EUROPEAN AEROSPACE CLUSTER PARTNERSHIP

STRONGER TOGETHER

connecting aerospace clusters



EUROPEAN
AEROSPACE
CLUSTER
PARTNERSHIP



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EACP IS THE MOST ACTIVE, VISIBLE, AND COMPREHENSIVE AEROSPACE CLUSTER COLLABORATION PLATFORM IN EUROPE.

EACP ESTABLISHES TRUSTFUL
RELATIONS THROUGH CLOSE
INTERACTION AND OPEN
COLLABORATION AMONGST
EUROPEAN AEROSPACE REGIONS.

FOREWORD

The aerospace industry is one of Europe's leading high-technology sectors. With the rapid globalisation of economic activity and resulting market competition, it is becoming increasingly important to exploit innovation potential and secure European competitiveness on the global economic stage.

For more than a decade, the strategic response to our rapidly changing world has been the bundling of resources and competencies by clustering. Indeed, European policy has made a point to include and support clusters as a priority action to strengthen European innovation.

Subscribing to this approach, the European Aerospace Cluster Partnership (EACP) as a consortium of 34 aerospace clusters from 13 countries was born! Since 2009, EACP has functioned as a valuable platform for transnational exchange within the aerospace sector. With topics ranging from skills to technology and internationalisation, EACP has initiated exemplary transnational projects and increased the visibility of the European aerospace industry.

In presenting you with this anniversary brochure to celebrate 5 years of EACP, its members have once again demonstrated their commitment to the European idea and proven that we are, indeed, "stronger together".

Therefore, it is our sincere pleasure to invite you to join us as we review 5 successful and inspirational years of EACP!

AEROSPACE CLUSTERS

COUNTRIES

MISSION

CONNECTING AEROSPACE CLUSTERS

ABOUT THE EUROPEAN
AEROSPACE CLUSTER
PARTNERSHIP



EUROPEAN AEROSPACE CLUSTER PARTNERSHIP

In order to successfully compete on a global level, it has become crucial for Europe to actively further its innovative potential and to collaborate among regions and industry clusters. The European Aerospace Cluster Partnership (EACP) provides a permanent platform for mutual exchange, policy learning, and cooperation to achieve high-level performance among European aerospace clusters. It focuses on the exchange of experiences concerning both cluster policy and the implementation of effective solutions needed to address various challenges faced by the partners.

After 5 years of existence, EACP currently constitutes a network of 34 aerospace clusters from 13 european countries, thus largely covering the entire aerospace value chain in Europe.

The Aerospace Industry

The aerospace industry is currently experiencing profound changes. With new players such as India, Brazil and Russia entering into the market, global competition is steadily on the increase. Whilst long-term growth predictions are generally positive, continued success can only be achieved by those who excel at developing and implementing innovative product and service concepts, particularly with regard to environmental and ecologically sustainable issues. In order to serve the global market and sell technologically highly specialised

products, cooperation between companies as well as entire regions is essential. It is only in a cooperative environment in which partners interact and give and take on an equal basis that a win-win situation can be achieved.

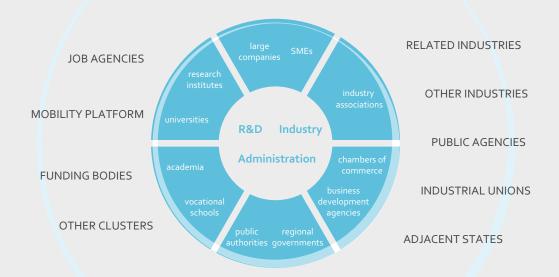
With a strong foundation based on experience and trust, cooperation within EACP is taken to a higher level. This includes the establishment of a common place for work, qualification, and scientific research for all players within the European aerospace industry.

MOTIVATION

European Cluster Policy

EACP was established in 2009 within the framework of CLUNET, a PRO INNO EUROPE project that not only encouraged the exchange of experiences, but also supported the implementation of concrete pilot projects regarding cluster innovation and development policies. Within five years, EACP has developed into a permanent partnership between collaborating European aerospace clusters. Although limited to the aerospace industry, the partnership also serves as a benchmark project for other industry sectors. In 2013, EACP was recognised by the European Commission as one of 13 "European Strategic Cluster Partnerships" (ESCP). With this award, the Commission acknowledges EACP's efforts to improve global competitiveness by supporting pan-european collaboration and implementing joint strategies needed to enter new markets outside of Europe.

TRIPLE HELIX CONCEPT



The Common Goal

By establishing closer inter-cluster relations to provide added value to the overall market, EACP shapes the relationship between clusters, industry stakeholders and policy makers. Furthermore, EACP stimulates the creation of innovation, thus aiming to strengthen the EU's overall position within the global aerospace market.

Stakeholders Represented within EACP

EACP membership is open to aerospace clusters in Member States of the Euopean Union and adjacent countries. In order to be admitted to the network, a member must represent all segments of the regional aerospace sector, including industry, R&D and administrative bodies. The main focus should be in civil aviation, with a minimum of 60% of the represented stakeholders.

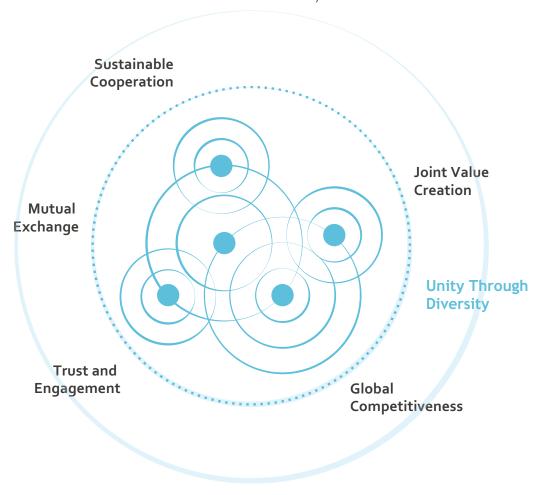
VALUES

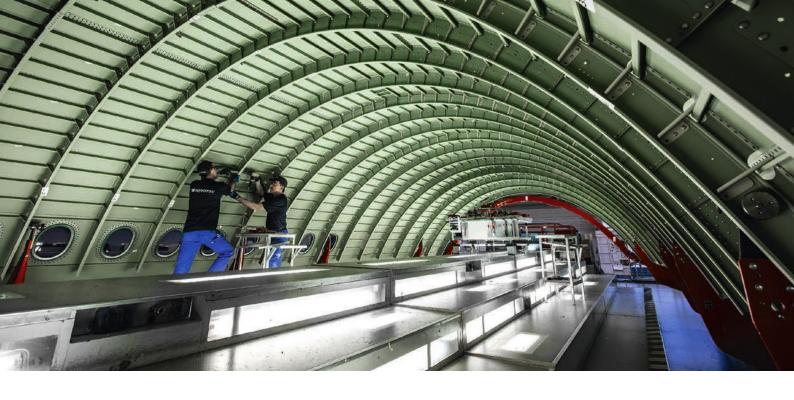
STRONGER TOGETHER ALWAYS ON TARGET

Since its inception, EACP has been based on a set of core values which shape the culture and define the character of its transnational approach. As the most active aerospace collaboration platform, EACP provides a permanent framework for information exchange and policy study as well as opportunities for mutual transnational cooperation between its members and all market actors.

