Flanders
State of the Art

Flemish position paper on the Interim Evaluation of Horizon 2020

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Introduction

Climate change, food security, ageing society, energy provision, health care, water crisis, refugee crisis, threat of terrorism and religious radicalisation, polarisation etc. are just a few of the many urgent global societal challenges European society is facing today. To address these challenges policy makers, the research community, industry and civil society should join forces and collaborate together on research and innovation to create critical mass and invest in sustainable growth, job creation, a resource- and water- efficient and climate change resilient economy and society, the protection and sustainable management of natural resources and ecosystems and a sustainable supply and use of raw materials, which are important elements to tackle these issues.

Horizon 2020, the current Framework Programme (FP), is an important part of the EU strategy and toolbox to address these challenges by focusing on research and innovation. As Horizon 2020 is halfway it is a good time to assess the impact of the FP on and for the Flemish stakeholders[1] and identify their needs and opportunities generated by the instruments provided by the FP.

First of all we will reflect on the horizontal issues, and focus on excellence, interdisciplinary research, Social Sciences and Humanities, international cooperation and gender balance. In general, we believe that these cross-cutting matters could be made more visible in the call texts to achieve tangible outcomes throughout the different work programmes. Secondly, we will emphasize on governance issues such as 'administrative simplification', 'oversubscription in relation to evaluation and impact assessment' and 'work programme structure and design'. We will suggest some recommendations. To conclude, the three pillars 'Excellent Science', 'Industrial Leadership' and 'Societal Challenges' shorthly will be discussed.

Horizontal issues

Excellence

We fully support the fact that 'excellence' is the most important criterion in the evaluation process of the research and innovation projects. It does not only concern fundamental and non-market-oriented research, but also 'excellence' is of great importance within the other two pillars of Industrial Leadership and Societal Challenges. To strengthen the knowledge base it is important to keep investing in a

[1] The Flemish administration -– the Department of Economy, Science and Innovation – has consulted the Flemish stakeholders (knowledge institutions, sector federations, government agencies and advisory council) via the Flemish consultation platform: ' the European Platform working party concerning the coordination and preparation of H2020 related initiatives.'

professional peer review system that uses excellence as a main criterion: this to assure that excellent projects will be the main beneficiaries of European funding.

Collaborative interdisciplinary, cross-sectoral and cross-border research

There is general agreement on the complexity of the global societal challenges. Therefore, these complex issues may benefit from a collaborative interdisciplinary, cross-sectoral and cross-border approach. Interaction and cooperation between different disciplines and different types of actors with a strong involvement of not only the research community, but also industry, public sector and civil society (end-users) should be stimulated and promoted. A better coordination and streamlining between the programmes of three pillars 'Excellent Science', 'Industrial Leadership' and 'Societal Challenges' may be instrumental to achieve this.

If work programmes and calls focus on interdisciplinary topics and collaborative research, the evaluation mechanisms must also equally be adapted to this end. Not only should expert panel composition provide a good balance of experts from the relavant disciplines, also the expected impact creation should be clearly formulated for both the applicants and the evaluators. When different types of stakeholders are involved and different areas addressed, the expected outcome and realistic and measurable impact on short and long term should be clear from the beginning.

Social Sciences and humanities

We welcome the efforts made by the European Commission to include the social and human dimension in all stages of research, but the integration of Social Sciences and Humanities (SSH) may still be improved. SSH is more than a supporting act or additive to technological oriented research. The societal challenges we are facing today need a more multidisciplinary approach which also takes SSH disciplines into account..

SSH should rely on an a robust science base in those projects in which SSH can broaden discussion, bring novel ideas and address complex global challenges which cannot be simply solved by technological improvements. The overarching goals of Horizon 2020 projects should be to generate scientific based knowledge, develop new applications, bring new solutions and economic and societal impact at the general benefit of society. Furthermore SSH should be involved from the very beginning: It starts with the formulation of research problems and ends when the evaluation phase is taken place. Experts with backgrounds in SSH should also be part of the evaluation panel, next to other non-SHH related disciplines.

