

DAC Campania Aerospace Technological District

A new Network model for the development of the Campania Aerospace Industry



In the Campania economic system, the aerospace industry plays a leading role, both in terms of industrial presence and high technological contents.

The «core» top 30 companies with almost 8.500 employees and a turnover of 1,6 B€, represent a quarter of the national aerospace industry.

The rest of the Supply Chain is made out of more than 150 SME's which operate In the areas of structure and system design and manufacturing, to aeronautical precision and quality standards.









THE PRESENCE OF SCIENTIFIC INSTITUTIONS IN CAMPANIA

Campania Region benefits of the presence of academic and scientific institutions with a consolidated know how in the Aerospace field

This translates in a reciprocal benefits between scientific and industrial bodies in terms of student education and focusing scientific activities towards industrial needs

In fact to remain industrially competitive in a global Aerospace market it's important to pursue continuous technological innovation within the frame of a viable process cost reduction

The answer to this need is the allocation in the Region of **12%** of the whole budget to R&D activities









Discreto Aerospazioi

The Campania industrial tradition and the presence on the territory of actors of the innovation represented by Universities and Research Centers is not sufficient to further enhance industrial development and to maintain a primary role on the international scenario

It is necessary that the interactions amongst the different components present on the territory don't be fragmentary and inconclusive

This was the rationale to institute the Campania Technological Aerospace District on 30 May 2012 under the auspices of the Italian Ministry of Research





DAC – THE CAMPANIA TECHNOLOGICAL AEROSPACE DISTRICT

DAC is participated by 159 entities: 22 large industries (as Leonardo, OHB Italia, MBDA Italia, Magnaghi Aeronautica, Geven, Atitech, Telespazio, Vitrociset, ALA, etc.) **18 research organizations** (as CIRA, CNR, ENEA, INAF, Formit, 5 universities), **and 109 SME's** (most of which grouped into 7 Consortia) and **10 other** kind of organizations

Research funds are focused on strategic projects for Aerospace with an effective fall out on industrial applications.

DAC's transversal initiative tends to enhance the capabilities of the whole regional network and enhance its visibility with the outside Aerospace world.

DAC is supporting the consolidation of an aerospace education Pole in Campania, finalized to shape profiles and competences which directly meet the Industry needs.



DAC ENTERPRISES – AN OVERVIEW

- ✤ 4 different Lists/Sectors are indentified in the Aerospace Campania District:
 - Commercial Aviation
 - General and Business Aviation
 - Space and Launchers
 - Maintenance, Repair and Operations (MRO)

Enterprises for each DAC sector





DAC ENTERPRISES AT A GLANCE



DAC

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COMPARISON VIEW





DAC MEMBERS



🔨 dalla Lamperni

THE MODEL OF DAC GOVERNANCE









DAC STRATEGIC AND INDUSTRIAL VISION

"industry and market oriented"

INDUSTRIAL VISION TECHNOLOGICAL STREAM	Regional Aircrafts	BUSINESS AND GENERAL AVIATION AIRCRAFTS	Mini-microsatellites and high speed Systems	Maintenance, Repair and Overhaul
Systems Integration		1		
Structures Integration, Assembly and Maintenance	-			
Innovative structures				
Interiors and Cabin Systems		- Alex		
Modelling and Simulation				
Electronic on Board Systems and Payload				
Development of Lunch and Re-entry Technologies				
Data Exploitation & Services				
Airworthiness for general light aviation				
Technologies for UAS		<u> </u>		

TWO PERSPECTIVES FOR GROWTH



VERTICAL ACTIVITIES – THE DEFINITION OF PROJECTS



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To initially implement its vertical role DAC has defined a strategic plan based on 10 research projects.

