



CONFINDUSTRIA

Position Paper

Towards an ambitious FP9

Confindustria preliminary
comments

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Through the present paper Confindustria, the main Italian Association representing companies of all sectors and sizes, aims at providing its first contribution to the on-going debate on FP9, commenting on a number of strategic issues, also in the light of the “LAB-FAB-APP” Report presented by Pascal Lamy on 3 July 2017.

With a view to develop an ambitious future Research & Innovation Framework Programme, built on Horizon 2020 achievements and willing to further strengthen EU industrial leadership, Confindustria considers it necessary to:

Key messages:

1. Increasing significantly the overall EU budget for research and innovation;
2. Preserving an architecture which reflects in a balanced manner the whole innovation chain from basic, to applied research to close-to-market actions (as it is the case within the current H2020 three pillar structure: excellent science, industrial leadership, societal challenges);
3. Keep a strong industrial dimension recognizing the fundamental role that industry plays in turning knowledge assets into innovations in the form of new products, processes, services and business models;
4. Making FP9 open to a large concept of innovation, including both break-through / new market creating and incremental innovation and allowing the participation of all – high innovative and more traditional – companies (in particular SMEs);
5. Recognizing the key role that contractual Public Private Partnerships (cPPPs) and Joint Technology Initiatives (JTIs) play for collaborative R&I at European level;
6. Develop a clear concept and role for the new “missions” focusing on their contribution to growth and competitiveness at European level;
7. Continuing financial incentives in form of grants for all actors of the value chain, including small, medium & large companies.
8. Achieving better and stronger synergies with other European Union programmes, especially Structural Funds.

Position Paper

1. Increasing significantly the overall EU budget for research and innovation

Research and innovation are key drivers for job creation, economic growth and competitiveness in Europe. As recalled in the recent report by the *High Level Group on Maximising the impact of EU R&I Programmes*¹ led by Pascal Lamy, “R&I is foremost a budgetary policy: the volume of resources allocated is an expression of the policy ambition ... Reducing the overall level of R&I investment would be a mistake and a clear reversal of progress...”.

Massive European R&I investment, both private and public, notably in applied research, is one of the key answers to keep up with global competition. For decades, EU R&I Framework Programmes have been successful in increasing collaboration across stakeholders in different Member States, supporting risk reduction and accelerating time to market and demonstrating mutual commitment and acceptance. They have been contributing, together with national programmes, to gradually scale up European financing for R&I with the objective of achieving the target of 3% of the EU's GDP to R&D by 2020.

Despite these efforts, the EU is still lagging behind in terms of R&D expenditures as a percentage of GDP (2.0%). With the highest share of R&D spending coming from the business sector (which accounts for 65% of all R&D spending in the EU), it is extremely important to significantly increase public spending both at EU and national levels. Public spending plays a key role in shaping a pro-innovation ecosystem and, in many cases, it is crucial to leverage the necessary funding for innovative projects.

In this context, the future R&I Framework Programme plays a crucial role and should represent the cornerstone of EU growth and competitiveness policies for the coming years and be equipped accordingly through a consistent increase of its overall budget. A substantial budget increase would also help to reduce the underfunding problem while ensuring projects proposals' higher success rates.

The need to increase the budget for research and innovation in the next framework programme, first stated by the European Parliament², was

¹ The Lamy Report provides with preliminary orientations towards the definition of future FP9 strategic vision. See: https://ec.europa.eu/research/evaluations/pdf/archive/other_reports_studies_and_documents/hlg_2017_report.pdf

² In the Resolution adopted on 14 June 2017 the European Parliament has welcomed the success of Horizon 2020 and the 1:11 leverage factor and called on the Commission to propose an increased overall budget of EUR 120 billion for FP9

confirmed by Lamy Report recommendations³ stating that doubling the overall budget of the post 2020 EU R&I programme is the best investment the EU can make. The report also rightly calls for matching an increase in EU funding with an increase in national R&I budgets.

Crucially, companies of all size must be kept in scope and funded. Any exclusion of large companies or even lowering the funding rate would be a tremendous set-back for Europe, affecting negatively the whole R&I ecosystem and value chain (including SMEs), diminishing the possibilities of international collaborations and harming an innovation-friendly environment in general. Additionally, it would severely jeopardize the EU's goal of leveraging private investment in R&I.

