

EREA Position on EC Call for Evidence on Horizon Europe - European Partnerships to be implemented as Joint Undertakings

01/07/2026

European sovereignty and industrial competitiveness are core strategic priorities for the EU. Fostering Europe's industrial renewal, accelerating innovation and reducing strategic dependencies have become preconditions for resilience, growth and job creation. Tailor-made tools are needed to achieve this vision and implement the necessary measures. Over recent years and decades, Joint Undertakings (JUs) have demonstrated that they bring together a critical mass of funding, public-private co-investment and long-term strategic alignment, enabling them to successfully tackle precisely those challenges that a single industry or country cannot address on its own.

This is further reinforced by the European Commission's ongoing work on a dedicated European Aviation and Aeronautics Strategy and the proposed "Smart and Clean Aviation Moonshot", both of which recognise aviation as a strategic industrial ecosystem requiring a dedicated long-term research and innovation framework.

EREA strongly supports the continuation of Joint Undertakings for several key reasons:

- **Massive Leverage of Private Investment:** Joint Undertakings leverage European Commission's funding with matching commitments from their private members, significantly increasing the overall investment in strategic research and innovation while ensuring shared investment risk and fostering long-term industrial commitment;
- **Long-term predictability:** Joint Undertakings provide stable multiannual roadmaps and governance structures, enabling industry, Research and Technology Organisations (RTOs) and universities to commit to long-term investments and research programmes in sectors characterised by development cycles exceeding 15 years;
- **Bridging the Lab-to-Market Gap:** Joint Undertakings enable commercialization by connecting the entire technology readiness and innovation chain, pulling next-generation technologies out of academia and putting them directly into the hands of European businesses and citizens;
- **Value Chain Integration:** Joint Undertakings bridge the gap between different sectors, allow synergies to happen and create functional supply chains;
- **Industrial and Technological Sovereignty:** JUs support Europe's industrial leadership in critical sectors, preventing the loss of vital technologies and investments to competing global markets;
- **Knowledge Sharing and Use of Technology Infrastructures:** Joint Undertakings promote knowledge sharing and the use of European technology infrastructures providing partners with access to expertise, tools, data, testing facilities and demonstration platforms;
- **Workforce Development:** Joint Undertakings support training and educational programs to bridge labor gaps, attract talent, and upskill workers in specialized fields.

Against this background, **EREA strongly warns of the negative consequences of discontinuing this type of instrument.** Instead of fostering robust ecosystems, discontinuing the instrument would lead to uncertainty within the relevant industrial sector, resulting in a reduction in research and innovation activities, declining financial investment and, in the medium to long term, job losses, a decline in competitiveness and a reduction in prosperity. For sectors such as aviation, characterised by exceptionally long technology development, industrialisation and certification cycles, discontinuity between successive Framework Programmes would create irreversible gaps in technology roadmaps, delay market introduction and weaken Europe's global competitiveness.

Aviation research and innovation generates significant spill-over effects beyond the aviation sector, contributing to resilient logistics, smart mobility, critical infrastructure protection, advanced manufacturing and digital technologies.

Even if topics and research areas that were previously addressed within partnerships became part of open calls for proposals within the framework programme, negative consequences will be inevitable. These range from duplication caused by the growing fragmentation of the industrial and research landscape to an uncoordinated sequence of activities which, without the coordination provided by a partnership, will in no way lead to the European Union's desired outcome.

It should be ensured that all important strategic topics are handled appropriately, that means that merging of JUs should only be implemented if only there is a major improvement compared to individual JUs.

The European Aviation sector is still worldwide leading, but confronted with twofold transition demand: climate neutrality despite constant growth of air transport and digitalisation of many processes in production, maintenance and operation. To maintain this leading competitive position while managing the transition successfully, a continued support for aviation R&I and deployment on European level is needed. The success of European aviation is based on the support of cross border cooperation and thus involvement of the entire European R&I chain from knowledge development at universities, technology development and test at research organisations as well the further development and innovation at industry. In order to bring this European wide community/ecosystem together the JU instrument has proven its benefits compared, but also in addition to regular collaborative Research projects. Only with European coordinated approach in JUs, critical mass and projects can be achieved for which national programs and regular collaborative Research cannot be used. Some success stories on how recent EU projects have led to successful products in aviation can be found a.o. in the EREA success stories brochure ([Success stories on EU funded Aviation Research and Innovation](#)).

Within the EC Proposal on FP10 a “**Moonshot on Smart and Clean Aviation**” is mentioned, aiming at an integration of two different sectors:

- **Aeronautics** (mainly focusing on vehicles) serving a mainly private market (e.g. airlines/companies are buying the most competitive aircrafts),
- **Air Traffic Management** (ATM) addressing a public regulated market with Member States (MS) and Eurocontrol as additional actors other than EU and private organisations.

Given their different objectives, stakeholder communities, governance models and market dynamics, the **continuation of 2 dedicated Joint Undertakings remains the most appropriate solution** to effectively address the specific needs of each sector.

