Europe has a long record of co-operation in civil aeronautical research – which has borne fruit most visibly in the highly successful Airbus consortium – but until now it has been largely confined to the seven countries with the strongest aeronautical sectors. A new ERA-NET Coordination Action, Air Transport Net (AirTN), will extend that collaboration to all European countries with significant aeronautical research programmes. By coordinating national research efforts and launching joint activities, AirTN will help Europe’s aeronautics industry respond to the technological and environmental challenges of the future.

When the Airbus A380 took to the skies in the spring of 2005 it was visible proof of the strength and creativity of the European civil aviation industry. The biggest commercial airliner in the world, capable of carrying more than 800 passengers, the A380 is just the latest in a series of innovative new aircraft from Europe’s increasingly confident aeronautics sector.

By any account the aeronautics industry is an important part of the economy. It accounts for 2.6% of the GDP of the old EU-15 and employs approximately 3 million people including 1.3 million in manufacturing alone. With the demand for air travel expected to rise by 5% every year for the next 20 years, as many as 4 million new jobs could be created by 2020, not to speak of many others in associated sectors such as tourism. But this expansion comes at a cost. European airspace and airports are already crowded, and the prospect of still more aircraft in the sky raises many environmental concerns, not least the contribution to global warming. If Europe is to be able to meet rising demand for air travel and benefit from its growth, the industry needs to establish itself on a sustainable footing. That means research – and a lot of it.

Aeronautics research is expensive. Facilities such as wind tunnels and experimental aircraft do not come cheaply, and there is already a long record of co-operation between European countries not only in highly visible joint commercial projects such as Airbus but also in the less visible basic research that underpins them.

Since 1973, the leading aeronautical nations in the EU have collaborated in an intergovernmental group called GARTEUR (Group for Aeronautical Research and Technology in Europe) which now includes France, Germany, Italy, the Netherlands, Spain, Sweden and the United Kingdom. Past and present research topics cover safety, avionics, certification, multidisciplinary design aspects, performance, stability and control, helicopters, structures and materials. The GARTEUR countries make up the core of the present Coordination Action to set up an ERA-NET for aeronautical research. They are joined by government departments and public bodies (agencies, research establishments) from eight other EU Member States plus Romania and Switzerland, and together they represent every European country with a significant research programme in aeronautics.

The aims of the network – known as Air Transport Net (AirTN) – are twofold. First, it will step up co-operation and coordination between civil aeronautics research programmes building on the GARTEUR structure already in place. Second, it will extend that co-operation to a wider circle of countries, helping to establish an aeronautics presence in the European Research Area.
On the same plane

The first step will be a systematic exchange of information about national priorities and research programmes as a basis for future planning. Next, the partners will look at common strategic issues, including a comprehensive review of the state of global aeronautics research. A recent strategic review by the Advisory Council for Aeronautics Research in Europe (ACARE), setting out priorities for the next 20 years, will contribute greatly here.

Next, the partners will develop proposals for joint activities. Experts will be invited to report on seven research areas covering: aerodynamics; flight mechanics, systems and integration; materials and structures; helicopters; propulsion; air traffic management; safety; and environmental issues. At the same time, three fora will be set up to disseminate information throughout Europe on key areas such as ‘a single European sky’, ‘green’ issues and emerging areas like Unmanned Air Vehicle (UAV) and general aviation.

Finally, a group will examine best practice in aeronautical research and propose a number of possible joint activities. One expected outcome is a pilot transnational research project, although its nature is as yet undecided.

AirTN is initially being funded for three years, but the partners intend that it will become the basis for lasting co-operation between Europe’s aeronautical policymakers.

AirTN is a unique opportunity to become part of well-established and successful European co-operative networks.