



REGIONAL INNOVATION NETWORK
AEROSPACE INNOVATION AND RESEARCH
AIR



AEROSPACE INNOVATION AND RESEARCH – AIR

The Regional Innovation network (RIR) AIR was approved by the Veneto Region with resolution no. 246 of 2 March 2020

It is made up of 45 participating subjects of which:

- 36 SMEs and 4 large companies
- 5 Departments of the Universities of the Veneto region and UNIVENETO Foundation

The Legal Entity Representing the RIR is the Aerospace and Cosmonautical Consortium - Co.Si.Mo, established on 7 May 2020 by the founding partners I.R.C.A. S.P.A - Zoppas Industries, ISOCLIMA S.P.A. and Univeneto Foundation.

The Board of Directors of the Consortium is made up of:

- Dr. Federico Zoppas (IRCASPA Industria Resistenze Armazzate e Affini), who holds the position of President,
- Prof. Stefano Debei (Univeneto Foundation), Vice President and Scientific Advisor
- Dr. Guglielmo Macrelli (ISOCLIMA SPA). Counselor
- Dr. Giovanni Dal Lago (Officina Stellare), Counselor

VISION

The aerospace sector is characterized by a profound change, the "New Space Economy", which is operating a strong cross-sectoral contamination, boosting innovative market-oriented solutions having potential applications in other sectors (i.e. agriculture and health, prevention and risk reduction of natural and anthropogenic territorial disasters including terrorist incidents).

In light of this evolutionary scenario, AIR's Vision is outlined in three points:

- a holistic conception of the AIR regional innovative network;
- Operating a synergy of each respective Partner's skills on technical-scientific initiatives having an impact on the regional territory;
- Establishing a network of knowledge and capacity for technological development and services, with a critical mass as to be able to compete at a national and international level for both market-oriented projects and innovative applications

STRATEGIC OBJECTIVES FOR THE AEROSPACE SECTOR

1. AUTONOMOUS NAVIGATION AND REMOTE SENSING

Development of technologies for autonomous flight and related applications, such as monitoring, remote sensing, surveillance and control for both atmospheric and satellite flights.

2. ADVANCED ON-BOARD SYSTEMS FOR SMALL SATELLITES IN THE NEW SPACE ECONOMY

Development of equipment and software for new generation on-board systems for small low-cost satellites in the New Space Economy including new payloads, propulsion systems, telecommunications systems.

3. SPACE EXPLORATION

Technologies and multidisciplinary solutions for the robotic and human space exploration (including the implementation of highly efficient telecommunication networks for extraterrestrial sites, eg internet, IoT, M2M on the Moon and on Mars), for the reentry of systems, materials and artifacts of human and robotic missions.

4. ENHANCEMENT of strategic research infrastructures for testing aerospace technologies and laboratories for the protection of information systems (cybersecurity) related to the management of satellite data, also based on quantum cryptography.

5. CLEAN & SAFE SPACE: development of technologies aimed at increasing the efficiency and reducing the environmental impact of the components of flight systems for the atmosphere and space in line with European and international objectives (reduction of consumption, CO₂, noise levels, recycling technologies).

COORDINATION ACTIVITIES

In addition to the specific technological objectives, the AIR network will support:.....

1. The increase in multisectoral technology transfer actions between University-Enterprise-Territory for the design and development of intelligent and sustainable technologies with the creation of opportunities for innovative star-ups and spin-offs.
2. The creation and consolidation of a regional network structure to approach national and international initiatives and actions (in particular calls for space agencies and HORIZON EUROPE funding mainly in the Space or Industry calls) related to the theme of technology innovation in the aerospace sector.
3. The development and promotion of a network of orthogonal scientific and professional skills to address topics related to innovative technologies for the exploitation of local resources and energy and food sustainability

INTERNATIONALIZATION

RIR AIR support the internationalization of the Partner companies by promoting the following activities:

1. participation in conferences and workshops on the topics of the new space economy, space exploration, space technologies, innovative materials;
2. Shared network of national and international contacts;
3. Contacts, relationships, agreements with large foreign Aerospace companies;
4. Contacts, relationships, agreements with foreign business incubators;
5. Contacts, relationships, agreements with foreign space supply chains.

CORE COMPETENCES OF RIR - AIR

- Mono and stereo, multi and hyperspectral telescopes
- Scientific Payloads for remote sensing and autonomous labs for in situ exploration
- Components, Subsystems and Avionics for SmallSats (150-200Kg)
- Space Propulsion Systems
- Extraterrestrial Habitats
- Space Robotics
- Autonomous rovers and drones
- Innovative and optical telecommunications systems
- Quantum technologies
- Cybersecurity