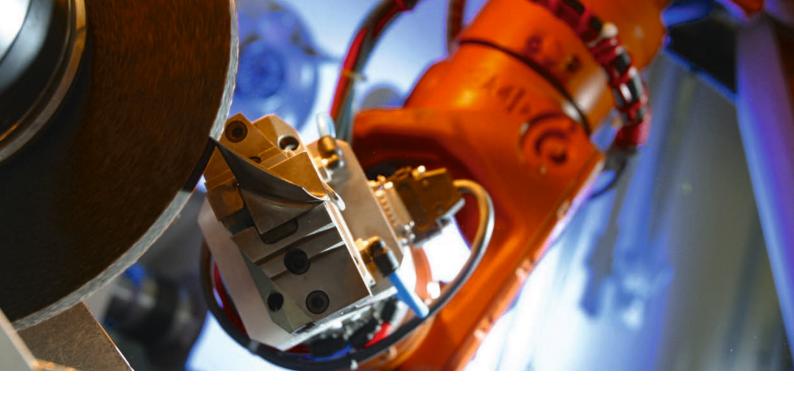
With a focus on European clusters, EACP shapes the future trajectories for international cluster relations, whilst acknowledging the regional needs, challenges and characteristics of the aerospace sector. This relies on the core values of trust, engagement, dependability and joint added value generation, rendering EACP a network based on plurality and mutual commitment.

In a global context, EACP strives to position Europe as the leading centre for innovation and competitiveness in the aerospace realm, thus adressing the contemporary challenges of an increasingly globalised world. Taken together, EACP represents a set of cooperative values and close interaction, both of which stand in line with its vision to strengthen the whole through the diversity of the many.





- EACP is the most active aerospace cluster collaboration platform in Europe providing permanent information exchange, policy study and mutual transnational cooperation to its members and to all market actors.
- EACP shapes the future pathways for international inter-cluster relationships.
- With focus on European clusters, EACP cares about the regional needs, challenges and characteristics of the aerospace sector.
- EACP acts as a trustable and unifying framework.
- EACP follows the concept of plurality based on the values of trust, engagement, dependability and common added value generation.
- EACP strives for cluster excellence to make Europe the home of innovation and competitiveness in aerospace worldwide.
- EACP stands for close interaction and cooperation values that will strengthen the whole through the diversity of the many.



EACP OBJECTIVES AND ACTIVITIES AT A GLANCE

The EACP network operates in an informal, decentralised and flexible way that is based on an organisational set of continuous working groups, temporary project consortia and bi- or multilateral ad-hoc partnerships. The main objective resides in improving the global competitiveness in Europe through intense inter-cluster collaboration. This goal is pursued within three major fields of action:

- Knowledge exchange
- Push innovation
- Strengthen EU-position

All EACP activities follow these guidelines to improve competitiveness in a European context.

KNOWLEDGE EXCHANGE

- Cluster excellence
- Funding schemes
- Role of clusters

PUSH INNOVATION

- Skills & qualification
- EU projects
- Connect member clusters

STRENGTHEN EU-POSITION

- Internationalisation
- Supply chain infrastructure
- Global competitiveness

OBJECTIVES

Knowledge Exchange

To enable inter-cluster knowledge exchange, presentations and discussions on best practice are conducted at regular EACP meetings. Participation in the European Strategic Cluster Partnership (ESCP) allows for the exchange of experience and knowledge regarding economic, political and social developments that affect aerospace and other industry sectors. Thus, the regional clusters are not only prepared for possible future developments, but also work to further cluster excellence. In order to optimise the member clusters' use of funding schemes, regional, national and EU calls are constantly monitored and evaluated. In close connection to this, information regarding compulsory regional smart specialisation strategies is refined and spread to the clusters.

Push Innovation

The second main objective is pursued by developing skills and qualification among the existing and future aerospace workforce. Examples include the Skills Hub project as well as the establishment of other EU-projects which specifically target technological innovation, such as the CARE and BeAware or CANNAPE. These and other projects are supplemented by EACP match-making events, as part of which EACP unites actors from industry and R&D to develop new ideas needed to improve technology, products and processes. Amongst other things, EACP actively supports opportunities to initiate B2B cooperation, such as AEROMART, the European Cluster Collaboration Plattform (ECCP), EU missions for growth and the Enterprise Europe Network (EEN).

Strengthen EU-Position

The third main objective constitutes a number of activities related to the continued internationalisation of the member clusters, their regions and resident companies. A crucial factor in this regard is the development of a competitive aerospace supply chain in the EU. Specific problems faced by suppliers are to be monitored and integrated into the EU technology roadmap. In order to improve the EU's global competitiveness in the aerospace sector, a strategic assessment of future technological fields as well as collaborations with strategic actors are planned. In this manner, EACP also supports the efforts of other institutions such as ASD, ACARE, CleanSky, EASN, Sesare and EEN.

EACP also strives to improve international collaboration with partners from outside of Europe. Numerous partners from other parts of the world such as Canada, the United States of America, Brazil, Russia, Japan and China are involved in the international efforts of the network. EACP supports company missions to and from these regions, partly within the European Cluster Collaboration Platform and the Mission for Growth Initiative as one of the European Strategic Cluster Partnerships.

WORKING GROUPS

STRATEGY INTERNATIONALISATION SKILLS TECHNOLOGY

Strategy

This working group designs the strategies for EACP's further development. Decisions and guidelines that shape the organisational body of EACP are formulated here to improve the exchange between EACP partners.

Internationalisation

The working group internationalisation prepares and supports clusters to increase their international competitiveness in the context of growing global market competition. Activities in this working group are transversal to other activities of EACP.

Joint Activities

- Utilisation of EACP projects and their results to broaden our knowledge base
- Fostering collaboration within EACP to generate sustainable and competitive European value chains
- Supporting the design of future European, national and sub-national support programmes in line with the needs of the industry
- Development of strategic collaboration with other European stakeholders

Joint Activities

- Improvement of market access, particularly for SMEs
- Provision of information on international market opportunities
- Harmonisation of branding and communication activities such as joint presence at international air shows and business events
- Mapping and SWOT analyses of non-European clusters (in particular North America and Asia)
- Establishment of country sector groups

I ead

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Lead

Aerospace Valley (France)
Dr. Thilo Schönfeld
schoenfeld@aerospace-valley.com



Skills

In accordance with the Lisbon Strategy, the working group Skills strives to contribute to adequately and internationally trained human resources needed to achieve innovation and address international challenges.

Technology

This working group fosters and facilitates technological cooperation and innovation among EACP members. These are supported in their search for the right partners to work on technical R&D projects to address common challenges.

