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DATE 15-04-2011

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Comments on the Green Paper Consultation on a common strategic framework for EU research and innovation funding from the Norwegian University of Life Sciences (UMB)

Information about the respondent

The Norwegian University of Life Sciences (UMB) is a university with a staff of more than 900 of which more than the half hold scientific positions. UMB has about 3,800 students of which about 430 are PhD students. Annually, the University confers 50 to 60 PhD degrees upon successful candidates. There are many different nationalities at UMB; the international students make up over 15% of all students at the University. UMB receives funding from FP7 and support programs in Norway.

Working together to deliver on Europe 2020

The questions in this section correspond to Section 4.1 of the Green Paper.

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?

We suggest a **reduction in the number of research funds** in order to get an easier overview of the support mechanisms and as part of the simplification process. Simplification of the project proposal and evaluation process is very important in order to increase efficiency and to stimulate creative research environments. Today, the number of funding schemes is high and funding opportunities are hard to overview. An evaluation should be done to sort out advantages and disadvantages in the present systems in order to create a future more efficient system without losing important instruments.



Call topics should be broad and supported with sufficient grants, also to enable more than one project per topic in order to achieve broadness in the research areas. Procedures need to be simplified in order to reduce the work load for application, contract negotiation, management and reporting.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

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

EU funding should support research all the way from good quality basic research, curiosity-driven research and strategic research to demonstration projects and pilot product projects. Challenges in call texts should be described in more general terms, stating the final aims rather than prescribing the way to achieve the goals. Calls should include more of flexibility regarding project type and size. Besides, a more rapid transfer of knowledge is required; in the chain from knowledge-driven research, to application-oriented science, and finally to product candidates and management practices.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

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

EU programs are important and complementary to national programs, especially to address large challenges at a European or global scale, in order to maximize the potential of European research and by facilitating long-term key research with good quality. EU research programs need to provide resources large enough for excellent frontier research as well as collaborative strategic research. Resources should also be provided for coordination of national activities to maximize their impact and for efficient transfer of knowledge e.g. towards applications for products and services. Part of the research and innovation (RnI) funds could be used to top up national funds and to quickly react to and participate in major global initiatives.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

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

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]



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

It is important to allocate research resources to **support smaller research projects**, also such with **short upstart times** and to increase the number of **open calls** in order to stimulate research ideas that arise from ongoing RnI. Challenges in call texts should be described in more general terms, stating the final aims rather than prescribing the way to achieve the goals.

There is at present a tendency among European research funding schemes to support large research projects, often with cross-sectional themes, but smaller targeted and narrow-disciplined projects may focus more efficiently on stated tasks and spend less effort on project management. Larger cross-sectional projects should be recognized as important and may be beneficial in certain cases, offering e.g. possibilities for holistic surveying of global tasks. Large projects may, however, confer a risk of being heavy organizations not using resources optimally. Evaluations of project, and their management, efficiencies in different types of projects [larger vs smaller projects, narrow-focused vs cross-sectional] should be done (see also answer for question 10).

Calls should include more of flexibility regarding project type and size.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

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?

A **simplification** process is important, and documents that urge future EU research funding to avoid support of research consortia working in parallel may be based on good (regarding efficiency) intentions, but needs to be investigated further before implemented. We stress the importance of **research competition** and the sometimes added value of consortia working in parallel with similar tasks. It is highly important **stimulate critical and open-minded research** in order to **avoid conformity and reliance upon stereotype paradigms**.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

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

[Free text response]

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]



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 funds?

RnI expenses in Europe need a substantial up-regulation to cope with other dominant economic regions globally. This must be done at several levels; public spending of EU and the member countries as well as increases in private RnI investments. It would be an important step if Cohesion funds and rural development funds can be integrated in EU RnI funding systems.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

Tackling Societal Challenges

The questions in this section correspond to Section 4.2 of the Green Paper.

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

RnI are important tools for structured and efficient tackling of the **current global challenges** such as climate change, food production to feed the world safely and sustainably, availability of (drinking) water, health and social welfare (demography, ageing, 'welfare-diseases'). An action plan how EU RnI funding shall meet the immediate needs for increased RnI aiming at solving the global challenges should be developed and adapted immediately including how to make increased and necessary resources for this RnI available. Public research resources are currently much too low; remarkably low in comparison with expenses for research in the private and military sector, and decisive reallocations must be considered.

