EREA contribution to the EC's Call for Evidence on the new Aviation and Aeronautics Strategy for Europe

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The European Commission is advancing an ambitious vision for a new era of sustainable prosperity, industrial competitiveness, and strategic sovereignty for Europe. Central to this vision is the next Multiannual Financial Framework (MFF), which places research and innovation at the core of Europe's economic future to ensure leadership in frontier and clean technologies. The continuation of the highly successful Horizon Europe programme, alongside the creation of a European Competitiveness Fund (ECF), reflects the European Union's determination to strengthen industrial innovation, accelerate decarbonisation, and mobilise private investment in strategic sectors. Drawing heavily from the recommendations of the Draghi report on European competitiveness, the Commission is also pursuing simplification measures, reducing administrative burdens, and reforming the public funding landscape to create a more coherent, policy-driven framework capable of supporting long-term industrial transformation.

The Association of European Research Establishments in Aeronautics (EREA) welcomes the European Commission's initiative to prepare a new Aviation and Aeronautics Strategy for Europe. EREA strongly supports the ambition to reinforce Europe's competitiveness, technological sovereignty, resilience and global leadership in aviation and aeronautics while accelerating the green and digital transition.

Aviation is a strategic sector for Europe, one of Europe's most critical industrial assets, for which Europe is in a worldwide leading position. It is essential for mobility, economic growth, industrial competitiveness, territorial cohesion and technological sovereignty. Europe's global leadership in civil aviation, aeronautics and air traffic management has been built through sustained long-term investments in research and innovation, strong industrial ecosystems, collaborative research programmes and European partnerships. Maintaining this leadership in a rapidly changing geopolitical and technological context requires a renewed and ambitious European Aviation and Aeronautics strategy.

EREA particularly welcomes the EC's recognition that aviation and aeronautics are now facing a combination of unprecedented challenges: intensifying global competition, increasing dependencies in critical technologies and supply chains, the need for climate-neutral aviation, digital transformation and AI integration, resilience against crises and security threats and the rapid emergence of unmanned and autonomous aviation systems.

In this context, EREA strongly supports the development of a European "Smart and Clean Aviation Moonshot" as announced in the future FP10 framework and referenced in the Call for Evidence.

1. Recognise aviation as a strategic sector for Europe

EREA calls on the EC to explicitly recognise aviation as a strategic sector within the future European policy and funding framework, including Horizon Europe FP10 and the European Competitiveness Fund (ECF).

The aviation sector supports 2 million European jobs, contributes significantly to Europe's GDP and connectivity, enables European strategic autonomy and drives innovation across multiple industrial sectors.

Aviation technologies cover a very wide spectrum including for example materials, digital technologies, energy, manufacturing and defence capabilities. Only a joint European initiative can cover all aviation needs: therefore, Europe requires a strong, resilient and sovereign aviation ecosystem covering the full value chain represented by all actors (universities, research establishments, industries from leaders to SMEs supply-chain).

The future Aviation and Aeronautics Strategy must consequently strengthen Europe's technological sovereignty, secure resilient supply chains, reduce strategic dependencies, protect critical aviation technologies and start-ups and ensure a global level playing field for European actors.

2. Build Europe's Technological Leadership and Sovereignty through a "Smart and Clean Aviation Moonshot"

EREA supports the establishment of a European "Smart and Clean Aviation Moonshot" covering the entire research and innovation chain from low-TRL research to deployment and market uptake.

This initiative will position Europe as the global leader in climate-neutral aviation, digital aviation and advanced air traffic management and to achieve this goal the Moonshot needs to combine long-term strategic research with industrial deployment, support both disruptive and evolutionary technologies and create continuity across the full innovation pipeline.

Europe's future leadership in aviation will depend not only on breakthrough research but also on its ability to industrialise, certify, manufacture, operate and continuously improve advanced aviation technologies in Europe. The Smart and Clean Aviation Moonshot will therefore contribute to strengthening Europe's technological sovereignty and industrial resilience across the entire aviation value chain.

The initiative must support Europe's capacity to transform research excellence into certified products and scalable industrial solutions while reducing strategic dependencies and reinforcing resilient European supply chains in a rapidly evolving geopolitical context.

Europe's future competitiveness depends on maintaining strong investments not only in high-TRL demonstrators, but also in lower-TRL collaborative research where breakthrough ideas emerge for the preparation of the future.

The Aviation Moonshot must also support the development, maintenance and long-term sustainability of Europe's key aviation Research and Technology Infrastructures, including wind tunnels, propulsion test facilities, research aircraft, structural testing platforms, digital simulation environments and large-scale demonstrators. Independent European access to such infrastructures is essential to develop, validate and certify next-generation aircraft and propulsion technologies and therefore constitutes a prerequisite for Europe's long-term competitiveness and technological sovereignty.