Joint Activities

- Encouragement and facilitation of mobility among skilled people and researchers by defining zones of mutual trust for vocational and academic training in the aerospace industry
- Mapping the European excellence of vocational and academic training institutions in order to achieve synergies and complementarities
- Skills & training of high-school and undergraduate students (exchange of fellows, mutual recognition of diplomas and degrees)
- Vision of international VET system: supporting flexibility of workforce

Joint Activities

- Mapping European-wide technology excellence centers and universities (based on their competitiveness)
- Development of a database for companies in search of solutions and a platform to present their competences
- Identification of major innovation challenges and the creation of a link to match the existing technology supply and industry demand

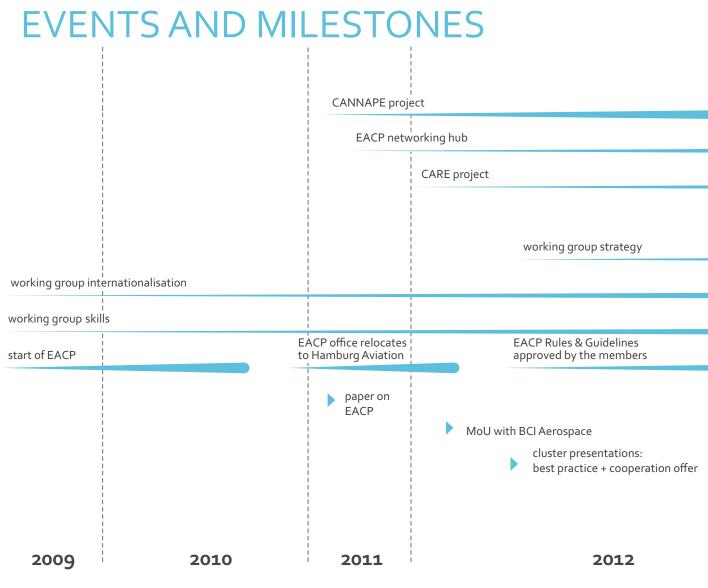
Lead

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Lead

ACA (Turkey) Yalcin Yilmazkaya y.yilmazkaya@servicesby.com





Partner Meeting

Budapest

General Assembly

Sevilla

UK cluster tour

 ${\sf Farnborough\,Air\,Show}$

Partner Meeting

ILA Berlin

EUROPEAN AEROSPACE CLUSTER PARTNERSHIP

EACP booth

ILA Berlin 2010

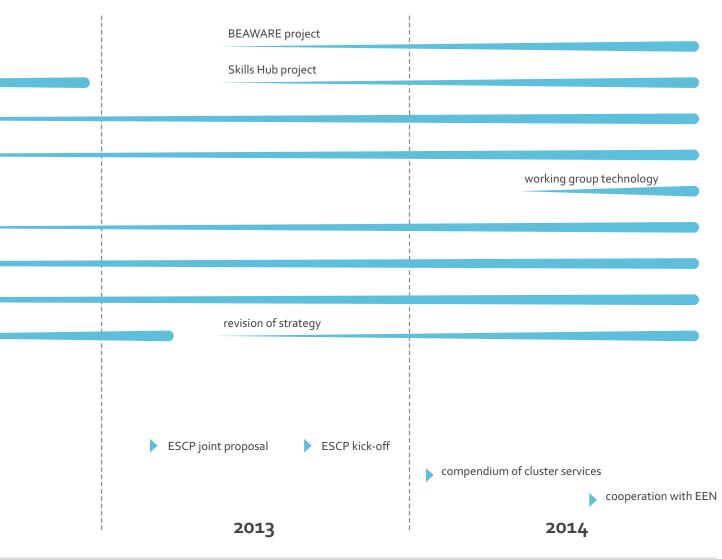
Partner Meeting

Turin

Partner Meeting

Toulouse





Partner Meeting AEROMART Toulouse EACP booth AEROMART Montreal Partner Meeting Paris Airshow General Assembly Bilbao Partner Meeting ILA Berlin General Assembly Izmir Best practices cluster management workshop EU-CAN Farnborough Air Show

4,300 + COMPANIES

430 +RESEARCH INSTITUTIONS

125 +ADMINISTRATIVE BODIES



EACP MEMBERS

IN THE 5 YEARS FOLLOWING EACP'S INCEPTION, THE NETWORK HAS STEADILY GROWN STRONGER. TODAY, EACP ENCOMPASSES A TOTAL OF 34 CLUSTERS FROM 13 EU AND NEIGHBOURING COUNTRIES.







aera AAASOMAN



























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21































EACH CLUSTER BOASTS
INDIVIDUAL STRENGTHS, ALL OF
WHICH CONTRIBUTE TOWARDS
STRENGTHENING EUROPEAN
AEROSPACE COMPETENCIES IN
THE GLOBAL CONTEXT.







AERIADES, Lorraine Aerospace Cluster, was founded in 2003 and is a network of more than 40 members including industry (over 30 industrial member companies, mainly SMEs), research and technical institutes, as well as vocational & higher education.

Aerospace activity in Lorraine is growing in both industry and research, with major competencies in the field of materials (both metallic and non metallic) and manufacturing processes.

AERIADES acts as the regional expert and network leader that is recognised and supported by local and national authorities and implements various actions which focus on the consolidation and development of the local aerospace network.



40 COMPANIES
2,500 EMPLOYEES
6 RESEARCH INSTITUTES

Main Industry Actors

SLCA (Safran Group), Safran Aero Composites, Albany Engineered Composites, Esterline LEACH, GMT France, Baccarat Précision, AEDS Group, KTIS, KEP Group, Cimulec Groupe

Main Research Institutes

Institut de Soudure, Pole de Plasturgie de l' Est, CIRTES, Pole de Compétitivité MATERALIA, Pole de Compétitivité Polefibres, Université de Lorraine

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AEROSPACEcluster

Aerospace Cluster in Rhône-Alpes brings aerospace companies, research institutes and training centres in the Rhône-Alpes region together as part of an active network. It aims to support the growth of aerospace activities in the Rhône-Alpes region and launches initiatives to strengthen the competitiveness of regional players.

The Aerospace Cluster in Rhône-Alpes not only aims to bring companies closer together, but also to implement actions focused on business development, supply-chain performance improvement as well as innovation support and skills development.

Aerospace Cluster in Rhône-Alpes and its members organise the Aerospace Techdays on a biannual basis; an event that targets decision-makers in the aerospace realm and encourages them to discover the sharpest innovations developed by Rhône-Alpes aerospace companies to achieve a sustainable aerospace industry.



