

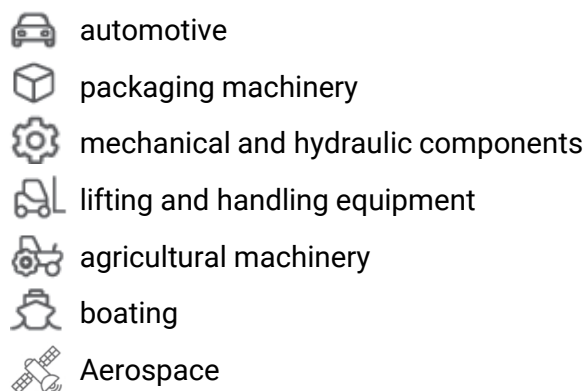
Invest in
MECHANICAL ENGINEERING
in Emilia-Romagna

Invest in MECHANICAL ENGINEERING in Emilia-Romagna

Published in June 2023

The mechanical engineering cluster in Emilia-Romagna is known worldwide for its top companies and highly specialized SMEs leaders in their respective niches and strongly oriented towards digital transformation and industry 4.0.

MAIN SPECIALIZATIONS



HIGH CONCENTRATION OF EMPLOYEES



INNOVATION ECOSYSTEM

- **Clust-ER Mech – Mechatronics and Motoristics** including research centres, companies and training institutes
- **MUNER** - Motorvehicle University of Emilia-Romagna
- **BI-REX** - Big Data Innovation and Research Excellence

INTERNATIONAL TRADE FAIRS

Autopromotec, E-Tech Europe, Mecspe, Mecfor, SPS-IPC-Drives, Salone del camper, Bologna international boat show, Futurmotive, and many others.



KEY FACTS

361,879 employees

(2021, source: Infocamere)

49,498 local units

(2021, source: Infocamere)

42.8 bln € export

(2022, Istat Coeweb 2021)

23.9 bln € import

(2022, Istat Coeweb)

Data processing by ART-ER

SOME BRANDS

AUTOMOTIVE



PACKAGING



AEROSPACE



OTHER SECTORS

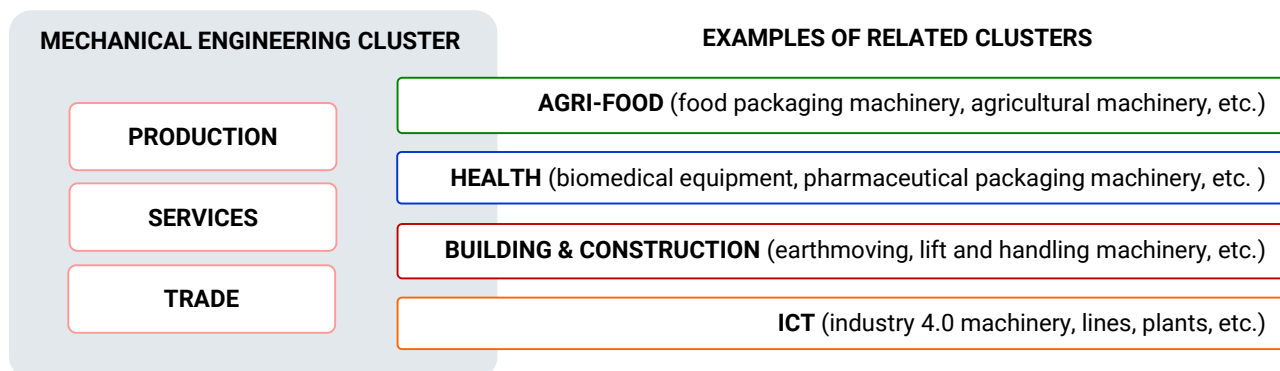


And many others

SECTORS & VALUE CHAINS

Source: Infocamere 2021
Data processing by ART-ER

Mechanical engineer is **the main regional cluster being strongly related to the other key sectors**, providing technologies, machinery, equipment and components



Besides 'metal products' and 'machinery & equipment', many valuable productions are sub-sectors such as sport cars, yachts, sectorial machinery, etc.

