

Research and aeronautics: setting up the Clean Sky Joint Undertaking

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The Joint Technology Initiatives are public-private partnerships in industrial research at European level. They were set up as pilots in 2007-2008 under the Seventh Framework Programme in five strategic areas: **aeronautics and air transport (the Clean Sky initiative)**, public health (the Innovative Medicines Initiative (IMI)), fuel cell and hydrogen technologies (the Fuel Cells and Hydrogen (FCH) initiative), embedded computing systems (the ARTEMIS initiative) and nanoelectronics (the ENIAC initiative). The SESAR (Single European Sky Air Traffic Management Research) programme should also be mentioned since it is funded under the Seventh Framework Programme.

An annual report on the progress achieved by the Joint Technology Initiatives Joint Undertakings ('JTI JUs') is required by Article 11(1) of the Council Regulations setting up the individual JTIs. This report contains details of implementation including number of proposals submitted, number of proposals selected for funding, type of participants, including SMEs, and country statistics. This **2011 annual report** follows the **first interim evaluations of the Joint Undertakings** carried out under Article 11(2) of the Council Regulations.

The European Commission, as a co-founding member, was responsible for starting up the JTI JUs. Once they had built up their legal and financial framework and demonstrated their capacity to manage their own budgets, ARTEMIS, IMI and Clean Sky were given autonomy in late 2009, followed by ENIAC in May and FCH in late 2010. Thus, 2011 was the first full year in which all the JTI JUs operated autonomously.

The first interim evaluation was performed on time and assessed their quality and efficiency and the progress achieved towards their objectives. All the reports concluded with a **favourable opinion**: the evaluation panels agreed that the **JUs should continue beyond 2013**. The evaluation panels supported the Sherpa Group's recommendations, in particular that **the current legal framework be streamlined to fit the purposes of setting up and implementing future JTIs**. In this respect, the current 'Community body' status of JTIs should be reviewed. They recommended **reinforcing and streamlining processes and decision-making**.

They also referred to the need (i) for more structured coordination and complementarity with FP7 and national programmes and funds; (ii) for improved communication, to enhance the visibility of JTI actions aimed at the general public and at international level; and (iii) for systematic data collection and a monitoring system for key performance indicators.

Progress achieved by the Clean Sky JU: for the period 2008–2013, Clean Sky was allocated a total budget of EUR 1.6 billion: a maximum EUR 800 million from the European Commission (in cash), to be matched by industry contributions (in kind) worth at least EUR 800 million. Three main objectives were set for Clean Sky: (i) to accelerate environmental improvements in Air Transportation System (ATS) through the introduction of advanced technologies and full scale demonstrators, (ii) to improve on the overall ATS impact on the environment (reducing noise, emissions, and fuel consumption), and (iii) to consolidate the European aeronautics industry around a project of common interest.

Clean Sky's performance needs to be judged in the light of its specific characteristics, in particular the considerable industry involvement in the JU at various levels, from strategic management to the definition and description of call topics and direct participation in the evaluation of projects. Unlike the other JUs, Clean Sky works mainly via grants to named beneficiaries rather than calls for proposals. In fact, its main

achievements result from the work of its members, organised in six different technical areas called Integrated Technology Demonstrators (ITD), supported by a Technology Evaluator who continuously monitors and assesses the result. There is effective and organised coordination with other organisations, particularly the Single European Sky Air Traffic Management Research (SESAR) JU.

Much of the overall budget (EUR 600 million, or 75 %) is distributed to these members or ‘named beneficiaries’; the remaining EUR 200 million is allocated to calls for proposals. These calls are launched on a regular but one-off basis when ITD members express a need for additional specific research activities to complement their work. Consequently, the Clean Sky calls for proposals are targeted calls, cover various topics (23 to 58 during 2011) and are of short duration (averaging six months to one year).

In 2011, Clean Sky completed the evaluation of call 7 and published three calls for proposals: calls 8, 9 and 10. It managed 159 topics in total, resulting in a total of 325 partners from 22 countries selected after call 10.

In comparison with the other JUs, **overall participation in the calls is high and so is the number of projects selected for funding**. The participants are evenly distributed between research organisations, industry, universities and SMEs. However, Clean Sky appeared to be less attractive to public bodies and regulatory agencies in 2011. SMEs accounted for a very high number of participants in the projects funded (37 %); over the period 2008–2011, SMEs accounted for 38% of the EU’s Clean Sky funding.

Based on the data available for the funded projects, calls 7 to 10 attracted participants from 23 countries. The countries best represented were the United Kingdom, Germany, Spain, Italy and France, which have an industrial tradition in aeronautics. Clean Sky attracted the most participants from the EU-12 countries of any JU. Of the ‘associated’ countries, Switzerland led with six coordinators, while the main international partners were China and Russia; the US did not participate.

The Technology Evaluator covered four main research work packages, which all had activities and deliverables in 2011. Overall, carrying out the 2011 plan was a significant challenge. Despite some difficulties, the Technology Evaluator managed to put in place **reinforced planning and control mechanisms for 2012**. The first assessment performed, also served to ‘demonstrate’ the full process and proved to be encouraging. The quality and timeliness of deliverables should improve significantly in 2012 and will be closely monitored by the JU as a top priority.

In 2011 the main research objectives evolved to reflect the latest progress in their fields of technology. Clean Sky updated its research objectives following the guidance given in *Flightpath 2050, Europe’s vision for Aviation* report, produced in 2011 by ACARE.