SCIENTIFIC MEMBERS

- Prof. Stefano Debei, University of Padova
- Prof. Paolo Villoresi, University of Padova
- Prof. Alessandro Francesconi, University of Padova
- Prof. Daniele Pavarin, University of Padova
- Prof. Giuseppe Vallone, University of Padova
- Prof. Enrico Lorenzini, University of Padova
- Prof. Ugo Galvanetto, University of Padova
- Prof. Mirco Zaccariotto, University of Padova
- Prof. Carlo Bettanini, University of Padova
- Prof. Paolo Pesenti, University of Venezia
- Prof. Francesco Musco, University IUAV of Venezia
- Prof. Maximiliano Romero, University IUAV of Venezia
- Prof. Denis Maragno, University IUAV of Venezia
- Prof. Piero Fiorini, University of Verona
- Prof. Alessandro Farinelli, University of Verona
- Prof. Riccardo Muardore, University of Verona

| Sectors | Enterprises | Innovative materials and related production processes | Integrated Vehicle Health Management (IVHM) | Technologies for propulsion | Autonomy for UAV and in support of aircraft with pilot on board | Downstream and Upstream services for EO, navigation and satellite communications | Technologies for space transport systems, launch and reentry, IOD / IOV missions, human exploration and robotics | Space technologies in the field of devices, materials, software and surface engineering techniques | Enabling technologies for space asset protection systems (SSA / SST) | Digital Technologies | Website |
|---|---|---|---|-----------------------------|---|--|--|--|--|--|--|
| Scientific payloads, Earth observation and related Services | Officina Stellare S.p.A. | ✓ | | | | ✓ | | ✓ | ✓ | | www.officinastellare.com |
| | PHOENIX SRL | | | | | ✓ | | ✓ | | | www.phoenix-rto.it |
| | ThinkQuantum S.r.l. | | | | | ✓ | | | | ✓ | www.thinkquantum.com |
| Avionics, Structures and System Integration | COMPOSITEX s.r.l. | ✓ | | | | | | | | | www.compositex.com |
| | MAROSO S.r.l. | ✓ | | | | | | | | | www.maroso.it |
| | Professional Show S.p.A. Srl | | | ✓ | ✓ | | | | | ✓ | www.professionalshow.com |
| | Technologyfor Propulsion and Innovation s.p.a | | | ✓ | | | ✓ | | | | www.purepowem.com www.t4innovation.com |
| Mechanical Components, Surface treatments and Subsystems | AZ spa | | | | | | | | | | www.azspa.it |
| | Benozzi Engineering Srl | | | | | | | | | | www.benozzi.com |
| | Buson srl | | | | | | | | | | www.buson.it |
| | IRCA s.p.a. | ✓ | | ✓ | | | ✓ | | | | www.zoppasindustries.com |
| | Isoclima SpA | ✓ | | | | | | | | | www.isoclimagroup.com |
| | Lika Electronic Srl | ✓ | | | | | | | | | www.likait |
| | Nadir Srl | ✓ | | | | | | | | | www.nadir-tech.it |
| Spring Srl | ✓ | | | | | | | | | www.springitalia.com | |
| Design and Testing Services | Bluewind Srl | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | www.bluewind.it |
| | EnginSoft S.p.A. | | | ✓ | | | | ✓ | | ✓ | www.enginsoft.com |
| | HIT09 S.r.l. | | | ✓ | | | | ✓ | | ✓ | www.hit09.com |
| | Meteotec Srl | | | | | ✓ | | | | ✓ | www.meteotec.eu |
| | NOVAEKA S.R.L. | | | | | | | | | | www.novaeka.com |
| | OBO SPACE srl | | | | | ✓ | ✓ | ✓ | ✓ | | www.obospace.com |
| | Qascom Srl | | | | | ✓ | | | | | www.qascom.it |
| | S.A.T.E. S.R.L. | | | | | ✓ | | | | | www.sate-italy.com |
| | Unilab Laboratori Industriali s.r.l. | ✓ | | | | | | | | | www.unilab.it |
| Zanon Research & Innovation Srl | ✓ | | | | | | | | | www.zanonreserach.com | |

PARTNERS



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|---|------------------------|---|--|----------------------------------|
| Università degli Studi di Padova - CISAS "G. Colombo | | Extreme Analyses Engineering srl | OBO SPACE | STELLAR PROJECT SRL |
| | BUSON | Extreme Greenhouses srl Innovative Startup | OFFICINA STELLARE SPA | SENTIERO INTERNATIONAL CAMPUS |
| UNIVENETO | BLUEWIND | SLIM FUSINA ROLLING SRL | OFFICINE DAL ZOTTO SRL | SPRING |
| Università di Verona - Dipartimento di Informatica | COBOTICA Srl | HIT09 SRL | P2M S.r.l. | T4i TECHNOLOGY FOR PROPULSION |
| Università Ca Foscari - Dipartimento di Management | COMPOSITEX SRL | IRCA SPA ZOPPAS INDUSTRIES | PHOENIX RICERCA E TECNOLOGIE OTTICHE SRL | AND INNOVATION |
| Università IUAV - Dipartimento di Culture del Progetto | ECOR INTERNATIONAL SPA | ISMEC SRL | Professional Show Spa / Divisione Ricerca Aeronautica | TECNOMECC SRL |
| Confindustria Veneto SIAV SPA | EIE GROUP SRL | ISOCLIMA GROUP SPA | QASCOM SRL | THINQUANTUM |
| AMBRA ELETTRONICA | ELLE EMME SRL | LIKA Electronic SRL | RISE TECHNOLOGY SRL | UNILAB |
| AZ | ENGINSOFT SPA | Maroso Srl | S.A.T.E. SRL | Laboratori Industriali |
| BENOZZI ENGINEERING | ETTORE ZANON SPA | NADIR SRL | SATEC SRL | |

