

Position of Belgium (BE) on the next Framework Programme for research and Innovation (“FP9”)

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I. INTRODUCTION

Research, Development and Innovation (R&D&I) is the main driver for growth, jobs and welfare. The general objective of the next Framework Programme (FP) is to contribute to smart, sustainable and inclusive growth in Europe and to address the societal challenges Europe faces. Furthermore, the FP supports the UN sustainable Development goals.

This paper presents the Belgian position on the future Framework Programme (FP). This position paper is based namely on consultations about the interim evaluation of H2020, at federal and regional levels, with ministries, funding agencies and various stakeholders from universities, university colleges, school of arts, industries, SME's and research centres.

The document is structured in three parts starting with 5 guiding principles, followed by 12 implementing principles and ends with some suggestions concerning the organisational structure of the next FP.

II. GUIDING PRINCIPLES

1. Excellence as main criterion

Excellence, as a result of international competition, should remain the main evaluation criterion for research and innovation proposals. Only research of the highest quality can have a valuable (non) technological and societal impact, while maintaining the attractiveness of the European Research Area (ERA) towards the rest of the world. However, excellence cannot be narrowed down to scientific excellence only. All projects, irrespective of their type should be “simply the best”, in accordance to the goals and targets defined beforehand.

Belgium acknowledges the existence of a lack of participation of some member states (MS). However, the main principle of the FP, a pan-european competitive selection based on excellence, cannot be watered down by adding corrections of a geographical, political or financial nature.

2. Coherence in the European research and innovation landscape

Coherence is needed between all European, national and regional R&I policies. FP9 should be better combined with other European R&I policies (ERA, EU-cohesion policies...) and initiatives (e.g. EURATOM)" on the one hand and aim at a clear division of labour with national/regional R&I policies

on the other hand. Taking into account that European, national and regional funding sources have different finalities, research targets must be set at a realistic level. Although this may be difficult to achieve, an analysis at a programmatic level may offer new perspectives and opportunities.

Combining support for research and innovation into one single programme, like in H2020, is efficient and has to be maintained.

3. Budget for R&I: an investment for our future

The budget for R&I must represent a significantly increased part of the future overall EU budget.

Addressing effectively common EU challenges requires an integrated and horizontal approach to research and innovation across policy domains and DGs boundaries. Therefore other directorate-generals of the EC, such as Agriculture (DG AGRI), Energy (DG ENER) or Transport (DG MOVE) could also reserve a certain percentage within their budget to link with FP9 activities.

4. Societal challenges need to be addressed

Europe faces major urgent challenges for society which need to be addressed in order to find solutions and have a positive impact on the life of EU citizens. To be able to address these numerous societal challenges the core of the next FP should be built around these challenges and should cover the entire research and innovation chain through an integrated approach of support measures and financing and funding mechanisms. In addition, all scientific, technological as well as non-technological domains required to tackle a challenge should be combined in a multidisciplinary matter. There should also be room for bottom-up and knowledge-driven R&D&I activities in separate parts of FP9, while ensuring dynamic linkages between the various parts with an appropriate proportion of R&D&I on the lower and higher TRLs.

In order to define which societal challenges are to be addressed, Belgium urges for a greater coherence between the grand challenges described by the European Commission's driven FP Horizon 2020 and the challenges defined by the member states-driven joint programming initiatives. In both cases it is of great importance to assess the way we have been dealing with these challenges and to analyse whether progress has been made and whether there is a need for new societal challenges to be addressed, or a current one to be abandoned.

A sound balance between the involvement of the different players should be ensured, incentives created and barriers abolished to ensure the formation of ecosystems of collaboration between universities, university colleges, school of arts, research centres, policy and public engagement bodies, small and large industrial players and civil society in a composition that best suits the proposed research and its intended results and exploitation.