How important are the aspects covered in this question? [Very important, Important, Of some importance, Unimportant, Don't know]

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

Challenges in call texts should be described in relatively general terms, stating the final aims rather than prescribing the way to achieve the goals. Calls should include more flexibility regarding project type and size. Such an approach will be highly stimulating for innovative ideas to be expressed, and may extend views not even foreseen by program committees.

How important are the aspects covered in this question? [Very important, Important, Of some importance, Unimportant, Don't know]



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

An important way to visualize and strengthen European research would be to radically improve the dissemination process, and it is an important challenge for the European community to provide the infrastructure for this. Each RnI program should by the end of the project articulate and disseminate the most important findings for policy-making and future perspectives for instance for further research needs. New European channels for dissemination should be created and existing one be expanded. This includes European web-portals, TV and radio-channels and programs etc e.g. for dissemination and debate of RnI, but also other matters for the European community regarding e.g. cultural and social tasks.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

12. How should the role of the Commission's Joint Research Centre be improved in supporting policy-making and forward-looking activities?

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

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

Research and innovation is often implemented for young children in schools and preschools (!), while higher education institutions often have been less active. Thorough efforts to stimulate innovation at all levels should be implemented within the EU. Universities must develop measures that stimulate innovation among students and in researcher environments.

Citizens are highly interested in novel and innovative products and services such as safer and healthier foods and better ways to cure diseases. This curiosity for innovation is an important resource that should be addressed and used much more. One way would be dissemination activities for the public where RnI activities and the benefits they offer are presented and discussed, at different stages of RnI programs (start, mid-term and end). Communication experts should be involved and used in dissemination activities for EU RnI activities, e.g. by seminars, hearings, exhibitions, web information, social media portals and TV programs.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]



Strengthening competitiveness

The questions in this section correspond to Section 4.3 of the Green Paper.

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

We agree that **innovation** should be seen as a natural part in a **research and innovation chain**. Caution must, however, be taken and this for several reasons: Firstly, investments in genuine and high quality **basic research** without immediate prospects of application and commercialization must still be recognized and supported, since this is a requirement for important innovation in a long-term perspective. Secondly, **the concept of innovation must be broad** and include not only technical and commercial exploitation of research results, but must include development in a vast concept and for large areas in the society. Innovation in a broad sense is an important part of daily RnI and does not necessarily (or only to a minor degree) have a focus on products and services that can be (are) commercialized within a close future. It thus contributes highly to increased efficiency in, and quality of, private and public production and services i.e. to the development of the society such as method development in human and animal health, in land management procedures etc. **Method development** must be recognized as an important part of innovation as it is in research, where it strongly contributes to the dynamics of the research development progress, for development of processes in authorities and industry, and for the entire society. Method development at all levels should be in focus to an even higher extent than today, e.g. by stimulating publications (both professional and public), international exchange of research (conferences etc) and by other efforts (e.g. special resources at schools and universities). Thirdly, the innovation concept must to a high degree **include measures on how to tackle the global challenges**, including climate change, development within social welfare and health sectors etc. RnI efforts in order to adapt to, and to mitigate effects of, climate change today are for instance highly efficient investments compared to a wait-and-see-inaction-policy, where future expenses and suffering from global challenges will be much most costly. Finally, innovation must thus not only include RnI with immediate commercial prospects, but should be seen as **logic means for long-term sustainable development**.

How important are the aspects covered in this question? [Very important, Important, Of some importance, Unimportant, Don't know]

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

Industry is important in identifying questions that have to be addressed in RnI, and the European Technology Platforms are well positioned to provide input to the general and annual research programs. It should, however, be recognized that industrial participation within several research topics not are necessary.

How important are the aspects covered in this question? [Very important, Important, Of some importance, Unimportant, Don't know]



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 programs?

EU programs for RnI are much more important for SMEs than for larger companies.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

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?

A dynamic development within RnI is highly important in order to tackle the global challenges. One of the most important means to achieve this is to support research projects with short upstart times and to increase the number of open calls where research aims, but not methodology, is essential.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

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

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

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?

