



Response to the Green paper From Challenges to Opportunities:

Towards a Common Strategic Framework for EU Research and Innovation funding.

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Introduction

This response to the Green paper published on 4th February 2011 entitled **From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding** has been coordinated by the Science and Technology Board¹ of the Telecommunications Software and Systems Group (TSSG²) of the Waterford Institute of Technology (WIT³) in Ireland.

Since its establishment in 1996, the TSSG group within WIT has grown into an internationally recognised centre of excellence for ICT research and innovation with core expertise focussing on telecommunications networks, security, services and applications. With a current staff level of over 120 employees, the TSSG has been an active contributor to the European Commission's Framework programmes of research for many years and felt compelled and privileged to have the opportunity to contribute actively on a Green paper, whose aim is to improve the processes and mechanisms within the future programme.

The consolidated TSSG approach to the response has been to respond directly to the questions within each section. The response process included first gathering inputs from staff within the TSSG and then passing the consolidated responses through an internal consultative process re-iteration until consensus was reached, and, as a result, it addresses a majority of the questions raised within the green paper. In the cases where specific responses are not provided to questions in this response, additional answers are contained for these questions within the national response of Ireland submitted by the Advisory Council for Science⁴, Department of Enterprise, Trade and Employment⁵ and Forfás⁶, Ireland's policy advisory board for enterprise and science. Furthermore, WIT-TSSG fully endorses the national response of Ireland and also provided written contributions towards it.

We sincerely hope that the answers to the questions provided within this consolidated response will be taken in a constructive way as they were meant to be given and provide a substantive and useful view especially to be taken into account from the perspective of a research institution and an academic thrust in line with the gained experience and ethos of the TSSG group of the Waterford Institute of Technology. As a result of this input, it is our hope that the resultant framework would take on board these well considered and researched responses as they should enhance the possibilities for research and academic participation in the future Framework programme if implemented.

If you need any further information or clarification on any of the responses, please do not hesitate to contact the overall response coordinator and editor James Clarke at <jclarke@tssg.org>.

¹ <http://www.tssg.org/people.html>

² <http://www.tssg.org/>

³ <http://www.wit.ie/>

⁴ <http://www.sciencecouncil.ie/>

⁵ <http://www.deti.ie/>

⁶ <http://www.forfas.ie/>

Response to individual questions

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?

WIT-TSSG response:

The current way that CORDIS is set up and the way that information is published by the Commission doesn't make it easy for a researcher or innovator to find elements of the programme that align to their strategic research or innovation. This is an immediate barrier to entry for such people and organisations. In order to improve/simplify the access to the information, significantly more "intelligent" search engines are required. The search engines should be aware of the structure and objectives of both the whole programme as well as specific elements.

Recognition of interdependencies of research through cross-disciplinary research themes so that road mapping activities are accessible to research proposers in pre-proposal phases which include EU supported networking sessions.

2. How should EU funding best cover the full innovation cycle from research to market uptake?

WIT-TSSG response:

When a higher education institute creates an innovation through a FP project, there is very little support monies and training in the next steps, whether towards licensing or spinning out a company. This area should be investigated.

There are also no mechanisms for supporting a Joint Venture, which could be created by collaborating organisations in an innovation from a FP project, this should be considered.

Analysis of research impact post-project could incentivise SMEs and Industry to participate if the results from research are tangible toward business opportunities and business models. Recommendation of an industry /academic liaison impact post-project evaluation to see how each stakeholder leverages each others expertise.

For the Broadening participation in the EU programmes in the green paper, while having a thrust for more industry in particular SMEs is understandable, it should not dwarf or reduce incentive of the need for Academic / research organisation participation, which is only scantily mentioned in the initial parts of the green paper. For example, the first time Academic institutions appear is on page 11. ("Open, light and fast implementation schemes would enable SMEs and other stakeholders from industry and **academia** to explore new ideas and opportunities as they emerge, in a flexible way, hereby opening new avenues for innovation.")

3. What are the characteristics of EU funding that maximise the benefit of acting at the EU level? Should there be a strong emphasis on leveraging other sources of funding?

WIT-TSSG response:

From an academic perspective, EU level funding allows us to participate in exploratory research, which can be in a direction we choose, without being shackled to particular co-ownership or contract research type agreements with industrial partners. As a result, there is more freedom to agree on and manage generated IP.

4. How should EU research and innovation funding best be used to pool Member States resources? How should Joint Programming Initiatives between groups of Member States be supported?

WIT-TSSG response:

The idea of pooling resources is good. However, a legal framework for cross-collaboration and Intellectual Property protection rights needs to be in place from the very start; otherwise significant time could be lost in the legal elements of the joint work.

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

WIT-TSSG response:

The balance is reasonably OK as it is. However, some of the larger projects are just too unwieldy in terms of clear results and integration.

