches for communicating and discussing science, research and technology. The questions the Commission poses under this heading include, *inter alia*,: Is there a need for EU-level policies and practices to improve and ensure open access of raw data and peer-reviewed publications from publicly funded research results? What should constitute a European Framework for knowledge sharing between research institutions and industry and are there specific R&D related issues, such as joint ownership, and the research exception that need to be looked at from a European perspective?

Optimising research programmes and priorities

One of the ERA's core objectives has always been to ensure the coherence of national and regional research programmes. Some progress has been made, but it falls short of the ambition and potential in this regard. The Green Paper, therefore, asks: Should common principles be developed and used for peer review, quality assurance and joint evaluation of European, national and regional research programmes? Should these programmes be opened to participants from other Member States and how? Is there a need for shared principles for the accountability of public research funding, which would enhance simplification of rules and procedures and increase its effectiveness and efficiency?

Opening the world: international cooperation in S&T:

Science knows no boundaries and the issues that research is asked to deal with are increasingly global. The challenge is to make sure that international S&T cooperation contributes effectively to stability, security and prosperity in the world. The ERA should be open to the world. A coherent approach towards international S&T cooperation under the banner of global sustainable development can assist in building bridges between nations and continents. A success story such as ITER shows that Europe can have the will and capacity for leadership in global challenges. The questions posed are: How can the European Commission and the Member States work together to define international priorities? How should S&T cooperation with various groups of partner countries be modulated to focus on specific objectives and should complementary regional approaches be explored?

Moving ahead: Public debate and further steps

Europe has an enormous research and development potential, which remains to be tapped. The Commission believes that the broad orientations outlined above have the potential to considerably strengthen the ERA, rendering it fit and capable to address the major challenges that Europe faces in an open world and to achieve the objectives of the Lisbon Strategy. With the publication of this Green Paper, the Commission is launching a wide consultation and opening up a debate on how to strengthen the ERA. On the basis of this consultation and debate, the Commission intends to propose initiatives in 2008.