Innovation is fundamental to advancing sustainability, competitiveness and safety. Hence, the EU's continued support for Joint Undertakings (JUs) in the next Multiannual Financial Framework (MFF), in particular Clean Aviation

and SESAR, must remain a strategic priority. While Clean Aviation drives the development of next-generation aircraft and propulsion technologies, SESAR enables the modernisation and digital integration of European airspace. Together, these Joint Undertakings bridge the gap between research and deployment and therefore contribute to securing Europe's technological leadership.

Given the capital-intensive nature of aviation technologies, predictable and long-term funding is indispensable. Horizon Europe, as well as the Innovation Fund, must continue to provide substantial support for aviation-related projects — not only addressing aircraft manufacturing and air traffic management (ATM), but also the wider air transport system and its integration into the broader transport system as a whole.

On that basis, the notion of a "Smart and Clean Aviation Moonshot" project provides the opportunity for a European-wide research and innovation approach covering the entire research and innovation chain, from fundamental and applied research up to market uptake. In the case of coordinated support from various EU programmes such as FP10, the European Competitiveness Fund (ECF) and the EU Innovation Fund, such a Moonshot can become the key European model to ensure long-term European leadership, competitiveness and technological sovereignty.

EREA therefore advocates for:

- a balanced combination of bottom-up and top-down approaches,
- dedicated support for low-, medium- and high-TRL activities,
- long-term safeguarded and stable funding for aviation research and innovation, at a much higher level than what has been programmed for the last decade.

3. Involve stakeholders in the Governance

EREA considers that the success of the future Aviation and Aeronautics Strategy and subsequent Aviation Moonshot initiative as implementing concept will depend on an inclusive, balanced and transparent governance structure.

The future framework must:

- involve all aviation stakeholders in strategic agenda setting, as well as Member States,
- maintain strong stakeholder co-creation processes.

Therefore, EREA considers that this framework must be built on successful European coordination mechanisms like ACARE (the Advisory Council for Aviation Research and Innovation in Europe), which is representative of the whole Aviation ecosystem.

EREA recommends:

- a governance structure for the aviation moonshot covering the entire aviation R&I chain,
- clear distinction between aeronautics and ATM domains,
- a strong involvement of Research and Technology Organisations (RTOs), universities, SMEs and industry.

RTOs play a critical role in bridging the "valley of death", operating key technology infrastructures, bringing together the ecosystem, supporting industrial competitiveness and enabling cross-sector innovation. Their role should therefore be fully recognised within the future governance and advisory structures.

4. Preserve and strengthen European collaborative aviation research

The new EU Aviation and Aeronautics strategy for Europe needs to take into account the long development cycles of the aviation and aeronautics sector. Long-term continuity and strategic coherence are therefore indispensable.

In this framework, EREA underlines the fundamental role played for decades by collaborative European research programmes to Europe's aviation leadership.

Future programmes must therefore:

- preserve and reinforce collaborative research under FP10,
- ensure sufficient funding for Horizon Europe's Pillar II activities, with its collaborative research and partnerships,
- maintain existing and further promote new synergies between Horizon Europe, the ECF and national aviation programmes.

The future framework must support:

- small collaborative research projects for disruptive low-TRL technologies,
- medium-scale demonstration projects,
- large integrated system demonstrators,
- deployment projects enabling industrial uptake.

5. Set key innovation and technology priorities for competitive, sustainable and sovereign European Aviation

EREA supports a comprehensive technology approach aiming at increasing supply chain resilience and reducing critical technological dependencies in strategically important domains.

Within the EREA Future Sky Programme (https://futuresky.eu/), critical technologies to be addressed have been detailed. Highly efficient, net-zero aircraft technologies, advanced propulsion systems, hybrid-electric and hydrogen architectures, sustainable aviation fuels, lightweight materials and advanced manufacturing, AI, digital twins and automation, cyber-security and resilient navigation systems, advanced ATM technologies, autonomous systems and unmanned aviation, life-cycle analysis and circularity and environmental impact mitigation including non-CO_2 effects, among others are included.

Europe's future aviation competitiveness also depends on strengthening enabling technologies and industrial capabilities across the full value chain, including technologies from other sectors like advanced materials, semiconductors, batteries, resilient digital systems... Particular attention has to be paid to supply chain resilience and reduction of critical technological dependencies in strategically important domains.

