

Submission in Response to the EU document:

From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding

Research Working Sub-Group, Chemical and Physical Sciences Committee of the Royal Irish Academy

A meeting of this Working Group to discuss the responses to this document was held on Wednesday 20th April. In attendance were the following persons:

Dr Teresa Curtin, University of Limerick

Prof Paul Maguire, University of Ulster

Prof John Donegan, Trinity College Dublin

Prof Martyn E Pemble, Tyndall National Institute and University College Cork
(Convener)

Apologies: Prof Patrick Guiry, University College Dublin

1. Summary of Responses (bullet point format)

- We welcome the proposed increase in expenditure to 3% GDP
- We welcome the simplification of application procedures and recommend that users are encouraged to provide ongoing feedback through the development phase
- We suggest that the EU generally adopt the same type of assessment criteria as those employed for ERC bids- where proposals are judged on their individual merit rather than being based on performance against a pre-determined set of criteria.
- We wish to highlight that curiosity based research is a strong and proven progenitor of innovation and would welcome strengthening the resources for curiosity driven research.
- We wish to highlight that wide participation and diversity of thinking is a very important element of successful R&D and the EU should continue to encourage this.
- Fourth level education is a critical element of EU R&D advancement and this element needs further encouragement and support within the proposed structures.

2. General Comments:

The Research Working Sub-Group (henceforth, the Group) notes that contrary to the view which appears to underpin the document, the deliberate pulling together of large groups of researchers cannot artificially create genuine innovation- excellence is not born out of research concentration- a fact which is easily seen if one considers our main competitors in the US or Japan.

The Group also believes that the document presumes too much. Genuine innovation and excellence do not necessarily require trans-national cooperation. Trans-national cooperation may be needed in those cases where an appropriate skill set for a programme of research is not available in one centre or one member state. Cooperation for the sake of cooperation is a waste of resources.

The overall target of spending 3% of GDP by 2020 is challenging but praiseworthy and very encouraging. Innovation requires research. Research requires funding. Without funding there will be no research and hence no innovation. Precious funding should not be wasted on prescriptive projects as determined by the latest 'agenda' items- everyone knows what the challenges are. Let researchers decide how to tackle these challenges.

3. Responses to Specific Questions Posed in the Document

(Note the Group only felt able to answer those questions where they could draw on their direct experience of the Framework Programmes).

Section 4.1. Working together to deliver on Europe 2020

1. How should the Common Strategic Framework make EU research and innovation funding more attractive and easy to access for participants? What is needed in addition to a single entry point with common IT tools, a one stop shop for support, a streamlined set of funding instruments covering the full innovation chain and further steps towards administrative simplification?

The entire process, from applying for funding through to running the project and reporting must be simplified and made easier. Applications must be shortened - who wants (needs?) to write 100 pages to justify a project? Why ask for the 'European dimension' if the project clearly meets the Call- the Call has already been selected because of the European dimension? This simply makes work for those persons who can write these 'woolly parts' of the proposal for the applicants. By all means judge the proposal on the Science, the Methodology and the likely Outcomes but also consider the proposal as a stand-alone concept- since some truly excellent projects may not achieve the necessary high scores in all areas as required under the present, rather prescriptive system. Adopt a system more like that used to assess ERC bids.

Another issue is the length of time between the Call for proposals and the start of the project. Shorter applications (based on the above suggestions) should cut this time (faster proposal writing, quicker evaluations etc...).

5. What should be the balance between smaller targeted projects and larger, strategic ones?

Don't focus on concentration. Large projects are not necessarily good projects- they tend to end up as administrative nightmares. The EU should actively seek to exploit diversity of thinking. Again the Group emphasizes that curiosity-based research hugely important- not just industry driven. There must be space to explore interesting ideas, not just fashionable themes.

Smaller targeted projects are also important in that they offer wider participation and are much more flexible in terms of responding to innovative ideas.

7. What should be the measures of success for EU research and innovation funding? Which performance indicators could be used?

Responsibility for reporting on likely exploitation should rest with the industry partners who are receiving a subsidy for work that may result in an increase in their profitability. For too many projects this reporting is left to the Coordinator (nearly always an academic). Large projects in particular, must show value for money- more than just company profits? Generally speaking the Group feels that Companies don't spend enough on exploiting research that emerges. Not all academics want to form spin-out companies- don't treat this issue as a 'given'.

8. How should EU research and innovation funding relate to regional and national funding? How should this funding complement funds from the future Cohesion policy, designed to help the less developed regions of the EU, and the rural development programmes?

In theory the idea of relating national and EU funding together is a good one, but in practice it will not work because it would be impossible to gather all the necessary information. Yes the EU should be aware of national funding strategies but it should not try to influence these. There is no harm in duplication of subject matter- particularly if the issue in question is an important one. Let a number of good ideas be explored, at national and at EU level.

