

# European Aeronautics Science Network



european aeronautics science network



Although the European Universities have succeeded to provide top level Aeronautics education, a *series of barriers* impede Universities fulfilling their indispensable role in the Aeronautics research chain at a level which would better reflect the importance and excellence of research work carried out by the European Universities.

- Fragmentation
  - Inefficient communication mechanisms
  - Lack of incubator mechanisms for developing new knowledge and technological innovation
- Lack of a common University research strategy for the sector of Aeronautics
- Lack of a collective University voice in Aeronautics research related issues are the main obstacles to this target

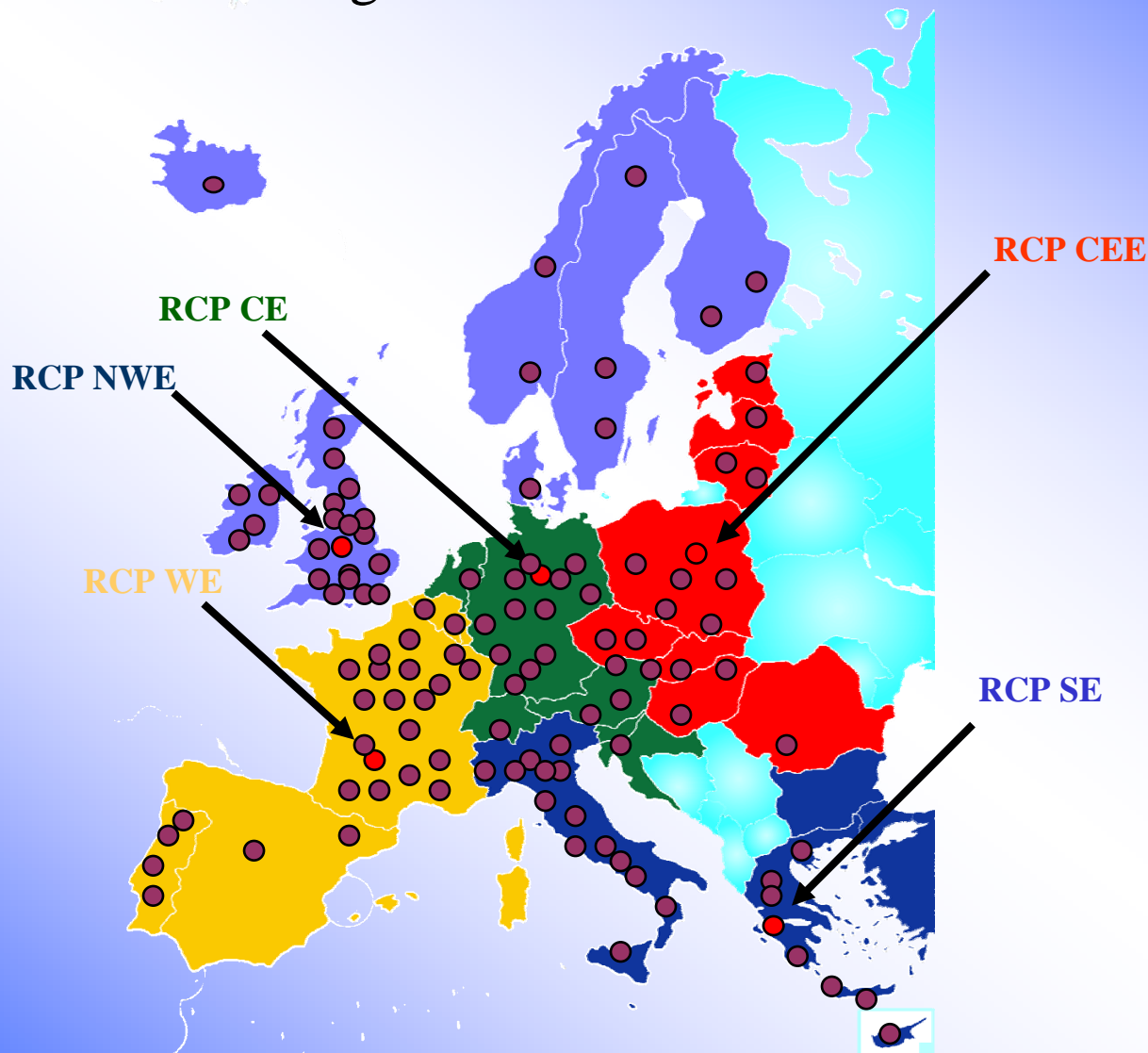
## **What is the role of Universities in Aeronautics research**

- European Universities have a key role in the chain of the European Aeronautics Stakeholders by providing education of scientists as well as generating basic research and incubating technological innovation and breakthrough technologies.
- In addition, for the new member states Universities can act as technology transfer and adoption mechanism such as to facilitate the integration of these countries in the European Aeronautics RTD chain.
- Especially for the countries with limited Aeronautical industry, Universities are the key players concerning Aeronautics related research, whereas the Aeronautics industry of these countries is mainly represented by SMEs.