Main Industry Actors

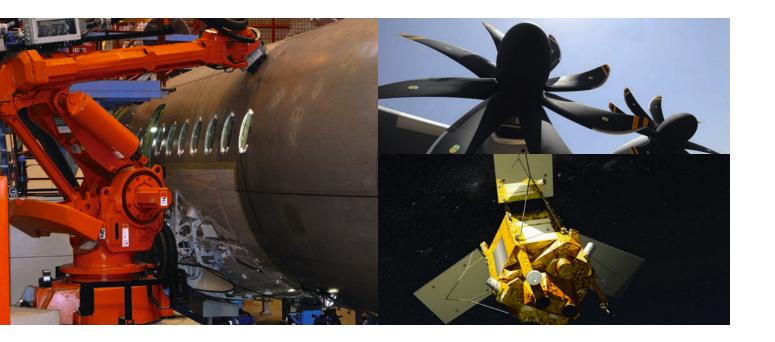
Constellium, Crane A&E - Eldec France, Crouzet Automatismes, Dassault Aviation, Duqueine Group, Fly-by-Wire Systems France, Hexcel, KaliStrut Aerospace, Meggitt-Sensorex, Messier-Bugatti-Dowty, Syntex NP, Radiall, Sagem Defense – Safran Group, SKF Aerospace, TenCate Advanced Armour, Thales Avionics, Vision Systems Aeronautics, Zodiac Aerotechnics

Main Research Institutes

Insa de Lyon, Ecole Centrale de Lyon, INP Grenoble, Ecole des Mines de Saint-Etienne

Contact

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Created in 2005, with 725 members from both industry and academia, Aerospace Valley is today the most significant innovation "pole de compétitivité" in France and is entirely devoted to the aerospace sector including embedded systems. With offices in Toulouse (HQ) and Bordeaux, the cluster covers the two geographically adjacent regions of Midi-Pyrénées and Aquitaine. With 130,000 industrial employees, Aerospace Valley represents 1/3 of the French aerospace workforce. Similarly, 8,500 researchers and scientists are active within the Aerospace Valley territory, thus representing 45% of French national R&D potential in the aerospace sector. As of February 2014, Aerospace Valley has obtained funding for 350 R&D projects. Together, these represent an accumulated value of 922 million euros and cover most scientific and technical fields related to the sectors of aeronautics, space and embedded systems. Within the framework of the general French "pôle de compétitivité" programme, which aims to stimulate employment by fostering local and regional competencies in technical and economic areas, Aerospace Valley strives to create an ambitious 35-40,000 new jobs by the horizon year 2025.



MEMBERS
400 SMEs, 100 LARGE COMPANIES
130,000 EMPLOYEES
80 RESEARCH INSTITUTES

Main Industry Actors

Airbus Aircraft, Airbus Defense and Space, Air France Industries, ATR, Continental, Dassault Aviation, Latécoère, Liebherr Aerospace, Messier-Bugatti-Dowty, Turbomeca (Safran Group), Alstom Transport, Honeywell Aerospace, Thales Alenia Space, Thales Avionics, Rockwell Collins

Main Research Institutes

Bordeaux University, CEA/CESTA, CEA TECH, CERFACS, CNES, CNRS, Ecoles des Mines d'Albi-Carmaux, INP Toulouse, INRIA, ONERA, Toulouse University

Contact

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With over 7 billion euros worth of revenue per year, the Bavarian Aerospace sector is amongst Europe's leading locations in terms of aviation, space and space-related applications. Bavaria is home to multinational companies, innovative SMEs and numerous startups, most of which are associated with the Bavarian Aerospace Cluster - bavAlRia e.V. These include both internationally reputed universities and research institutes.

The objective of bavAIRia is to increase the international competiveness of the Bavarian aerospace industry. As a process facilitator between industry, research and politics, we support our members by means of networking, marketing and technology transfer, both at the national and international level.

By implementing dedicated national and international projects, the cluster promotes the development of innovative applications and services.



Main Industry Actors

Airbus Defence and Space, Airbus Helicopters, MTU Aero Engines, Diehl, Liebherr, Premium Aerotec, RUAG, Leistritz, MT Aerospace, FAG Aerospace, Grob Aircraft plus 500 specialised SMEs

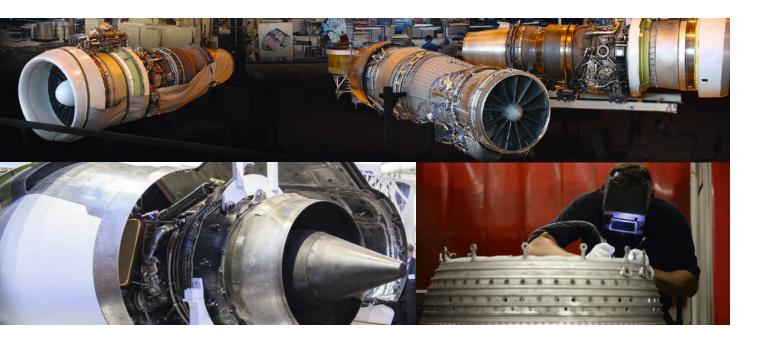
Main Research Institutes

Technical University of Munich, DLR, numerous Fraunhofer and Max-Planck Institutes, Bundeswehr University Munich

Contact

www.bavAlRia.net

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ESAC is a legal initiative that serves as the primary organisation devoted to aviation based economic development in the province of Eskişehir. ESAC's mission is to promote aviation capacity to attract and stimulate business development in innovative, high-growth industries related to aviation in the region. ESAC accomplishes this mission by focusing on both SMEs directly involved in the aviation industry as well as on companies with sufficient capacity to form part of the aviation supply chain. In collaboration with the Eskişehir Chamber of Industry, the Eskişehir Organised Industrial Zone, Anadolu University, Osmangazi University and other supporting entities in Eskişehir, ESAC helps to ensure the region's global competitiveness by improving the business climate for the aviation industry. The Eskisehir Aviation Cluster Zone is a popular investment region for companies within the aviation sector. This is not only attributable to its high quality of life index, industrial culture and reasonably priced investment properties, but also to the abundance of universities and technical schools, trained and experienced labour as well as to existing modes of transportation and local/national incentives.



MEMBERS
32 COMPANIES
3,000 EMPLOYEES
470 m€ TURNOVER

Main Industry Actors

TEI (Tusaş Engine Industries), Savronik, Alp Aviation, Çoşkunöz Aviation

Main Research Institutes

Anadolu University School of Civil Aviation, Air Supply and Maintenance Center

Contact

ESAC - Eskisehir Aviation Cluster Organize Sanayi Bölgesi 2. Cad 26110 Eskişehir Turkey +90 222 236 1161 info@esac.org.tr www.esac.org.tr









Hamburg Aviation is a powerful alliance of business, science and politics. Together, members not only engage in initiatives and projects, for example within the field research, but also strive to secure the existence of a specialised workforce. In addition, Hamburg is the head office of the European Aerospace Cluster Partnership.

As the world's third largest civil aviation site, Hamburg focuses on four product areas: the development and construction of aircraft & aircraft systems, the development and construction of cabin & cabin systems, the optimisation of aviation services and the efficiency of air transportation systems. In the near future, a fifth product area that focuses on IT-related issues will follow. For its work, Hamburg Aviation has received the highest honours at both the national and international level. In 2008, the cluster was named one of 15 Leading-Edge Clusters by the German Ministry of Education and Research (BMBF). In 2014, Hamburg Aviation was awarded with the GOLD Label for Cluster Management Excellence by the European Commission's ECEI initiative.



