



AEROSPACE
EMILIA - ROMAGNA



adaptronics

Adaptronics is a startup that provides solutions for sensorized gripper end-effectors, robotic grasping and handling of objects, based on thin-layer electroactive technologies and soft-robotic mechanisms with capacitive sensors for proximity, contact and contact force embedded, for Space logistics applications, Agritech, Industry; and Flexible

Our numbers

low weight (<1 g/cm²) and small footprint (flexible thin-film)

grasping force density of 0.5 kg/cm² (corresponding to an adhesive force of 50 kg with two patches as small as a credit card)

minimal power consumption

no need for heat dissipation (critical in space applications)

in operation with any type of contact surface material (unlike bulky electromagnets).

PRODUCTS & SERVICES

- Electro-adhesive sensorized gripping solutions to enable in-orbit servicing and space debris capture

We are a group of leading companies providing “Made in Italy” integrated technologies & products for the aeronautics and aerospace sectors based in Emilia-Romagna, one of the most advanced Italian regions for manufacturing and innovation. We work closely with research centers and university ecosystems achieving cutting-edge capabilities and skills.

We continuously collaborate with ASI (Italian Space Agency), the Emilia-Romagna Regional Government, Clust-ER Mech – the Mechatronics and Motoristic Cluster of the Emilia-Romagna Region.

Our numbers

ANSER CONSORTIUM COMPANIES: 23
ACCUMULATED TURNOVER: 885 MLN€
EXPORT: 40%
CLIENTS: 240+
RTD PERSONNEL: 200+
AEROSPACE & AERONAUTICS PATENTS: 29
MAJOR INTERNATIONAL
COLLABORATIONS (e.g. NASA, NATO, ESA,
ASI et.): 10
CERTIFICATIONS: 35

PRODUCTS & SERVICES

Aeronautics

- Rotary-wing aircraft
- UAS
- Structures verticalization for:
 - Fixed-wing aircraft
 - Rotary-wing aircraft
 - Large earth systems

PRODUCTS & SERVICES

Space

- Nanosatellites
- Satellites and orbiting station sub-assemblies and components

CURTI is a leader in the supply of aeronautical systems and services, thanks to recognized reliability and high-quality levels. The mastery ability to optimize processes combined with specific skills for these processes and the related non-destructive tests have allowed us to move from a traditional third-party account to co-engineering activities.

We participate and proactively supports the design of machines and complex systems for all its customers, using advanced design software such as CREA0, CATIA, PRO-E, and others.

Our numbers

66 YEARS OF EXPERIENCE
GROUP TURNOVER: 140 MLN€
EXPORT: 85%
2 FOREIGN
OFFICES/BRANCHES
600+ EMPLOYEES

PRODUCTS & SERVICES

- sheet metal processing;
- welding of special alloys;
- mechanical machining of chip removal;
- surface and heat treatments on steel, aluminum, titanium;
- non-destructive tests

CERTIFICATIONS

UNI EN 9100; ISO 9001; ISO 14001;
ISO 50001; ISO 45001
The company is in possession of:
EA-SA POA Part. 21
DIN 2303
ISO 3834
and has Nadcap accreditation for non-destructive testing and for welding.

The company was founded in 1972 and operates in the automotive and aerospace & defense sectors. It has three distinctive capabilities: design, production & integration (using carbon fiber composite materials), and aerodynamics and vehicle dynamics (simulation and testing). The company also has opened a Dallara Advances Research Center (DARC) on thermoplastic composite materials, pooling skills and expertise.

Our numbers

3 Business UNITS (Racing,
Automotive,
Aerospace&Defence)
EXPORT: 90%
A BRANCH IN USA
700+ EMPLOYEES

PRODUCTS & SERVICES

- Lightweight design and standard optimization
- Holistic performance simulations
- Production and assembly
- Electronic architecture development
- Fast prototyping

CUSTOMERS

- Leonardo
- SpaceX
- Raytheon
- UAC
- Aerea
- MBDA
- L3 Harris
- Cefriel
- IT MoD

GECOsistema is a specialist environmental consulting engineering and research company providing advanced consulting, scientific research, innovation, product developments, data science and modeling services in the fields of environmental, climate risk and geospatial intelligence. GECOsistema operates at both global, national and local levels in collaboration with highly qualified partners. We combine advanced data science and machine learning, environmental modelling, GIS and Geospatial Analysis tools, remote sensing, predictive analytics, to provide critical insight about environmental, climate and geospatial issues.