International Cooperation

To strengthen the European Research area and make it more competitive and relevant in a globalising world, international cooperation with pan-European regions and countries should be enforced. Targeted budgets, depending on the country and its R&D&I-level, could be foreseen per work programme or within calls to support international cooperation. It should also be clearly communicated towards the stakeholder groups if international cooperation is mandatory or recommended. Thresholds as in how to obtain funding as an international partner should be removed or should at least be clear from the very beginning which steps have to be taken. A dedicated programme to include developing countries in cooperative projects should be developed. The European & Developing Countries Clinical Trials Partnership (EDCTP) may serve as an example in which national programmes are aligned and EC-funds as matching budget are provided.

Gender balance

To tackle the underrepresentation of female researchers in research and innovation projects we need to emphasise more on the gender dimension within the entire research context of Horizon 2020. Effective measures may induce more gender equality, diversity and mainstreaming in research. A thorough family friendly policy may be promoted by the EC. The combination of a research career with family responsibilities should be made easier. Financial burdens, impacts on job functions, types and opportunities related to parental leave, which is discouraging mainly for women, should be addressed.

Current gender projects and their project results should be used for future impact studies to monitor the effectiveness of these projects and to highlight best practices. To create a shift in mentality and to change the organisational culture, sustained investments should ensure the continuity of these projects.

Governance issues

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Administrative simplification

We welcome and support the measures taken to diminish administrative burdens, but there is still room for improvement concerning simplification and clarification, certainly for SME's. Hence, the European Commission should strive for more customer-friendly framework programme and limit unnecessary and time consuming administrative burdens, especially regarding internal invoicing, subcontracting, monthly hourly rates and full capacity for calculation of equipment costs.

The EC should also be aware of the fact that not all stakeholders are of the same size and have the same administrative working methods or equal possibilities of involvement. Large industrial partners have specific accounting principles in which determining personnel costs by personal hourly rates is uncommon. They work with payroll records which calculate personnel costs on the basis of unit cost whereas a unit often includes more than 100 persons. Due to data privacy reasons, these cost accounts are anonymous. Furthermore, there are quite a number of different cost categories within the payroll records due to specific requirements such as concerning the social security system or part-time work.

We advocate for the acceptance of usual accounting principles – like it was foreseen under FP7 – and when it comes to providing single invoices of minor costs, we would recommend an average calculation. Concerning the use of shared research infrastructures, we also support the idea of an average calculation of unit rate/hourly rate.

Auditors should also receive clear instructions from the European Commission.

Oversubscription in relation to evaluation and impact assessment

Horizon 2020 has been highly appreciated by the broad field of competitive players the framework programme is aiming at. This fact, along with the pressure on government (R&D) budgets in many countries, has led to a huge inflow of proposals and consequently an increased over-subscription (compared to previous FP's on RTD) and subsequently a low(er) success rate of funded proposals: in 2015 there was a success rate of 10.7%, which is lower than 2014, namely 13.2%. Because of the huge efforts put into the preparation of these proposals and the related (economic) costs, it has become less attractive to apply for funding. Highly qualified researchers and research groups can and are already looking for other kinds of funding instead of for FP support. This can ultimately lead to a lower involvement of many (important) research groups and a decrease in high quality proposals.

Therefore we are in favour of a two-stage-subscription with a strict selection during the first stage, but depending on the scope of the calls and the dynamics of the fields a one-step-subscription should also be considered. Those who do succeed to go to the next round should receive adequate and relevant feedback which can be taken into account during the writing of the full proposal. More detailed and relevant feedback should also be given to the unsuccessful applicants to better accept the results of the evaluations. Evaluators should not (only) give their single comments but a formulated consensus. Additional to increasing a better understanding of the evaluation results is the use of two digits after the decimal point in the scores. This allows for a sharper distinction between otherwise 'equal' scoring proposals. This could also allow for a finer use of the dynamic threshold where 'rescaling' of scores can be an option. The use of dynamic thresholds needs more fine-tuning to ensure a more balanced competition on the 2nd stage. It is also interesting to investigate whether a different approach is necessary in the first years of a new framework programme (where there are probably more applications), then later on in the new framework programme period.

A disadvantage may be that by emphasizing the two-step-evaluation procedure will lead to a longer time-to-grant. It is therefore important to keep this in balance by taking additional measures to accelerate the procedures to grant a project. It is indisputable that the evaluators need to take their time to evaluate, but streamlining administrative procedures and simplifying funding rules should have positive effects on reducing the time-to-grant. A firm and effective selection during the first phase, will result in less applicants being invited to write a full proposal.

