

ASD Position for the Preservation of Grants for EU AeroSpace and Security Research

About ASD

The AeroSpace and Defence Industries Association of Europe represents the aeronautics, space, defence and security industries in Europe in all matters of common interest with the objective of promoting and supporting the competitive development of the sector. Its membership comprises major European aerospace and defence companies as well as national associations.

Background

The EU aerospace and security industries are world-class leaders in terms of technology and innovation. They are an essential part of the EU economy contributing to job creation (795 000 direct jobs in 2014¹) and Europe's trade balance (55% of products developed and built in the EU are exported¹). The industry achieved a turnover of 199.4 billion Euro in 2014, an increase of 1% in comparison with 2013. In 2014, the EU ASD industries spent 20 billion Euro in Research & Development, one third financed by public funding¹ and two third from its own funds.

EU Research Funding has traditionally been based on direct financial grants as a means to share risks between the public and private sector. In the context of the Horizon 2020 Mid Term Review as well as the next Multi-Annual Financial Framework (MFF) for the EU budget some suggestions have been made to consider new financial instruments to support EU Research Funding.

Executive Summary

Continued EU investment in Research Programmes based on grant funding is essential. It is adapted to the specificities of the aerospace and security sector, characterized by long-term research cycles, innovative supply chain and SMEs and a growing international competition threatening our global leadership. It incentivizes the necessary collaborative research and the investment in actions that contribute to societal needs and to EU policies.

Analysis: why grants are most suitable for R&T investment in aerospace and security:

Long-term research cycles

The EU aerospace and security industry is a heavily regulated industry. The consequence is that there are long lead times and cycles before technologies developed from a research project can be put into a real product; technologies which are put on the market today are the result of research, including those funded by grants, conducted during the last 20 years.

In this context, R&T is risky and the expected returns on investment are uncertain with long payback periods. Financing EU aerospace and security R&T with loans would not alter the technological risk profile but would create new financial risks for industry, ultimately inhibiting R&T investment in Europe.

Collaborative Projects at EU level

Collaborative Research at EU level (such as projects conducted through H2020) promotes the development of relationships between different stakeholders (universities, academia, research

institutes, SMEs, large companies) and develops future partnerships and the supply chain. A stable financial situation is crucial to facilitate this long term collaborative research. Grants are needed to cover the collaboration risks in R&T consortia. Using other funding mechanisms would cause stakeholders to question the benefit of a collaboration considering, at the R&T maturity stage, the miscellaneous uncertainties concerning technical achievements, future IP ownership, and results exploitation. In particular, the share of liabilities between organisations under any loan agreement would be unacceptable and a major impediment for future collaborative work.

Ultimately, loans would encourage some companies to work in isolation, reducing the technical exchanges between stakeholders and the global dissemination of results. The link between applied research, demonstration, and innovation would be broken.

Supply chain development

The supply chain represents one third of total ASD sectors revenues. SMEs, start-ups and fledgling companies have benefitted greatly from FP7 grants² to support their innovation in this long term and uncertain context. Moving away from a grant based approach will erode the SME innovation base, which has limited possibilities to take financial risks in their balance sheet, or to sell, during a research project, developed collateral assets.

In addition, the Security sector remains extremely fragmented, so it needs public support to develop and compete in the global market and contribute to EU autonomy.

EU Policies target

Grants are also essential to meet the societal targets and incentivise industries in setting their priorities to meet European policies.

Grants are an enabler to reach the CO₂ emission reduction target, as set by ACARE Flightpath 2050³ objectives: the new generation of aircraft/engines developed with support from Clean Sky would reduce emissions by 15-20%, whilst the next generation air traffic management system developed through SESAR could eliminate 16 million tons of CO₂ emissions annually.

Security research contributes to a more secure and resilient Europe. It contributes to the EU's external assistance programmes including humanitarian aid and security related assistance to third countries.

EU Space infrastructures are used to address such challenges as climate change monitoring and crisis management (Copernicus), and global navigation (Galileo). Space research, carried out in H2020/Space, promotes sector readiness for services development and continuity, and systems evolution, for the benefit of European citizens and stimulates innovation in key technology areas.

Grants are the only means to support such early TRL (1-6) EU-wide research projects with long research, development, and exploitation cycles.

International competitiveness

The EU's industries are competing in a worldwide market with global players. The EU's competitors (USA, China etc.) provide grant-based funding to support local industries and local employment. Some countries (e.g. Singapore) are able to attract international industries due to very well designed grant-based research programmes. The EU is already investing less in aerospace and security research than its main competitor, the USA⁴. Emerging markets such as China and Brazil have also significantly reinforced their support to local industries.

Altering the funding schemes for research in Europe therefore risks jeopardizing European leadership in R&T. In the face of this worldwide competition, discontinuing with grant-based research funding would significantly reduce European competitiveness, potentially destroying EU jobs, and may in some cases result in off-shoring of industrial activities and knowledge. As such it would run contrary to the EU action plan for jobs and growth.

Investments and economic benefits

Research and Innovation are recognized as the vital tools for reversing the declining trend of European industry, yet a very small percentage of the EU budget is being set aside for it (less than 10% of EU budget is dedicated to Horizon 2020). There is a clear lever effect between government funding for research and investment from the private sector: for every Euro spent by government investment, this is leveraged by a factor of 2.5⁵ by industry and private investment.

European aerospace industries have outpaced other industrial sectors thanks to their worldwide technological leadership and has greatly benefited exports from the European Union. The ASD industries have steadily increased their workforce, which grew by over 2% a year, from 704,000 in 2010 to 795,000 in 2014, most of which are highly skilled jobs (38% are university graduates, and a further 32% has some other form of technical education).

Continued EU investment through grant-based research is essential to maintain industrial leadership, secure high value jobs, develop critical skills and continue exports in the future.

[Signature on file], Jan Pie, ASD Secretary General, 22 August 2016

¹: ASD facts and figures.

²: European Commission, 2014: SME that had benefitted from FP7 grants shows an average increase of 22% in turnover, 25% in employment, 28% in exports compared with those who had no grant.

³: ACARE: Advisory Council for Aviation Research and Innovation in Europe. The Strategic Research and Innovation Agenda (SRIA) Flightpath 2050 is the new strategic roadmap for aviation research, development and innovation developed by ACARE. <http://www.acare4europe.com/sria/flightpath-2050-goals/protecting-environment-and-energy-supply-0>

⁴: OECD stat: In 2013, USA companies invested 27 billion \$ in aerospace R&D when European ones invested 11 billion in the same perimeter.

⁵: OECD 2013 studies and Eurostat studies