Source: Infocamere 2021 integrated with Istat Asia 2020 - Data processing by ART-ER

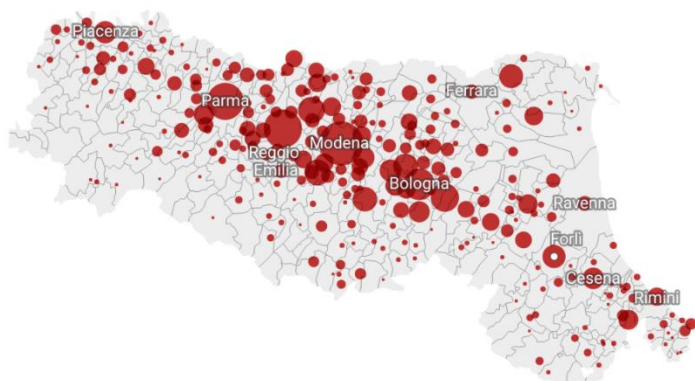
Mechanical Engineering cluster	N. Local Units	N. employed
MANUFACTURE		
Metallurgy	474	8.785
Metal products	13.037	78.326
Mechanical appliances/equipment/machinery	6.205	98.878
Electric appliances/equipment	1.662	17.621
Electronics and precision mechanics	1.290	13.634
Motor vehicles	662	18.905
Other means of transport	521	5.341
Repair and maintenance	4.646	17.546
Total manufacture	28,497	259,036
TERTIARY		
Trade of motor vehicles	13.921	37.093
Wholesale trade	8.451	26.510
Services (engineering, analysis, design)	17.154	24.901
Services (rental)	1.374	2.692
Total tertiary	40,900	91,196
Total for the cluster	69,397	350,232

TERRITORY

Source: Infocamere 2021
Data processing by ART-ER

MECHANICAL INDUSTRY

Machinery and equipment ○ 700 ○ 3,000 ○ 7,000

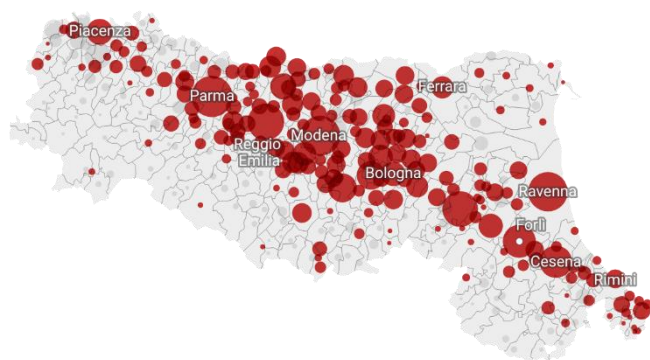


MACHINERY AND EQUIPMENT 198,754 EMPLOYEES

Spread all over the region, this macro-sector includes sectors such as **Packaging Machinery** (see focus in the slide 8), **Hydraulic components, Lifting and handling machinery and equipment sector, Agricultural machinery, Machine tools, Machinery for the food industry.**

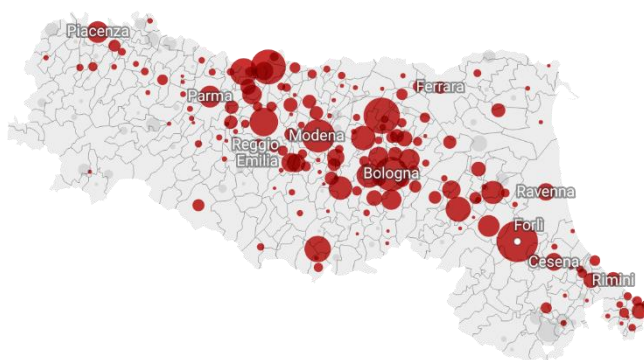
METALLURGY AND METAL PRODUCTS 185,068 EMPLOYEES

Metallurgy and metal products ○ 300 ○ 1,000 ○ 3,000



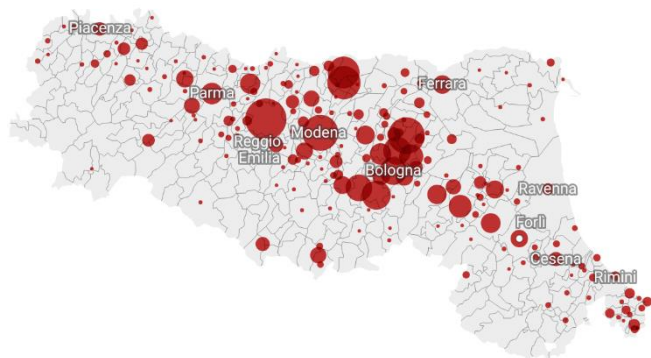
ELECTRICAL EQUIPMENT 44,610 EMPLOYEES

Electrical equipment ○ 100 ○ 400 ○ 1,000



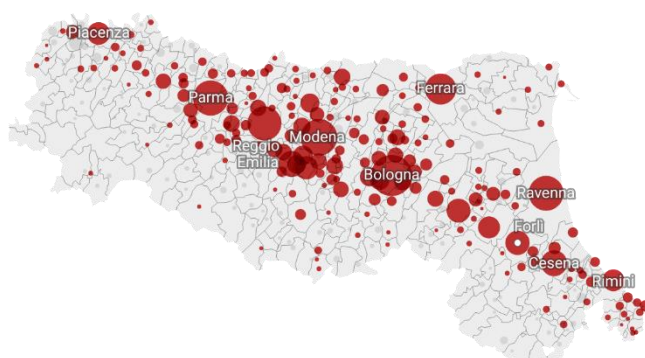
ELECTRONICS, OPTICS AND MEASURING EQUIPMENT 27,014 EMPLOYEES