They were conceived along the main route of research, technological development, and industrial application which the District Associates agreed upon

#	STRATEGIC PROGRAM (RESEARCH, DEVELOPMENT AND EDUCATION)					
1	CAPRI	Landing gear with smart (electrical) actuation				
2	CERVIA	Methods of virtual certification applied to innovative solutions				
3	FUSIMCO	Hybrid Metal/Composite fuselage structures				
4	IMM	Multifunctional material Interiors				
5	MAVER	Advanced maintenance for regional aircraft				
6	MISTRAL	Air-launchable micro-satellite with re-entry capability				
7	SCAVIR	Advanced configuration for the development of an innovative regional vehicle				
8	STEP FAR	Development of sustainable materials and technologies, robotized drilling, trimming				
		and assembly processes				
9	TABASCO	Low cost production technologies and processes for composite structures				
10	TELEMACO	Technologies and electronic beam scanning systems within the millimetric band for				
		airborne applications				



VERTICAL ACTIVITIES (CONT'D) - REGIONAL SMART SPECIALISATION STRATEGY

Industry 4.0 Laboratory Integrated Health Management Systems New Generation Smart Interiors UAV Autonomy and Integration in ATM **Super-hypersonic Business Jets Innovative Systems for Vertical Take-off Advanced MRO Technologies Stratospheric Airship Technologies** Microsatellite with Trajectory-modulated Deployable System **Air Launch Systems for Microsatellites Earth Observation Sensors and Applications** Nanosatellite-based IOV/IOD **Anti-collision radar sensors for RPAS**



POSSIBLE FUTURE PRODUCTS

REGIONAL AIRCRAFTBUSINESS & GENERAL AVIATION AIRCRAFT (INCL. RPAS)		MICRO & NANOSATELLITES AND HIGH SPEED SYSTEMS	Maintenance, Repair and Overhaul
REGIONAL AIRCRAFTS 19 TO 100 PAX	B&GA AIRCRAFTS 4 TO 19 PAX, INCL. SUPER/HYPERSONIC BUSINESS JET	Systems & Componentis For Mini/Micro/ NANOSATELLITS AND TRANSPORTATION SYSTEMS (LAUNCHERS, SPACEPLANES)	MAINTENANCE FOR TRADITIONAL AND FUTURE GENERATION SYSTEMS (I.E. SPACEPLANES)
AERONAUTICAL ENGINE SUBSYSTEMS FOR LARGE PASSENGER AIRCRAFT	AUTONOMOUS FLIGHT SYSTEMS AND REMOTELY PILOTED VEHICLES	SPACE APPLICATIONS	
	INNOVATIVE ENGINES (INCL. HYBRID AND ELECTRIC ENGINES) FOR ULTRALIGHT, B&GA, RPAS	SYSTEMS AND COMPONENTS FOR SPACE PROPULSION	
	SYSTEMS AND COMPONENTS FOR HIGHER EFFICIENCY AERONAUTIC PROPULSION	SYSTEMS FOR SPACE EXPLORATION	

Discreto Aerospagiole Si dalla Lampenia

TRANSVERSAL ACTIONS WORKING GROUPS

Internalisation and relations with other Districts

- Relations with institutions and cooperations with other Districts;
- Assessment of development topics of international interest;
- Actions for the internationalization and cooperation;
- Know how exchange at international level;

Professional and High Education

- Relationships with Education and Research Centres;
- Supporting the competences assessment;
- Valorisation of human resources;
- Publication of research results on international magazines

Technology Transfer & Communication

- Agreements on Intellectual Property Rights;
- Management of financial and spin off support;
- Applications for patent issues;
- Management of event and communication campaigns



TRANSVERSAL ACTIONS WORKING GROUPS (CONT'D)

Project & Knowledge Management

- Configuration of project data on a collaborative SW platform (Xmanager);
- Supporting Project Managers in organising and filing project data;
- Management of financial funds and responsabilities;
- Collecting technical and administrative documentation for research proposal filing and project result reporting;
- Preparation of project proposals for co-financing request submittal;
- Planning management by Xmanager;
- Support and assistance for planning, activity progress control and reporting;
- Management of justification document and reports;
- Management of relations with co-financing bodies;
- Coordination and management of the projects both for technical and financial aspects

