CECIMO

RECOMMENDATIONS ON THE NEW EU R&D FRAMEWORK PROGRAMME (FP10)

June 2024

Introduction

CECIMO - representing European Manufacturing Technologies - believes that the next EU Research and Innovation Framework Programme (FP10) can be a key enabler for the development and growth of the advanced manufacturing sector. To build a strong future for both society and the economy, Europe must continue to be a leading hub for RD&I and at the same time contribute to build an innovation ecosystem that is able to attract more investments and nurture the development of cutting-edge technologies.

The Framework Programme should elevate Europe's competitiveness, reinforce its technological leadership, and secure its position in the global marketplace. In line with this vision, we have developed a set of recommendations, drawing on CECIMO's expertise and member insights. These proposals aim to align FP10 with the competitiveness requirements of EU industry, thereby enhancing our sector's readiness for the industrial transition.

Recommendations for Policy Makers

CECIMO and its member associations actively engage in Cluster 4 – Digital, Industry, and Space Research. Developing state-of-the-art technological solutions requires significant time, manpower, and financial resources. To ensure Europe remains competitive amidst major markets like China, the US, and Japan, it is imperative to keep a high level of industry involvement in innovation and technology development. Priority should be given to open calls for advanced manufacturing technologies, automation solutions, and energy efficiency to spearhead the digital and green transformation of the European economy. This entails increased financial support at both European and national levels to sustain projects beyond their initial stages, facilitating their scalability for wider market adoption.

In light of this, **we propose the following recommendations:**

1. Increase budget allocation for Europe's forthcoming Research Framework Programme and support the market deployment of innovative technologies. Given the global competition in research and development, it is crucial to ensure stability and prioritise industrial needs within the research funding framework. Further funding opportunities should be allocated to project with higher TRL (above 7), the launch of SMEs dedicated funding instruments, and the development of stronger links between EU and national funding opportunities. These actions would increase the chances of getting funding and bringing EU solutions closer to market.

2. Encourage industry engagement to strengthen European competitiveness and technological leadership. It is imperative not only to conduct research, but also to actively involve industries in the development, testing, and validation of technology. Striking a balance between research endeavours and practical industrial applications is crucial for sustainable progress. This will strengthen the European Innovation Council (EIC) and facilitate the development and implementation of innovations, thereby fostering the growth of pivotal enabling technologies.

3. Enhance interconnection across all Pillars (horizontal synergy): Pillar I – Excellent Science, Pillar II - Global Challenges and European Industrial Competitiveness and Pillar III – Innovative. This ensures swift knowledge exchange within the supply chain and interconnectivity between developed manufacturing technologies. Strengthening the European Innovation Council (EIC) and the European Institute of Innovation and Technology (EIT) will streamline development processes and facilitate the growth of enabling technologies.

4. Support for first-time entrepreneurs and start-up ecosystems should be a key focus of every European project. Europe needs to create an environment where people feel encouraged to take entrepreneurial risks, especially among researchers and other relevant communities. This means setting up mentorship programmes, robust training initiatives, and financial aid designed for startups and first-time entrepreneurs. Strong collaboration between academia and industry can further bolster innovation and entrepreneurial endeavours.

5. Simplify application procedures to encourage greater participation from SMEs by streamlining the application process with clear criteria, understandable call topics and timely payment deadlines, SMEs can enjoy greater flexibility in choosing partners and encounter fewer administrative hurdles, resulting in shorter application times. This approach could attract more businesses to participate to open calls. Additionally, it's crucial for industries to contribute to identifying priorities in work programs, ensuring alignment with industrial needs, and optimising the use of resources and budgets, such as Made in Europe Partnership.

6. Enhance the role of the EU projects in pre-standardisations activities: The adoption of solutions developed in EU projects demands dedicated involvement in designing pre-standardisation and standardisation activities. Early collaboration with standardisation bodies is paramount to initiating and refining standards. While this process may take time, it is important for market acceptance and scalability. Forging partnerships and promoting knowledge exchange can accelerate the establishment of standardised practices, facilitating SME market entry.

7. Leverage enabling technologies in advanced manufacturing like Machine Learning, trustworthy industrial AI, advanced computing, photonics, microelectronics and mechatronics. While these innovations are integral to various Horizon Europe initiatives, boosting funding opportunities remains significant. These technologies streamline production processes, enhance product quality, and bolster economic growth, and employment prospects. For instance, advanced AI algorithms can analyse extensive datasets, optimising manufacturing parameters to increase productivity and cost-effectiveness. Moreover, they underpin the development of smart, adaptive, and interconnected manufacturing systems, paving the way for future breakthroughs. Embedding relevant skills and knowledge within educational curricula is imperative to prepare the future workforce for these technological advancements.

8. Increase open calls on Data Driven Solutions for industrial products and processes to enhance product quality and shorten time-to-market using virtual modelling and simulation, including digital twins. Additionally, data-driven approaches offer SMEs the flexibility to experiment with new ideas and innovations in a risk-free virtual environment, promoting a culture of innovation and adaptability.

