

The Aeronautics Task Force



Message from the Commissioners

The European Union is confronted with major social and economic challenges. In the face of problems such as unemployment, widespread changes in society or the rapid pace of technical innovation, the achievements of Community research in helping to develop the competitiveness of Europe's enterprises and in helping European society to cope with such challenges need to be more visible to the citizens.

Concrete steps should therefore be taken rapidly to increase further the coherence and effectiveness of research activities in the Community, based on a consensus among all concerned about the approach to be followed.

The objectives of Community Research and Technological Development (RTD) policy are set out in the Treaty. Various instruments are provided for its efficient implementation.

All the available options under the Treaty should be used in order to exploit to the full the Community's potential to generate concrete results which are comprehensible to everyone. In particular the Framework Programmes have brought together a wealth of industrial and academic experience, cooperating in the pursuit of research of wide social and economic importance.

Following the adoption of the necessary decisions, the 4th R&D Framework Programme is now being implemented. These decisions and instruments therefore provide an agreed structure within which new initiatives can be launched.

Europe needs to improve its capacity for transforming RTD results into innovations. To this end the priorities include the promotion of intangible investment such as research and training and the need to take fuller account of the market. Closer interactions between industry and research and better coordination with Member States' activities are key factors for the achievement of these goals.

Coordination between the specific programmes is already being improved. This is widely welcomed. It will harness the dynamism of the different research fields and provide interfaces where often important advances can be achieved. It will also make better use of current research as well as of available expertise in technological and economical assessment. This cooperation can be exploited further and form the nucleus around which wider collaborations can be built.

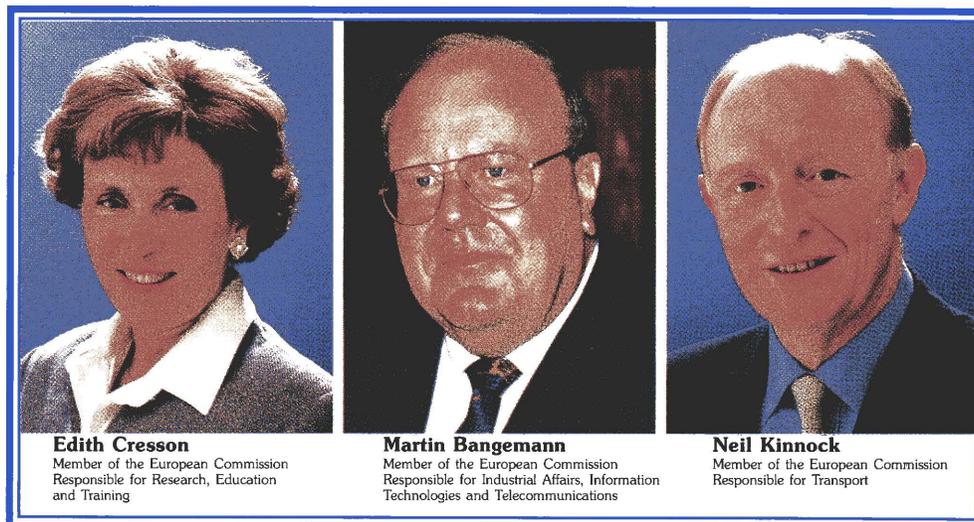
In this spirit we have agreed to set up the Aeronautics Task Force.

The Task Force will take the first steps towards implement-

ing this new approach which will bring together Community, national and all relevant efforts in common projects of industrial interest.

In this way, the potential of the Community as a whole will be more effectively mobilised, strengthening the links between research and industry and reinforcing industry's capacity to compete and innovate.

Common projects and initiatives will address issues of major concern to society, where there is clear added value in action at the Community level.



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The Aeronautic Task Force

*Encouraging research and industry to do more
to meet people's everyday concerns*

The Aeronautics Task Force was set up by a joint initiative of three Members of the Commission – Mrs Edith Cresson, Mr Martin Bangemann and Mr Neil Kinnock.