Any future governance should preserve the **strong links already established with the relevant regulatory and operational stakeholders**, notably **EASA for certification activities** and **Eurocontrol for Air Traffic Management**.

Should the European Commission nevertheless decide to bring these activities together under a single "Smart and Clean Aviation" Joint Undertaking, this should only be considered under the condition that **2 distinct pillars** are established, each preserving **its own governance, strategic direction and implementation mechanisms**. A single Joint Undertaking must not result in a unified governance structure that overlooks the specific characteristics of the existing programmes. Clean Aviation and SESAR operate under different industrial logics, involve different stakeholder communities and pursue innovation over different time horizons. Consequently, each pillar should retain its own Governing Board, Strategic Research and Innovation Agenda and annual Work Programme. In addition, pillar-specific steering and technical committees - covering Clean Aviation Technologies, Air Traffic Management, and, where appropriate, Drones and Innovative Air Mobility - should be entrusted with delegated authority over their respective technology roadmaps and the preparation of calls for proposals. Such an approach would preserve the strengths and achievements of both partnerships while enabling strategic coordination under a common European aviation framework.

The future Aviation Moonshot (or JUs) will definitely profit from additional funding from European Competitiveness Fund (ECF) and other EU programs, as only with these additional resources the complete research, innovation and deployment chain can be covered and subsequent market deployment of the JUs' results directly fostered/facilitated.

However, the aviation landscape is already very complex with its two distinct sectors with different stakeholders and specific boundary conditions. Adding one or several Member States as members to such a moonshot will increase the complexity even more. In, particular, for contributing Member States, the so-called "juste retour" (fair return) principle, as currently applied in co-funded partnerships will have to be implemented. As this will run counter to the EC's simplification efforts, **EREA strongly recommends to maintain the current public-private partnership model for aviation partnership(s) and avoid the establishment of a tripartite partnership.**

In general, EREA advocates for a **balanced approach** that integrates fundamental research, applied research, and industrial deployment, supporting the full innovation chain from TRL 0 to market.

Applied research plays a pivotal role in aviation innovation by translating scientific excellence into technologies that can be validated, certified and deployed. Collaboration along the full TRL chain between Industry, Universities and particularly Research and Technology Organisations (RTOs) with their multidisciplinary expertise will help, developing and validating technologies in representative operational environments, and reducing technical and regulatory risks before industrial uptake. This combined applied research capacity is essential to maintain Europe's technological leadership and accelerate the deployment of sustainable, resilient and competitive aviation solutions.

Particular attention should also be paid to certification aspects. Early interaction with **EASA** throughout the research and innovation process is essential to accelerate the industrial deployment of new technologies and strengthen Europe's influence on international aviation standards.

In order to ensure long term competitiveness and strategic autonomy, EREA is promoting the **inclusion of both disruptive and incremental technologies**, with openness to **both bottom-up** (roadmap-driven) **and top-down** (industry-driven) **project definitions**.

With respect to the different policy options, the **following recommendations** based on the experience with current JUs are laid down.

1. General recommendation on Governance and Funding

- Establish a balanced, neutral, and transparent governance structure for future Joint Undertakings
- Strengthen the participation of particularly Research and Technology Organisations with their unique multidisciplinary capabilities and Technology Infrastructures (TIs), not only as beneficiaries but also in the design, governance and strategic programming of future partnerships,
- Prevent conflicts of interest by ensuring beneficiaries do not directly decide on grant allocations
- Strengthen the role of Member States in the programme committee and in the States Representatives Group,
- Ensure a fair and balanced distribution of funding among industry, RTOs, universities, and SMEs, supporting the entire innovation pipeline, from fundamental research to market deployment,
- Secure long-term, ringfenced budgets to enable planning certainty and strategic autonomy for European research supporting strategic European sectors/industries,
- For future JUs in FP10, maintain In-Kind Contributions to Operational (IKOP) as well as In-Kind Contributions to Additional Activities (IKAA) to remain the central instrument for effectively leveraging public funds. The above-mentioned stakeholders will strictly reject cash payments into a joint funding pot, as this would mean financing competitors – such an option will be a knockout criterion for the participation and engagement of private partners.
- We appreciate the contribution of the European Competitiveness Fund (ECF) to JUs in FP10 as an additional instrument to support close-to-market initiatives covering the “valley of death” and accelerate the deployment and market uptake of innovative technologies.