Our numbers

58 SATISFIED CLIENTS

12 ENVIRONMENT MODELS

68 PUBLICATIONS

PRODUCTS & SERVICES

- Environmental Risk Intelligence
 - Air Dispersion and Noise Quality and Modeling
 - Environmental studies and risk assessments
 - Hydrology, Water resources and natural hazards
- Climate Risks and Resilience Intelligence
 - Natural Hazards and Flood Risk Intelligence
 - Energy and Water Resources
 - Agriculture and Irrigation
 - Insurance, Banks (TCDF) and Real Estate

PRODUCTS & SERVICES

- Geospatial and Data Intelligence
 - Big-data, Artificial Intelligence and Machine Learning
 - Cloud web mapping
 - IT, GIS, spatial decision support systems
 - remote sensing and image processing
 - suitability and optimal location and routing

GVM Assistance is a startup and develops and provides innovative digital healthcare services, leveraging on new technologies and through the implementation, organization and management of medical service centres to address the future of the healthcare

Collaborations

GVM Assistance is a spin-off of GVM Care & Research, one of the main Italian hospital groups operating in the healthcare sector and the first in terms of territorial extension with over 50 healthcare facilities in 5 European countries.

PRODUCTS & SERVICES

- telemedicine services related to primary care
- teleconsultation
- telemonitoring
- genomics
- multi-purpose homecare services (nursing,
- rehabilitation, silver age assistance, medications' delivery)

Highftech Engineering is mainly involved in mechanical design, structural/thermal analysis, manufacturing, testing and integration of mechanical system or subsystem for: Space Station Structure; Landing Module; Scientific payload for Space Station (ISS); Facility for Space Station (ISS) MGSE. HFT offers to large aerospace companies (Airbus, Thales Alenia Space, Leonardo, OHB, and Ruag) the developing of complex subsystems for space structures programs.

Our numbers

50% EXPORT TURNOVER

PRODUCTS & SERVICES

- ISS facility subsystems for scientific studies (FSL, Biolab, MSL, etc.)
- Payload for scientific studies (Geoflow, Fases, Rubi, etc.)
- 3DP- Metallic Additive Manuf. machine working in space
- New Space Station (Axiom) subsystems: windows shutter
- Subsystems for Multi-purpose module for Moon environ.
- Main Port Mechanism for Prisma instrument
- Mechanical structure of Janus instrument for Juice mission
- Etc.

CERTIFICATION

- EN 9100:2016
- Kiwa
- ISO 9001:2015

Designs and manufactures a wide range of products and solutions from precision measurement of mechanical components before, during and after the manufacturing process, to process controls and machine tool conditions, from leak tests for all industrial sectors, to automatic assembly and control lines. Marposs is a primary supplier of the major automotive manufacturers, for both ICE and EV applications, as well as the aerospace, biomedical, energy, consumer electronics and glass containers sectors.

Our numbers:

90% EXPORT TURNOVER
28 KEY ACQUISITIONS SINCE 2000
PRESENT IN 34 COUNTRIES
ABOUT 3.500 EMPLOYEES
MORE THAN 80 OFFICES WORLDWIDE
34 AWARDS SINCE 1992

PRODUCTS & SERVICES

- Part Measurement
- Tool Control
- Machine and Process Monitoring
- Probes and measurement transmission systems.
- Data acquisition systems
- Signal converters
- SPC and quality control software

CERTIFICATION

- ISO 14001
- ISO 45001
- ISO 9001

Founded in 2004 in Ferrara, Italy, MEEO activities aim at facilitating geospatial data access with focus on satellite-based products. Since 2006, MEEO is a consolidated partner of the European Space Agency and provides services to public and private entities. In 2009, SISTEMA GmbH was founded in Vienna (Austria), to enforce the Research and Development activities and to enlarge the market to Central and Eastern Europe.

