

EREA position on governance for aviation research in Horizon Europe

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Policy environment & Demands from EC, Member States and other stakeholders

On the basis of Flightpath 2050 and recent technological and societal developments the Advisory Council for Aviation Research and Innovation in Europe (ACARE) updated in 2017 its Strategic Research and Innovation Agenda (SRIA). The SRIA provides guidance for future European, national, regional public and private R&I programs to achieve the COP21 goals and the 2030 Agenda for Sustainable Development subscribed by Governments, businesses and civil society. Aviation R&I should follow and support the Aviation Strategy for Europe and other European policies (European Energy Union, Single European Sky, Aviation Security Policy, STRIA policy documents, SESAR updated European ATM Master Plan as well as industrial policies, etc) and take into account the long cycles for aviation. Currently, the European Framework Programmes for Research and Innovation and related joint undertakings Clean Sky and SESAR are the main instruments to implement the SRIA on European level, complementary to national and regional programs and activities.

Within the trilogue a General Partial Agreement (GPA) on Horizon Europe was achieved, which was also approved by Council and Parliament. This GPA includes a cluster on energy, mobility and climate as well as an agreement on areas for future partnerships and missions in Horizon Europe. This GPA is used by the EC to start the process with the Member States (MS) and later on, based on a public consultation, to select the next aviation partnerships. In preparation of Horizon Europe two institutionalised Partnerships on aviation and EU air traffic management are identified as potential partnerships by European Commission and the Council.

Both the EC and the Member States call for revisited partnerships with adapted governance structures to increase openness with no pre-allocated budgets to specific partners.

EREA position arising from this context

EREA favours an approach where each transport mode has its own programme, particularly if the perimeter includes higher TRL levels, even if a cross-cutting approach might be used for some lower TRL research projects as well as for inter-modality. Having a **dedicated programme for aviation research** will better guarantee the flow of technology from low to high TRLs than generic programmes. Aeronautics and ATM research should keep a high visibility in FP9.

Up to now aviation research was handled in different programmes. Whereas the bottom-up low to medium TRLs research was tackled in the regular collaborative research programme, the mainstream of Clean Sky activity was to integrate technologies into high maturity, full-scale and representative demonstrators. The needed research activities to implement the Single European Sky were handled by SESAR combining exploratory research, industrial research and demonstration with different processes within the SESAR Joint Undertaking and too low budget on low TRLs research.

Two main scenarios are possible for the future aviation research partnership in Horizon Europe: two separate aviation partnerships or one partnership covering both ATM and aeronautics. Although EREA has no principle objections to merging the two, EREA advocates keeping them separate. The aeronautics and ATM communities are both quite large and different thus the synergies are not obvious and the risk is to lose focus. Anyhow, a cross link should be ensured in an appropriate way.

EREA's recommendation for aviation research in Horizon Europe:

Integration of future aviation collaborative research (low-medium TRLs) and demonstrator programme into the future Public-Private Partnerships (PPPs) under the same organisational umbrella using an open neutral process guided by the EC with adequate rules, governance and budgets for upstream and demonstration approaches.

- Within the Work Programme of the Aviation PPPs (Figure 1 and Figure 2) there should be room for:

- **large demonstrators;**
- **applied research projects** (integrated projects not limited to demonstrators but including validation up to TRL 5; including EREA Future Sky projects);
- **upstream research** (including EREA Future Sky contributions).