6. How could the Commission ensure the balance between a unique set of rules allowing for radical simplification and the necessity to keep a certain degree of flexibility and diversity to achieve objectives of different instruments, and respond to the needs of different beneficiaries, in particular SMEs?

WIT-TSSG response:

Again, the thrust of this question is on radical simplification of and/or diversifying the instruments principally for SMEs. We need to point out again about the difficulties of the participation of Academic/Research organisation partners in the Framework programme. Therefore, in terms of simplification of the rules, this should also directly relate to Academic and research organisation partners and not just SMEs. For example, in the recent times in FP7, the actual cost model for Academic partners has been dropped and replaced with a Fixed cost model at 75% funding and flat overhead of 60% overheads for IP/Streps but there is always a looming threat this overhead rate will be reduced making participation of non profit making academic/research

organizations untenable. This situation must be clarified and stabilized as a matter of urgency to remove the threat and uncertainty of such a possibility.

There is a necessity for the project participation dynamics to support cross-pollination of profit and non-profit organisations so that innovation is not totally driven by financial forecasting but includes innovation for providing solutions to citizen and economic challenges.

Simplifying participation should also apply to the pre-proposal and proposal stages. Some way to improve the success versus proposals submitted rate is needed. For example, better coordination of the research community's activities towards the submissions or a two step process of which the first part is light weight. In addition, a focus should be given to the post project stage to avoid the situation where there is a continuous cycle of starting a project and immediately having to build a new proposal for the next round. The current situation creates a highly stressful situation for the research community and probably also for the programme management communities as they are also concentrating on the next programme instead of the current programme almost from day 1.

The Commission should give thought to a radical change in the way of evaluating and accepting proposals for retention into eventual projects. They should consider giving reviewers more flexibility when selecting winning proposals to include, for example, the possibility of merging of complimentary proposals. Currently, there is no way for this to happen and time again, there are situations where there are two similar scored proposals with complimentary activities (proposal 1 does A but is missing B and proposal 2 does B but is missing A) but there is no mechanism to enable these proposals to 'join together' in negotiations. Thus, one of them gets rejected outright to fit within the current inflexible system. This is to the detriment to the programme itself and to many excellent partners who have worked extremely hard to get that far in the process only to be rejected due to the inflexibility of the process. Part of the problem is that the evaluators have little or no role to play in the evaluation and allocation of the budgets of the proposals hence resulting in this rigid system of only basing results on allocated budgets to the objectives. Another alternative is to provide more weight on the evaluation at work packages level, where it could be possible to approve excellent work packages from proposals to be merged with another relevant proposal. There are models already in place that could be studied for this (for example, in some of the United States proposal submission processes).

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

WIT-TSSG response:

There should be some way of examining what is realistically happening when projects conclude. Post project evaluation is common within industry and there are many frameworks out there to evaluate if a project meets its objectives. Ideas here include a KPI matrix for the impact section that explicitly identifies quantifiable objectives. However, the difficulty here is that impact could be a considerable time post-project and the project team themselves have moved onto other projects. Perhaps a customised balanced scorecard framework for ICT projects (IPs, STREPS, and CSAs) could be developed. This needs to be done in such a way that is not overly

cumbersome and distracting towards the research and development activities but at the same time must be able to realistically capture and measure the results of the projects.

In addition, the credibility and role of each individual partner(s) should be examined in more detail. This could be included in the post project evaluation with a mechanism to also evaluate the project participants versus budget received. This area sometimes gets lost in the larger scale projects evaluations. This post project evaluation should take into account both the research, technological development and exploitation aspects.

An area that needs addressing is the current situation where due to timing of calls, there is sometimes a rush to finish ongoing projects in favour of starting new projects at the same time or even during the finishing project's waning months. Although it is a difficult scenario to control, something must be done to address this dichotomy. This is not necessarily addressing follow up projects per se, which are typically not welcomed or promoted, but it is more a re-allocation of staff on concluding projects to new projects starting either just at the end or just after another project is concluding. Therefore, the final aspects of projects including reviews are carried out in a hasty fashion both by the funding organisations and the partners themselves, thus, rushing through any metrics gathering activities of the ending project.

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?

WIT-TSSG response:

The guiding principle should continue to be one of “added value”; EU research should not duplicate work done at national level.

A Specific Coordination Support Action in each thematic area could focus on a large-scale study of research at member state level in that particular thematic area. Such a CSA should be timed in order to properly inform the relevant future calls.

Specific mobility programmes with less developed regions of the EU could enhance knowledge exchange (this could form part of the People Programme initiatives).

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?

WIT-TSSG response:

Current programmes and calls are set up as either one or the other, for example FET Open, is curiosity-driven research only, and another ICT call may be just agenda-driven activities, but we would suggest that budgets should be split in a general area between both curiosity-driven research and agenda-driven activities in the same call.