Electronics, optics and measuring equipment ○ 100 ○ 400 ○ 1,000



SERVICES AND REPAIRING (TRADE NOT INCLUDED) 51,566 EMPLOYEES

Services and repairing ○ 200 ○ 800 ○ 2,000

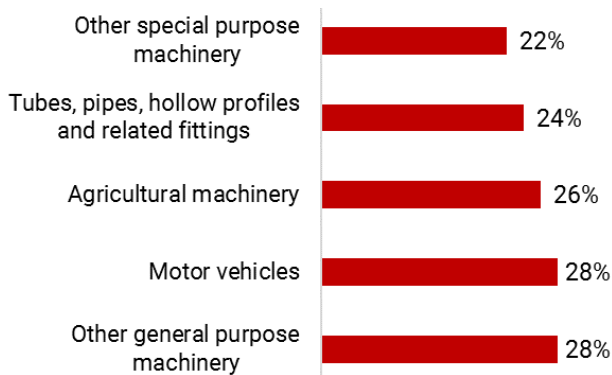


FOREIGN TRADESource: Istat Coeweb 2022
Data processing by ART-ER**REGIONAL IMPORT AND EXPORT**

The mechanical sectors are **strongly export oriented (exports almost double of the imports)**. Balance of trade of more than 20 billion euro (exports minus imports).

EXPORT 44.3 billion euro
16.2% vs national value

IMPORT 24.3 billion euro

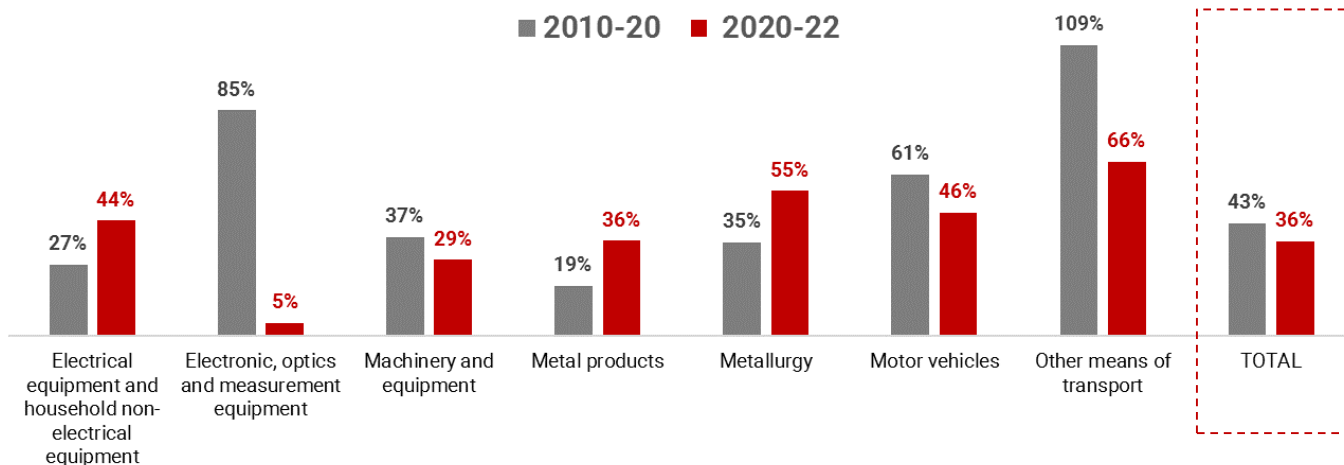
SOME REGIONAL SPECIALIZATIONS vs ITALIAN VALUE**WHERE WE EXPORT**

The regional value chain is present worldwide exporting in **more than 180 countries**. The following are just the top 14 destinations.

TOP COUNTRIES	% EXPORT 2022 VS REGIONAL VALUE	VAR 2021-22
USA	14,4%	35,1%
Germany	12,2%	8,0%
France	8,8%	7,5%
UK	4,7%	16,6%
Spain	4,5%	10,9%
China	3,8%	12,1%
Poland	3,4%	8,2%
Austria	2,4%	8,3%
Netherlands	2,4%	12,5%
Belgium	2,2%	9,3%
Czech Republic	2,0%	3,0%
Turkey	1,9%	13,7%
Switzerland	1,9%	9,6%
Japan	1,7%	10,5%

TREND OF THE EXPORTS

The whole mechanical engineering value chain in Emilia-Romagna shows a great resilience during the pandemic period, with a growth of +36% in the period 2020-22.