This initiative is designed to encourage the development of technologies which will help both to improve the quality of life in the European Union and to increase our industrial competitiveness.

The Task Force provides industry with a single interface which brings together representatives from all the major Commission research programmes having an impact on aeronautics, i.e. Industrial Materials and Technologies (IMT), Information Technologies (IT), Transport and Telematics.

This cooperative effort is intended to ensure the optimal exploitation of the 4th R&D Framework Programme through formal and informal pre-screening exercises, recommendations for updating workprogrammes and exploiting the potential for aeronautics in additional programmes.

At present, only 13% of public research funding is spent on European cooperation. By identifying the various public and private initiatives undertaken in the Member States and under the 4th R&D Framework Programme or other European programmes, the Task Force will contribute to the encouragement of convergence and consistency.

After an analysis of the situation to identify the research already being undertaken, and following intensive consultation with industry to decide on priorities, the Task Force will come up with proposals for clustering selected projects within the specific programmes contained in the 4th R&D Framework Programme.

It will also be possible to take advantage of instruments provided for in the Treaty but which have not yet been used:

Article 130k which authorises supplementary programmes involving the participation of certain Member States only, Article 130l which provides for Community participation in research and development programmes undertaken by several Member States or Article 130n which allows the Community to set up joint undertakings.



The New Generation Aircraft

Research has to improve industrial competitiveness through the development of safe and efficient technologies

Air traffic is expected to double by the year 2010. The European aircraft industry is working hard to meet this challenge and to capture a major part of this very valuable market, estimated at 15 000 new aircraft over the next 20 years.

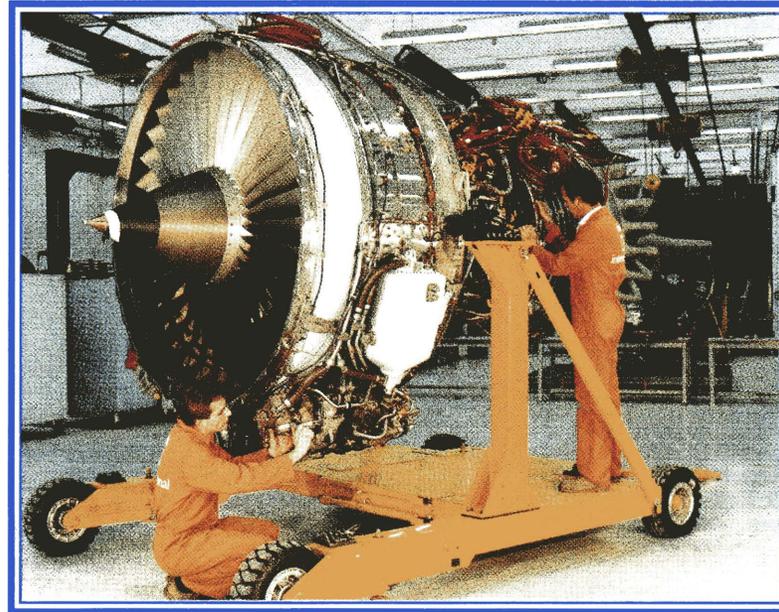
In Europe the total aerospace market is estimated at some ECU 34 billion whereas in the USA it is ECU 83 billion and in Japan ECU 7 billion.

Research and Development efforts are essential to prepare the new generation of aircraft.

Although annual public expenditure on civil aeronautical research in the EU represents approximately ECU 400 million, this is less than one quarter of the level provided in the US, still by far the dominant supplier of aeronautical products world-wide.

The position of EU industry is made more difficult since the 1992 bilateral agreement with the US limits direct repayable royalty-based loans for large civil aircraft, the traditional European form of development support, at a time when the US is channelling increasing indirect research funds to its industry, often covering 100% of project costs, in a coordinated effort involving

NASA, DoD and other government agencies. Moreover the US certification and airworthiness authority, the FAA, also actively champions the position of US industry throughout the world, while in the EU there is only the loose association of the Joint Aviation Authorities (JAA).