Dual Use

- Monitoring of potentially dual use technologies;
- Mapping of technological progress for dual use applications;
- Preparation of the documentation suitable to verify and test dual usability



HORIZONTAL ACTIVITIES - TTM & COMMUNICATION





HORIZONTAL ACTIVITIES (CONT'D) - TTM & COMMUNICATION



The Welcome Area



The Planetary and the Observatory



Aerospace PARK



The Museum of the Aerospace



The Aviolab Show

- The Aviolab Show was organized by DAC jointly with CIRA to valorise the Campania General Aviation Sector;
- The event was held on CIRA premises in Capua on October 29-30th 2015;



- First of a series of events aiming at offering new opportunities of business to the High Tech Campania excellence;
- The meeting gave the chance to meet and interact with international delegation composed by potential buyers, contractors, partners from 6 countries (i.e. Russia, Ukraine, Kazakhstan, Israel, the UK);



HORIZONTAL ACTIVITIES – Relation with other districts



DAC pursues its objectives within a **meta-District perspective**. In fact it's **one of the founding members of the National Aerospace Technological Cluster** (CTNA)

This way the strategic program of DAC is part of a wider system which involves the other Italian Aerospace Districts and the whole Italian Aerospace Industry to coordinate its developments and focus the efforts at national level



Cluster Tecnologico Nazionale Aerospazio Italian Cluster for Aerospace Technology

THE META-DISTRICT SCENARIO



HORIZONTAL ACTIVITIES (CONT'D)- INTERNATIONALISATION

- EACP Membership which allows sharing of experiences at European and participating to strategic policies of development;
- Maintaining information to Associates relative to International events in the Aerospace field;
- Participating to International Airshows (e.g. Le Bourget, Farnborough, Friedrichshafen);
- Meeting with international aerospace delegation (e.g. Canadian, French, Thai) to favour reciprocal understanding of competences and business opportunities;
- Participation to Aerospace World Congresses (e.g. CEAS, IAC, ICAS, SPHS)



SUPPORT OLICIES OF DEVELOPMENT

HORIZONTAL ACTIVITIES - Internationalization



DAC IS MEMBER OF EACP, THE EUROPEAN AEROSPACE CLUSTER PARTNERSHIP, WHICH FOSTERS SHARING EXPERIENCES AND SUPPORT THE IMPLEMENTATION OF INNOVATIVE PROJECTS AND STRATEGIC POLICIES OF DEVELOPMENT

Main European Aerospace Clusters involved:





HORIZONTAL ACTIVITIES (CONT'D) - PROFESSIONAL & HIGH EDUCATION



Within the frame of professional and high education DAC pursues the following objectives:

- ✓ To become a reference model for the development of competences in the aerospace sector for the School, the University and the Industry;
- ✓ To develop a network on the territory for improving the educational offer;
- ✓ To valorise the aeronautical professions promoting training activities within advanced environment of aeronautical production;
- ✓ To connect the worlds of the School and Enterprises to disseminate know how, competences and capabilities;
- ✓ To promote the introduction in the school of courses on the most advanced technologies (e.g. avionics, composite materials, lean manufacturing)



CONCLUSION

- DAC is acting as a cohesion element amongst Large Enterprises, SME's, Universities and Research Centres;
- The District was established to favour the development of competitive capabilities within the Campania aerospace industry;
- It supports researches lead by industry, with a concrete industrial fall out in order to efficiently catch market opportunities;
- The District works for enhancing the position of the Campania Aerospace world on an global scenario and is strongly looking for possible international cooperation initiatives in the field of the Aerospace Research



DAC – CAMPANIA AEROSPACE DISTRICT



THE PRESENT TO DESIGN THE FUTURE