The war in Ukraine proves the necessity of an integrated safety approach in the European airspace. EREA welcomes that the new Aviation strategy supports the Digital European Sky, the integration of unmanned aviation, the resilient GNSS and anti-jamming technologies, and synergies between civil and defence capabilities where appropriate. At

the same time, EREA emphasises the importance of maintaining a clear distinction between civil and defence funding frameworks while supporting dual-use technological capabilities where relevant.

Finally, EREA underlines the importance of Europe's world-class aviation Technology Infrastructures and experimental capabilities, since they are strategic for Aviation. Access to large-scale testing and validation infrastructures is essential for accelerating innovation, supporting certification and ensuring Europe remains globally competitive in both civil and dual-use aviation technologies.

6. Leverage dual-use technologies and civil-defence synergies while preserving distinct civil and defence funding frameworks

EREA recognises the growing importance of dual-use technological capabilities in aviation-related research and innovation, in areas such as artificial intelligence, cyber-security, resilient navigation systems, autonomous systems, digitalisation... Strengthening appropriate synergies and cross-fertilisation between civil and defence domains can contribute to Europe's technological resilience, strategic autonomy and industrial competitiveness.

At the same time, EREA strongly emphasises the importance of maintaining clear and distinct funding frameworks for civil and defence research and innovation activities, building on the current separation between Horizon Europe on the one hand, and the European Defence Fund (EDF) on the other hand. Preserving this distinction is essential to ensure clarity, efficiency and coherence of European funding instruments and to avoid additional complexity in programme implementation.

EREA further underlines that dual-use considerations should be addressed progressively along the research and innovation chain. In early-stage and lower-TRL research activities, technologies are often not yet linked to specific civilian or military applications. Dual-use implications generally become more relevant at higher TRLs and closer-to-market developments, where end-user requirements and operational applications are more clearly defined.

Rather than creating new dedicated dual-use funding instruments, EREA supports strengthening existing cooperation mechanisms, coordination structures and expert exchanges between civil and defence research communities where relevant and strategically beneficial. This should include improved possibilities for technology and knowledge transfer between civil and military and vice versa so that such cooperation will fully safeguard European strategic interests, technological sovereignty and existing regulatory and security constraints.

7. Acknowledge technology infrastructures and skills are critical enablers

Europe's aviation leadership depends heavily on world-class technology infrastructures such as wind tunnels, research aircraft, propulsion test facilities, digital simulation platforms and structural testing infrastructures.
These infrastructures are essential for validating technologies, accelerating innovation and maintaining Europe's strategic autonomy.

The future Aviation and Aeronautics Strategy must support the entire European aviation Technology Infrastructure landscape, facilitate cross-border access, and ensure long-term investment (including maintenance) and renewal.

The Strategy must also address workforce development, education and training, reskilling and upskilling, and attractiveness of aviation careers for future generations.

8. Conclusions

EREA strongly supports the preparation of a new comprehensive European Aviation and Aeronautics Strategy aligned with Europe's competitiveness, climate and sovereignty objectives.

To succeed, the future strategy must recognise aviation as a strategic sector, establish a Smart and Clean Aviation Moonshot, support the full research and innovation chain, maintain strong collaborative European research, ensure balanced governance involving all stakeholders, strengthen Europe's technological sovereignty and resilience, and accelerate the transition towards climate-neutral and digitally enabled aviation, for the benefit of the European citizens.

Europe has all the necessary assets to remain a global aviation leader: world-class research and technology organisations, leading industries, strong universities, advanced Research and Technology Infrastructures, and a unique collaborative innovation ecosystem. The future Aviation Strategy must build on these strengths to ensure that Europe remains at the forefront of sustainable, competitive and sovereign aviation for decades to come.

Europe's future aviation sovereignty will depend not only on scientific excellence and innovation capacity, but also on Europe's ability to maintain sovereign industrial capabilities, resilient supply chains, strategic Research and Technology Infrastructures and secure digital ecosystems supporting the full aviation innovation cycle and implementing innovations along the entire aviation value chain.

EREA considers that preserving the clear separation between civil and defence funding instruments (HE and EDF) remains a fundamental principle for ensuring the effectiveness, coherence and strategic focus of European research and innovation policies, while enabling appropriate and targeted synergies where relevant.

EREA at a glance

The Association of European Research Establishments in Aeronautics (EREA) brings together Europe's key aeronautics and aerospace applied research organisations. EREA promotes joint strategies, coordinates activities, and strengthens the collective voice of European RTOs in aeronautics. By fostering collaboration, EREA contributes to Europe's scientific excellence, industrial leadership, and technological sovereignty.
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