The long-term goal by establishing EASN was to built up an open, unique European platform in order to structure, support and upgrade the research activities of the European Aeronautics Universities as well as to facilitate them to respond to their key role in realizing the European Research Area.

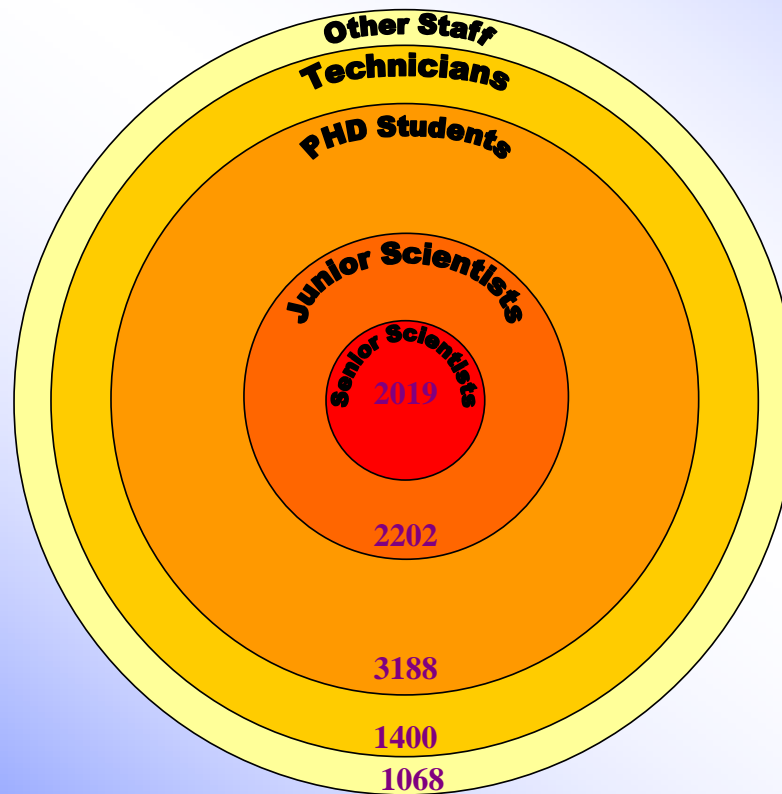
The European Aeronautics Science Network principles have obtained the support of the commission thanks to two funded Specific Support Actions (SSAs) with durations from 01.01.2002 up to 30.06.2005 and from 01.10.2006 up to 31.3.2009

## The regional EASN structure



Human Potential of the University Laboratories connected to EASN

**Total: 9877**



## The Thematic EASN Structure

- In order to produce a map of capabilities of academic institutions in the area of Aeronautics in each region, the available data have been analysed to obtain an overview of the research activities in each region with regard to their technological subject.
- For the classification the technological areas of the ASTERA/ACARE taxonomy have been adopted.



## Areas of Research according to the Astera/Acare Taxonomy

1. **Flight Physics**
2. **Aerostructures**
3. **Propulsion**
4. **Aircraft Avionics, Systems and Equipment**
5. **Flight Mechanics**
6. **Integrated Design & Validation**
7. **Air Traffic Management**
8. **Airports**
9. **Human Factors**
10. **Innovative Concepts and Scenarios**

## ***EASN Interest Groups***

- The EASN Interest Groups (IGs) represent the active technological and scientific cells of EASN.

The existing EASN IGs were exploited to:

provide a mechanism for incubating innovation, new technologies and breakthrough concepts

– provide input towards the development of a University Research Strategy for the sector of Aeronautics

- In the frame of EASN a number of **21** active Interest Groups have been established so far for different research fields resulting from the needs expressed through the EASN network corresponding to the classification of Aeronautics given by the ACARE Taxonomy

## Objectives of the Interest Groups

- Enhance closer cooperation between scientists from the European academia with joint scientific and technological interests in Aeronautics and facilitate research cooperation with research establishments, industry and SMEs by focusing on innovative ideas and upstream research
- Identify the capabilities existing across Europe
- Facilitate communication between individuals and stimulate the transfer of know-how
- Provide information on research opportunities
- Promote awareness for scientific and technological aspects in Aeronautics
- The I.G.'s provide the basis for a knowledge incubation mechanism which is urgently needed to achieve Europe's strategic objectives in Aeronautics. A side effect of the I.G.'s has been the submission of several University STREP proposals with a success rate well above the European average.

## Main EASN Achievements

An outcome of the activities of the EASN IGs has been the suggestion of research subjects relevant to FP6 and FP7 which are expected to lead to new knowledge, innovative concepts and breakthrough technologies.