With respect to this balancing of curiosity-driven research and agenda-driven research, the allocated budget could be more flexible. For example, currently in the calls, the total (100%) of the budget is divided between curiosity-driven and agenda-

driven on a competitive basis with guarantees that a particular percentage (x %) is allocated to the first one and y % goes to the second one. But x % + y % doesn't usually add up to 100% . The rest could be divided based on the quality of proposals (e.g. from the innovation point of view) or these percentages should be allowed to slide depending on the quality of the proposals instead of just using the non flexible allocated amounts for x % and y %.

Sufficient funding should be made available to enable Coordination and Support action projects, whose distinct role would be to better highlight the societal challenges and interlink with the research communities. These should take the form of both top down and bottom up approaches (like in the past SecurIST, Think-Trust⁷, Inco-Trust⁸, etc..).

The impact of these CSAs needs to be well-defined with goals that ultimately bring the communities together to assist the development of strategic policy and agenda-definition. Unless more citizen groups are involved in interactive requirements-type definition activities, it is difficult to see how these societal challenges are defined and addressed.

10. Should there be more room for bottom-up activities?

WIT-TSSG response:

While there could be more room for bottom-up activities, our experience has been that there must be a balance between top down and bottom up approaches (see response to previous question and highlighted projects), especially when dealing with societal challenges. If you only focus on bottom up activities (for example curiosity driven research), they may lead to many dead ends as there mightn't be a fundamental policy in place to support the implementation of these activities when they come to this phase.

11. How should EU research and innovation funding best support policy making and forward-looking activities?

WIT-TSSG response:

The incentives for researchers and innovators to create forward looking activities, should be aligned with the needs for policy makers to control progress. Sometimes it is not transparent to researchers and innovators as to why controls need to be placed on some new innovations. A good example of this has recently been highlighted in a session on privacy and citizenship held during FIA Ghent⁹ in which innovators feel that EU privacy and data protection policy is a barrier to their products and services. A solution to this was that the communities and different stakeholders (policy, industry, legal and research communities) must work very closely together.

⁷ <http://www.think-trust.eu/>

⁸ <http://www.inco-trust.eu/>

⁹ <http://fi-ghent.fi-week.eu/program/>

12. How should the role of the Commission's Joint Research Centre be improved in supporting policy making and addressing societal challenges?

WIT-TSSG response:

Greater visibility and dissemination of JRC outputs should be actioned. Early engagement by the JRC in policy analysis and a holistic approach by the JRC to conflicting policy areas would be welcomed. Specific actions for large research centres to collaborate with the JRC would be useful.

13. How could EU research and innovation activities attract greater interest and involvement of citizens and civil society?

WIT-TSSG response:

An open call for citizens and civil representatives should be put in place, where it is clear that the researcher and innovator is solving a direct problem for them, but that it is also clear that it's a problem that needs to be solved in a number of Member States.

In order to obtain greater interest and involvement of citizens and civil society, there must be an expectation from them that they will receive something in return. As per the previous answer to a question where post-project evaluation might incentivise industry to actively participate, a similar impact/evaluation activity report may encourage citizen groups to be more pro-active. Unfortunately, the return of investment (ROI) to citizens on EU ICT research is difficult to ascertain and quantify.

4.3. Strengthening competitiveness

14. How should EU funding best take account of the broad nature of innovation, including non technological innovation, eco-innovation and social innovation?

WIT-TSSG response:

The social aspects of very technical projects are quite often not recognised in the proposal selection process. The technical projects are about getting results (reasonably) quickly. Introducing social aspects creates a significant delay in terms of technical development (if done correctly) and an allowance for this should be built into project durations. However, as always, it is about balance and the consortia are generally worried about getting downgraded if the evaluators don't understand the rationale for extra time requested for these aspects that are not the norm within these projects. A possibility would be to have follow-on or specific add-on calls for proposals, which look at the social aspects of interim or completed technical projects - but again, this could be seen as too late!

15. How should industrial participation in EU research and innovation programmes be strengthened? How should Joint Technology Initiatives (such as those launched in the current Framework Programme) or different forms of 'public-private partnerships' be supported? What should be the role of European Technology Platforms?

WIT-TSSG response:

In JTI and PPP preparation/setup/funding to date, it is clear that the large industrial players have had far more influence over how the consortia and proposals develop and thus funds are allocated. There was considerable confusion during the setup of the PPP as to the role of the Academic/research organisations within the core PPP. This has eventually led to a situation not favourable to higher education institutes, research centres and SMEs in general. In future, PPPs should have academia/research/SMEs represented as a success criterion.