Our numbers

GROUP TURNOVER: 2.5 MLN€

EXPORT: 80%

A BRANCH IN AUSTRIA

25+ EMPLOYEES

PRODUCTS & SERVICES

- EO for a better crop lifecycle planning and management
- EO for monitoring critical infrastructures
- EO for climate and environmental monitoring services
- EO for urban development and Cultural heritage
- EO for emergency management and Humanitarian Aid

ASSETS

- The Advanced geospatial Data Management platform (ADAM) handles the full geospatial data lifecycle: collection, curation, ingestion, processing, access and dissemination
- The MEEO Data Access Facility (MEEO-DAF) that offers to MEEO's customers IT resources close to data to optimise their daily job



MOTRIDAL

Motridal SpA, founded in 1953, is an Italian company based in Piacenza Italy.

It is divided into two clear departments, that of Bulk Material Handling and the Drilling and Augers division, which specialises in the production of metal spirals and augers over the last 40 years.

In 2015 Motridal Middle East LLC. was established for support to clients of the MENA region and in 2017 a new sister company, Motridal America Inc., with offices and manufacturing facilities in Houston, Texas, U.S.A was founded to enhance the growing presence of the Company in the Americas region.

Our numbers

2018 Motridal was among the 500 best Italian SME's based on an analysis carried out by the Corriere della Sera "L'Economia" and Italypost

BULK MATERIAL HANDLING

- Belt Conveyors
- Chain Conveyors
- Screw Conveyors
- Bucket Elevators
- Apron Conveyors
- Stackers and Reclaimers
- Auxiliary Equipment
- Fluidized Conveying Systems
- Specialised Equipment

DRILLING AND AUGERS

- Agriculture
- Technology for the Environment
- Food Industry
- Chemical Industry
- Energy

CERTIFICATIONS

- ISO 3834-3

Motridal designs are completely produced using the modelling system: V3D



NANOPROM is an Italian company, pioneer in research and industrial application of nanomaterials in the field of surface protection. We developed Polysil® that was chosen to protect all Tetra Pak® plants worldwide. Polysil components have been subjected to toxicological and environmental controls guaranteeing health and environment protection as the nanocomponents are attached to the surface without delamination or particulate release.

Our numbers:

20+ YEARS OF EXPERIENCE

+54.76% 2017-20 REVENUE

INCREASE

THE FINANCIAL TIMES 2022 FT

**1000 EUROPE'S FASTEST GROWING
COMPANIES 2022**

PRODUCTS & SERVICES

- Polysil® anticorrosion coating
- Ultra-lightweight coating
- Polysil® Thermal
- Polysil® Thermal Shield
- Aerodynamics drag reduction

CERTIFICATION

- ISO 9001
- ISO 14000
- AS/EN 9100

Nautilus - Navigation in Space is the first European start-up offering the full deep space flight dynamics package, from the mission analysis and design to the actual navigation operations. We intend to provide a cost-effective solution for deep space flight dynamics services, scalable and adaptable to the needs of small interplanetary missions, whose financial sustainability is hampered by the high costs associated with the Operational Ground Segment for this category of missions.

COLLABORATIONS

The Radio Science and Planetary Exploration laboratory and the Microsatellites and Space Microsystems laboratory of the University of Bologna
The Deep-space Astrodynamics Research & Technology (DART) group of the Politecnico di Milano

PRODUCTS & SERVICES

- Interplanetary Navigation Service
- Flight Dynamics Operations
- Space Missions Analysis and Design
- Deep Space SmallSats Operations
- Consulting

Novac is a startup that is developing an energy storage system for electric vehicles/aircrafts that does not occupy space because it can be shaped directly into the structure of the vehicle/aircraft itself. Unlike most of the other energy storage systems the product is made of safe and affordable materials.

