

The European Research Area

Analysis and proposals for its future development

Matthias Weber, 30 May 2008



Overview

- The guiding principles for the ERA to come
- Three inter-linked core elements
 - Grand challenges
 - Research-friendly ecology
 - Closer link between European research and policy
- The implications for RTOs
- Going forward

Guiding principles

- Rationale is for ERA founded on principle that core objective should be to maximise value contributed by research to Europe's economic, social & environmental goals
- Green Paper proposals valid but must go beyond remedy for deficiencies in public research system
 - To encompass entire research system including business, RTOs and wider stakeholders
 - To move from deficit to opportunity by introducing a strong content dimension to ERA

Three interlinked core elements

- Engage research system in Europe's response to a series of **Grand Challenges**
- Develop a **research-friendly ecology** to allow actors and institutions to work together in productive networks
- Achieve a step-change in the quality of dialogue and linkages between supply and demand for research to **re-orientate strategic and applied research in close support of policy and regulation** at EU level

Three types of Challenge

- Focus continued effort on ERA by engaging with a series of *Grand Challenges* that are of sufficient scale and scope to capture the public and political imagination, and inspire the research community
- **Economic challenges**
 - correspond to the agenda set out by the Aho Group and need to engage business through a combination of supply-side measures for promotion of RTD and demand-side measures to create innovation-friendly markets
- **Social and environmental challenges**
 - causes and consequences of issues such as climate change, food and energy security and the ageing society
 - initial drive will have to come from governments.
- **Science and technology**
 - collective ability to respond to opportunities in frontier research

Core criteria for Challenges

- **Relevance**
 - demonstrated by contribution to European-added value through transnationality, subsidiarity and the need for a minimum critical effort;
- **A research dimension**
 - to ensure the buy-in of the research community and the potential to induce improvements in efficiency and effectiveness;
- **Feasibility**
 - as an economic or social investment in terms of research and industrial capability and a viable implementation path.
- **Grand Challenges require the highest level political commitment**

From fragmentation and sub-criticality to the research-friendly ecology

- Fragmentation and sub-criticality concepts are core of ERA 2000 and Green Paper
- Fragmentation can be understood at 2 levels
 - Macro/meso system failures of governance through inadequate selection mechanisms and incentives arising from lack of coordination
 - Micro level of execution of research manifests as sub-criticality
- Sub-criticality threshold for a research group is generally quite low (5-9 persons) ...
- ...but more important at the level of research institutions, particularly when it comes to confronting interdisciplinary problems
- Sub-criticality can impact upon the ability to work effectively with business, especially when combined with fragmentation in markets and the regulatory environment

Networked specialisation & Localised concentration

- Networked specialisation involves an active policy of linking complementary rather than similar research units
 - Concept of related variety tells us that a trade-off needs to be made between specialisation and diversity;
- Specialisation may also be supported through policy incentives
 - Competition for larger and longer-term units of competitive funding NOT planned allocation of resources;
- Relevant public authorities need to promote concentration of smaller institutions
 - ERA cannot cause such combinations directly but it can improve the conditions by which such institutions could attract researchers and improve their permeability to cross-border knowledge flows

Competition, cooperation & coordination

- Degree of duplication of research in Europe needs further study but is likely to be exaggerated
 - Aggregated statistics and reporting do not reflect local adaptation and specialisation in fields such as biotechnology.
- Competition is the prime driver of research excellence but too much becomes dysfunctional
 - high transaction costs and squeeze on ability of institutions to develop autonomous strategies.
- No one-size-fits all prescription for cooperation and coordination
 - Each sub-field at different stages of its development has its own needs and the rationale for ERA promotion of linkages needs to be made on a case-by-case basis.
- Misleading to speak of a single market for research in Europe
 - In reality complex system of markets (at the corporate end of the scale and for scientific labour), quasi-markets (e.g. in attempts to commercialise public labs), and competitive allocation of public resources for research which do not operate on market principles

Why European level research?

- Key differences between basic and applied research
 - For **basic research** rationale lies in achieving economies of scale and scope, accessing complementary skills and stimulating competition.
 - Because governments principally support basic research for the spillover benefits that it induces in terms of training and knowledge accumulation, ***cross-border funding is likely only in specific conditions.***
 - For **applied research** where motive is to purchase an expert solution rationale for cross-border funding is an increased chance of obtaining that solution and in principle ***there should be no barriers to a European market for research services***
- Why not global research area?
 - governance of global projects is complex and can benefit from single European representation
 - Europe may gain more negotiating weight from a combined position
 - global approach may not emerge until there is regional leadership
 - many issues which specifically European (either pan-European or applying to a sub-set of nations or regions)

A research-friendly ecology

- Organising principle to describe the rationale for ERA
- 'Ecology' rather than research & innovation system
 - Share the focus on interactions, structuring environmental features, the need to marshal competences, and critical role of education and research as knowledge infrastructure
 - Adds focus on distribution and abundance of research performers and their interactions with one another and the broader environment

Strengthening the actors in the research-friendly ecology

- **Research performers**
 - Individual researchers, Universities, RTOs, Business
- **Research Funders**
 - Research Councils, Sectoral Ministries, Business, NGOs, EU, International
- **Beneficiaries**
 - Business, Government including the Commission, Society and the wider Public

supported by European transnational and transregional flows of:

- **Money**
 - Funding for research
- **Knowledge**
 - IP and informal knowledge transfer
- **People**
 - Researchers
- **Services**
 - Scientific services such as metrology

Research funding organisations driving up quality

- Require a more coherent voice in the European arena. Influence limited by lack of unitary umbrella organisation
- Common peer review offers more potential than common pots
 - clear opportunity to raise standards across Europe through more transnational peer review
 - ERA role could be to create European College of Reviewers to facilitate the process
- Charitable or philanthropic foundations deserve greater attention in ERA thinking
 - Among their strengths is the ability to articulate demands for research from citizens.