2. Preserving an architecture which reflects in a balanced manner the whole innovation chain from basic, to applied research to close-to-market actions (as it is the case within the current H2020 three pillar structure: excellent science, industrial leadership, societal challenges)

When compared with its predecessor, Horizon 2020 achieved major progress in properly balancing EU funding over the whole ecosystem of research and innovation. The current three-pillar structure – excellent science, industrial leadership and societal challenges – reflects quite well the entire innovation chain from basic, blue sky research, over applied research to close-to-market actions (pilots, prototypes). Horizon 2020 is helping R&I stakeholders to dilute the risk of failure for otherwise risky projects thereby decreasing the cost of innovation. It contributes to not only speeding up market uptake of innovations, but also harnessing benefits for the European society.

Even if further improvements are still needed, especially in certain areas – such as projects underfunding and low success rates – this architecture is concretely supporting impact-based research and innovation and creating real added value; from this point of view, this structure represents an answer to Europe's innovation deficit which is at the heart of its slow growth.

While referring to a program still based on three pillars (“Science and skills”, “innovation and competitiveness” and “global changes”), it is worrying to see that the Lamy Report proposes to change some of the main features of the current Horizon 2020 pillars, jeopardising its balanced structure. In

³ See Recommendation 1: «Doubling the overall budget of the post-2020 EU research and innovation programme is the best investment the EU can make. Reducing the overall level of R&I investment would be a mistake and a clear reversal of progress. At a minimum, the budget should maintain the average annual growth rate of Horizon 2020, taking the budget foreseen for the programme's final year as a starting point. This would lead to a seven-year budget of at least €120 billion in current prices ».

particular, the idea expressed in the Report to have the European Innovation Council “central” to pillar II, *de facto* replacing the current Industrial Leadership pillar, raises serious questions. Industrial technologies and innovation must continue to play a role in all pillars.

A proper balance between research and innovation should be ensured in FP9 which should be built on the positive results achieved by Horizon 2020 and widely recognized by the interim evaluation documents, retaining from any attempt of going back to a programme based on research as the only way to knowledge. FP9 should then favour further interaction between the different pillars and a better balance among different actors.

3. Keep a strong industrial dimension recognizing the fundamental role that industry plays in turning knowledge assets into innovations in the form of new products, processes, services and business models

FP9 should continue to have – as it is the case in H2020 – a strong emphasis on areas of research and innovation with a strong industrial dimension. Achieving EU leadership in key enabling technologies and, more in general, in all industrial technologies (ICT, space, etc.) should continue to represent one of the main priorities of the future programme. **The “industrial leadership” dimension – characterized by a strong collaborative research approach and based on key instruments such as Public Private Partnerships and Joint Technology Initiatives – should be maintained and strengthened as a fundamental precondition to overcome the valley of death and the gap between the demonstration and the commercialization phases.**

KETs should continue to play a central role as key component of the innovation process. Being structurally enabling, they are key factors to differentiating products, strengthening production processes and generating innovation. In this perspective, KETs represent an essential leverage to the industrial system competitiveness and should continue to play a significant role in the forthcoming FP9, through a stronger focus on their deployment, with a view to help companies to better integrate them into their products and production systems. Thanks to H2020 financial support, numerous technologies are now mature enough and ready to be transferred into production processes, while appropriate tools to encourage technology transfer and increasing KETs’ adoption are still lacking on the implementation side. Since companies often operate in more than one sector, it would be essential to focus more on differentiation both at technology level (supporting those technology areas that are lagging behind) and in the selection of the areas of intervention, ensuring wider deployment in those sectors where technologies have been developed, while facilitating technology transfer to other relevant industries.

Innovation is a core element of industrial policy. Industry's modernization and digital transformation rely on innovation. Companies' ability to compete on global markets depends on their capacity to innovate. European industries are at the forefront of technological innovations required to address societal challenges; they have a strong and enabling position in multiple value chains and hold a pivotal position in research, development and deployment of innovative solutions to create visible impact on society. Understanding the channels to market, as well as the challenges to up-scaling, industries bridge gaps and accelerate the generation of impact and results from R&I programmes.