In addition, more general and uniform guidelines for the evaluators active in the different challenges and instruments should be given as it seems that there is currently some degree of variation in the evaluation procedures in the different areas which is undesirably as coherence throughout the entire Horizon 2020 programme should be a main concern. Evaluation panels should be given sufficient time to make a thorough evaluation. Furthermore, the evaluation panel should consist of panel members both from academic or industrial backgrounds with different expertise to cover all the different disciplines that are involved.

We would also like to stipulate that there is an uncertainty regarding the requested scale of projects. Within 'each' Work Programme, the following is stated: '… proposals requesting a contribution from the EU between 2 and 4 Million or 5 and 6 Million (that kind of magnitude) would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.' This will lead to the submission of projects of different scales, what subsequently will lead to inconsistent evaluations. How can you evaluate and compare objectively proposals with different scale of budget, which probably have different kinds of involvements of researchers and infrastructure, different scales of scope and different sizes of impact?

Work programme structure and design

We would welcome a more transparent procedure of defining the different work programmes where all relevant stakeholders – advisory groups, expert groups, each PC's own supporters in their respective Member States – have the opportunity to deliver directly input in advance and give feedback during (open) consultations and have open discussions on content (at the initiative of the European Commission).

We would also like to stress the importance of the steering role of the Programme Committee (PC). As indicated in the name, the programme committees used to be involved in not only the planning, preparation and definition of work programmes (WP), but also in the monitoring and implementation of the WP. If we look at the current situation, most of the PC's are only involved later on in the procedure and not from the start. The PC members should also receive enough time during the procedure to consult with their stakeholders and receive input and feedback to make comments and suggestions to

orientation papers, scoping papers and work programmes. We are in favour of an optimization of the role of the PC delegates – who have a coordinating role towards their national stakeholders – with impact on the content of the work programme as PC delegates should reflect national issues rather than single specialists' opinions.

We are in favour of the biennal work programmes and a more structured, streamlined and transparant procedure to collect input for the work programmes. We think that the work programme may benefit from increasing focus and would welcome better defined topics with well-formulated and specific strategic objectives, rather than broad open topics. This may also help to decrease the oversubscription to calls.

Three pillars of Horizon 2020

Excellent science

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ERC, MSCA and FET

The investments in the European Research Council (ERC), as in the Marie Curie Actions (MSCA) – funding mobility and exchange of early career researchers which is important for networking – as well as in the Future and Emerging Technologies (FETs) are very much appreciated. Bottom-up, pioneering and curiosity-driven research lead to disruptive solutions from which excellence prevails and Europe's competitiveness can be strengthened.

If the European Innovation Council (EIC) comes into effect, it could link with the FET-instrument. In particular the FET-open calls and FET-flagships, which are aiming at ambitious (breakthrough) R&I projects in a bottom-up approach but targeting FET projects at lower TRLs. The results of the FET-projects could be picked up by the EIC for taking further steps. The same is true for certain ERC-projects which have received 'ERC – proof of concept' grant. These projects have an important innovation potential. The results of these lower TRL-projects can be taken into account in follow-up project funding and can be an important step in closing the innovation gap.

Research Infrastructures

We highly support the further development and wider use of Research Infrastructures (RIs) and we are in favour of better linking these RIs with industry, enterprises and regional innovation systems which give the participants the opportunity to collaborate and invest in community and network building.

Industrial Leadership

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In the industrial leadership pillar, the three objectives - (1) more innovative SMEs to create growth and jobs (2) strategic investments in key enabling technologies (e.g. advanced manufacturing, microelectronics) to underpin innovation across existing and emerging sectors and (3) attracting more private investment in research and innovation – reflect well the key priority elements that are necessary for Europe to build up its knowledge-based competitiveness in the global market and respond to the key priorities for smart, sustainable and inclusive growth of the Europe 2020 strategy.

Regional connectivity

Within this pillar we think it is important to invest more in the link between the ESIF (ERDF), the smart specialisation strategy and H2020. To create a more efficient, effective and cost-reducing innovation system we should invest in these synergies, but we have to consider at what level these synergies could work.