Our numbers

Supercapacitors release all their power in seconds, to achieve high performance

PRODUCTS

- Solid state supercaps
- Custom shapeable solid state energy storage for power systems
- The absence of liquid avoids the risk of leaks, explosions and evaporations

Founded in 1950 in Bologna, Italy, POGGIPOLINI is a leading company specializing in the design, engineering, and high precision manufacturing of critical and standard fasteners and precision components, for aero-engine, transmission, landing gear, and aerostructure applications. We provide highly innovative technical solutions from weight reduction to complex assembly, from additive manufacturing to the Internet of Fasteners.

Our numbers

72 YEARS OF EXPERIENCE

22 M TURNOVER

70% TURNOVER IN AVIATION,
DEFENCE & SPACE

50% EXPORT TURNOVER

100 EMPLOYEES

5 FOREIGN COMMERCIAL OFFICES

PRODUCTS & SERVICES

- Specialty Fasteners in titanium, Inconel, and special steel alloys
- Standard Fasteners in titanium and Inconel.
- Engineered Products: Locknuts, lock washers, rods, fluid fittings, and connectors
- Critical Products: transmission axles with splines and assembly
- Precision Products: aerostructure components, housings, and cases
- Engineering, manufacturing, and assembly of custom projects, using also advanced technologies as additive manufacturing if required.

CERTIFICATION

- ISO 9001
- EN9100
- NADCAP

NPC SPACEMIND provides nanosatellite platforms and ground equipment for civil and defense applications.

Our mission focuses to become a leader in nanosatellite platform procurement and space-related applications offering complete package solutions thanks to specially designed facilities such as cleanroom for satellite integration and a lab complaint to the ECSS standards. We operate also in the ground equipment business sector by designing and producing a class of tracking mounts for telescopes for electro-optical applications and SSA.

Our numbers

20+ YEARS OF EXPERIENCE

+25 PRODUCTS

40 EMPLOYEES

500 SUPPLIERS

PRODUCTS & SERVICES

- Nano-satellite platforms ranging from 1U to 16U satellites.
- Innovative Cubesat deployer SMPOD for 3U and 12U platform
- Deorbiting module consisting of a deployable drag sail.

GROUND SEGMENTS

Tracking mounts dedicated to SSA, SST, Astronomy, Laser.

SPACE MISSIONS

End-to-end nanosatellite-based missions

CERTIFICATION

- DNV GL ISO 14001:2015
- DNV GL ISO 9001:2015



The University of Bologna is a public research university in Bologna, Italy. Founded in 1088 it is the oldest university in continuous operation in the world. It provides a wide range of undergraduate and graduate programs across a variety of disciplines, including law, economics, engineering, medicine, and the humanities. The university is renowned for its research excellence in fields such as biotechnology, nanotechnology, and cultural heritage preservation. The university also has strong ties to industry, with partnerships with companies such as Ferrari, Lamborghini, and Ducati.

Our numbers

Over 90.000 STUDENTS

Over 7.000 INTERNATIONAL STUDENTS

Over 30 RESEARCH DEPARTMENTS

4 CAMPUSES

252 DEGREE PROGRAMS

OUTSTANDING MULTIDISCIPLINARY RESEARCH

- Agri-food, bioeconomics, natural resources, agriculture and the environment
- Climate, energy and mobility
- Culture, creativity and inclusive societies
- Digital, industry and space
- Health
- Public safety

COMPETITIVE PROGRAMMES

>53 mln European Programmes

>29 mln National Programmes

>41 mln Regional and Local Programmes

>100 mln National Recovery and Resilience Plan

The mission of CIRI Aerospace is to promote the development of knowledge, expertise and research services for companies and research entities operating in the sectors of aeronautics, space, energy systems, advanced materials and mechanical systems, sensors technologies, nautical and ground transportation. The activities are organized in research projects that can be funded by companies or by supported research programs, preferably in collaboration with companies.

