EUROPEAN CLUSTER COLLABORATION PLATFORM

Autonomy, innovation and security: EU strategies for Aerospace and Defence

Summary

EUCLUSTERS TALKS

EU Clusters Talks
17 April 2024, 8:30 – 9:45 CET

An initiative of the European Union

Autonomy, innovation and security: EU strategies for Aerospace and Defence

The European Cluster Collaboration Platform, on behalf of the European Commission, organised the EU Clusters Talk "Autonomy, innovation and security: EU strategies for Aerospace and Defence" on 17 April, 8:30 – 9:45 CET, to present the European Defence Industrial Strategy and the Transition Pathway for Aerospace as well as to discuss the implementation and industry activities with cluster representatives.

Agenda of the meeting

Moderation: Chris Burns

1. News from the European Cluster Collaboration Platform
2. European Defence Industrial Strategy
   Paola Sartori, Policy Officer, DG DEFIS, European Commission
3. Transition Pathway for Aerospace
   Alina Andreea Papuc, Policy Officer, DG DEFIS, European Commission
4. Panel debate
   Flavio Fusco, Technical Committee, Italian National Aerospace Technology Cluster (CTNA)
   Goran Basarac, President, Croatian Defense Industry Competitiveness Cluster
   Mélanie Durth, R&D Manager, Andalucia Aerospace Cluster
   Niklas Schilling, Manager International Affairs, European Aerospace Cluster Partnership (EACP)
5. Funding opportunities

Key messages

- The transition pathway for aerospace moves in the right direction but needs to further recognise the role of clusters.
- The aerospace and defence sectors are undergoing the digital transition, but SMEs are struggling to keep up because of needed investments and organisational structures.
- Cross-sectoral collaboration and the focus on the end users are critical to ensure real innovation in the ecosystem.
- The aerospace sector is suffering from a widespread shortage of skilled workers.
- To improve public procurement processes, Member States should improve standardisation.

1. News from the European Cluster Collaboration Platform

After the introduction by moderator Chris Burns, the following news items were presented:

1. Register now for the European Cluster Conference on 7-8 May 2024 and the matchmaking event.
2. Save the date for Clusters meet Regions in Graz, Austria, on 18-19 June 2024.
3. Register for the EU – Taiwan Matchmaking Event in Germany on 10-12 June 2024 and the respective info webinar to get all the details on 18 April, 9:30 – 10:30 CET.
4. Register for the EU – South Med Matchmaking Event in Germany on 11-13 June 2024.
5. Consultation on EC white paper on R&D support for dual-use technologies until 30 April 2024
6. Call for pledges of the Mobility Transition Pathway

2. European Defence Industrial Strategy

Paola Sartori, Policy Officer, DG DEFIS, European Commission

Paola Sartori gave an overview of the European Defence Industrial Strategy, which was significantly influenced by the geopolitical context following Russia's aggression against Ukraine. The European Union implemented a series of emergency measures aimed at supporting the defence industry. The initiatives are designed to foster Member State cooperation in joint procurement and to support the industry in increasing production capacities, particularly in ammunition.

The strategy is a shift from short-term emergency responses to a more structured and sustainable approach to ensure long-term defence readiness, specifically focusing on industrial capabilities. It is structured around four main pillars:

1. **Demand**: This involves increasing coordination and transparency among Member States to optimise their defence investments.
2. **Supply**: The goal is to ensure the continuous availability of defence products, with measures to de-risk investment for ramping up production and regulatory efforts to ensure supply chain security.
3. **Mainstreaming defence industrial readiness**: This pillar aims to integrate defence importance across various EU policies and programs, addressing financing and skill needs.
4. **Leverage partnerships to enhance readiness and resilience**: The strategy emphasizes enhancing relations with Ukraine and deepen collaboration with NATO.

The strategy relied on input from a wide-ranging consultation process with stakeholders from the defence industry, Member States, the financial sector, and think tanks. Future evaluations will use defined indicators to monitor progress in key areas like joint procurement and investment, in line with the strategic goal of a strong and resilient European defence capability by 2035.

3. Transition Pathway for Aerospace

Alina Andreea Papuc, Policy Officer, DG DEFIS, European Commission

Alina Andreea Papuc gave an update on the development of the transition pathway for the aerospace sector, originating from the revised 2021 Industrial Strategy. The primary purpose of the pathway is to facilitate the green and digital transition and enhance the resilience of the aerospace ecosystem. This initiative is the result of a collaborative co-creation process with a wide range of stakeholders. Public consultations and thematic workshops were held to deepen discussions on resilience, the green and digital transitions, and competitiveness.

The EU has a strategic interest in the aerospace ecosystem, with the goal of being globally competitive in civil aeronautics and space. The ecosystem is very diverse, with many SMEs that account for about 80% of the civil aeronautics sector. Public consultation results show the industry's role as an innovator and the demand for more support for SMEs and start-ups. There was also a request for EU-wide mandatory actions to ensure fair competition, with resilience as a key topic.

The upcoming aerospace transition pathway will focus on several key areas:

- **Regulation and public governance**: Ensuring the ecosystem benefits from existing frameworks while reducing regulatory burdens.
- **Resilience**: Enhancing supply chain strength, reducing dependencies, and improving access to critical raw materials.
- **Green Transition**: Focusing on decarbonisation, renewable energies, sustainable aviation fuels, circularity, and eco-design.
- **Digital Transition**: Establishing common digital standards, enhancing cybersecurity, and integrating AI to support efficiency and safety.
- **Competitiveness**: Emphasising research and innovation and supporting actions through the necessary infrastructure.
- **Social Dimension**: Enhancing dialogue and coordination with social partners, with a strong focus on skills and workforce readiness.

