

Input of the

Royal Netherlands Academy of Arts and Sciences (KNAW)
Netherlands Federation of University Medical Centres (NFU)
Netherlands Organisation for Scientific Research (NWO)
Association of Universities in the Netherlands (VSNU)

to the

Consultation: Green Paper on a Common Strategic Framework for future EU Research and Innovation Funding

The research community in the Netherlands welcomes the invitation of the European Commission to contribute to the design of the next generation research and innovation programmes in Europe. The Dutch research institutes have been active participants in the European programmes and hope to even increase their participation level in the future.

We – as representatives of the research universities, academic hospitals, national funding agency and academy of arts and sciences in the Netherlands – support the set goal to put innovation at the heart of the Europe 2020 strategy for growth and jobs. We hope to see innovation integrated in all policy domains, including agriculture and cohesion policy, with dedicated proportions of the budgets allocated for R&D purposes. We are excited about the initiative of the Commission to explore the development of a coherent framework for all research and innovation programmes.

Of the attached input to the questions raised in the Green Paper we wish to highlight the following four statements:

1. Create more synergy between research and innovation instruments. A coherent strategy for all European research and innovation programmes, including the current Framework Programme, the Structural Funds, Joint Programming, the European Institute of Innovation and Technology and the Competitiveness and Innovation Framework Programme, would stimulate public and private stakeholders to collaborate and inspire each other, and would stimulate knowledge transfer at the project level. Ideally this would result into a transparent set of instruments where researchers and enterprises can apply for financial support from the very first research idea to the final application of results. Structural Funds have been instrumental in realizing research infrastructure in the Netherlands and should remain available to both less and more developed Member States.

2. Acknowledge the role of frontier science to promote innovation. Supporting excellent scientists who carry out curiosity driven research is an absolute necessity for Europe as it is the most effective method for generating ideas to tackle the grand challenges that we face. The European Research

Council (ERC) has been an enormous success and larger budgets are recommend but not at the cost of other research related instruments. Scientific excellence should be the leading principle in the ERC as – in the long run – this is a prerequisite for building up scientific excellence for the European Research Community as a whole, including the new member states.

3. Simplify the rules for participation and administration. Implement a Single Information Single Audit system for all types of instruments. This would substantially reduce the administrative burdens accompanying European funding schemes. Further we suggest to implement a full costing based subsidy system to fully support financial responsible and sustainable knowledge institutions.

4. Stimulate the international mobility of researchers. Mobility is fundamental to international cooperation and as such strengthens the scientific development of the entire EU enormously. In order to enhance mobility the Member States and EC should improve tax, pension and social security issues associated with working in another country.

Greenpaper

Common Strategic Framework for EU Research and Innovation Funding

(Brussels, 2.2.2011, COM(2011) 48)

Working together to deliver on Europe 2020

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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?

Easier access and enhanced attractiveness of the EU current research and innovation funding can be obtained by the following considerations:

- The CSF should not be a bundle of autonomous funding schemes (representing FP8 and other programs like JTI, JPI, CIP, EIT, Cohesion Fund etc.), but a rational set of Community instruments addressing the objectives of the Innovation Union.
- There is a need for clear information (e.g. objectives, topics, instruments, participation, evaluation) and a need for more simple and straightforward application forms.
- Simplified and harmonised rules for participation for all funding schemes will be welcomed by the Dutch research community.
- All Community instruments should have a tool kit of funding schemes at their disposal and these funding schemes should be both aligned in a transparent way across the whole spectrum of funding instruments and be able to address topics tailor made.
- When aligning instruments, issues related to research-infrastructure, standardisation, education, and supporting measures for leading markets should be given due attention.
- The participants form a very heterogeneous group (academia, RTO's, innovative SMEs, etc.) and creating a level playing field is important.