RESEARCH ACTIVITY

- Development of new ground, aeronautical and space propulsion systems and components;
- Space exploration science, technologies, techniques and systems;
- Planetary exploration missions design, implementation and data analysis;
- Microsatellite and space microsystems design, implementation and In-Orbit- Validation (IOV);
- Space experiments design and implementation, with a focus on experiments on the International Space Station (ISS);

RESEARCH ACTIVITY

- Ground control centers for in-orbit control of space mission, radio tracking from ground and precise orbit determination;
- Development of advanced numerical techniques to analyse large amount of data (Big Data) from past, current and future space missions.

The University of Parma is a public university located in the city of Parma, Italy. The university offers a wide range of undergraduate and graduate programs and is known for its high-quality research and education, with a strong emphasis on interdisciplinary collaboration and practical application. It is in the TOP50 ranking of universities for Science and Food Technology, and it is among the top in some of the most important world rankings. The Technopole interdepartmental Centers for industrial research play a key role in transferring innovation to companies ranging from food technologies (**Siteia**), to packaging (**Cipack**), from pharmaceutical research (**Biopharmanet-tec** and **Comt**) to research on environmental sustainability, energy efficiency enhancement (**Cidea**), and construction (**Ciccrei**)

Our numbers

Over 32.000 STUDENTS

Over 3.000 INTERNATIONAL
STUDENTS

9 RESEARCH DEPARTMENTS

102 DEGREE PROGRAMS

UNIVERSITY HIGHLIGHTS

- A 77 hectares Campus surrounded by nature
- Partnerships with over 350 universities around the world
- Comprehensive support services for students, including academic support, career services, and accommodation services

UNIVERSITY HIGHLIGHTS

- The university is placed in the beautiful city of Parma, known for its rich cultural heritage, beautiful architecture, and delicious food
- Research excellence in fields such as: food and agriculture, advanced materials, mathematics, neuroscience, and cultural heritage.

The IMM-BO (<http://www.bo.imm.cnr.it>), with a staff of >50, has been studying materials and devices for microelectronics and MEMS for over 30 years. Thanks to the synergy between physics, engineering and chemistry IMM-BO provides a global and flexible approach to developing innovative technologies. IMM-BO has the largest publicly funded facility for silicon micro-machining in Italy (500 m² ISO 5-8 Clean Room) and as coordinator of the Italian network for Micro and Nano Fabrication research infrastructures (It-fab <http://itfab.bo.imm.cnr.it/>) represents Italy in the EuroNanoLab initiative (<http://euronanolab.com>), aiming to establish a pan-European research infrastructure in the field of nanofabrication.

Industrial collaborations:

- Leonardo
- Airbus
- FIAT research Center (now part of STELLANTIS)
- MEDICA filter

SPACE ACTIVITIES:

- Heat transport optimization in Loop Heat Pipes working in microgravity by graphene coating implementation.
- Fundamental science on the drop impact in microgravity.
- Developing new composites based on 2D materials as passive radiation shielding will be implemented in the space suit.

IRST - Italian Centre of Excellence for Cancer Research and Treatment

IRST has the goal of establish a **Solid Leadership Worldwide in Cancer Research** and care transforming scientific research into new treatments in real time through **Cutting Edge Translational Research**



25.000
Patients
Yearly

8.000
New cases
in 2022



<p>GEROBIOMICS AND EXPOSOMICS</p>	<p>IMMUNO-HEMATOLOGY</p>	<p>NANOBIOMICS AND LIQUID NICHE</p>
<p>OSTEONCOLOGIA</p>	<p>SS RADIOBIOMICS AND DRUG DISCOVERY</p>	<p>TRANSLATIONAL ONCOLOGY</p>



YEAR

1400
IMPACT FACTOR

220
RESEARCHERS

270
ACTIVE CLINICAL STUDIES

2300
PATIENTS IN CLINICAL TRIAL

€ 95M
REVENUES

€ 18M (19%)
R&D INVESTMENTS

- LINE 1 – HEALTH ECONOMICS
- LINE 2 – THERAPEUTIC STRATEGY
- LINE 3- GENETIC-MOLECULAR MECHANISMS
- LINE 4 – PRIMARY AND SECONDARY PREVENTION

EXCELLENCES OF EMILIA-ROMAGNA IN HEALTH & WELLNESS

The Clust-ER Industries of Health and Wellness is an association recognized by the Region, consisting of large companies, SMEs, laboratories of the High Technology Network, research centers, health facilities and training institutions that share skills, ideas and resources to support the competitiveness of the Health and Wellness Industries of Emilia-Romagna.