Main Industry Actors

Airbus, Lufthansa Technik, Hamburg Airport, Hanse Aerospace e.V., HECAS e.V. (leading engineering service providers)

Main Research Institutes

University of Hamburg, Technical University
Hamburg-Harburg, Helmut Schmidt University, University of
Applied Sciences, ZAL (Center for Applied Aeronautical Research),
HCAT (Hamburg Center of Aviation Training), Centre of Technology
Finkenwerder, German Aerospace Center (DLR)

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HEGAN, the Aeronautics and Space Cluster Association of the Basque Country, was the first aerospace regional cluster created in Spain in 1997. It is a private non-profit association whose aim is to ensure the competitiveness of the sector through co-operative responses to strategic challenges.

In 2013, HEGAN implemented its last strategic reflection, the one up to 2016. The main challenges of the sector in which HEGAN works to give value to its members are:

Strengthen the value chain; improve our position with respect to certain clients; represent the sector; context contribution for strategic decision-taking; generate, keep and attract talent; specific training; always dressed with the culture of cooperation.

HEGAN members take part in the most important programmes supplying complete aerostructures, engine sub-systems and advanced products and services for the space and systems & equipment subsectors from their more than 140 worldwide facilities.



MEMBERS

40 COMPANIES
12,418 EMPLOYEES
7 RESEARCH INSTITUTES

Main Industry Actors

Five Tier1: Aciturri, Aernnova, Alestis (aerostructures), ITP (engines) and SENER (Space)

Thirty three groups and companies with specialised activities all over the aerospace value chain

Main Research Institutes

 ${\tt 1}$ Research Aerospace Centre CTA, ${\tt 2}$ R&D corporations with ${\tt 13}$ R&D centres: IK4 and Tecnalia and 4 universities

Contact

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In the very South of Europe, Andalusia has just joined the club of regions with over one century of aeronautic tradition. Since the turn of this new century, aerospace activity has created more than 10,000 new jobs, the spot has been defined as home to every military transport Airbus aircraft assembly line, and portrays a competitive, nurtured and well organised supply chain: composites, structural assemblies, jigs & tooling, engineering, tubing, wires & electrical systems, flight tests, mission systems.

This compromised balance between small size and wide specialisation is one of the reasons why it is such a competitive cluster. The other one: administrations, unions, universities, technology centres, technology parks, financial institutions, schools of business, entrepreneurial associations, chambers of commerce. All of them are entwined with the aeronautic activity; thus, sending a clear message to the companies in the cluster: "You are not alone".



Main Industry Actors

Cluster nucleus: Airbus Defence & Space

Tier 1 suppliers: Alestis Aerospace, Aernnova, Aciturri Supply Chain: Airgrup, M&M, Inespasa, Sevilla Control,

Administration: Extenda, Idea

Main Research Institutes

Technology centres: CATEC, AICIA, IAT Business schools: EOI, San Telmo, Icada

Contact

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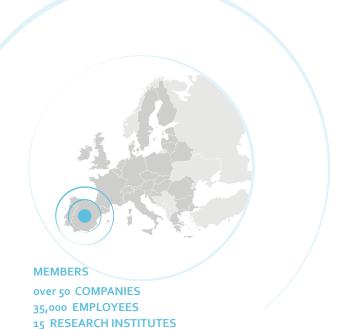
Spain

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Madrid Aerospace Cluster was established in 2006 to promote the aerospace sector in the Madrid Region. Since its inception, the network has grown steadily and continuously strives to help its partners improve and increase their competitiveness at both the national and international level. To this end, the Madrid Aerospace Cluster takes part in international forums and has become an active participant in various associations, indeed even functioning as the representative of the Madrid Region in some cases. As a neutral liaison of innovative companies, universities and research/technology centres, our main aim is to contribute to the development of the aerospace sector within the Madrid Region by promoting innovation and technological development in the aerospace industry. As an institutional contact facilitator, the Madrid Aerospace Cluster frequently interacts with government entities at the national and regional level. In 2008, the Spanish Ministry of Industry included the Madrid Aerospace Cluster in its list of most innovative cluster associations in the country.



Main Industry Actors

Airbus, Indra, CESA, Aernnova, ITP, Thales, Hisdesat, GMV, Hispasat, Accenture, Altran, Centum, Crisa.

Main Research Institutes

Universidad Carlos III de Madrid, CSIC, IMDEA, Universidad Politécnica de Madrid, Universidad Autónoma de Madrid All of those institutions gathering different research institutes.

Contact

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Niedersachsen Aviation is the network for the aviation and aerospace industry in Northern Germany. The goal is to strengthen and enhance the national and international competitiveness of the State of Niedersachsen.

As an intricate cluster of sector-specific companies, associations, research institutes and administrative bodies, Niedersachsen Aviation functions as the central point of contact for all matters related to aviation and aerospace in the region.

Niedersachsen Aviation covers aircraft manufacturers (OEMs) and suppliers (primarily SMEs), including industry and air traffic as well as general and business aviation in both civil aerospace and military aviation. Our cluster services range from networking and events to consulting, business services, R&D-support and project development. In line with existing regional strengths and competencies which reside to a large part in aeronautic research and aerostructures / CFRP, Niedersachsen Aviation collaborates with partners across the regional supply chain, including partner clusters throughout Germany, Europe and across the world!



Main Industry Actors

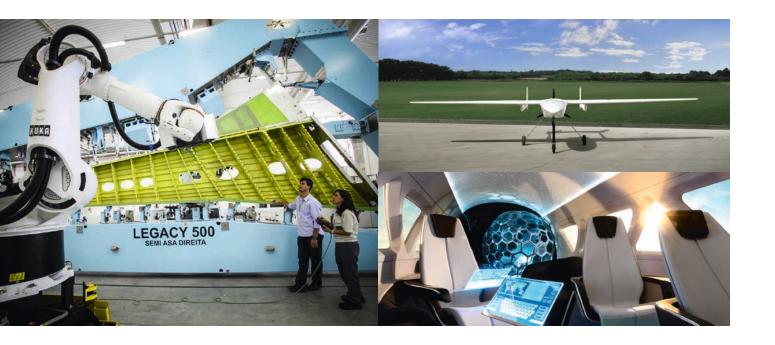
Aerodata, Airbus, Alcoa, AutoGyro, Bosch Rexroth AG, Broetje Automation, Continental, Deharde, Hannover Airport, Hexcel Composites, MTU Maintenance, Premium AEROTEC, Saertex, Salzgitter AG, TUlfly

Main Research Institutes

Aeronautics Research Centre Niedersachsen (NFL), CFK-Valley/CTC Stade, DLR, DNW, Fraunhofer, LZH Hannover, Max-Planck, Niedersachsen Institutes of Technology NTH (Braunschweig, Clausthal, Hannover), OFFIS, PZH Hannover, Research Airport Braunschweig

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www.niedersachsen-aviation.com





PEMAS association is a broad and multidisciplinary network of Portuguese companies and R&D centres focused on the aerospace industry. The specific objectives of the cluster are to promote the integration of national and international supply chains; promote, manage and develop programmes and projects as a non-commercial entity and actively contribute to the definition of public policies.

PEMAS, a private non-profit association formalised in 2006, fosters projects aiming at the development of the industry through the promotion of cross-sectoral collaboration and synergies as well as to the dissemination of Portuguese industrial capabilities. Recently, PEMAS promoted the creation of AED PORTUGAL. AED Portugal represents the Aeronautical, Space, Security and Defence industries in Portugal with the objective to provide a single platform for promoting and supporting the competitive development of the sector.