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

- In order to bridge the innovation gap, growing attention to knowledge generation and innovation should be effectively channelled by taking into account strategic interests of public and private stakeholders and involving them when formulating strategic agendas. The inner cohesion between research and innovation activities should be enhanced in thematically defined areas of common interest for the Member States and/or the European Grand Challenges.
- In ordering research and innovation in thematically defined priority areas, a substantial part of every programme should remain available for exploratory fundamental research that would be necessary for, and driven from within that programme. Furthermore, the Dutch research community stress the need for blue sky research as innovative ideas and scientific breakthroughs find their origin in this type of explorative research.
- Demonstration projects as part of the innovation cycle should be encouraged as they are an excellent way to explore validation and application of the results of fundamental research. Demonstration projects should contain, on top of fundamental and pre-competitive research, components like feasibility studies, up-scaling trajectories, construction of prototypes, supply chain management, waste management, process innovation, business models.
- The Knowledge and Innovation Communities (KIC, of the EIT) can substantially reduce the time window to market uptake of the results of fundamental research.
- It is important to involve the entire chain from the very first research idea to the final application of results in the funding instruments for collaborative and individual research projects. Public and private stakeholders should be facilitated to collaborate and inspire each other, and knowledge transfer at the project level should be stimulated.
- In order to achieve an effective knowledge transfer between research and application, the knowledge-triangle between the *European Institute for Innovation and Technology*, the *R&D innovation guidelines* in the *Competitiveness and Innovation Programme*, and the *European Research Council* should be reinforced.
- Results from Framework programme projects could be more rapidly utilised via a follow-up innovation-grant programme under e.g. the Structural Funds of the EU. These follow-up grants will enable grantees to finance activities such as technical validation, market research, clarifying IPR position/strategy, and investigating business opportunities.
- Innovation can be stimulated and facilitated, but not orchestrated. It is important to combine a clear vision, strategic objectives, sound funding decisions and project quality: what and whom to fund are more important than how to fund.

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?

- An integrated approach to the *European Research Area* should include strategies towards research, innovation and education, and requires coordination between all relevant policy decision bodies in the European union such as DG Research, DG Enterprise and industry, DG Education.
- Incentives for European research organisations to coordinate their activities, to pool budgets, and to leverage other national and regional sources of funding, should be provided at EU level.
- Advantages in terms of synergy can be gained by gearing regional and national funding schemes to EU funding mechanisms. More strategic coordination between regions, member states and the EU in harmonising national and EU priorities will also have a positive effect on current problems of matching EU funds.

- All themes should request the mobilisation of all appropriate technical disciplines and all appropriate social sciences and humanities.

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?

- Joint programming should be conducive to a gradual expansion of coordinated initiatives of countries and regions with regard to the allocation of their research and innovation budgets which allows for variable participation. It should facilitate pooling of publicly-funded research and their budgets, and address the current fragmentation of research itself and the fragmentation of the research policy level .
- Member states should be encouraged to find more opportunities for inter sectoral and interdisciplinary research, to coordinate their activities and create joint programmes .
- Relatively small scale networks, such as the successful schemes of ERAnets/ERAnets+, form useful precursors to Joint Programming Initiatives, and should therefore be continued.
- Joint programming should encourage establishing active and pragmatic international networks, and in this way contributes to a living European research culture.
- Apart from strategic and applied research, fundamental research should be an integral part of Joint Programming Initiatives as well.

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

- Many projects of the current FP are of an appropriate size. The Dutch research community however would welcome more flexibility, in the sense that growth of (high risk) projects that have started of relatively small should be made possible.
- As large consortia inevitably increase both the complexity and therefore the organisational costs of projects smaller consortia should be accepted.
- The framework programme should also facilitate new, innovative combinations of research institutions in both public and private sectors, between European and national funding sources. These new, innovative combinations could well be organised in small, targeted projects.
- Precisely indicating a correct balance between smaller and larger projects is quite difficult, as smaller, targeted projects may very well be part of larger strategic ones.

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?

- The current set-up allows for flexibility and this is appreciated by the Dutch research community. As flexibility also results in complexity we believe that clear underlying principles that are easy to comprehend by the principal actors and that are easy to work with by financial experts are needed.
- Differences in management and accountancy principles and practices between different types of organisations should be taken into account, and the auditor's approach should be fitting to research practices.
- European financial reporting rules should be geared towards regional financial reporting rules. Reconciliation of those two systems currently demands huge financial efforts.