So far, the collaboration among industry, higher education, RTOs and supply chains as provided by Horizon 2020 participation rules has allowed closer contacts between industry and research, strengthening synergies among different actors while taking advantage of opportunities coming from collaboration. Thanks to large companies' strong leading capacities towards SMEs, the latter have been able to strengthen their participation in collaborative research projects, reducing risks and responsibilities. In addition, the possibility to access funding from the framework programme - in the form of grants – has significantly contributed to determine large enterprises' investment strategies in terms of projects development.

Large enterprises' involvement in the innovation ecosystem is key to growth and competitiveness. SMEs and research organizations alone cannot be the catalysts for a structured innovation process towards the market. At the same time, SMEs can play an important role as system integrators, linking research organizations and large enterprises (especially in innovation projects covering activities different from their core activities, SMEs show greater flexibility and better capacity to adapt to change). Anyhow, the participation of enterprises of all sizes – small, medium and large – in the EU R&I Framework Programme is deemed essential to turn ideas into impact-driven and value-creating technologies, applications, and solutions.

In this context, the role of technological clusters in creating effective innovation ecosystems and strengthening value chains should be enhanced. By promoting structured links between key actors addressing research, technology transfer and industrial innovation (large enterprises, SMEs, universities, as well as public and private research organizations), clusters can act as innovation incubator hubs, covering the whole innovation process from research to market deployment. Furthermore, clusters are essential to the development and integration of European cross-sectoral and cross-border value chains. Within clusters, large enterprises play a key role in mitigating the innovation-related risk along the whole technology readiness level (TRL).

In addition, Digital Innovation Hubs (DIH) may play a crucial role in helping companies' digital transformation. Initiatives already supporting industry digitalization and DIH should therefore be continued under FP9. In particular the establishment of a European Network of DIHs, which is one of the most important pillars of the strategy "Digitizing European Industry", should be properly sustained.

The Enterprise Europe Network should also continue to play a central role in supporting SMEs when they approach EU programmes related to innovation. The experiences and the best practises developed by the EEN regarding the Horizon 2020 SME Instrument should be preserved and replicated under FP9.

A coherent governance among all the actors providing support to access EU innovation funds shall be ensured. **In order to accelerate innovation and industrial transformation at European level, all such aggregating entities, both clusters and DIH, should be properly supported in the next FP9.**

4. Making FP9 open to a large concept of innovation, including both break-through / new market creating and incremental innovation and allowing the participation of all – high innovative and more traditional – companies (in particular SMEs)

Horizon 2020's success and added value can be explained not only thanks to the introduction of a greater balance between research and innovation, but also through the promotion of a broad concept of innovation. **In the design of the next Framework Programme and, more in particular, of the new *European Innovation Council*, the concept of "innovation" should include either the so-called *breakthrough* and *new market-creating* innovation and incremental innovation.**

In this perspective, the strong emphasis placed within the Lamy Report on the concept of disruptive / new market-creating innovation that should be given a prominent role in the whole programme – both in the future EIC and in the new missions-driven pillar – is a reason for concern. Both breakthrough and incremental innovations are needed and crucial for business modernization and digital transformation. Positioning one *versus* the other is counterproductive. Firstly, because distinguishing between the two is not always easy and therefore, applying a single-sided policy approach favoring one over the other might be misleading. Secondly, because both capture a certain degree of risks and uncertainties on innovations' marketability, therefore justifying the need for a certain level of public support to leverage any market failure. It is therefore essential for both to continue to have access to EU R&I funding programmes.

