X3-NOISE

Aircraft External Noise Research Network and Coordination

**Funding:** European (6th RTD Framework Programme)

**Duration:** Jun 2006 - May 2010

**Status:** Complete with results

**Total project cost:** €1,887,473

**EU contribution:** €1,880,000

**Call for proposal:** FP6-2005-AERO-1

**CORDIS RCN:** 81470

**Background & policy context:**

Despite very significant technology improvements over the past 20 years and attention being paid to other environmental impacts, aircraft noise remains a major problem in Europe. This has to be solved by the air transport industry as a whole so as to deal with the expected growth.

Stakeholders and policy-makers are faced with the particular challenge that, while noise reduction at the source has generally been progressing well, particularly with the evolution of engine concepts, there is a need for an economically viable but continuously quieter airline fleet to accommodate the expected traffic growth without adverse environmental impact. In practice, this calls for new, more encompassing systemic approaches. Underlining that, associated with the successful development of novel technology by manufacturers, additional elements have to be taken into consideration for noise source reduction to meet its goals and play its full role in the face of expected future air transport developments.

Coordinating aircraft noise research at EU level thus implies the need to maintain a competitive position in a technical area where European manufacturers have always held a leading position. The specific European context with higher societal demands requesting new, efficient ways of managing the community impact also needs to be considered.

**Objectives:**

The X3-NOISE Coordination Action addressed the aircraft noise challenges set by the ACARE 2020 Vision through its network structure and comprehensive work plan involving expert groups, scientific workshops, stakeholder seminars and a common information system.

The objectives were:

- to evaluate EC-funded project results and assess their contribution to the state-of-the-art;

- to formulate, through the development of common strategies and complementarity with national activities, priorities and key topics for future projects aimed at noise reduction at source, and at improved understanding of the impact of aircraft noise in the community;

- to identify potential reinforcement of future project partnerships through expertise mapping, to foster new collaborations and promote novel ideas;

- to ensure dissemination and exploitation of anticipated technology breakthroughs and scientific developments, including providing technical information for regulatory bodies and policy-making agencies to make them aware of progress made in aircraft noise research;

- to contribute to an improved integration of the European aircraft noise research community through a network of national focal points, including the development of local networks in new EU Member States to foster participation in future projects.

**Methodology:**
X3-NOISE involved 32 partners from 20 countries and was organised around five technical Work Packages:

1. Reduction of noise at source,
2. Management of noise impact,
3. Scientific dissemination,
4. Communication and feedback,
5. Network support and Coordination.

The project work plan:

- established detailed research plans to support the ACARE Strategic Research Agenda by means of dedicated roadmaps;
- investigated key enabling issues through ad hoc task groups (computing capacity, noise emissions tradeoffs, experimental benchmarks);
- sought constructive debates to address forward-looking issues (stakeholders’ seminars on environmental interdependencies, noise mapping techniques, technology status and green airport concept);
- ensured dissemination through an annual thematic scientific workshop;
- pursued active collaboration with other environmental networks such as AERONET, ECATS and CALM;
- implemented a network of national focal points over most of the EU-27. An advisory board, made up of aviation stakeholders’ representatives, provided feedback on potential developments in the environmental domain.

The international co-operation aspects of the research agenda that was developed through the project activity are further reinforced by the participation of three partners, from Ukraine, Egypt and Brazil, who acted as focal points at regional level.

**Parent Programmes:**

**FP6-AEROSPACE - Aeronautics and Space - Priority Thematic Area 4 (PTA4)**

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

**Lead Organisation:**

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<th>Snecma</th>
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<tr>
<td><strong>Address:</strong> 2 Bd du Général Martial-Valin PARIS France</td>
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<tr>
<td><strong>Organisation Website:</strong> <a href="http://www.snecma-moteurs.com">http://www.snecma-moteurs.com</a></td>
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<td><strong>EU Contribution:</strong> €0</td>
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**Partner Organisations:**

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<td><strong>Address:</strong> Highfield Southampton SO17 1BJ</td>
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<td>United Kingdom</td>
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<td>Office National D' Etudes Et De Recherches Aérospatiales</td>
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| VILNIUS | Linkmenu 28  
Lithuania | Organisation Website:  
http://www.vgtu.lt/padaliniai/institutai/termoizoliacija/ | €0 |
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**Safran Engineering Services**

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**Key Results:**

The expected results from the project were:

- successfully implemented technology development priorities associated with improvement of appropriate research infrastructure;
- regularly updated technology status documents, including technology prospects and readiness levels;
- successfully implemented priorities aimed at harmonised environmental planning tools and instruments, including the evaluation of noise/emission interdependencies;
- clarification of aviation situation vs. the END directive from a technical standpoint;
- active technical debate to stimulate elaboration of research strategies in specific areas;
• widespread information on aircraft noise-related programmes and developments;

• continuation of international exchanges leading in particular to the presentation of a worldwide technology status within ICAO CAEP;

• better coordination of expertise at national and regional level (TTC), so that added-value contributions to EC projects are more clearly identified around a common set of well disseminated priorities and objectives;

• better identification and exploitation of national upstream research in coordination with EC projects;

• structured development of local networks in new EU Member States in order to foster participation in future projects;

• development of co-operation with NIS and Mediterranean INCO regions as well as South America.

**STRIA Roadmaps:** Other specified

**Transport mode:** Air transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Decarbonisation, Societal/Economic issues, Environmental/Emissions

**Geo-spatial type:** Infrastructure Node