In addition, more account needs to be taken of environmental aspects in industrial development projects and the associated R&D. Emissions and noise are major concerns of both the industry and public authorities.

It is essential to continue with studies launched by the industry in these areas, particularly on high performance materials, as a basis for the development of a new generation of engines and in order to ensure the adoption of the best worldwide standards.

European Union research programmes on aircraft relate both to improving air traffic management and to developing technologies to improve safety and efficiency. They are also designed to help cut the production cycle for aircraft while reducing their operating costs.

The Purpose

To add value to existing programmes and to maximise the benefits for industry and society

The 4th R&D Framework Programme (1994-1998) could provide up to ECU 400 million for aeronautics related research, which is four times more than in the 3rd Framework Programme.

There are also several other programmes for multilateral cooperation in Europe, many of them connected with NATO.

The efforts of the Task Force will be mainly devoted to add value to these existing programmes.

It is aimed at maximising the benefits for industry and society by focusing on:

R&D activities

- identification of industrial and technological objectives in the light of the ongoing restructuring process:
 - assessing industry's needs, updating priorities and identifying industrial bottlenecks;
 - mapping of the specific programmes (FP4, National, Others) vis-à-vis industry technological needs;



- improvement of synergy between EU, National and other relevant efforts by:
 - optimal exploitation and coordination between specific programmes in the 4th Framework;
 - exploiting the potential for aeronautics in additional programmes;
 - coordination with national activities and with other EU initiatives, such as the development of professional training and Eureka;
 - exploring the possibilities for greater involvement of defence-related industries;
 - improving the exploitation of results, including the development of possible demonstration activities;
- recommendations for future definition of priorities in view of FP5.

Information Society activities

- developing concrete cases for aeronautical applications (identifying suitable pilot projects).

The Tasks

To identify industrial priorities and technological objectives and to create more synergy between European and national research

The major EU aeronautics industries are mainly located in seven member states. However their industrial network, involving materials, components, equipment, machine suppliers, repair and maintenance, covers the whole Union and accounts for about 400 000 employees.

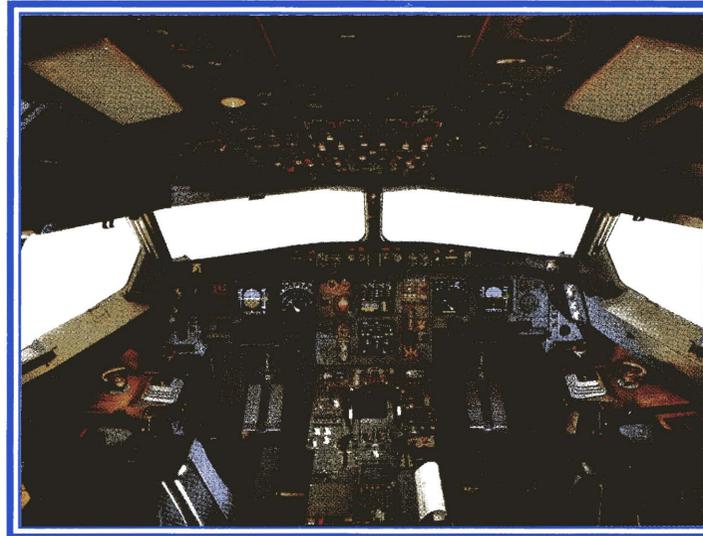
The competitiveness of those European industries faced with the thorough restructuring of their competitors will therefore depend on the whole supply chain being more competitive, with the objective of delivering to the market, on time, the new generation of aircraft which users and society need.

It should be borne in mind however that the complexity of the aircraft system, and the spread of aeronautics beyond that system and into the wider community, means that the benefits of aeronautics are widely felt, e.g. through the application of new materials in other sectors, through the development and retention of highly skilled workforce, and through the impact on the EU trade balance.

Objectives

The Task Force decided on the following research objectives, which are encompassed within the 'Long-term Plan for R&D' drawn up by the aeronautical industry in 1993:

- Aircraft efficiency;
- Reducing production costs;
- Making aircraft more environmentally friendly;
- Operational safety;
- Technologies to improve passenger comfort.