### FUNDED EASN PROPOSALS

DATON	Innovative Fatigue and Damage Tolerance Methods for the Application of New Structural Concepts
CREDO	Cabin noise Reduction by Experimental and numerical Design Optimization
CELPACT	Cellular Structured for Impact Performance
SICOM	Simulation-based Corrosion Management for Aircraft
AEROMAG	Aeronautical Application of Wrought Magnesium

## Main EASN Achievements

- An essential step for facing the fragmentation of the European Aeronautics Universities in research related issues, by establishing a well developed and successfully performing structure on regional basis.
- A detailed mapping of the European Universities active in aeronautics research in the frame of the regional EASN structure
- A number of 21 Interest Groups have been established involving professors from all around Europe dealing with scientific and technological subjects of common interest. The I.G.'s provide the basis for a knowledge incubation mechanism which is urgently needed to achieve Europe's strategic objectives in Aeronautics.
- A free accessible database including information on research activities, interests, skills, infrastructure etc. of more than 600 University Professors and 200 University Institutes dealing with Aeronautics
- A website which improves awareness on aeronautics issues and enables accessibility on the above information, as well as, scientific and technological information relevant to aeronautics research, to the whole Aeronautics academic community, as well as to the other stakeholders in Aeronautics (industry, SMEs, Research Establishments). The website along with the EASN database have appreciably improved visibility of aeronautics universities

## Main EASN Achievements

- Communication routes facilitating the flow of the information within the academic community. Consequently, EASN has access to spread information to more than 9000 university professors and further academic research staff Europewide.
- Co-operation between universities, between universities and the European aeronautics research establishments and between universities and the European aeronautics industry.
- Mobility of researchers and students, enhancement of the mobility of labor within Europe and facilitation of the transfer of skills and technology within academia and between academia and industry by making information on opportunities for studentships, post-graduate education, employment and exchange posts available to a wide audience
- An essential step for being recognized as the collective voice of the European Aeronautics Universities in research related issues, thus making the communication to the other stakeholders (industry, SMEs, Research Establishments), as well as, to CEC manageable.

On 06.05.2008, the EASN Association was founded by 22 founding members and the support of the Commission and several University professors throughout Europe.

## **Main features of the EASN Association:**

- Self funded and self sustainable
- International association
- Coordinated and run by a board of directors which will be elected by the general assembly for a 3 year term. The position of a board member is unsalaried
- All steps and actions taken will be in accordance with the statutes of the Association.



## Primary aim of the EASN Association

The primary aim of the Association is the advancement of the aeronautics sciences and technologies.

## Further aims of the Association are:

- to promote, encourage, coordinate and focus joint efforts between Universities, Research Organizations, Industry and SMEs which are active in Europe in the field of aeronautics and aerospace.
- The advancement of aeronautics technologies through the support of innovative research in general and the support of European Universities, University Departments and Institutes as well as University research staff to perform aeronautics related research in particular.
- The support of scientific and technological cooperation and human mobility within the area of its cognitive subject and the organization of and the participation to relative activities.



- The support of and the participation to activities aiming to incubate new knowledge, technological innovation and breakthrough technologies.
- The dissemination of knowledge and technological innovation and the execution of dissemination work through its participation either on its own or within the framework of consortia in national or international projects and research programs related to aerospace.
- The support, organization and participation to activities related to scientific knowledge and technology transfer within the area of its cognitive subjects.
- The execution of studies for the development of national and international policies on subjects related to the aims of the Association and the provision of consultancy services for the development of education, research and development policies and activities in aerospace.
- Collaboration with Universities, other academic Research Institutions, Research Establishments, the Industry, governmental and state authorities, the European Commission, etc. to support the aims of the Association.
- The assignment to Universities and other entities of contract work in the frame of its activities.

## EASN Association members

### Effective members (with voting rights)

- Individuals from European Academia or other University-similar organisations, who are active in Aeronautics related research.

### Associate members

- Individuals from Research establishments, SMEs and Industries, who are active in aeronautical research activities and cooperate with the academia.
- Entities such as Universities, University departments, REs, SMEs, Industries, other associations, professional organisations or governmental agencies (e.g. EEC) subscribing to the objectives of the Association.
- Each entity will be represented by a single person.

### Honorary members

- The title of Honorary Member or Honorary President may be granted by the General Assembly to persons who have rendered outstanding services to the Association.
- Honorary President take juris et de jure part in the General Assembly and Board meetings with a consultative vote.

# European Aeronautics Science Network



General Assembly



Board of Directors



Chairman: Prof. Spiros Pantelakis

Vice Chairman: Prof. Peter Horst

Secretary General: Prof. Zdobyslaw Goraj

Treasurer: Prof. Fulvia Quagliotti

Scientific Advisory Officer: Prof. Jean-Michel Most

Industrial Advisory Officer: Prof. Robert Mines

Any colleague who wishes to participate in the EASN is cordially invited to register to the EASN database. Further information about the network as well as contact information regarding the EASN contact points, IG leaders etc. can be found at the EASN website

[www.EASN.net](http://www.EASN.net)