

Aircraft external noise thematic network -



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EC Contribution

675 450 ECU

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36 months

EC scientific officer

Per KRUPPA

Fax: +32-2-296 67 57

Coordinator

▲ Société Nationale d'Etudes
et de Construction de Moteurs
d'Aviation
Acoustics Department
Site de Villaroche
77550 Moissy-Cramayel
France
Dominique Collin
Tel.: +33-1-60 59 73 96
Fax: +33-1-60 59 87 25
E-mail: dominique.collin@mail.
sncma.fr

Network overview

The ICAO (International Civil Aviation Organisation) develops international standards governing the noise of newly manufactured aircraft. The current standards, originated in 1977, are contained in Chapter 3 of the annex 16 to the Convention on International Civil Aviation. Since 1991 a major review has been undertaken within the ICAO Committee for Aviation Environmental Protection (CAEP) which will eventually lead to the application of more stringent noise limits. Such steps have already been taken in the US with the launch in 1994 of a national, government funded, research programme co-ordinated by NASA, with heavy involvement of industry. It is believed that only a co-ordinated initiative at the European level, building on EC and national programmes, expanding the scope of research topics to counter the US effort, providing the "demonstrator" capability that national programmes cannot afford alone and addressing the issues in the larger sense, will provide the expected environmental and competitive benefits.

The X-NOISE Thematic Network aims at achieving the following objectives:

- efficient co-ordination of EC funded projects in the perspective of larger, integrated technology demonstrators

under the Environmentally Friendly Aircraft Targeted Research Action;

- fruitful technical exchange with national activities in the same perspective;
- better formulation of key topics for future project proposals, through assessment of achievements, identification of gaps and benchmarking against competing countries;
- optimum exploitation of anticipated breakthroughs in Jet Aircraft Noise Reduction technology by the scientific community, SMEs interested in aeronautics applications and other industrial areas;
- identification of potential reinforcement of existing and future projects partnership through periodical state-of-the-art assessment of universities and SMEs within Europe (EU + Eastern countries)
- appropriate communication and feedback strategy to inform on progress made in noise reduction technologies;
- development of technical information to support future rules on the basis of state-of-the-art, demonstrated technology and operational capabilities of future aircrafts.

European dimension and partnership

Through the Aeronautics Task Force (ATF) set up in 1995 by the European Commission, European industry has proposed, under the wider label of "The Environmentally Friendly Aircraft" (TEFA), an Aircraft Exterior Noise research action plan. In particular, the TEFA report to the ATF provided information on the needs and directions for a very significant technology programme aimed at reducing noise around airports by at least 5 decibels. This programme is now being supported through four EC funded projects currently in their starting stage. As a consequence, it is proposed to set up an appropriate structure around these projects able to address issues emphasized in the TEFA report as key items to allow a successful implementation of the overall workplan and to maintain the competitiveness of the European industry in the noise reduction area.

X-NOISE

X-NOISE involves 26 interested bodies from 10 EU Member States representing aircraft, engine, helicopter, nacelle manufacturers, research centres, universities and European associations. They will participate in the network activity within the Cluster, Committees or Experts Groups and through specific assignment studies. At a different level, X-NOISE will establish links with two other networks: EEFA (Efficient and Environmentally Friendly Aeroengines) and TRA3 (Aerospace Aerodynamics)