2. Project Structure & Innovation Pipeline

- Future JUs must cover the entire R&I scheme up to deployment with project types and selection approaches needed for the various TRL sections with a **fair and balanced funding distribution among industry, RTOs, universities, and SMEs**, supporting the entire innovation pipeline, from fundamental research to market deployment with:
 - **a strong bottom-up collaborative research stream** focused on basic and applied research, research driven and open to all stakeholders, involving the diverse stakeholder community and in particular smaller actors such as RTOs, universities, and SMEs supported by the next FP10/Horizon Europe 2);
 - **a top-down high-TRL research stream**, similar to existing JUs, focused on demonstration activities and led by industry supported by FP10;
 - and **a deployment stream**, supporting the uptake, and scaling of mature aviation technologies and solutions funded a.o. by the proposed ECF.
- Practically this should lead to the following project structure covering the entire innovation pipeline:
 - **Small collaborative research projects** (TRL up to 4), mainly RTO/university/SME-led, focused on disruptive and evolutionary technology development,
 - **Medium-sized collaborative projects** for technology demonstration (medium TRL 4-6), with balanced public-private funding, appropriate contributions from RTOs/universities, with theme/topic leadership by industry/SMEs and RTOs,
 - **Large integrated demonstrator projects** (TRL>5) for overall system-level validation and market readiness/development under industrial leadership,
 - **Deployment projects** (TRL>6), to facilitate market uptake.

3. Stakeholder Engagement & Collaboration

- Foster the European Aviation research, technology and innovation eco-system by collaboration of **all aviation stakeholders** (industry, RTOs, universities, SMEs) adequately along the whole TRL chain,
- Support joint preparation and foster active participation of all aviation stakeholders (industry, RTOs, universities, SMEs, operators, service providers, Member States) within the **ACARE 3.0** framework in jointly defining **European strategic research, innovation and industrialization agendas/technology roadmaps** (like former ACARE SRIAs) and thus providing guidelines for the preparation of annual work programmes ensuring the alignment with European priorities and thus on programme priorities and calls for proposals.
 - Include also stakeholders from the “**user perspective**”: e.g. airlines, MRO companies, suppliers, airports, but also certification authorities
- Identify the **aviation sector** within the “**Clean Transition and Industrial Decarbonisation**” policy window of the ECF and of HE as strategic sector. The strong links between this policy window and the key challenges faced by the aviation sector fully justify such recognition and the proposed overarching moonshot concept. Therefore, **explicitly anchoring the aviation sector in the regulations** would ensure that its strategic, technological and industrial challenges are properly taken into account, benefiting all segments that structure the aviation ecosystem and its value chains.
Furthermore, the governance of the ECF and of HE will rely on a multiplicity of **committees and advisory structures**, within which it is essential that the **aviation sector** is adequately represented. The expertise of stakeholders (including industry, RTOs, and universities) fully justifies their participation in the advisory structures and reflects their willingness to contribute proactively.
- Ensure that the **voice of European Research and Technology Organizations and universities** is considered in addition to the voice of the industry, for instance by encouraging participation in working groups and advisory committees.

4. Programmatic Recommendations

- Make sure that **lower TRLs** (early-stage research) are adequately considered and funded in future Smart and Clean Aviation programme,
- Ensure that preparation of calls for **Small Collaborative Research Projects** (former Level 1 Projects / lower TRLs) include a **stronger open and bottom-up component**, with **increased budget compared to recent Framework Programmes**, to encourage new ideas, innovation, flexibility and mid and long-term research preparation, considering also high system-level goals,
- The preparation of higher TRL particularly big integrated demonstrator projects and deployment projects should be based on **top-down approach** on the basis of industrial plans and technology needs for new products and commitments,
- Maintain a **clear separation of civil and military research programmes**, but fostering the exploitation of universal technologies and capabilities for dual-use purposes where relevant.,
- Future programmes should place greater emphasis on implementation and deployment, particularly for:
 - zero-emission aircraft technologies,

- hydrogen and hybrid-electric aviation,
- advanced propulsion,
- advanced manufacturing,
- resilient ATM (including spoofing and jamming resilience),
- autonomous and unmanned aviation,
- integrated airport and network infrastructure.

5. Impact, Dissemination & Communication

- Broaden the definition of impact to include **long term impact**, education of work force and support to the entire supply chain,
- Ensure robust dissemination (journal and conference publications and patents) while preserving Europe's strategic autonomy and technological sovereignty, together with communication strategies, including participation in major forums (e.g. Paris Air Show, Aerodays, EASN conference, etc.) and showcasing demonstrators and research outcomes,
- Highlight the role and achievements of RTOs/universities in European aviation innovation,
- Foster education, training, and upskilling, ensuring workforce capability and skill readiness for the future European high-technology sector.

Europe remains the global leader in civil aviation thanks to decades of coordinated investments in research and innovation. Preserving dedicated aviation partnerships under FP10 is therefore not only an issue of research policy but also of industrial competitiveness, strategic autonomy, high-skilled employment and European sovereignty. Decisions taken under FP10 will determine Europe's ability to remain at the forefront of global aviation throughout the coming decades.

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. EREA members are uniquely positioned to bridge the gap between academia and industry by integrating multidisciplinary expertise, developing and validating technologies in representative operational environments, and reducing technical and regulatory risks before industrial uptake.

Registered in the EU Transparency-Register under No. 010397411668-54

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