9. Expand open calls on Automation Technologies encompassing the entire supply chain from sourcing to production. This approach enhances productivity, efficiency, and competitiveness in the global market by automating repetitive tasks and streamlining processes. By extending automation beyond the shop floor to include activities such as sourcing, managing CO2 emissions, and implementing digital production processes, SMEs can quickly adapt to changing market demands and technological progress, ensuring their resilience and sustainability in a digitalised and interconnected manufacturing ecosystem.

10. Expand Open Calls on the Energy Efficiency and Circular Economy to emphasise their positive impact on competitiveness and process optimisation. Advanced Manufacturing techniques can enhance energy efficiency and support circular economy principles, optimising manufacturing processes and boosting competitiveness. Investments in these areas contribute to cost reduction and sustainability. Highlighting the competitive advantages of energy efficiency and circular economy measures ensures their alignment with long-term market viability.

11. Skill sets must line-up with technological advancements. Without the right skills and competencies, the transfer of knowledge and operation of technologies becomes unattainable. Therefore, it is imperative to incorporate skills initiatives in the open calls for innovation. Pairing these calls for technological development with education and training initiatives ensures that the innovation cycle is matched with the necessary skills sets.

12. Increase the number of Public-Private Partnerships (PPPs) to secure supplementary funding and establish robust ties between industry, policymakers, research and other stakeholders. Leveraging these alliances provides access to valuable resources and expertise, accelerating the transition of research breakthroughs into market-ready products. Collaboratively identifying priorities with industry leaders gurantees alignment with pragmatic industry needs, maximising the wise use of budgetary resources. Besides financial support, PPPs facilitate the dissemination of knowledge and enhance collaboration across sectors, fostering an ecosystem of innovation and sustainability.

13. Encourage international collaboration through collaborative projects with global partners, including initiatives like 'Biologicalisation in Manufacturing' alongside emphasis on communication and sensor technologies such as 6G, Quantum, advanced semiconductors and related dependencies on big-tech players. This approach facilitates market expansion and facilitates the sharing of insights and expertise. Such endeavours lay the groundwork for developing products and technologies that resonate on a broader international scale, fostering cross-cultural synergy to propel mutual progress.

14. Support the development of a tool designed to help calculating and assessing environmental benefits of production technologies. The tool should evaluate and identify the most effective solutions to make manufacturing processes and products more sustainable and help businesses follow the procedures based on worldwide established standards (e.g. ISO 14020:2022). By leveraging such tools, companies can make informed decisions that enhance sustainability, reduce carbon footprints (along the whole lifecycle of the product) and promote more sustainable manufacturing practices, based on standards already used by their customers and well known in Europe and worldwide. Finally, this tool would play an important role in the implementation and realization of CSRD reporting obligations in the European manufacturing industry.

15. Re-use of Call for Proposals in high demand. FP10 should consider the re-submission of calls that receive the highest number of applications, as observed in Horizon Cluster 4 of the Twin Transition 01-03 call. This data-driven approach would identify the most sought-after areas of innovation, enabling increased funding and opportunities for these targeted industries and research organisations. This targeted approach would not only benefit these organisations, but also advance European research and innovation, enhance technological competitiveness, and ultimately drive market growth in Europe.

Conclusion

CECIMO underlines the significance of maintaining focus on other key areas in FP10. These include exploring applications of the industrial metaverse/AR&VR for workforce training and upskilling, developing digital infrastructure for industry digitalisation, advancing IoT applications and Additive Manufacturing technologies, optimising the use of critical materials in manufacturing, and enhancing cybersecurity solutions for SMEs including open and safe data exchange via standardised interfaces.

Providing SMEs with funding opportunities in enabling technologies, automation, and digital twins can significantly broaden their access to cutting-edge technology and expertise, empowering them to compete more effectively with larger companies. Hence, CECIMO strongly advocates for European efforts at amplifying the impact of Horizon Europe calls for innovative technological solutions in Industry 4.0 and facilitating the utilisation of achieved results beyond project scopes.

We are confident that the European Commission will value our inputs and those of other stakeholders in shaping FP10 to enhance the European research and innovation framework and maintain our companies' global competitiveness.

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About CECIMO:

CECIMO is the European Association of Manufacturing Technologies. With a primary focus on machine tools and additive manufacturing technologies, we bring together 15 national associations, which represent approximately 1500 industrial enterprises in Europe (EU + UK+ EFTA + Türkiye), over 80% of which are SMEs. CECIMO covers 97% of the total machine tool production in Europe and about 1/3 worldwide. It accounts for approximately 150,000 employees and a turnover of around 27.2 billion euros in 2023.

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Die MetalltechnischeIndustrie

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The Federation of Technology Industry

Czech Republic: SST
Svazu Strojírenské Technologie

Denmark: The Manufacturing Industry
a part of the Confederation of Danish Industry

Finland: Technology Industries of Finland

France: Evolis
Organisation professionnelle des biens d'équipement

Germany: VDW
Verein Deutscher Werkzeugmaschinenfabriken e.V.

Italy: UCIMU
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