Universities empowered & Business engaged

- Pressing need for universities is to replace bureaucratic restrictions with autonomy and accountability
 - Universities play a crucial role across the range of ERA activities but their diversity needs to be recognised.
- Priorities for business in ERA are to achieve the innovation-friendly market envisaged in the Aho Group report and to engage in vertical actions for market creation that are a part of the Grand Challenge approach
 - Firms plays a central role in the wider research and innovation ecology but have not been strongly engaged with ERA.
- European research ecology requires the pathways between small and large firms to be reinforced
 - Support initiatives should follow the supply chain and not attempt to target SMEs separately from their main customers.

Market for applied research – the role of RTOs

- Pressing need to open up the European market for applied research services
- Research and Technology Organisations fill in the “missing mezzanine” in the research and innovation ecology but have minimal cross-border business
 - Non-national EU enterprise income less than 5% of turnover of €5.8 bio for top 9
 - Non-national governmental business negligible
- A role as research nodes engaged with their own context and local users
 - Improve access to the benefits of research and innovation but recognise that this cannot be achieved through knowledge transfer alone
 - Practising research, particularly of an applied, problem-solving nature, is needed for a community to remain in the networks which circulate knowledge and to achieve the absorptive capacity to use that knowledge
 - Together with universities, important element to attract and retain talent
- Measures needed to stimulate mergers, joint ventures and other linkages
- Consideration should also be given to specific subsidies for cross-border business
- A central role to be played by RTOs - Correcting their omission in the Green Paper

Researchers

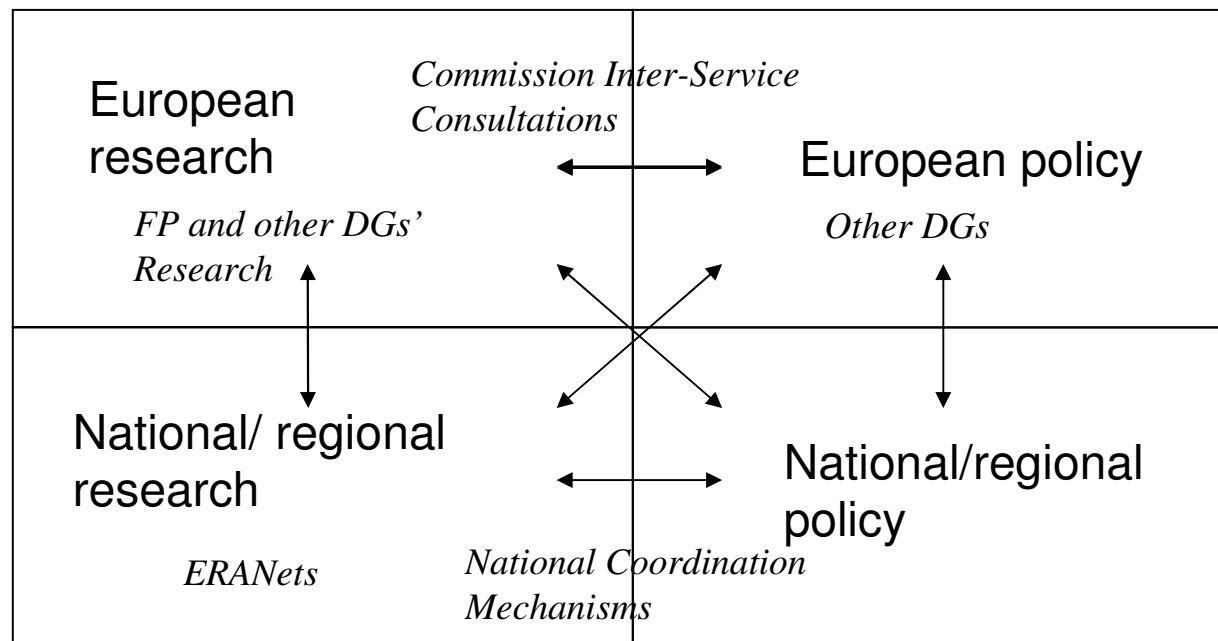
- At the level of individual researchers principal needs are
 - to tap a wider pool of talent
 - to tackle the unsolved problem of cross-sectoral mobility
 - needed to meet the demands of knowledge circulation and exchange
 - aim should be permeable institutions but national action to remove barriers must precede transnational initiatives
- More research needed on the role of social exclusion from research

Creating a Closer Link between European Research and European Policy

- There should be a much closer alignment between research carried out at a European level (both FP and coordinated national research) and support for European policies
- ERA benefits can be gained across the full range of policies and regulatory responsibilities that Member States have agreed should be articulated at European level
- This argument does not apply to the ERC and other research where the principal goal is the promotion of excellence and capacity but it does apply to most of the rest of research currently conducted at European level.

Policy areas for support

- Thematic
 - environment, energy, information society and media, agriculture, industry and public health
- Cross-cutting
 - enterprise and innovation policy and market policies.



Going forward

- No recommendations work against measures in Green paper
- Focus here on additional needs and measures to make a compelling case for a real shift of resources in forthcoming budgetary round
- Equip research community to make its central contribution to future economic and social well-being of Europe's citizens

The Panel

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References

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