68 COMPANIES

18,500 EMPLOYEES

4 RESEARCH INSTITUTES

1.7 bn € TURNOVER

Main Industry Actors

TAP Manutenção - Line & Overall Maintenance, OGMA - Maintenance & Complete aerostructures and subsystems manufacturing, EMBRAER Europe - Aerostructures, EADS - Subsystems manufacturing

Main Research Institutes

IINEGI - Industrial Management and Engineering National Institute,
PIEP - Polymer Engineering Research Institute, IST - Instituto
Superior Técnico, UBI/DCA - UBI Aerospace Sciences Department

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Pegase Cluster is a network of major players active in the aeronautics and space industry within the Provence-Alpes-Côte d'Azur region, France. In 2007, it was accredited as both a competitiveness cluster as well as a regional cluster for innovation and mutually supportive economic development (PRIDES). It brings together 330 players involved in the development of a new generation of aircraft such as UAVs, balloons, stratospheric aircraft etc., all of which are intended for and implemented as part of specific missions. Pegase Cluster improves the performance of its industrial base by providing SMEs with access to major companies. This is not only done by developing new fields of application that will contribute to the development and reinforcement of industrial sectors, but also by offering global solutions to support business growth. Pegase brings together industrial companies (199), research and training organisations (60) as well as clients looking for more efficient aircraft, air and space services (for example civil protection or fire service representatives). The cluster provides them with cooperation opportunities as well as innovation and development tools.



Main Industry Actors

Airbus Helicopters, Thales Alenia Space, Dassault Aviation, Snecma, Areva TA, CNIM

Main Research Institutes

Aix Marseille University, ONERA, INRIA, ENSAM, Ecole Centrale de Marseille

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MEMBERS

78 COMPANIES
5,000 EMPLOYEES
6 RESEARCH INSTITUTES
12 OTHER MEMBERS
2.5 bn € TURNOVER



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MEMBERS

44 COMPANIES
2,500 EMPLOYEES
2 RESEARCH INSTITUTES
900 m € TURNOVER

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MEMBERS

80 COMPANIES 6,900 EMPLOYEES 6 RESEARCH INSTITUTES 1.2 bn € TURNOVER

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MEMBERS

22 COMPANIES 770 EMPLOYEES 3 RESEARCH INSTITUTES 118 m € TURNOVER

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REGION

178 COMPANIES 6,800 EMPLOYEES 47 RESEARCH INSTITUTES 865 m € TURNOVER



MEMBERS

52 COMPANIES 12,000 EMPLOYEES 4 RESEARCH INSTITUTES 10 OTHER MEMBERS



REGION

280 COMPANIES 15,200 EMPLOYEES 200 RESEARCH INSTITUTES 3.6 bn€ TURNOVER



MEMBERS

33 COMPANIES 5,500 EMPLOYEES 6 RESEARCH INSTITUTES 600 m € TURNOVER

Contact

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AEROSPACE LOMBARDIA

www.aerospacelombardia.it



www.pole-astech.org



AVIABELT BREMEN

www.aviabelt.de



www.dolinalotnicza.pl



BARCELONA AERONAUTICS & SPACE ASSOCIATION

www.bcnaerospace.org



campaniaerospace

CAMPANIAEROSPACE - REGIONE CAMPANIA

www.campaniaerospace.it



CLUSTER AERO CV - VALENCIAN COMMUNITY AEROSPACE CLUSTER

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FAC - FARNBOROUGH AEROSPACE CONSORTIUM

www.fac.org.uk





HUNGARIAN AEROSPACE CLUSTER

www.haif.org



ULYANOVSK AVIA

www.avia-capital.com



LR BW - LUFT- UND RAUMFAHRT BADEN-WÜRTTEMBERG

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UMBRIA AEROSPACE COMPANIES

www.umbriaerospace.com



LANTP - LITHUANIAN AERONAUTICS NATIONAL TECHNOLOGY PLATFORM

www.gtc.vgtu.lt



NORTH WEST AEROSPACE ALLIANCE

www.aerospace.co.uk

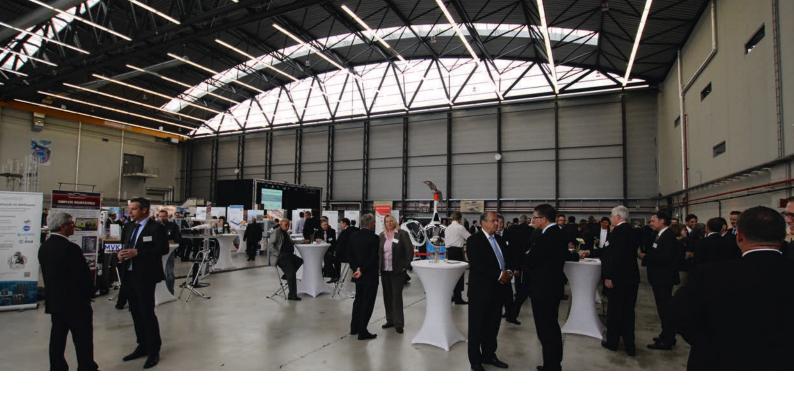
5 INTERNATIONAL PROJECTS

50+

INTERDISCIPLINARY PARTNERS

PUSH INNOVATION

EUROPEAN AEROSPACE CLUSTER PARTNERSHIP PROJECTS



EACP NETWORKING HUB

Networking Hub

The EACP networking hub is a project that was implemented within the framework programme of the European Social Fund (ESF) and the Free and Hanseatic City of Hamburg. From October 2011 until December 2013, the project provided European aerospace clusters with a permanent platform for information exchange, policy studies and mutual cooperation. By establishing a coordination office in Hamburg that collected and disseminated information and knowledge among the partners and that coordinated all activities within the network, the ESF Hamburg laid the foundation for a long-term strategy for the international partnership EACP.

Close and continuous cooperation enabled project participants to compare their practices by exchanging and analysing case studies. Throughout this process they established a knowledge base of best practices that was used to improve each cluster's quality, efficiency, innovation and business performance. Simultaneously, the implementation of best practice concepts ensured the sustainability of the clusters and the overall industry.

The EACP networking hub developed a strategy to strengthen the position of European aerospace clusters in the global aerospace market. In the course of the project a new mission and vision statement were defined.

Stronger Together – Connecting Aerospace Clusters

The EACP's vision is to create a larger yet closer aerospace community with the overall goal of becoming the reference aerospace cluster network platform in the world. By operating at the cluster management level, EACP ensures for the representation of the overall value chain with its regional needs, challenges and regional characteristics of the aerospace sector in Europe. Clusters unite all regional players of a sector including research and education institutions, public authorities and various kinds of aerospace-related companies (both small and large). In order to position Europe as the global hub of innovation and competitiveness in aerospace, EACP supports clusters that strive for excellence. The knowledge and the network of clusters enable them to promote the sector with lasting impact for the region.