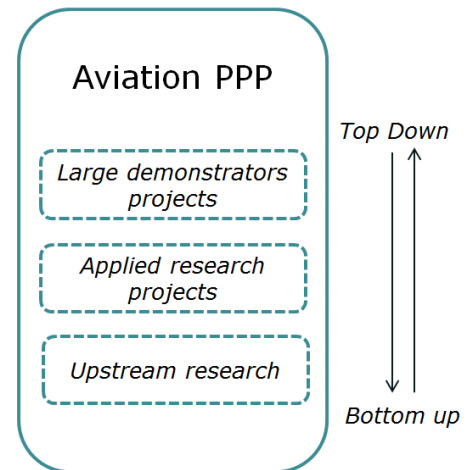


Figure 1: All aviation collaborative research under aviation PPP(s)

- Such an organisational system (similar to the former FPs with L1/L2/L3-type projects):

- would enable integration of **both upstream and top down research** under the **same organisational umbrella** with:
 - demonstrations,
 - medium sized projects (20 M€ EU-budget, duration 4 years),
 - small projects (2-5 M€ budget, duration 2-3 years),

- would have similarities with the current way of functioning of SESAR except that EREA claims for a **reinforcement of the low-TRL research part, as well as the bottom-up research part for the future aviation PPPs**. Besides reinforcing the early phases, the successor programme must also strengthen the role of Research Establishments. REs are well positioned to work with both universities and industry to bridge the valley of death and move technologies through the pipeline.

- This option would bring together the **full Aviation Research scope into PPP umbrellas (e.g. JU...), from the upstream research up to demonstrators, for a more consistent, seamless and flexible technology roadmap** to implement the ACARE SRIA action lines.

- Compared to the current Clean Sky 2 JTI and in order to take into account the bottom-up approach in the full aeronautics research scope, **an adapted and specific governance** should be implemented in the future aviation PPPs, **with an industry-led approach for demonstrators on the one hand and a research-led one on the other hand**. Furthermore, the Aviation PPPs should be based on **open calls for proposals for the whole Work Programme** to allow open competition while keeping industry fully involved. Although both approaches should have their own specific governance model, they should not operate in splendid isolation. Only when well connected a seamless flow of technology can be ensured.

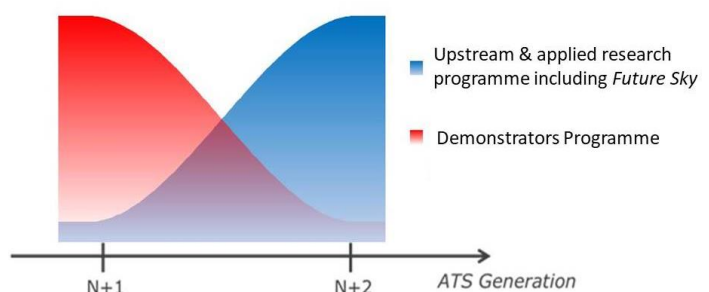


Figure 2: Schematic view of the programmatic scope of Future Sky in next aviation PPP(s)



- EREA proposes the following:
 - The **demonstrators part** would be subject to **Open Calls for Proposals from the beginning**:
 - For each demonstrator there would be **Open Calls for Proposals** and **competition** among applicants (each applicant would be an industry with a team). Compared to CS2, EREA advises not to have predefined beneficiaries in its successor. For the demonstrator projects it should remain possible to join at a later stage and these projects should be allowed, in a transparent approach and adopting the general HE rules, to publish calls themselves as well.
 - Particular attention should be paid to **ensure continuity and impact**:
 - continuity between CS2/SESAR2020 and the future aviation PPPs;
 - continuity to cover the full technology maturity scale (up to TRL 6-7) along the innovation chain picking-up results from the other part of the new Aviation PPPs or previous collaborative research;
 - impact by completing the demonstration, showing to the public the results of the partnership and their added value in achieving the ambitious ACARE goals.
 - As regards the **upstream and applied research part** (research-led):
 - This programme should be **prepared by the research stakeholders**. EREA is ready and willing to be **closely involved in the process of developing the long-term research programme** in due consideration of long standing experience in managing institutional national programmes, of no private interest and the role of REs dedicated to bridging the gap between academia and industry in the innovation chain;
 - All calls should be **open and accessible to all stakeholders**;
 - Each Call for Proposal would also be **validated by an aviation specific Programme Committee**.

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