- Establishing a Single information, registration and single Audit per Legal Entity, of which the actual cost based system within the usual national accounting practice is an important element, should be encouraged.
- Introduce a uniform framework of administration rules. This will increase the knowledge, employability and productivity of financial experts and reduce the possibility of mistakes caused by misunderstanding regulation.
- Reduce timeline of subsidy schemes from application to final award.
- Make it easier for SMEs to enter a project and to leave a project during project execution.

7. What should be the measures of success for EU research and innovation funding?

Which performance indicators could be used?

- Research programmes that are financed by the EU will differ strongly in size, goals, potential for developing marketable products, scientific field, etc. Therefore each programme should define a clear mission and set of goals, coupled to a realistic time table. Such a set-up allows for monitoring and will eventually make it possible to measure the degree of success.
- Generally speaking there are four domains with their various performance indicators that may be of potential use.
 - Indicators related to project and programme outputs in terms of scientific products and results (does it address Europe's main research objectives, does it have wide-ranging positive impact on Europe's scientific performance, does it have the desired high level of peer recognition, etc.) and in terms of technological products and results;
 - indicators related to implementation of the programme results (e.g. progress in the innovation cycle, the involvement of co-innovators and users);
 - indicators related to the implementation and management of the programme;
 - indicators related to participation in the FPs, as well as to funding and its distribution by participants, sectors, regions, countries, etc (input indicators).

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?

- The Structural Funds can have an important leverage power, considering innovation as a driving force for Europe's competitiveness, and the role of R&D for innovation in industry and society.
- Programmes financed by the Structural Funds in FP8 should be more effectively oriented to support research and innovation, inclusive research infrastructure, education and training.
- An action within the structural funds could be set up that allows consortia of universities to assist universities of the New Member States via capacity building cooperation programmes to develop into more equal partners.

Tackling societal challenges

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

- The societal challenges should be the focus when setting up the overarching research agenda and this is a top-down process. Shaping the research programmes within the overarching agenda should be a bottom-up process involving all relevant partners.

- The identification and definition of the strategic research agenda has to be adjusted and completed primarily by the researchers and experts themselves. The result should be a healthy balance between the needs of society, academia and industry.
- For reaching the goals as set in innovation union, research within the domains of social sciences and the humanities are indispensable. Science for society should be a strong and integrated aspect of the research agenda, in particular when addressing issues like implementation and acceptance of new (technological) applications.

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

- FP8 should be driven by a core set of thematic priorities. These priorities should be set in a transparent dialogue between policy makers and researchers. After having established these priorities there should be more room for bottom-up activities, driven by the research community.
- Addressing the grand societal challenges has to be accomplished in multidisciplinary, cross-border research. Establishing multidisciplinary, innovative research teams would benefit from a more bottom-up approach.

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

- The Grand Challenges offer a good opportunity to set research agenda's that are focused on policy making .
- Dedicated EU funded projects on policy and foresight are important and should be maintained.

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

- JRC's role should be focussed on policy issues that are of a pan-European level and have a long time horizon (such as research on the innovation cycle within EU). Whenever issues can be delegated to research institutes from Member States this should be preferred.
- The management structure of the JRC should be set up that it can respond in a timely manner to unexpected events or crises.

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

- Dissemination and communication activities should be better targeted.
- The involvement of users groups (e.g. patient platforms in medical sciences) attracts greater interest from society.
- Joining forces with regional and national authorities to inform on results.
- Informing the general public on the progress or results of a thematic group of projects should be supported, public debate and events that stimulate involvement of the general public could be helpful as well.

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?

- The ERA would benefit from an increased coordination between the different policy makers at different levels, such as DG Research, DG Enterprise and industry, DG Regio, as this will create synergy also in the area of eco- and social innovation.
- All relevant participants in the innovation chain/cycle should be mobilised.

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?

- To fully exploit the knowledge developed and to accelerate the path from research to innovation, a more efficient framework for the transfer of results into marketable products and services is needed.
- Simplification of rules and regulations and a uniform interpretation and application of rules and regulations by all DGs will enhance industrial participation.
- ETPs are important contact points for the EU and proved to be effective vehicles to organise and mobilise sectors setting research agendas.
- In order to implement effective JTIs the various initiatives (such as ETP, ERAnet, Article 169 and 171) should be analysed to see whether or not, or to what extent, they can be used.