With regard to the European Technology Platforms (ETPs), the difficulty now is that while there is funding for the organisations within the PPPs, there is no funding for the ETPs in general. Therefore, this will be seen as a detriment for the future of these worthwhile activities especially for partners not within the PPPs, which is a pity as they were the one of the driving forces in FP7 development and it is unclear whether this can continue into FP8.

16. How and what types of Small and Medium-sized Enterprises (SME) should be supported at EU level; how should this complement national and regional level schemes? What kind of measures should be taken to decisively facilitate the participation of SMEs in EU research and innovation programmes?

WIT-TSSG response:

An innovation Exchange could be put in place, allowing good ideas to be implemented by others.

The current participation rules do not seem to reflect favourably towards multiple beneficiaries from one country participating within projects. This would need to be addressed and rectified if there would be cohesion between EU and national programmes on a common framework.

17. How should open, light and fast implementation schemes (e.g. building on the current FET actions and CIP eco-innovation market replication projects) be designed to allow flexible exploration and commercialisation of novel ideas, in particular by SMEs?

WIT-TSSG response:

Again, question has a very strong thrust for Industry and SMEs strengthening when dealing with flexible exploration and commercialisation of novel ideas. This should also be addressing academic research centres, which very often lead to start ups, which are the life blood of innovation in Europe. At least, in this section, it is good to see the paper mention academics in relation to the need for ***open, light and fast implementation schemes.***

18. How should EU level financial instruments (equity and debt based) be used more extensively?

No specific response provided – see response of Forfás.

19. Should new approaches to supporting research and innovation be introduced, in particular through public procurement, including through rules on pre-commercial procurement, and/or inducement prizes?

No specific response provided – see response of Forfás.

20. How should intellectual property rules governing EU funding strike the right balance between competitiveness aspects and the need for access to and dissemination of scientific results?

No specific response provided – see response of Forfás.

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?

WIT-TSSG response:

More recognition for researchers without a PhD should also be considered in the programme.

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

WIT-TSSG response:

Continuation and expansion of the Co-Fund Scheme under Marie Curie; this scheme has led to the internationalisation and opening-up of many national schemes. A further development in this regard could be partnerships of similar schemes in different Member States with co-funding of the partnership by Marie Curie.

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

WIT-TSSG response:

Marie Curie Actions continue to be very effective in promoting mobility and career development. The current schemes should continue and budget should be prioritised for them.

Industry Academia collaboration should be further enhanced and prioritised by the Programme.

The IAPP scheme could be augmented by a “Fellows for Industry” Scheme based around individual career development.

Whereas individual excellence is recognised and supported by the ERC, there is still a gap in funding for mid-stage postdoctoral researchers (MERs). If the fellowship schemes under Marie Curie could extend funding somewhat for such career researchers to have a research assistant, for example, this could bridge this gap.

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

WIT-TSSG response:

This is a difficult topic and has been studied in depth in the past (see the works of Louise Ackers). Reference Ackers, L. (2004), "Managing relationships in peripatetic careers: Scientific mobility in the European Union". *Women's Studies International Forum*, Vol. 27, No.3, pp. 189-201.

A key issue is the notion of the "trailing spouse" - i.e. the spouse usually follows the male researcher when they become mobile. However, if the researcher is female becoming mobile causes a much greater strain on work-life balance.

25. How should research infrastructures (including EU-wide e-Infrastructures) be supported at EU level?

No specific response provided – see response of **Forfás**.

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?

WIT-TSSG response:

For International cooperation, from our experience in the INCO-Trust¹⁰ project, whose goal was to gain a better understanding of international cooperation specifically with regard to trustworthy ICT RTD amongst first world countries, policy alignment is key to the success here. The green paper seems to suggest otherwise that while the EU is very open, the other countries need to be reciprocating. A balance must be struck and considerable work on policy and technological alignment of the challenges on a global scale must be carried out in order for this mutual reciprocity to happen for successful INCO to take place. Within the final recommendations report¹¹, there is a strategic recommendation (SR1) regarding the criticality of successful policy alignment for the instruments to follow. Support for instruments bringing together the policy and research departments, eg. Coordination and support actions are needed to attain this level of policy/research alignment.

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?

WIT-TSSG response:

Re-integration of mobile researchers is a key issue. In certain countries, if a researcher becomes mobile and travels to another country to carry out research for a number of years, they can often return to find the position they left has been filled. This can result in "brain drain" for the researcher's country of origin. More grants should be

¹⁰ <http://www.inco-trust.eu/>

¹¹ http://www.inco-trust.eu/media/D3_1_report.pdf



made available to support the re-integration of mobile researchers. If this is in place, it might encourage more researchers to become mobile by choice, rather than having to be "sent" abroad. Some of this issue is being addressed within the Marie Curie Reintegration Grants and these models can be used for other funding instruments/schemas requiring re-integration solutions.