5. The added value of European R&I

An important added value of the European framework programme consists in promoting the

collaboration between research and innovation partners from different countries on cross-cutting themes. The EU funded R&I brings together the best expertise in Europe and connects ecosystems, providing added value and leverage effects to national and regional funded projects. Furthermore, in view of increasing the impact of the R&I investment, more attention should be paid to dissemination and systematic exploitation of results of the funded R&I projects, at national and EC levels and within the framework of international negotiations.

Smaller players (SME's, small research units or non-profit organisations) benefit as well from connecting to the European ecosystem. The next FP should provide ample room for small- and large-scale, bottom-up, collaborative research programmes.

III. IMPLEMENTATION PRINCIPLES FOR THE NEXT FP

1. Financial and funding instruments

Grants should remain the main instrument for funding research. However, combination with further financial instruments for investment in closer-to-market innovation projects (such as setting-up pilots, demonstration infrastructures, shared facilities, modernising production processes and creating new production lines in European priority areas such as Key Enabling Technologies and Digitalisation) should be further explored.

The future FP should offer a simplified and clear panel of financial instruments that considers the wider offer of financial instruments in Europe on the one hand and accepts that such instruments are not always suited to the needs of smaller regions/jurisdictions on the other hand. This means that proper funding mixes should be developed, where financial instruments operate as a complement to basic, grant-based funding.

2. Joint programming

There are multiple instruments available for joint implementation and/or coordination of activities. The differences between ERA-net, Co-Funds, Article 185 initiatives, European Joint Programme Co-fund actions, etc. in terms of scope, participants and type of activities supported are not always clear. The heterogeneity in terms of procedures, rules, calls, forms, monitoring, reporting is confusing for potential applicants and funders and should be harmonised.

The Joint Programming Initiatives (JPI's) are funded and implemented by the Member States and supported through Horizon 2020. JPI's and other forms of joint programming should be much more linked to the FP as they address quite often the same societal challenges. This should not negatively impact the ability of the JPIs to act on their own if needed.

3. Research Infrastructures (RI)

Research Infrastructures should be kept as a separate area. Activities like opening up of existing RI (integrating activities, particularly the transnational access funding), further integration of existing e-

infra, design studies for the upgrade/construction of new RIs, support to innovation and international cooperation are important and central to the success of the RI policy at EU level. Support to the preparatory phase and implementation of ESFRI are also crucial with a particular focus on the long-term sustainability of the ESFRI RIs. Belgium is in favour of a better synergy with companies, whenever relevant, without jeopardizing the integrity or the scientific quality of the research.

4. International cooperation

We support strengthening international cooperation with regions and countries outside Europe in the new FP, which was below expectations in the current FP. There is room for improvement in making the EC's strategy more visible and coherent and in defining R&I topics in dialogue with the targeted countries.

Belgium would welcome a dedicated international part inside the FP, with its own programme committee, focused on target regions and/countries and with content determined after negotiations with the target region or country. Reconsidering specific SICA¹ activities (with obligatory extra-Europe cooperation) might also be an option to achieve a greater participation of third countries.

Belgium considers the participation of the UK researchers in the future FP as very valuable and hopes that a fair solution to guarantee their future involvement can be found.

5. Smart specialisation

Regions are key actors in building innovative ecosystems and in linking Europe with the industry/SMEs, the universities & research centres, as well as citizens. The regional dimension is not only a matter of Cohesion policy, but has to be considered systematically in the design of all EU policies.

Belgium supports the development of co-funding projects, combining a regional development perspective with a transnational collaborative one, combining thus the development of regional assets with openness and collaboration with European partners. New management rules must be developed to allow mixed funding of innovative projects from different sources (public/private, EU, national, regional funds, tools, domains, and across regions). Therefore, some practical obstacles need to be overcome, notably relating to timing, eligibility rules, need for a derogation to state aid rules, etc. Learning for e.g. from the "Vanguard initiative", new approaches could be developed under FP9 regarding transborder interregional cooperation.

6. Simplification

The simplification and rationalisation of procedures, rules and number of instruments should remain a top priority. SMEs in particular would welcome this.