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?

- The focus of the EU support should clearly be directed at innovative SMEs (high tech, life sciences ICT, management, finance etc.).
- Funding schemes should allow SMEs flexibility in entering or leaving a project.
- The current funding scheme *research for the benefit of SMEs* should be continued but should focus on all kind of SMEs and not on low-tech SMEs only.

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?

- Results from FP projects that are more or less completed could be more rapidly utilised via a follow-up innovation - grant programme under for instance the future CIP or Structural Funds of the EU. Such an Innovation Grant scheme could be an entrepreneurial type of grant to individual researchers to develop innovative companies based on knowledge developed by consortia in the Framework Programme.
- Current philosophy behind the FET Open scheme is seen as a valuable way to allow for theme based groundbreaking research ideas: a simple procedure, a bottom-up approach, a relative small scale, and a healthy balance between research institutes and industry. Such a type of exploratory mechanism could be of value in scanning the multidisciplinary potential within most themes and challenges.

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

- No comment

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 comment

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?

- The current set of rules appear to be sufficient, however more flexibility in order to allow for specific agreements between partners would be welcomed.
- Open Access to public funded research results should strongly be encouraged. EU funding is public funding. Publications and data from all projects financed by EU should be made Open Access immediately (or in a few months) after the end dates of projects. This means Open Access will be mandatory widely.
- As many EU activities use matched EU funding - private parties co-financing EU-projects - intellectual property rights are a topic of importance, in particular when private companies generate profits by means of those research results.
- It should be discussed in the European Research Area what to do in cases of matched EU funding. Countries act differently right now. We should not approach this topic as if it is about 'striking a right balance', but rather about a definition of the exact activities of EU and of private parties with regard to specific projects.
- EU should take the lead in this discussion and produce guidelines, if appropriate EU legislation could be looked at and/or developed as well.

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?

- Basic research of today is the fruitful soil for inventions and breakthroughs needed to address the Grand Challenges of tomorrow. Therefore Europe must invest firmly in basic research.
- The ERC should continue fostering scientific quality by individual grants, using scientific excellence as sole and decisive criterion. The ERC should remain the niche for and of scientists within the Framework programmes. The ERC should facilitate fundamental scientific research in terms of unconventional, risky research programmes. This type of frontier research is a necessary prerequisite for innovation.
- A particularly attractive feature of the ERC grants is that they operate on a bottom-up basis across all research fields, without predetermined priorities. This feature must be maintained in FP8.
- With respect to the panel structure used, the Dutch research community believes that this structure should be continuously updated and mirrored by the latest development in science. Certain disciplines (e.g. social sciences and humanities) and cross-discipline fields (e.g.

engineering, design and green life sciences) need to pass through the review process while taking into account their particular characteristics.

- Keep excellence and impact (on science, technology and society) as main selection criteria in FP8. For the ERC in particular, scientific excellence should be the leading principle, excellence understood as in striving to be world leading in the scientific area. Investing public funds in top scientists will ultimately lead to the highest revenue for the European society as a whole.
- Higher budgets are recommended: the low success rate are discouraging excellent researchers to apply and will enhance 'brain drain'.
- Increase budgets for ERC should however not be at the cost of other parts of the Framework Programme's budget aimed at strengthening the science base, such as the budget for infrastructure, activities that fall under the Cooperation programme and schemes for strategic and applied research.
- Taking into account the principle of subsidiarity, the ERC should encourage bi- or multilateral collaboration by providing an additional bonus to cooperation of national funding agencies amongst member states.
- Frontier science should be represented in all projects and activities where appropriate. With the exception of the ERC, frontier science should not have a stand alone position.

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

- Cohesion funds could be invested in a more science oriented manner as this will allow for the development of science in both developed and lesser developed Member States.
- At the same time, scientific excellence as selection criteria in ERC should be maintained as in the long run this is a prerequisite for building up scientific excellence for the European Research Community as a whole, including the new member states.
- Mobility of researchers across all Member states is a key factor in building Europe-wide excellence.

