

More investment in future values

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**VDMA comments on the Commission's Proposal for
"Horizon Europe"
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1. Horizon Europe and industry: Still a win-win?

There is no doubt that Europe cannot do without European R&I programmes. Research & Innovation is not only anchored in the EU treaties¹; past Framework programmes have demonstrated that EU projects and programmes have contributed to successful innovations and breakthroughs. They have generated knowledge and interdisciplinary cross-border networks that are essential for a competitive and sustainable European innovation landscape. VDMA is firmly convinced that Europe needs a strong, strategic and visionary 9th Framework Programme and highly appreciates that the Commission has presented an ambitious proposal and a substantial budget for European research.

Mechanical engineering: Linchpin of innovation

VDMA is Europe's strongest association in the mechanical engineering industry, with around 3,200 German and European member companies employing more than 1.3 million people. Nine out of ten VDMA member companies are small or medium-sized enterprises (SMEs). The enterprises of our sector annually invest internally around 5.6 billion Euro on R&D (2016). The capacity for innovation is based on our people (mechanical engineering is the number 1 employer for engineers), proximity to customers, technological leadership and strong exposure to the demands of the global market.

Production technologies turn ideas into products and virtual worlds into reality, ensuring sustainability and creating high value employment. Our companies, mostly SMEs, are highly innovative and integrate technological progress into high performance machines, components and manufacturing systems. Since advanced technologies and knowledge are the lifeblood of our industry, success depends on strong and competitive Research & Innovation landscapes. Being part of international value chains, the engineering industry appreciates and needs the cross-border collaboration enabled by EU programmes. Particularly for small and medium-sized enterprises, EU projects are the main access gates to international technology networks.

Entrepreneurs need research – and vice-versa

On the other side, European research programmes equally benefit from the participation of industrial companies that provide orientation, validation and the impact channels towards industrial upscaling and market success. Without the expertise and the leverage of R&D public investments by industrial actors, it will be impossible for Horizon Europe to make a contribution towards the 3% goal for the R&I spending-share of GDP. Against this backdrop, we would like provide on the following pages our view of the Horizon Europe proposals published by the Commission on 7 June.

¹ Article 179 (1) TFEU

2. The new structure: Balance has been lost

VDMA regrets that the proven three-pillar-structure and the overall good balance of Horizon 2020 has been modified in a way that neglects the needs and the contributions of industry. The fact that the Leadership in Enabling and Industrial Technologies pillar has been eliminated is the most striking indication that the proposal lacks a clear strategy for industrial competitiveness, and, consequently, for sustainable welfare.

It is positive that the relevant enabling technologies such as Manufacturing, Materials or Robotics are still considered in the Digital and Industry cluster; however, the merging of these activities into the Challenges pillar is a step backwards in view of the achievements of Horizon 2020. Research for competitiveness requires an independent strategic approach, because it serves different needs and is driven by different rationales: Basic research is driven by the curiosity of researchers and challenge-driven research is motivated by the needs of society. Industrial research, however, is pushed by an entrepreneurial spirit, a risk-taking attitude, market needs and the battle for competitiveness.

The three pillars of Horizon 2020 have been an appropriate structure to accommodate these different motivations and rationales, but the structure of Horizon Europe is less suitable. In addition, by eliminating the Industrial pillar, the Commission's proposal actually strengthens the extremes of the Technological Readiness scale (lower TRLs in Open Science and high TRLs in Global/Challenges and Open Innovation), leaving a gap and neglecting applied technological research.

To regain this balance, support for competitiveness and industrial innovation must be reinforced by two measures. Firstly, to ensure relevance and impact potential, dialogue with industrial innovators must be established through appropriate industry forums (for example, through partnerships or European Technology Platforms). Secondly, Horizon Europe must include a strong, industry-driven programme for competitiveness and cross-border technological research, bringing together the best European researchers and companies. This programme must be wholly dedicated to the pre-competitive phases of R&D when research is too costly, too risky and too complex for single companies, sectors or even single member states.

3. New elements: Added value for Europe?

Open Innovation: Use proven instruments such as “Fast Track to Innovation”

The Open Innovation pillar, which is replacing Horizon 2020's LEIT, addresses challenges related to the uptake of technologies and the transformation of European industry. VDMA fully supports the view that global trends and the technological transition require a review of funding frameworks and, in particular, more agile, bottom-up and easy-access instruments. The “pathfinder” initiative, for example, looks promising and might help to create a fast track

between basic research and uptake. On the other hand, the concept of the “accelerator” which offers funding for “non-bankable” projects, is misplaced in a European Framework programme. It is very doubtful that the EU Commission, acting as a “public money” venture capitalist will do better than private investors. If market failures in European venture capital markets are identified, it must be the role of policy-makers to address these failures by shaping the framework conditions rather than stepping in as a market participant.

It is positive that the Commission’s proposal tries to strengthen innovation policy, but the approach risks focusing on too narrow a concept of innovation and innovators. In VDMA’s view, the relevance of activities in “Open Innovation” neither justifies a specific pillar nor another layer of governance structure. In particular, it is disproportionate to create an additional governance and advisory structure (“EIC-Board”, “EIC-Forum”). To be effective and justified, the EIC must be part of the overall strategy for competitiveness and innovation of the European Union, relating to all relevant industries and existing strategic stakeholder platforms (for example, by linking to the “High Level Industrial Roundtable Industry 2030”). It must be open to a wide range of existing and emerging SMEs, entities of all sizes, and be embedded in economic and industrial patterns.