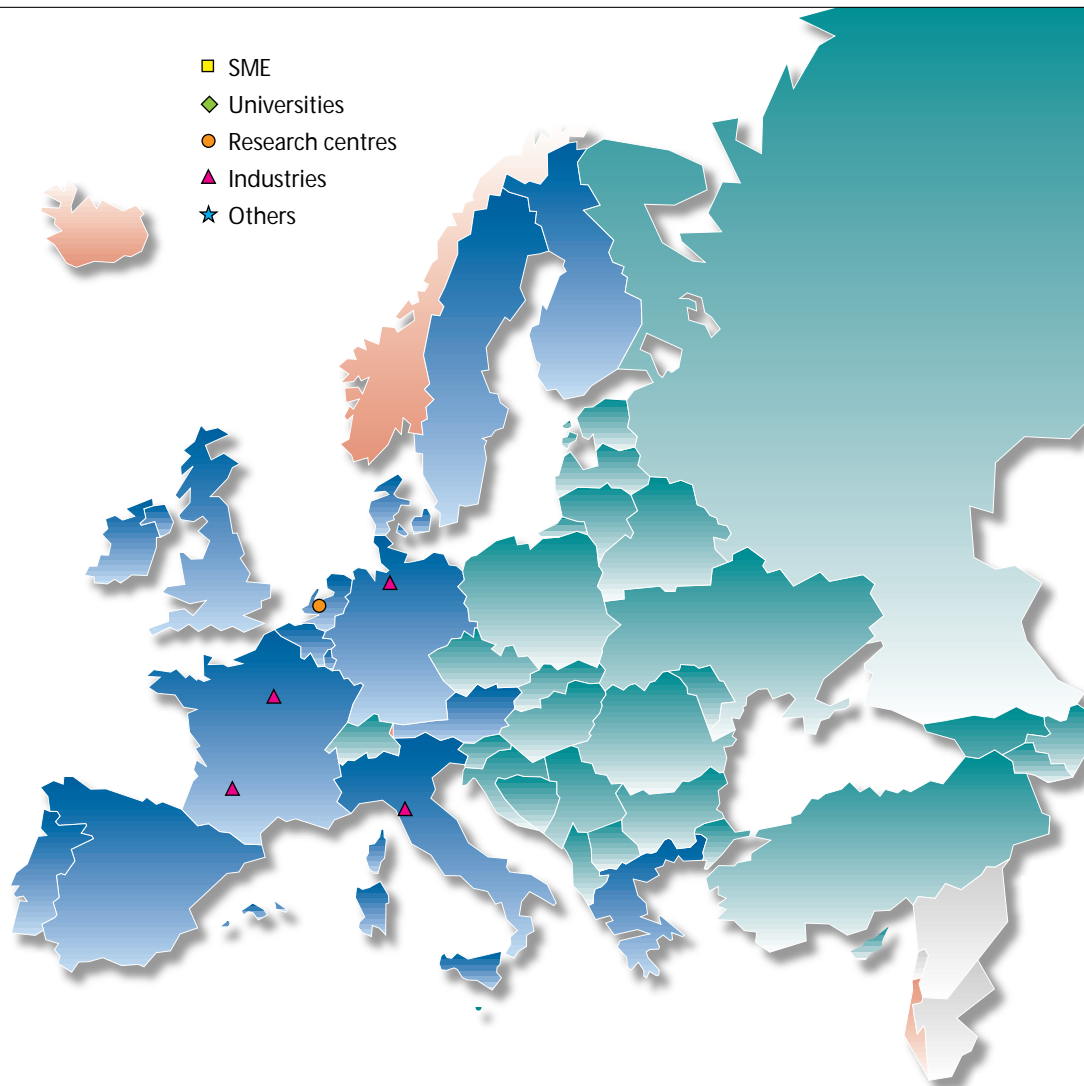
Potential applications

It is highly probable that the emergence of new, more efficient engine types as well as larger capacity aircraft will be delayed if noise technology cannot be improved in parallel with achievements in other engineering areas. One of the main launch conditions of future aircraft and engine projects will be a clear indi-

cation that the toughest environmental objectives can be met. In such a situation, the improvement of future aircraft operation economics would be clearly connected with the development and availability of more environmentally friendly aircraft types.

Besides these purely industrial objectives, a major research initiative is expected to be the driving force of a successful balanced approach. In fact, the network workplan should build on the technology effort to widen its foundations, taking every opportunity to develop a better mutual understanding among all parties concerned: industry, airlines, airport operators, local and national authorities as well as neighbouring communities. There is for instance a clear demand from airports to include in their communication strategies for the general public, a positive and up-to-date message on the latest environmental technology advances.

The capability of providing efficient solutions on both aspects and of influencing future ICAO decisions on more stringent noise rules and certification techniques is key to the competitive position of the European industry in the future.



Partnership

- ▲ AEROSPATIALE - Société Nationale Industrielle SA - Toulouse (FR)
- ▲ Agusta Un'Azienda Finmeccanica SpA - Cascina Costa Di Samarate (IT)
- ▲ Daimler-Benz Aerospace Airbus GmbH - Hamburg (DE)
- Nationaal Lucht- en Ruimtevaart Laboratorium, Fluid Dynamics Division - Marknesse (NL)