Through its large approach to innovation, Horizon 2020 has proven to have a positive impact on real economy allowing businesses to revamp their

investment in research and innovation as a way to recover from the financial crises. Horizon 2020's success especially came from the participation of traditional companies that, thanks to the financial support they got to their incremental innovations, had the opportunity to become leaders in their markets, increasing their revenues while creating new jobs and investments. **Therefore, in the future, attention should be paid to all businesses, including those operating in more traditional sectors, particularly in the manufacturing sector, playing a crucial role in supporting the economy, as much as fast growing start-ups.**

The SME Instrument, originally conceived to support all kind of SMEs - start-ups, high potential fast growth and innovative companies, as well as more traditional SMEs - has been evaluated as one of the most innovative instruments introduced by Horizon 2020, thanks to its mono-beneficiary nature and its financing scheme based on different phases (business plan definition, project development and scale up). High participation rates registered so far demonstrates the great success of the SME Instrument and the interest of SMEs, particularly of those operating on traditional markets which, taking advantage of such a tailor-made support measure, have used it to improve their products or processes⁴. **Changes that have been proposed for the experimental phase of the EIC in 2018-2020 – but also after 2020 – are likely to distort the SME Instrument, heavily restricting its scope and excluding small and medium sized companies not proposing *breakthrough / new market-creating innovation.***

5. Recognizing the key role that contractual Public Private Partnerships (cPPPs) and Joint Technology Initiatives (JTIs) play for collaborative R&I at European

Collaborative R&I at European level is needed more than ever in order to make the ongoing technological transitions a success for both European industry and society. As the Lamy Report clearly underlined, European added value is given by the promotion of an innovation eco-system built on transnational and multidisciplinary collaboration among different actors operating along industrial value chains. In such systems industry plays a main role and companies of all sizes, sectors and technology readiness levels represent key components. Cross-border industrial collaborative R&I must therefore be continued under FP9, aiming at increasing the competitiveness of European industry.

⁴ Main advantages deriving from participation to the SME Instruments, as described by traditional SMEs which are concluding Phase II projects: 1) opportunity to test and introduce incremental innovations to modernize traditional industrial processes by developing new market applications; 2) strengthening international visibility, gaining new business and growth opportunities (e.g. participation in international fairs, contact with potential international clients); 3) positive impact on employment, starting new collaborations with qualified staff on project activities.

Among others, the engagement of the whole innovation ecosystem is supported by the contractual Public Private Partnerships (cPPPs) and Joint Technology Initiatives (JTIs), where industry plays a very active role. These instruments are unique platforms which foster cooperation between public and private actors by pooling their diverse capabilities and creating the critical mass for high innovative projects. They also leverage the necessary funds for large-scale European projects (over seven years, 8 billion from H2020 through PPPs and JTIs will leverage 10 billion from industry).

Looking at FP9 Public Private Partnerships and Joint Technology Initiatives should be enhanced and their accessibility should be improved in order to speed up efforts in overcoming the valley of death and the gap between the demonstration and the commercialization phases. In order to fill the deployment gap affecting European innovation system – as underlined by the Lamy Report – high technology readiness level (starting from TRL 4/5) projects will need to have a more prominent role in the next Framework Programme.

6. Develop a clear concept and role for the new “missions” focusing on their contribution to growth and competitiveness at European level

The concept of ‘missions’ as proposed by the Lamy Report looks attractive as it captures the objective of prioritising investments in areas with a clear EU added value and of defining expected impacts for each of them. It also has the potential to strengthen the link between research driven and industry driven EU level activities. A number of funded projects under Horizon 2020 and its predecessors already embed this concept of ‘missions’. In the future, missions could represent an evolution of the ‘challenges’ approach moving from the identification of specific needs/gaps towards a strengthened effort for real solutions (innovative technologies, services, products). Missions could combine interdisciplinary, inter-sectorial research activities together with domain-specific application-oriented approaches, for the benefits of European growth and competitiveness. In order to be successful, missions should focus on clearly defined needs/gaps and contribute to strengthen growth and competitiveness at European level in line with the sustainability agenda that the European Union and Member States are defining as part of international endeavours to implement the Sustainable Development Goals - SDGs. Areas that future missions could cover are: cyber security, open data, urban regeneration, health, new welfare, digital manufacturing, energy transition, etc. They shall cover the wide scale of TRL.