¹ Support International Coordination Actions.

A lot of progress regarding simplification of procedures (for e.g. electronic signature) has been made. Nevertheless, there is still large room for improvement. The reporting burden at the start and throughout the life-course of the projects should be reduced (for e.g. the calculation of salary cost per hour is too complicated). Furthermore, the time-sheets system could be completely revised and even abolished. Finally the reporting should be required at the level of work packages instead of reporting per task (too detailed) and hours reported per package.

In general, the reporting system should be more based on trust and research results than it is now, while still taking into account the possibility of research failure and allowing for ways to prove honest attempt to achieve the expected goals.

Each country/region has its own regulations (such as wage scales, depreciation rules, etc.) that local Research Performing Organisations (RPO's), including universities, university colleges and school of arts, have to adopt. Each initiative taken by the EU that affects these regulations leads to the set-up of separate bookkeeping systems for EU funded activities. This can be avoided by accepting the usual accounting practices of the RPOs.

Bottom-up projects do not necessarily conform to standard administrative models, and a flexible approach is needed.

7. Innovation

Belgium believes that more can be done in the next FP to integrate non-technological, social, institutional, organisational and behavioural innovation, including innovative business models and also service innovation and user-and demand-driven approaches as well as financing of the go-to-the market phase. Taking into account all forms of innovation would also allow for a better integration of human and social sciences into research projects.

7.1 The European Innovation Council (EIC)

To counter the innovation gap in the next FP Belgium relies on the European Innovation Council (EIC). The EIC can play an important role in making excellent innovative projects ready for investments via a bottom-up process. Both incremental as breakthrough innovation projects should therefore be scaled-up via the EIC. These projects should not only include technological but also non-technological/societal innovation aspects.

These projects with an excellent potential to create innovations do not refer to scientific excellence here, but refer to innovative capabilities, including high risks and high gains.

The EIC should comprise the most important innovation-related funding instruments which are scattered over different parts of H2020, like the SME-instrument and the Fast Track to Innovation (FTI).

Another important point to focus are (large scale) pilot and demonstration infrastructures or large scale living labs, including networked infrastructures. Appropriate funding mixes should be

developed for this kind of projects that are often non-bankable, taking into account different financing needs for building and operating that kind of innovation infrastructures, which should be developed on a public-private model, for guaranteeing open access, notably for SME. IP management aspects are an important element in the financing model. Also in other types of projects with private partners, which are located in a higher TRL, these private partners could opt for a financial instrument instead of subsidies. However, the choice of the instrument (funding vs. financing) will have an impact on the risks incurred, the IP arrangements and possible profits which might hamper the 'open' aspects of the FP, and therefore should remain with the participants.

7.2 Support SMEs through the innovation value chain

As stated above, to overcome the European innovation gap the EU needs to invest more in scaling-up SMEs and support activities for market uptake. There is a multitude of tools that could be better adapted to SMEs while they face the competition of bigger companies with incomparable means. The tools dedicated to SMEs are also underfunded, whereby the success rate is too low, which leads to discouraged applicants. The EIC could offer a solution by managing in first instance instruments that stimulate at an accelerated rate innovations of a disruptive nature while not excluding incremental innovations.

Furthermore, efforts should be made to encourage the dissemination in Open Access (OA) of a broader diversity of research outputs, useful for SMEs. Additionally, based on increased access to data new data business models could be created, strengthening competitiveness in the EU market.

7.3 Creating EU world class industrial clusters

More ambition could be shown to interconnect the EU-world class industrial clusters. Clusters are particularly relevant regarding deployment of KETs **across value chains**, piloting or demonstration projects as well as involving SMEs **in innovation ecosystems**.