RnI is often implemented for young children in schools and preschools (!), while institutes for higher education often have been less active. Thorough efforts to stimulate innovation at all levels should be implemented within the EU. Universities and research institutes must develop measures that stimulate innovation among students and researcher environments. It is important to continue the discussion about the types of means that are important.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]



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?

Private ownership of research results (IPR) can be obstacles for RnI, but may on the other hand attract (profit aiming) private investments. Strategies to overcome this conflict must be developed by the European Union in the coming period. These strategies should stress the importance of getting new knowledge to the society in effective ways, which means the public and industry RnI sectors should search for ways of developing collaboration. The patent application procedure in Europe must be reorganized, since today this may delay scientific publications longer than in other parts of the world.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

Strengthening Europe's science base and the European Research Area

The questions in this section correspond to Section 4.4 of the Green Paper.

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

The ERC program, with its open calls, is highly important for a creative RnI development (as stressed above). ERC needs, however, better funding since a broad research base is essential for development of world class excellence research in the forefront (also discussed under Question 23).

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

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

In addition to the existing RnI financial instruments, the broad investments in RnI and research infrastructure mentioned above, increased and quicker access to data and research results are necessary for successful RnI. One example is the need for genomic databases. See also answers to Question 21 to 26.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

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

It is a highly important task for EU to further stimulate research training and mobility (see also comment on international exchange, Question 26). More encouragement for mobility should be provided, as well geographically as between academia industry, private and public service sector etc., but mobility opportunities that include possibilities for normal social life must be offered (see Question 24).



It is particularly important to largely increase young researcher's possibilities to continue in RnI activity, i.e. also after Ph.D. student projects and postdoc fellowships (Marie Curie). Resources must be allocated for this purpose, e.g. via an enlarged ERC. A broad base of innovative research among young scientists would be an important prerequisite for research excellence. This is not only a task for the member countries, but for the entire EU. Such measures would furthermore be an important to strengthen women contribution to research (question 24), since many reports show that gender imbalances start during the career following after Ph.D. student and postdoc periods.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

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

From a social and an individual perspective it is important to eliminate all obstacles for every citizen to develop their skills and abilities. Therefore measures to increase women and thus family participation in RnI activities are needed. Measures include good child care and good primary schools, organizing RnI activities (meetings, conferences) during normal working hours (weeks), offer flexible working hours etc. Further resources for research training and mobility (see Question 23) are important for increased women contribution to RnI. The opportunity to fulfill postdoc fellowships at RnI institutes close to home for longer periods, and possibly complement this with shorter visits abroad, should be increased. Today's ICT possibilities offer good instruments for this.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

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

Modern research need modern research infrastructures, but investments and maintenance of such are often scarce. This infers serious risk to hamper RnI, which is highly unsatisfying regarding the challenges we face globally. EU has an outstanding and excellent mission to co-ordinate funding and practical efforts to establish necessary research infrastructure.

There are needs for e.g. full-scale long-term ecological experimental stations, demonstration projects for important technical solutions, access to large datasets and specialized equipment, genome sequencing and bioinformatics centers, metabolite and protein analysis equipment and expertise, remote sensing, capture and storage of large data sets. The importance of research infrastructures to produce, manage and exploit data will continue to increase in the coming years.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]



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?

International exchange of students, PhD students, researchers, ideas, research and business cooperation should be of highest priority in the coming FP, due to the important task to tackle the huge global challenges. EU should allocate resources to stimulate international exchange on higher studies, research training, and on international research and business cooperation.

Important partners for European RnI are for instance India, China, USA, Latin America and African countries.

[Very important, Important, Of some importance, Unimportant, Don't know]

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?

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How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

Closing questions

Are there any other ideas of comments which you believe are important for future EU research and innovation funding and are not covered in the Green Paper?

Highest economic and population growth rates the coming decades will occur in the developing countries. Innovation needs in the public sector in developing countries will be high regarding education, health care, food security, pharmaceuticals, product development, pilot plants and market introduction preparations. In addition, costs for adaptation for and mitigation of climate change effects will be higher in developing countries in the tropic and subtropical regions compared to today's industrialized countries. These are important challenges also for the European community.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

Sincerely yours


Ragnhild Solheim
Director of Research