To combine H2020 and European Structural and Investment Funds (ESIF) at project level could unnecessarily make things more complex and would reverse the simplification trend H2020 has deployed already. We, as member states, as well as the EC must in addition be fully aware that the main beneficiaries of Horizon 2020 and the main beneficiaries of ESIF support aimed at R&d&I are very unevenly distributed across countries (and within countries) and do not necessarily match with each other. Recent JRC-data demonstrate this to a great deal. In most cases, regions and countries enjoy high H2020-funding and relatively low ESIF-support, or vice versa.

Hence in reality there are only very few regions of the total number in the EU that have sufficient budget from both Horizon 2020 and ERDF to setup a meaningful coordination of both funding sources. This obviously limits the possibilities of combining both funding sources and makes difficult (if not impossible) to create synergies at project level.. Moreover, both programmes are also driven by different rationales to start with (excellence objective and competition among participants in H2020 versus cohesion objective, earmarked budgets within a country and capacity-building in ESIF).

Furhermore, co-financing H2020 projects is at this moment simply not planned or foreseen in many regional Operation Programmes for ESIF during the current period 2014-2020 and hence legally and in practice very difficult to realise. We advocate to create stronger synergies at programmatic and thematic/strategic level, not only for Horizon 2020 and for ESIF, but also for the related other initiatives such as JTI, JPI, ESFRI-ERIC, KET, EIT-KIC….

Industry and SME involvement

To create a better balance across the whole research and innovation chain and to create more impact with EU R&I programmes, we should also encourage the participation of key industrial sectors and companies. This will ensure market introduction by industry at various levels (small and large, young and mature, low-tech and high-tech, industry and services, etc). Collaborative involvement of large and smaller companies (outside the SME instrument) should be further promoted, as public-private partnerships have a demonstrated added value. Nevertheless, public funding of private partners should ensure a return on investment towards the public and at the benefit of society.

The requirement of participation of SMEs in collaborative projects should only be supported when there is an actual added value and requirement for the SME to participate. In many cases SMEs are taken on board just because it is a requirement, whereas the SMEs have no interest, expertise and time to contribute to the project development. Special instruments for SME lead projects may be envisaged. Such projects may very often be rather small as compared to the projects meant to address the global challenges, while still bringing significant innovations. Special attention should be paid to administrative simplification for SME's, as explained above.

Societal Challenges

First of all we would like to state that we highly appreciate the overall approach of 'Pillar 3' which addresses the urgent global societal challenges we are facing today. Due to the fact that progress is being made and that new challenges emerge, it is important to assess and analyse the current societal challenges. We should analyse the progress made and consider changing the focus when needed and bring new societal challenges under the radar.

These challenges – which are of a complex nature – will benefit from interdisciplinary research and a stronger interdisciplinary approach should be envisioned. Additionally we also support the need for more investment in collaborative basic research. At this moment the main focus within this pillar is on the higher TRL's. To understand the societal challenges and to address them better, funding for basic curiosity-driven research should also be ensured.

Link with Joint Programming

We believe that since the Joint Programming Initiatives (JPIs), Joint Undertakings and the Horizon 2020 programme are addressing more or less the same challenges, there is a strong need for coordination between the different programmes. This does not (necessarily) mean that the JPIs need to be fully integrated in the H2020 programme or in the Joint Undertakings but a better connection/interaction/harmonisation would be greatly welcomed. All instruments, be it H2020, the JPIs or the JUs could benefit from simplification concerning management of the calls, monitoring, reporting, etc.

Concerning the different JPIs in relation to each other, there is also room for more coherence. The European Commission and Horizon 2020 are only indirectly involved in these collaboration vehicles between Members States' R&I funding agencies, through the funding of instruments like ERA-Net CoFund. However, the EC could request the agencies involved to follow a harmonised set of procedures for announcing calls and evaluating applications especially in ERA-net co-fund (e.g. the distribution of the top-up money over the selected proposals). These JPIs should also be subjected to an impact assessment to analyse whether their performance and impact to addressing the urgencies related to the challenges.

The existence of these initiatives – as well as the JPIs as the JUs – should not evolve to a goal by itself, but focus on the challenges that can only be solved by joining forces across national boundaries. Underperforming initiatives should indeed be discontinued. On the other hand if the JPIs are still relevant to address a societal challenge, the EC should provide a better instrument to keep the JPIs sustainable for the time needed. JPI calls could be combined within calls in pillar III.