The pathway will conclude with a call for commitments from stakeholders to ensure active participation and effective implementation. An online platform is planned to facilitate the exchange of information and stakeholder engagement.

4. Panel debate

The panel discussion touched upon the digital transition, cross-sectoral collaboration in the defence sector and Ukraine, challenges in the aerospace sector, and how to foster innovation.

Flavio Fusco spoke about the adoption of the **digital twin technology** in the aerospace industry, emphasising its transformative impact on design processes and supply chain interactions. A digital twin is a virtual replica of a physical entity which allows for real-time monitoring and simulation. This shift is significant not only for the design and operational phases but also reshapes how suppliers interact

with larger manufacturers. While this technology enhances the overall efficacy and efficiency of the design and manufacturing process, it also poses significant challenges, particularly for small and medium-sized enterprises. Especially the smaller companies struggle with adopting these advanced digital tools as they **require investments and new organisational structures**, such as participating in digital innovation hubs or asking for funding which requires considerable paperwork and management effort. He suggested that these challenges could be mitigated through the creation of consortia, potentially led by larger industries. These consortia would help integrate SMEs into the digital transformation process by pooling resources, sharing knowledge, and distributing the organisational load.

Mélanie Durth presented their activities and projects related to **Artificial Intelligence**. For example, the cluster works to develop and implement AI tools for testing and processes on image analysis. Additionally, they have a project on additive manufacturing to establish the manufacturing process inside the production chain of aerospace and a project on developing the IIoT, Industrial Internet of Things, in the manufacturing chain.

Goran Basarac reflected on Croatia's pioneering efforts in integrating the defence and security sectors into its smart specialisation strategy, beginning in 2016. At a time when many European Union countries were not yet focused on such integration, Croatia was proactive in directing its industry toward leveraging European Structural Investment Funds (ESIF) for dual-use investments. They have also worked to foster **cross-sectoral collaboration**. He gave the example of a company originally focused on unmanned ground vehicles for demining. This company expanded its expertise into battle engineering, specifically route clearance, by collaborating with companies specialising in unmanned aerial vehicles. This collaboration led to the development of a project currently being implemented in Ukraine. Goran Basarac highlighted the need for collaboration on European scale. In Croatia, they plan to extend their reach by connecting with major prime contractors at the European level through the European Defence Fund.

Regarding the transition pathway for aerospace, Niklas Schilling affirmed the **overall right direction of the transition pathway**, noting its relevance to the ongoing discussions and work within clusters and SMEs in the European Aerospace Cluster Partnership. He suggested that the **role of clusters should be more prominently recognised** and integrated into the transition pathway. Despite this lack of visibility for clusters, the speaker sees the document as fundamentally sound and a good foundation for future work. There is enthusiasm about contributing further and a readiness to respond to calls for commitments.

Talking about the current challenges of the aerospace industry, Niklas Schilling highlighted a **widespread shortage of skilled labour**, ranging from blue-collar workers to engineers, who are essential across various sections of the aerospace component production. The issue is not limited to one specific skill set but spans the entire talent spectrum necessary for the industry. During the COVID-19 pandemic, the aerospace sector experienced a significant “brain drain” as many skilled workers transitioned to other industries. Now, the absence of these workers is one of the major challenges in ramping up production to meet recovering demands.

The participant Mike Richardson came into the discussion as he was in Ukraine at the time of the webinar to conduct business amidst ongoing war. For everyone who wishes to have collaboration with Ukraine, he highlighted the **importance of building trust with the Ukrainian partners**. His

collaboration with Ukrainian partners started at an ECCP "Clusters meet Regions" event and has developed into different projects related to optical communication systems. He mentioned that beyond funding, Ukrainians seek exposure and patient collaborators, and that interested parties need continual outreach to form new connections due to the dynamic situation.

Originating from a question of increased collaboration between the EU and NATO, the discussion turns to the topic of **standardisation**. Goran Basarac highlighted **difficulties in public procurement** because of standardising specifications and technical requirements across different Member States. These challenges are not just technical but involve aligning standards among Member States, which need to be addressed to make the public procurement processes in the defence sector more efficient.

Regarding the question on how the **clusters stimulate innovation**, Mélanie Durth explained how their cluster operates on two levels. Firstly, at the company level, they promote technological development through specific projects. Secondly, they foster cooperation by forming alliances with other clusters, industry representatives, and technology centres. Goran Basarac and Niklas Schilling highlighted the critical role of end users. Goran Basarac shared the experience that real advancements in defence often revolve around incremental upgrades to existing products, rather than entirely new breakthroughs. Niklas Schilling mentioned that their successful projects were typically driven by **practical applications and user needs** rather than purely theoretical explorations Additionally, Goran Basarac pointed out the challenges in fostering effective collaboration between the defence industry and governmental defence entities. A lack of technically skilled personnel within the Ministry of Defence in Croatia hampers the country's ability to respond adequately to industry innovations. Niklas Schilling added the suggestion of harmonising innovation efforts on a European level to optimise resource allocation and funding. By identifying and leveraging specific regional competencies, resources can be pooled more effectively, avoiding redundant projects in different countries.

5. Funding opportunities

Closing the EU Clusters Talk, Nina Hoppmann shared the following examples of funding opportunities:

1. Accelerating uptake through open proposals for advanced SME innovation; deadline 20 November 2024
2. Non-thematic research actions targeting disruptive technologies for defence; deadline 5 November 2024
3. EU-Ukraine Cluster Partnership Programme; deadline 4 June 2024; info session on 22 April 2024 at 9:30 CET
4. Opportunities for SMEs: Calls from Euroclusters; published on European Cluster Collaboration Platform