7.4 Joint undertakings (JUs)

A significant part of the FP budget is allocated to the Joint Undertakings (JUs), which are an important instrument for private sector participation and deployment of innovation in Europe. The net outcome of the JUs has been nevertheless a matter of on-going debate. It is clear that a long term commitment is needed before an impact may become visible. Therefore the JUs should return to their original reason of existence, i.e. to visibly increase private R&D investment and deployment in the EU. In addition, JUs should focus more on disruptive innovations and the creation of new markets, instead of on incremental steps forward that do not generate sufficient return on investment for society as a whole. If the JUs will be continued under the FP9, an appropriate return on public investments should be guaranteed. In addition, stronger efforts should be made to increase the participation of SMEs and midcap companies in the JUs and the involvement of academic project partners and other relevant stakeholders should be broadened. In particular, JUs should maintain close links with research happening at lower TRLs as it is important that industry remains its competitive edge, knowledge base and absorptive capacity.

7.5 Public procurement

Finally, we value the “public procurement” instrument as a strategic innovation supporting and stimulating policy tool. Also, joint public procurement could be stimulated and implemented with an eye to increased public ([inter]active) involvement in research and innovation activities.

8. Responsible Research and Innovation (RRI)

RRI should involve as much as possible all actors of society, avoiding any overrepresentation of the dominant actors of the industry, and be horizontally integrated in the next FP rather than addressed by a separate SWAFS/RRI WP. Although the European Research Area and the European Higher Education Area are two different processes, involving different members and procedures, RRI may provide a conceptual framework that leads to a better complementarity between successor FP and Erasmus + actions in the fields of RRI, Citizen Science, Gender and Open Education.

9. Gender equality and gender mainstreaming

The new FP should have a double ambition regarding gender and R&I: it should (1) try to increase the participation of women in R&I in order to achieve gender equality (e.g. composition of evaluators’ panel) and (2) reinforce the gender approach in the content of R&I projects.

The objective to mainstream gender in R&I content would need to be tackled in a more ambitious way in the next framework programme. In order to produce results (for ex. in personal medicine, engineering, computer sciences and applications etc.) that are useful for all human kind, sex and/or gender, should be taken into account in the design of R&I projects, from the development stage to the implementation phase.

10. Open Science

Future FP should continue to support a diversity of roads towards open access to publications, promoting embargo periods as short as possible – according to the disciplinary specificities - and avoiding any unilateral support to publishers whose business models are not transparent or based on very high APCs² or so called “hybrid models”. Actions should be funded to explore and assess alternative business models in OA publishing, including those relying on the principle that researchers themselves and the research institutions should regain a stronger control on the publication of their research outputs, and should systematically integrate the issue of researchers’ evaluation and the adequate choice of performance indicators in research assessment.

Further attention should be paid to the “Citizen Science” dimension of Open Science, and to the promotion of the critical thinking and evidence based approach outside of the academic circles. According to the type of research involved – basic, strategic or applied – and while preserving the academic freedom necessary to the production of curiosity-driven science at the frontiers of knowledge, citizen science may imply dialogical ways to communicate science, Open Education activities, the participation of citizens in the definition of research policies, research agendas and

² Article Processing Charge.

research questions, or even their embedment into the research process itself.

Awareness raising actions are still much needed at an EU level, on the researchers' as well as business' side, including issues about the legal hurdles to Open science (IPR), clear definitions of Open Research Data, substantiated evidence of success stories, both financially and operationally and serious assessment of users' needs. Not only rational elements would be welcome, but also emotional resistance should be addressed, such as the irrational fear of losing one's academic freedom and compromising the scientific integrity of the research.

Beside, adequate indicators that go beyond bibliometrics should be developed and integrated in the monitoring of the successor FP.

The stakes of the Open Research Data policies need to be clarified, as well as the requirements for applicants in terms of Data Management Plans.