Section 4.2 Tackling societal challenges

9. How should a stronger focus on societal challenges affect the balance between curiosity-driven research and agenda-driven activities?

The Group has repeatedly emphasised the need for high-quality curiosity driven research. Successful researchers will already be aware of what the key 'agenda' items should be. The EU does not have to be prescriptive about this. The prescriptive approach hasn't worked thus far and so the Group feels that the quality of the science, from a curiosity-driven perspective, should always form a key component of every programme offered. Challenges are difficult to address- they require breakthrough concepts. Prescriptive, incremental ideas are unlikely to succeed. A key aim of the EU- the establishment of research 'excellence', cannot be forced into being by any Strategic Agenda. Excellence arises through individual or collective ideas, and the resources to explore the same.

Section 4.4 Strengthening Europe's science base and the European Research Area

21. How should the role of the European Research Council be strengthened in supporting world-class excellence?

The Group feels that this is the one programme that deliberately sets out to foster excellence, and is pleased that it relies entirely on curiosity-driven research by individual groups and teams. The Group suggests that the EU greatly expands this programme, and puts less reliance on trans-national consortia- driven projects, unless there is a well-defined need for such consortia due to the project requiring a mix of skill sets. Don't force people to collaborate in order to get funding

22. How should EU support assist Member States in building up excellence?

The Group believes that the answer to this question lies partly in the response to question 21, i.e. instruments such as the ERC programmes. For individual member states to grow in terms of the 'excellence' associated with their research communities the criteria for the ERCs need to be examined in detail and much more credit given to genuinely novel ideas- high risk but potentially very high gain. In the experience of some members of the Group far too much emphasis is placed on Hirsch Indices and other similar factors. Many good ideas never see the light of day because of this.

Another possible strategy, which would aid member states in this respect, would be to issue Calls targeted only at researchers from certain member states. The Group believes that this would not work in terms of delivering either 'excellence' or necessary technological innovations. The EU should not be concerned that some states are less 'excellent' than others- this is just reality. Rather the EU needs to demand value for money in terms of job and wealth creation

However, the Group notes that to some extent the EU can support Member states in building up excellence through participation of young researchers in COST actions.

23. How should the role of Marie Curie Actions be strengthened in promoting researcher mobility and developing attractive careers?

The Group felt that the document assumed that it was universally recognised that the schemes were very successful, whereas from personal experience the Group felt that like all such initiatives, the outcomes were variable. Some projects/persons succeeded whereas others did not. The Group got the impression from the document that trans-national researcher mobility was the answer to all our needs- and the Group disagrees with this view. Training at graduate student level was regarded as of equal if not more importance. It is also important is to include more mature applicants who wish to develop new skills or applicants who wish to return after a career break.

However, the view in general was that since these programmes were highly over-subscribed then more resources should be allocated to them in the future.

24. What actions should be taken at EU level to further strengthen the role of women in science and innovation?

The Group felt that women are compartmentalized at a young age into thinking that jobs in science, technology and engineering were not for them and that life choices confronting women added to the negative pressures. This should be tackled both at a national level and at an EU level by promoting these subjects and publicizing the exciting career paths such disciplines may offer. The Group was not in favour in forcing quotas of women researchers onto research projects. The Group felt that asking researchers to talk about the 'Gender Balance' of their proposals at application time was merely an attempt at political correctness and that the quality of the science and technology and the degree to which truly exploitable material was produced by the project had nothing to do with Gender Balance. There is scope however for encouraging women back into high level research (following career breaks for example) through programmes such as the Marie Curie actions.

26. How should international cooperation with non-EU countries be supported e.g. in terms of priority areas of strategic interest, instruments, reciprocity (including on IPR aspects) or cooperation with Member States?

The EU may wish to aid non-EU countries by helping them to develop their scientific base- this would be a laudable aspiration. However it should not try to achieve this by insisting that certain countries are included in bids. As expressed throughout this comment document, the over-riding factor influencing the funding of a project should be the quality of science and technology, the methodology (and quality of applicants) and the plans for exploitation and dissemination.

In the area of IPR the Group were aware that researchers in the US were able to publish without prejudicing possible patents, for a limited time period. This gives US researchers a major advantage over those based in the EU, who are often faced with the dilemma of publish or patent- not both. The EU should seek to alter patent law, so as to create a level playing field for its researchers.

27. Which key issues and obstacles concerning the ERA should EU funding instruments seek to overcome, and which should be addressed by other (e.g. legislative) measures?

See point 26 regarding patent law.

Martyn Pemble, 19th May 2011