A working party of representatives of the industry has been set up to contribute to the work of the Task Force.

Several joint meetings have already been held, at which industry has been consulted on the priority projects within these areas.

Progress to date

Through a re-evaluation of its priorities, the European aeronautical industry has identified three research and development areas, which can only be practically achieved at European level, and which can make a real impact on competitiveness:

Distributed Concurrent Engineering (The Aeronautics Network)

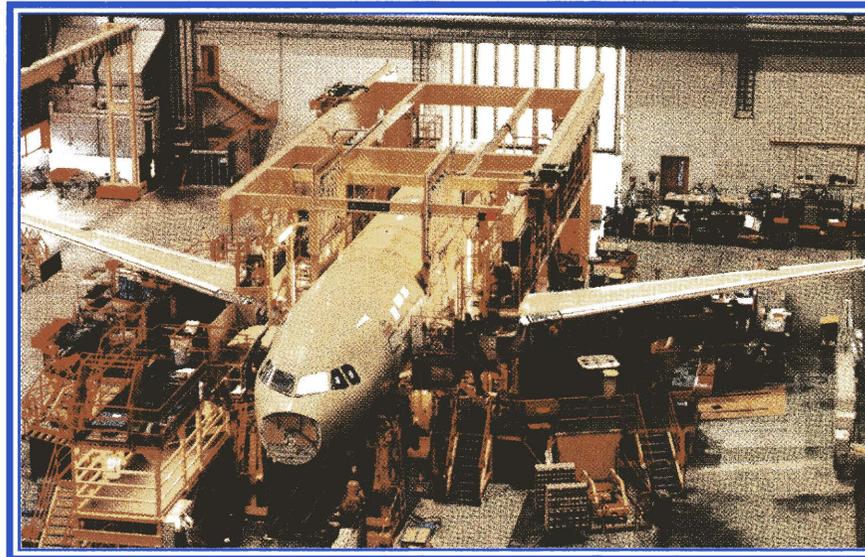
The application of advanced technologies in this field presents a great potential for delivering enormous reductions in the production cycle and thus in the cost of introducing and supporting new and derivative products, and hence on competitiveness.

This concrete example of an application of the information society to aeronautics will have the effect of breaking the barriers between companies, and improving supply chain efficiency because design and engineering would be done simultaneously rather than sequentially giving immediate feedback and eliminating costly errors and delays at source.

Such actions should be extended as much as possible, both to the network of all the supply companies and to users, thereby facilitating the integration of SME's in the market.

The More Efficient Aircraft

R&D in this area is essential to demonstrate and validate technologies which improve the overall efficiency of the aircraft of the future, and thus improve the competitiveness of all economic actors in the aeronautical field while responding to the mobility and safety needs of travellers.



The specific technologies to be covered relate to systems, airframe and operational efficiency, including hybrid laminar flow, wake vortex management, advanced composite structures, etc. The basic and applied research actions required have longer term characteristics than the previous ones and will be generally covered by the EU Framework or national programmes; they must however be complemented by an extensive proving, risk reduction and validation programme at an integrated level to be turned to competitive advantage.

The Environmentally Friendly Aircraft

Polluting emissions and noise levels are major concerns of society. Priority should therefore be given to the extension of research activities aimed at reducing the environmental impact of air transport, e.g. reduction of airframe, powerplant and rotorblade noise, minimisation of installation effects, and reduction of emissions.

Environmental problems are now tackled at a world-wide level (ICAO) and therefore research collaboration, also at world-wide level, is likely to be necessary. However, Europe must unite to acquire a position through research to prevent our competitors from using legislation for competitive advantage, and to lead the field in clean air transport.

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Eurocopter Page Four



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This brochure has been produced for the Aeronautics Task Force of the European Commission
Compilation by the Aeronautics Task Force
Artwork and production by PRINTECLAIR, sprl, Brussels