The EACP's mission follows the concept of plurality which is based on the values of trust, engagement, dependability and common added value generation. EACP stands for close interaction and unifying cooperation values. The diversity of the many strengthens the network due to a high level of respect, mutual interest and intrinsic motivation. Acting as a trustable and unifying framework, the EACP shapes the future pathways for international inter-



cluster relationships. EACP focuses on various cluster management issues that are intended to ultimately help improve the business/working environment for the cluster members. At the regional level, the EACP supports this by furthering excellence in cluster management through the exchange of knowledge and best practices. At the European level, the EACP enables the joint articulation of member regions' needs and interests to relevant stakeholders and initiates international cooperation for innovation and growth.

Furthermore, the EACP networking hub was able to visualise the complex structure of the European Aerospace Cluster Partnership. The strategy paper provides insights into the current market situation, challenges, and opportunities. It also establishes common goals followed by a joint action plan. The paper is conceived as a guideline providing common ground and understanding among the partners to intensify cooperation. Cooperation is realised through joint projects – at both the cluster level and regional member level. The EACP has established a bond between the cluster managers that provides them with a quick and easy means of communication. Furthermore, it enables cluster managers to support their respective companies, researchers and public institutions to intensify cooperation that is required for successful innovation and commercialisation, thus creating a win-win situation for all European partners.

Funded by the European Commission and the Free and Hanseatic City of Hamburg





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EUROPEAN SKILLS HUB FOR AEROSPACE

Background

When new ideas are transformed into innovative products, a highly qualified workforce is needed to produce and maintain these intelligent products. In the aviation sector in particular, basic and vocational training must, too, respond to these challenges. In addition, there are European safety requirements defined by EASA that must be met by all actors. Thus, in light of the existing variety of vocational education systems in Europe, addressing these challenges is particularly difficult.

In contrast to the realm of academic higher education, there has hitherto been nothing similar to the "Bologna Process" that has led to comparable systems in basic and higher vocational training in European countries. Although the qualifications and competencies of skilled employees are oriented towards the quality of certified products in all countries, they cannot truly be compared. Given that the competencies in various phases of professional training are fundamentally different, an exchange of personnel between the participating countries is extremely difficult.

In light of the impending shortage of skilled labour and demographic change, the course for a flexible and skilled workforce must be set today. Thus, the European Skills Hub for Aerospace aims to establish a network of Skills Experts in Europe needed to initiate international collaboration and new projects in the area of vocational education and training.

11 partners from nine countries are involved in the project. Hamburg Aviation (DE) is responsible for coordination. Partners are: ACA (TR), Aerospace Valley (FR), Distretto Aerospaziale Campania (IT), Flemish Aerospace Group (BE), Hegan (ES), Hélice (ES), Pemas (PRT), Niedersachsen Aviation (DE), North West Aerospace Alliance (UK), and Umbria Aerospace Companies (IT).

Objectives

- To learn about the organisational structure of cluster management and the VET systems in the participating regions
- 2. To identify regional experts for qualification (qualification programmes) and to implement the topic of qualification within cluster management
- 3. To understand qualification certificates and competencies in MRO and manufacturing
- 4. To discuss and define requirements for creating an infrastructure for international vocational training

The EACP Skills Hub meets in six workshops within two years (October 2013 - September 2015; cf p. 17).

Training content and qualification certificates within the fields of Maintenance, Repair and Overhaul (MRO) (with reference to the example of AMT) and manufacturing (with reference to the example of CNC operators) will be compared and competencies made more transparent. Criteria will be jointly developed to allow for the creation of unified standards, to make training and in-service training systems more comparable, to create a crossborder starting point to match training content and industry needs as well as to establish international education modules. Solution concepts to address demographic problems will also be presented. Finally, the project aims to promote the mobility of specialised personnel by continuously developing the network.

By sharing good practice examples and learning about the structure in the participating countries, project partners are able to assess themselves and gain new ideas on how to improve their regional performance.























1

October 2013: Bilbao

Learning about qualification in cluster management and VET systems in Europe



2

January 2014: Belgium

Understanding qualification certificates and competencies in MRO and manufacturing

Training curricula of aircraft maintenance technicians (AMT) & CNC operators



3

June 2014: Izmir/Istanbul

Comparing training contents with industry needs. Definition of training content/ needs of the industry





October 2014: Bordeaux

Training the trainer and concepts for an international VET system

Development of a didactic concept and international education modules





February 2015: Perugia

Training the trainer and concepts for an international VET system

Development of a didactic concept





May 2015: Hamburg

Evaluating the pilot project and presenting concepts issuing the demographic problem Handout for dissemination of results

Learning unit and implementation of results 4 & 5

Pilot project: 3 partners receive 2 trainers each from Germany for 2 weeks

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The European Skills Hub for Aerospace is supported by Leonardo da Vinci partnerships







Bridging East and West for Aerospace Research

The BEAWARE consortium connects leading aerospace clusters and support organisations in Western Europe (France, Germany, United Kingdom, Spain and Italy) with rapidly evolving aerospace clusters and strongholds in Eastern Europe (Poland, Romania, Czech Republic, Slovakia and Baltic States). Thus, the BEAWARE project creates the necessary conditions to utilise the existing and emerging potential in the field of aeronautics and air transport for a continuous and sustainable contribution to European aerospace programmes and projects.

To achieve maximum results and extend the duration of expected impacts, the BEAWARE project strives towards an ideal state, in which the development of new partnerships between aerospace actors from eastern and western European countries does not depend on additional EU funding as a main prerequisite for the initiation of collaborative projects within the field of aeronautics and air transport.

BeAware Project

Statistics show that up to 95% of project coordinators operating under framework programmes originate from western European countries. Although the potential of aeronautical organisations from Eastern Europe

is much larger, the majority of them are not yet in a position to move from a regionally organised supply chain to a European-wide value creation chain. This may either be due to a lack of funding or insufficient awareness on the necessary requirements which is thus essentially why the BEAWARE project was launched.

One of the BEAWARE project's objectives is to support potential coordinators and partners from eastern European countries, whilst identifying future R&D project opportunities within the field of aeronautics and air transport as part of the Horizon 2020 framework. The largest network of aerospace clusters in Europe – the European Aerospace Cluster Partnership (EACP) – aims to push innovation by establishing cooperative ties between aerospace cluster managers in the East and West.

The Consortium

The BEAWARE consortium, led by the innovation bureau Invent Baltics, connects leading aerospace clusters (Aerospace Valley, Farnborough Aerospace Consortium, Hamburg Aviation, Helice, Moravian Aerospace Cluster and Pôle Pégase), regional associations and agencies (Association of Polish Aviation Industry, Agency for the Promotion of European Research) as well as additional aerospace strongholds (National Institute for Aerospace Research, Vilnius Gediminas Technical University and Zilinska University).



In order to support eastern European aerospace actors with their entry into existing supply chains, well-focused workshops that cover various technological areas and include on-site tours to major aerospace hotspots in France, Italy, and Germany (Marseille – Toulouse – Torino – Apulia – Hamburg – Berlin) will be organised. By means of hands-on support provided by mentors and experts, potential new market entries and new/innovative product suppliers will be identified.