The Clust-ER, in its role of aggregator and catalyst of sector stakeholders, carries out a series of activities and services to support its members.

Our numbers

CLUST-ER MEMBERS: **108**

HEALTH AND WELLNESS INDUSTRIES IN EMILIA ROMAGNA:

- 700 companies
- 14.000 workers
- 10.700 M€ turnover

HEALTH ASSETS IN E-R: **7** (Pharma & Atmps; Biomedical Technologies; Big Data & Digital Health; Orthopedics; Neurosciences; Nutraceuticals; Animal Health)

MAIN SERVICES & ACTIVITIES

- Lobby for development of regional innovation policies;
- Support for the improvement of the regional education system;
- Addressing large strategic projects;
- Internationalisation;
- Promotion of members' activities;
- Dissemination and promotion;
- Organization and participation in networking events.

VALUE CHAINS

- Working groups to develop the strategic lines of the region Health and Wellness Industries system:
- New generation biomedical and prosthetic
- Regenerative and reparative medicine
- Pharmaceutical and omic sciences
- Technologies for healthy, active and independent living

EXCELLENCES OF EMILIA-ROMAGNA IN MECHATRONICS & MOTORISTICS

The Mechatronics and Motoristics Clust-ER is an association of 130+ among public and private bodies: companies, research centres and training institutions that share skills, ideas and resources to support the competitiveness of the sector.

The Clust-ER, in its role of aggregator and catalyst of sector stakeholders, carries out a series of activities and services to support its members.

Our numbers

CLUST-ER MEMBERS: 134

COMPANIES: 84

LAB HIGH TECHNOLOGY
NETWORK: 41

VALUE CHAINS (WORK
GROUPS): 8

STRATEGIC OBJECTIVES

- Promote the overall evolution of the mechatronics and motoristics system, making it more:
 - Integrated and user-centered;
 - Smart, adaptive and secure;
 - Sustainable.
- Fostering product and process innovation:
 - industrialization of processes,
 - increase specialization of skills,
 - study of new materials
 - efficient human-machine interfaces

VALUE CHAINS

Working groups to develop the strategic lines of the region Mech Industries system:

- Digital and Advanced Manufacturing
- Automation and Robotics
- Safe, efficient, sustainable engines and vehicles
- Advanced Materials for Motoristics and Mechatronics
- **Avionics and Aerospace**
- Nautical
- Fluidpower
- Mobile Electrification Systems

EXCELLENCES OF EMILIA-ROMAGNA IN SERVICE INNOVATION

The Clust-ER Innovate is an association of 90+ among public and private bodies: companies, research centres and training institutions that share skills, ideas and resources to support the competitiveness of the innovation sector in services. The Clust-ER, in its role of aggregator and catalyst of sector stakeholders, carries out a series of activities and services to support its members.

Our numbers

CLUST-ER MEMBERS: 92

COMPANIES: 56

LAB HIGH TECHNOLOGY

NETWORK: 26

VALUE CHAINS: 6

WORKING GROUPS: 9

CORE VALUES

- Competition
- Contamination
- Value driven approach

STRATEGIC FUNCTIONS

- Internationalization & Calls
- Events & Communication

VALUE CHAINS

- Scalable Big Data Infrastructure
- Service Platform for IoT
- Cybersecurity
- Intelligent IT services
- Logistics
- Digital Ethics

WORKING GROUPS

- Critical Infrastructure
- Green Data Center
- Logistics 4.0
- Tourism 4.0
- Cybersecurity 4SME
- **Aerospace Downstream**
- Digital Skills
- Agritech
- Digital Heritage