The EIC ignores the fact that innovation requires collaboration and ecosystems to flourish. VDMA proposes to include collaborative instruments with clear European added-value and a lean, bottom-up procedures such as the Fast-Track-to-Innovation and address promising areas such as the cooperation between start-ups and larger enterprises.

Missions: Clearer principles are needed and markets must be respected

VDMA welcomes the debate on missions, because it could encourage new approaches for more focused, cross-cutting, multidisciplinary R&I and challenge established objectives, structures and networks. In the case of huge, overarching, but concrete cross-cutting challenges – for example, climate engineering or fighting diseases – a mission-driven-approach could be appropriate and beneficial.

However, it is important to carefully analyse the value of missions and avoid unwanted side-effects by applying a set of general principles. In addition to the criteria laid down in Art. 7 of COM (2018) 435 final, we consider the following criteria as essential when shaping future missions:

- Substantial EU added value, relevance for the EU Single Market, based upon political consensus and a clear process involving relevant stakeholders and including industry.
- Mission interference with market-driven investments must be avoided. A mission must be pre-competitive and be based on transparent political decisions. As substantial interventions, they require a strict assessment of whether they are really needed and if they would have an adverse impact on competitiveness and the economy as a whole.
- Not all types of research can be framed into missions. Consistency with other work programmes must be ensured. In particular, a mission cannot replace curiosity-driven, applied research.

Partnerships: Keep it fair, simple and flexible

VDMA is a founding member of the Factories of the Future public/private partnership. Our member companies have been active in several others such as the Robotics-PPP SPARC. So far, these partnerships have been successful for both sides. They have enabled a fruitful strategic policy dialogue, served as a low-barrier gateway to EU research for SMEs and have proved to be a very efficient method for knowledge-transfer to a wide range of enterprises.

VDMA agrees that partnerships must follow clear rules and principles as described in Annex III to the Regulation (435 final). However, we would like to stress that the identification of common targets and definition of mutual commitments must take place in a fair and consensual manner. This includes the involvement of industrial stakeholders in the elaboration of criteria for partnerships with industry. The framework for partnerships must be structured to keep them specific, target-oriented and simple, avoiding over-complexity of goals and governance structures.

4. Summary and recommendations

For VDMA, European Research & Innovation programmes are an essential part of the European project. Therefore, in general, we support the Commission's proposal and its aims.

However, VDMA is also convinced that, in general, the creativity of companies, start-ups and people - stimulated by market dynamics - will be the driving force to explore new opportunities and identify appropriate solutions for users. Market actors - companies, customers, citizens - can best decide which products should be made, which technologies should be used and in which areas money should be invested. Governments, including research authorities, should not presume to know better. Therefore, the role of research programmes is to serve as catalysts where barriers are too great, and provide support where markets fail. They should also provide focus and inspiration. In particular, publicly funded research can help to share pre-competitive technological risks which are too large and too complex for single actors.

In that respect, Horizon Europe is a step backwards. By moving away from applied research, it is not exploiting the full potential of a European Framework Programme. In particular, Horizon Europe lacks a clear strategy for industrial competitiveness and has partially lost the balance between TRLs and the various groups of innovation actors.

We call upon policy-makers to critically review the relevant parts of the Commission's proposal and to consider the following recommendations:

1. Horizon Europe must include a clear strategy for industrial competitiveness, identifying appropriate intervention areas, instruments and targets with relevance for the future of Europe as a competitive area for industry and innovation.
2. Combining Industrial Competitiveness and Societal Challenges in one Clusters block is not effective. In particular, if the "LEIT"-programme is eliminated, pillar 2 must comprise an independent programme block for industrial competitiveness, following a rationale of entrepreneurship and industry-driven innovation.

3. A specific industry-driven programme for pre-competitive collaborative applied research on enabling industrial technologies (“New KETs”) must be established. The support of collaborative applied research is one of the strongest assets of EU Research and strategic investments in R&I are crucial to ensure future competitiveness and sustainability.
4. Horizon Europe needs the involvement of industry to ensure validation, upscaling and private R&I investments. It is therefore essential to establish a structured dialogue with industrial stakeholders, for example, through technology platforms (ETPs) or public-private partnerships.
5. The EIC’s impact and EU added value must be improved by broadening its very narrow definition of innovation. The activities must be better linked to industrial ecosystems and the activities in the Challenges pillar, using a more collaborative and open approach. VDMA suggests to include collaborative instruments with clear European added-value and a lean, bottom-up procedures such as the Fast-Track-to-Innovation and elements which promote the collaboration of start-ups/SME’s with larger enterprises.
6. Intervention must be avoided in areas where private investments are more efficient and where competition could be distorted by trying to ‘pick winners’.
7. Caution must be exercised with the mission approach, to avoid distortion and crowding-out of commercial activities.
8. Public-private partnerships are an efficient instrument to increase impact. However, the definition of criteria, targets and mutual commitments must take place in a fair and consensual manner. Partnerships with industry in particular, must be kept specific, target-oriented and simple.

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