

EUROPEAN RESEARCH AREA BOARD

ERAB views on achieving Cohesion in European Research and Innovation.

1. Excellence and Cohesion: Two sides of the same policy coin

Excellence and cohesion in research and innovation seem to be at odds with each other. Likewise there is no clear definition of what excellence means especially when applied and industrial research is involved. Peer review is seen as a gold standard for assessment however even that can lead to conservatism and a lack of risk taking. ERAB have already set forth their advice for supporting high risk - high gain research and to judge this both reviewers and funders must feel comfortable with the fact that a large proportion of initial objectives will not be reached. A better description of these projects might be ones that are of **"leading international quality leading to either new products or ideas."**

Cohesion by contrast is focused on ensuring that all regions and institutions within the EU are able to operate at an international level. This includes sufficient support infrastructure, institutions with appropriate governance structures, suitable research and innovation management experience, and other support services to attract and maintain top human capital. There is a long way to go to achieve this objective and many regions are hampered by the lack of experience in operating within an internationally competitive market place.

So, are excellence and cohesion compatible? Some facts point to reasons to be concerned. Currently 96% of all ERC awards go to the "old" EU 15 and only 4% to the newer 12 Member States. Amongst the EU 15, some do very poorly; however, even in countries considered successful some institutes perform brilliantly while others are not visible. Although ERAB has argued for clustering of expertise to create innovation and research centres of critical mass, it is widely acknowledged that the EU does not optimise the use of its talent pool and a whole-body solution to solve this issue is needed.

Hard facts explain this sharp gradient of success:

- Member states have highly variable levels of R&D expenditure (from 0.4% to 3.7% of GDP),
- Some of the weaker performances can be attributed to the fact that only recently actual funding for R&I was available
- Because of low funding and a low priority there is a consequential poor research infrastructure in some member states
- These in turn become unattractive locations for the brightest ,even natives of these countries, to develop their careers
- Some countries suffer from procedures that were set up to suit non EU-conform political regimes and these are unresponsive to the new environment
- Researchers in some member states often lack experience at the whole business of grant application

- As many of the countries are new member states, they were excluded from networks of researchers that developed over the years
- There is a marked lack of appropriate management experience for coordinating large international programmes in many parts of the EU, that are results orientated and focused on delivering real solutions.
- Many researchers in several countries are responsible for managing research activities without having been exposed to the rigours of international research competition

How can we act here?

2. ERAB advocates a pragmatic approach to address the cohesion problem in R&I.

We need to act as not only the lack of cohesion is politically unacceptable, but also because Europe faces, as a whole, a weak global outlook (80% of Researchers, 75% of Investment and 69% of patents come from outside Europe). Increasing cohesion will thus serve a double ambition: raising the position in the playing field for all Europeans and helping Europe to become globally stronger in the field of R&I. The overall aim should be to raise standards and expectations and avoid any form of levelling down.

Focussing on developing the European research Area such that all the EU's assets (and hence the need for Cohesion) are used, ERAB recommends to:

1. Ensure that 30% of Structural funds go to R&D and its infrastructure.
2. The matching funds for Structural Fund investment relevant to R&D should be reduced compared to those for other projects.
3. The "return on investment" assessments of the Structural Funds used, should include an appreciation of the intangible assets (including people, the attraction of excellent research groups and infrastructure, specialist knowledge, etc.) associated with Research. Otherwise roads and bridges will win every time.
4. It is clear that both, policy makers and researchers in many new member states must gain hands-on experience in managing and operating large international infrastructures. Member States with Structural Funds should be encouraged to support researchers and project managers and perhaps look to building national infrastructures or investing in existing ones elsewhere for training purposes and to be able to credibly bid for international physical infrastructures in the future. Regions with extensive Structural Funds could be encouraged to host the management of distributed infrastructures as soon as possible.
5. The strong countries should open up their research funding schemes to scientists in the weaker countries.
6. A special competition, judged on the basis of excellence, restricted to scientists from the weaker regions should be established to mirror and complement those currently at the ERC for a limited time period of 10 years as a tapered programme. Ideally it should be a new strand of the ERC; just as it recognised the need to have a special competition for early stage researchers to ensure that their potential would not be crushed by the competition from the long established groups. The same applies to scientists working at present in poor research environments. As a result the percentage of all ERC awards

- going to the newer EU 12 member states would be expected to gradually increase from the present 4% to some 20-30%, if this approach is successful.
7. Special incentives should be in place to encourage researchers to set up partner collaborations with weaker regions.
 8. Those from the less performing countries, who successfully compete for ERC grants, should get a bonus grant to improve their infrastructure.
 9. Countries should use procurement methods to develop research capabilities that match their needs.
 10. Linkages should be promoted and supported (with real incentives) between the Universities in the "strong" and the "weak" countries.
 11. Make (part of) EU co-funding in the context of the Structural Funds conditional to procurement of innovative technologies and R&D, also as a means of gearing cohesion policy more towards stimulating R&D and innovation.
 12. Public procurement of new technologies, products and services should be used as a tool for initiating new collaborations between stronger and weaker regions.
 13. Special incentives should be made available to encourage improving the governance structures of many institutions, to make them more responsive to international research and innovation demand.

These points are by no means exhaustive and some proposals on the list require clarification and expansion. However ERAB strongly thinks we need to start somewhere and now. We know the problem; we know the reason why it exists and we also know that "business as usual" will only aggravate the inequalities that exist.