11. Social Sciences and Humanities (SSH)

Although Social Sciences and Humanities (SSH) researchers can considerably contribute to RRI, RRI is a relevant concept for all disciplinary fields and should not in any way be considered as synonymous of SSH embedment/integration within FP. Also, in the perspective of the "quadruple helix", a broader diversity of disciplines within the SSH - not forgetting the "H" of humanities and the arts - should be considered as providing a valuable contribution to the next FP and, more particularly, to its more complex societal challenges. This in turn requires the effective and horizontal involvement of SSH researchers with a diversity of backgrounds in the very processes of defining the societal challenges and drafting Scoping Papers. SSH researchers should be further included in the advisory groups of all pillars of the next FP -, work programmes and project proposals, beyond add-ons and consultancy tasks.

To assure the coherence and the efficiency of such a multi-level and horizontal integration of SSH to FP, an SSH platform, consisting of researchers and representatives from policy, business and civil society, might also provide input for SSH activities and social innovation in future FPs, analogous to the already existing European Technology Platforms. Such a platform should be SSH driven but at the same time include stakeholders from outside of the SSH research community, in the perspective of fostering an interdisciplinary context that better takes into account the specificities and added value of SSH research for the FP and EU research and innovation ecosystem.

12. Security and Defence

The Global Strategy for the EU's Foreign and Security Policy calls for a stronger Europe in security and defence matters. It needs to be translated into concrete actions to support the development of key capabilities necessary for the security of the Union and its citizen.

The need to link security, space and defence research (including cyber-security) and related

technological challenges has already been identified in previous framework programmes and was sometimes addressed through joint calls EC/EDF for certain specific topics when pooling of resources was relevant. We suggest continuing along the same lines.

In the future, connections between the European Defence Action Plan and FP9 may be useful. However, it is currently not clear yet how “compatible” both programmes will be. Given the more confidential nature of the EDAP it may be kept outside the FP with its own objectives and procedures (including their own funding instruments, programme committees, evaluation boards).

IV. FP9 PROGRAM STRUCTURE AND EVALUATION PRACTICES

Belgium is broadly satisfied with the structure of Horizon 2020. We welcome separate pillars for autonomous researcher-driven and knowledge-driven R&D&I activities, but we urge for a better connection between the three pillars, meaning that ideas, technologies and project results should be further developed -when appropriate- under the other pillars. A more holistic approach to tackle complex and interconnected challenges is therefore recommended (space and climate, climate and food/marine, security and climate food/space/marine...). Joint calls should be more often considered in the future. Also, bridging towards (and from) other EU programmes should be made easier. It is also important to keep on supporting interdisciplinary work and use interdisciplinarity as an evaluation criterion for the funding of proposals. It goes without saying that the future FP needs to be open to all disciplines in all parts of the programme.

The duration of the FP should be longer than 5 years, approximately 10 years. The mid-term review of the FP should really lead to a potential reorientation of the challenges (and as such be an instrument guaranteeing flexibility in the political priorities). This role could be taken up by a high level group. Belgium favours two-year Work Programmes (WP) except at the start (the first year) of the FP, given the lack of time available for drafting the first WP and reach approval from the various delegations.

A more transparent procedure of defining the different WP's would also be welcomed. All relevant stakeholders should have the opportunity to deliver timely input and feedback during (open) consultations. National Programme Committee (PC) delegates should ensure dissemination of information to national stakeholders and assure a coordination and steering role.

Regarding impact measurement and evaluation, Belgium would like to stress that the impact assessment framework for the new FP should tackle the impact of the programme as a whole and not instrument by instrument. It should also be designed while keeping the reporting burden on beneficiaries and other stakeholders to a minimum: defining the key evaluation components in advance and making maximum use of automation through the Participant Portal and its linked

databases as key components of this design.

This raises the question about the main assessment criteria when evaluating the impact of research. We believe that a broader set of criteria is necessary going beyond purely economic factors (exploitation of results, return on investment, etc.) taking into account the wider scientific and societal impacts.

Furthermore, we are convinced that the impact of the R&I investment can increase when more attention is paid to dissemination and communication efforts and exploitation of results. As an active member state under the current and past FP, Belgium is convinced of the added-value of European R&I and will contribute to raise public awareness of the FP achievements.