Should ‘missions’ become the new motto in post-2020 EU R&I funding programmes, the following guiding principles should be taken into consideration:

- Be easy to communicate, with clear goals and target in time
- Be open to all actors
- Have a breakthrough or transformative potential
- Allow additionality of other funding sources
- Have a clear EU added-value
- Ensure an interdisciplinary approach
- Be technology neutral on how to reach the mission's objective
- Be formulated in a strategic and open manner (not too narrow)
- Allow the participation of non-EU partners under the condition that they bring their own funding
- Have a large-scale leverage and spill-over effect
- Ensure that competition is not distorted
- Take systemic approach to innovation (technology, business, skills, institutional governance, regulation and norms)

In the missions' selection exercise the risk of fragmentation will have to be avoided in order not to discourage industry participation. A focused approach will also be important in order to accommodate sectorial research and reduce oversubscription.

7. Continuing financial incentives in form of grants for all actors of the value chain, including small, medium & large companies

Concerning the EU budget after 2020 and, more specifically, the budget to be devoted to the next R&I Framework Program, the White Paper on the Future of EU Finance published on 28 June 2017 seems to go towards a greater "financialization" of the European budget through a wider use of financial instruments (loans and guarantees). Such approach also appears to be supported into the Lamy Report, with a view of making the Framework Programme a true investment programme, also by introducing blending mechanisms of grant, loans and equity-based forms of investment.

To this regard, financial instruments such as guarantees, loans and equity certainly play an important role, allowing the EU to "do more with less", taking advantage of the EU budget by generating leverage effects and high return expectations. The same rationale has been applied to the implementation of EFSI (European Fund for Strategic Investments), which was designed to attract private capital and stimulate investments based on high quality bankable projects.

However, it should be clearly pointed out that the use of financial instruments cannot always replace grants. As a matter of fact, while financial instruments certainly have a greater leverage effect, grants are indispensable when the risk of investment is high. In specific circumstances where investing in innovation presents high-level risks and low return expectations – this is typically the case of activities which are undertaken "before the market" – financial instruments (loans) are not suitable, especially for research below TRL8. It is therefore essential that the EU

continue to support investments along the whole value chain, acknowledging that different kinds of investment need to be supported by appropriate instruments and that financial instruments might not always be the best solution. For close-to-market activities (above TRL 8), blended instruments with additional loan funding can be useful, but attention should be paid on maintaining clear and simple processes as well as avoiding higher bureaucracy both for public and private sectors.

In the reflection on the next Framework Program – which will be directly linked to that on the overall EU budget and on the balance to be reached between different funding instruments (grants vs. loans) – it will be crucial to keep in mind the objectives of the R&I Framework Program and avoid to shift the weight towards loans, while reducing grants. The current financing model, allocating grants to all innovation actors must be maintained also considering that grants are the most important form of funding for collaborative research activities.

8. Achieving better and stronger synergies with other European Union programmes, especially Structural Funds

Increased synergy, coordination and strategic alignment with other EU programmes would help to maximise the impact of future FP9. While preserving the specific objectives of each programme (such as cohesion for structural funds, excellence for R&I, etc.) better synergies would contribute to give more effectiveness to the allocation and use of funding, reaching critical mass towards EU targets and priorities and leveraging private investments. **The Lamy report rightly calls on the post-2020 R&I programme and future Structural Funds to be designed from the beginning with complementary, mutually reinforcing and interoperable intervention logics. To this end, a better alignment between different types of instruments, especially as far as procedures and access rules are concerned, must be ensured.**

This is a fundamental aspect also requiring better coordination and collaboration between the different institutional levels (and, at EU level, between the different General Directorates within the Commission). Gathering the best practices and success stories experienced in the field of synergies with direct funding programmes should be considered. Effective awareness-raising actions should be developed at European, national and regional level together, intervening at the same time to provide Structural Funds Regulations with clear and simplified rules. Another aspect to be taken into consideration is the need for a revision of the State Aid rules which, as underlined by the Lamy Report, making them more in line with the synergies' processes.

Removing the obstacles that still limit the effectiveness of the Seal of Excellence instrument should be part of this reflection. Two years after its introduction, the SoE faces great problems in terms of implementation and

coordination among different institutional levels (European, national and regional). Companies continue to lack awareness about the purposes and potential opportunities deriving from this instrument.

Finally, although Horizon 2020 brought significant improvements in terms of bureaucratic and administrative simplification – as indicated by the Lamy report – the next Framework Programme should achieve further simplification in terms of access procedures, especially to further improve SMEs participation.