The entry of new players and introduction of new technologies into the supply chain usually takes at least 2 years. As a result, innovation chains based on Key Enabling Technologies (KET) will increasingly emerge. Furthermore, eastern European aerospace clusters are encouraged to join EACP in the future.

Project Partners

























Funded by the European Commission





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CANNAPE is a European "Coordinating & Support Action" project that was implemented as part of the European Framework Programme 7 from June 2011 to May 2013. With the consortium composed of aerospace R&D stakeholders from both Europe and Canada, the initial main objectives were:

- To increase exchange between the Canadian and European research communities
- To raise awareness for opportunities regarding aeronautics and air transport research collaboration between Europe and Canada
- To develop a technology roadmap outlining capabilities and technology priorities for international collaboration
- To increase the involvement of Canadian companies, research organisations and universities in FP7 projects and beyond (Horizon 2020)

With Hamburg Aviation and Aerospace Valley, two cluster members of EACP were official members of the CANNAPE consortium.

After a major kick-off event organised as part of the Le Bourget Airshow at the Canadian Embassy in Paris in June 2011, four technical workshops were held on either side of the Atlantic. Their key aim resided in the identification of research topics that are of interest to both Canadian and European R&D players.

In general, the results of CANNAPE have enabled a deeper and longer period of collaborative R&D in critical aeronautics. Thus, the Canadian industry is now expected to be in a position to participate in the European Horizon 2020 programme. Owing in particular to the strong involvement and commitment of all partners, the consortium has not only been successful in preparing a better mutual understanding of research policies, instruments, rules and procedures of European and Canadian R&D programmes, but also in establishing proper communication channels between the partners both during and after the project. Furthermore, the encouragement of mutual participation of researchers in joint projects launched in the EU and Canada has been positive, thus resulting in partnerships and network building between researchers and R&D institutions situated on both sides of the Atlantic. Last but not least, the project has succeeded in developing a list of priority topics for collaborative research regarding both the Canadian Research Project Data and European ACARE high-level technology priorities as well as taking notice of technologies from unfunded FP7 projects with Canadian partners.



As a result of the technical workshops, four distinct research topics for future cooperation were identified:

- Reducing environmental impact through advanced design of novel aircraft configurations
- Reducing noise through novel material design and application in engines and/or airframes
- Resource-efficient high-performance advancedmaterials product development and manufacturing
- Reducing energy consumption through greater integration of electrical aircraft and systems

These topics were jointly proposed to the European Commission as part of the preparation of a "coordinated call" dedicated to aerospace R&D cooperation between the EU and Canada. This dedicated call for proposals, which is expected to be included in the 2015-call of the transport area, is considered a huge and unique opportunity for the EU and Canada to establish a deeper and long-term relationship. Indeed, closer cooperation is likely to promote the development of critical technologies that are needed to further growth and prosperity in the aerospace sector and the economy as a whole.

Besides the preparation of this coordinated call to continue existing cooperation following project termination, the consortium proposed the establishment of a "European – Canadian Working Group in Civil Aviation Research". By building on existing projects

and networks such as the AirTN and/or AirTN NextGen and in particular the "ERA-Can+" initiative, continuous networking dedicated to European collaboration with Canada should be ensured.

The consortium postulates to extend opportunities for European partners to participate in Canadian funded projects, in particular via the novel CARIC platform ("Consortium for Aerospace Research & Innovation in Canada") which is the extension of Canada's national and previously successful CRIAQ programme of Quebec.

Project Funded by the European Commission







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CARE is a three-year European CSA project that fosters greener aviation and related research and development activities. Placing particular focus on SMEs and labs, this is achieved through cooperation between regional aerospace clusters and the adoption of a harmonised agenda approach.

In order to reach a sustainable degee of competitiveness, the European aviation industry - from OEMs to SMEs - must take on an increasingly ecological and innovative approach. Green technologies are key competitive advantages of all future air transport systems. For SMEs in the innovative and forward-looking green aerospace sector, a sufficient balance between today's business growth requirements and tomorrow's stakes must be found. Thus, as the backbone of the European economy, SMEs require special support and attention.

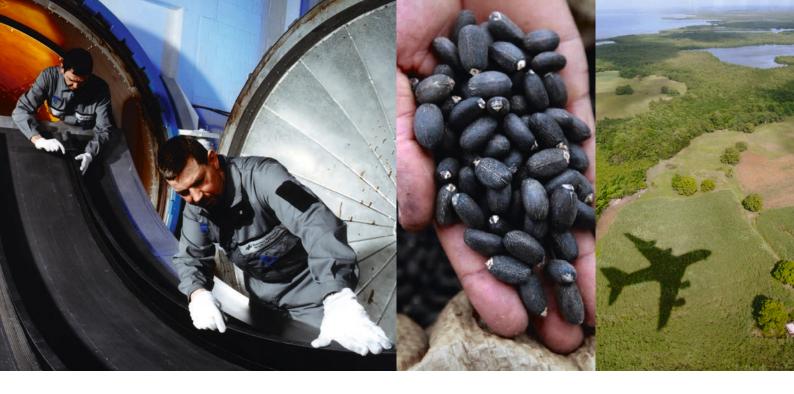
The European clusters are rooted in both the local and regional economy. They know exactly what their region requires and have an up-to-date view of their (regional) position within green aviation. The CARE methodologies allow for a comparison between cluster profiles and enable other clusters to join the CARE Meta Cluster.

An initial study identified major technological fields which bear potentially high impacts on the European aviation ecosystem and are thus of significant relevance to all participating regions and clusters. In order to

gain an overview on the strengths and weaknesses of these technological fields in our regions, the CARE project conducted a comprehensive SWOT analysis.

Last but not least, the CARE project has defined a "Joint Action Plan " that includes 21 concrete actions and aims to strengthen the competitiveness of SMEs and labs. These actions are divided into:

- Actions for excellence: includes directing SMEs to areas where they can develop skills and exploit them independently, thus fostering innovations with cutting-edge collaborations. This could, for example, involve the establishment of a CARETECH Platform, a dedicated process designed to screen future H2020 calls and establish CARE think tanks called "TIGER groups".
- 2 Actions for efficiency: first and foremost involves a well-known coordination mechanism, the ERA NET, some funding principles throughout the innovation chain as well as more ambitious initiatives on the exploitation of intellectual property, education on raw materials, the recycling of aircraft and regulations/standards.
- Actions to increase European and international visibility: refers to coordination with complementary networks, increasing SME involvement in the major



programmes of Clean Sky and SESAR, developing common and highly targeted actions with partner networks outside of Europe, the shared promotion in target countries and mentoring support for other clusters as well as a green airport label.

CARE looks forward to including and working together with regional governments, funding bodies, research laboratories and training institutions. We are open to include and cooperate with aviation-related SMEs, larger companies, the European Commission, cluster associations and projects interested in our ideas and engaging in our activities.

CARE, the European Meta Cluster for green aviation, is a synonym for excellence, efficiency and international visibility! Share with CARE. Visit us via www.care-aero.net

Project funded by the European Commission





Project Partners





















Mentoring Partners











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