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

- Facilitate training and mobility of excellent researchers in all stages of their career as Europe will benefit most from scientists who are allowed to develop and grow continuously. Marie Curie should therefore not only focus on training and research career development for junior researchers (including more junior postdocs) but also for scientist of a more senior level (including sabbaticals, exchange periods at companies or public institutions).
- In order to enhance mobility the Member States and EC should improve tax, pension and social security issues associated with working in another country. Existing barriers to researcher's mobility should be removed, such as those that hamper the combination of family and research.
- A Lifelong Learning Programme should be characterised by a coherent approach to mobility in the entire career path from student to top-researcher, across borders between countries, regions, and research institutes. This would foster not only the competitiveness of European universities amongst themselves, but would also encourage the international orientation of universities.
- It is imperative that the career supporting actions remain based on a bottom-up approach, without limits for any scientific discipline. The broad approach of the Marie Curie actions (esp. Marie Curie Intra-European Fellowships for Career Development (IEF), and the Marie Curie Industry-Academia Partnerships and Pathways (APP)) should be maintained.
- The various mobility programmes such as Erasmus Mundus, Marie Curie, EURAXESS, European Social Funds, should primarily be focussed on enhancing the quality of education and research, and not on quantitative objectives in terms of number of student and

researchers. Both for education and research, scientific excellence is to be the decisive criterion.

- A joint effort between the two DG's should be envisaged in order to coordinate the various mobility schemes more effectively.
- An overarching Lifelong Learning Programme could strengthen the ties between the various mobility programmes. Careful attention however should be given to the specific aims of the current programmes as currently each programme has its own main target.

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

- Changes in perspective toward women researchers can be effected in several ways. Practical issues such as supporting a strong childcare system are crucial for improving working conditions. EU could award applicants that give attentions to such issues.
- Networking and mentoring schemes are effective methods in strengthening the role of women in science and innovation and should be further encouraged.
- EU has a clear 'example setting' role as true changes will only come about when those at the highest levels encourage institutions to transform.
- The Helsinki group's activities are important and could be strengthened by using the expertise within the group in a more advisory role towards the EC.

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

- To shape Europe into a world leading science economy, collaborative large European research infrastructures, both hard and soft, are an essential element.
- Transnational access should be continued, as it is an important and successful instrument for free use of European user facilities. It also facilitates the co-operation between researchers from different countries.
- The ESFRI process is to be continued, accelerated and finalized as part of the CSF. It is important to involve the science community and stakeholders like EIROFORUM in the strategic process.
- In addition to financing the preparatory phase of projects of the 2008 ESFRI Roadmap, Community funds can play an important role in assuring and leveraging member states contributions, thus accelerating the realisation of the roadmap. Given the current budget restraints faced by national governments and the private sector, European funds may prove to be essential.
- Funding modalities for relatively small research infrastructure (e.g. for humanities or social sciences) should be developed as well.

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?

- Identifying a limited number of priority areas is important; these areas should preferably fall within the goals formulated in the Europe 2020 document.
- Both dedicated programmes have been effective in enhancing collaboration with non-EU countries like BRICs and developing countries but they could do better by reducing the large number of relatively small instruments.
- A better cooperation and coordination between programmes related to international cooperation (such as INCO-NET, ERA-net and SFIC) is necessary.

- Stimulation of mobility of researchers between EU and Non-EU countries should be regarded as one of the most effective ways of supporting international cooperation.
- For cooperation with lesser developed Non-EU countries flexibility on reciprocity requirements should be strived for.
- Capacity building Research and innovation cooperation with developing non-EU countries should be financed from Development budget of the EU.

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?

- EU funding instruments concerning ERA development should all be shaped by using a limited set of tools (modalities) allowing tailor made implementations. Furthermore, a maximum transparency should be strived for.
- The participation of SME's should be stimulated.
- The pillars of the ERA (FP, JP and SF) need to be better connected.
- Flexibility within funding and accounting will enhance participation and increase success.
- Interdisciplinary and intersectoral research needs support as such projects provide necessary links between various scientific fields.
- Cross-border research cooperation between research institutes of excellent quality needs stimulation as it plays an important role in the formation of a fully functional ERA.
- Mobility of researchers should be stimulated throughout their entire research career and this issue is related to issues such as the portability of pensions.