TREND OF THE EXPORTS

Invest in **MECHANICAL ENGINEERING** in Emilia-Romagna

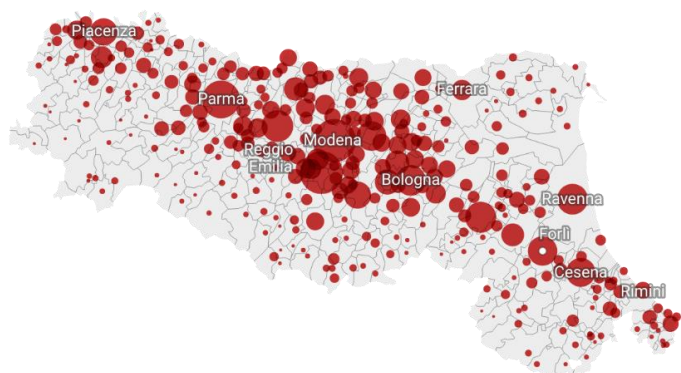
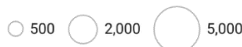
AUTOMOTIVE

Source: Infocamere, AIDA Bureau Van Dijk, Istat Coeweb
Data processing by ART-ER

The automotive division has made Emilia-Romagna world famous as the "Motor Valley". Renowned brands have achieved the highest levels when it comes to quality, luxury and performance, thanks also to a widespread system of excellent suppliers, the innovation ecosystem, and a growing commitment towards green mobility.

Motor vehicles and other means of transport

No. Employees - 2021



The **motor vehicles and other means of transport** sector shows a higher concentration of employees in the provinces of Modena and Bologna followed by Reggio Emilia and Parma

Automotive cluster in Emilia-Romagna	Regional value	Percentage of the national value	Source
N. local units (2021)	Over 15,000		Infocamere
N. employed (2021)	Over 61,000		Infocamere
Turnover (2021)	20.9 billion euro	10,6%	AIDA BvD
Turnover of manufacturing companies (2021)	11.4 billion euro	15,2%	AIDA BvD
Export (2022)	9.8 billion euro	22,3%	ISTAT Coeweb

SOME TOP COMPANIES AND PLAYERS

Sport cars and bikes



FERRARI
www.ferrari.com



MASERATI
www.maserati.com/



AUTOMOBILI LAMBORGHINI
www.lamborghini.com



DUCATI
www.ducati.com



DALLARA
www.dallara.it



PAGANI AUTOMOBILI
www.pagani.com



SCUDERIA ALPHA TAURI
scuderiaalphatauri.com



ENERGICA MOTOR
www.energicamotor.com

Suppliers



HPE COXA
www.hpe.eu



MARELLI
www.marelli.com



KOHLER
kohlerpower.com



LPR Srl
www.lpr.it



METALCASTELLO
www.metalcastello.com



AVL Italia
www.avl.com



FEV Italia
www.fev.com



LANDI RENZO
<https://landirenzo.com>



BORGWARNER
www.borgwarner.com/

Ecosystem



MUNER – Motorvehicle University of Emilia-Romagna
motorvehicleuniversity.com/



CLUST-ER MECH
<https://mech.clust-er.it/en/>



MOTOR VALLEY
<https://motorvalley.it/en/>

Other transport vehicles



FERRETTI SPA
www.ferrettigroup.com



ASTRA
www.astra-trucks.com



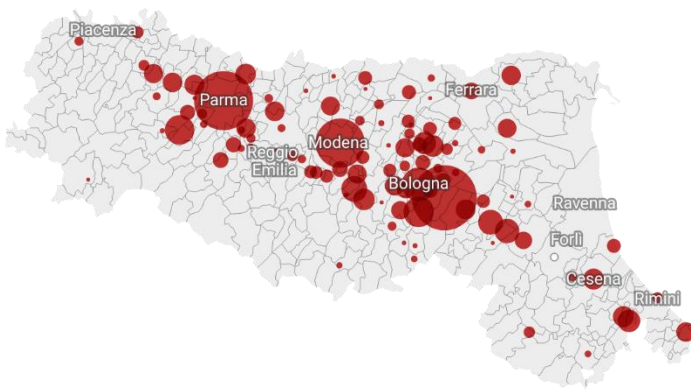
EVOBUS ITALIA
www.evobus.com/

PACKAGING DIVISIONSource: AIDA Bureau Van Dijk, web
Data processing by ART-ER

The packaging division is an important regional specialization composed of **design, manufacturing and trade of machinery, plants, apparatus and equipment in general for packing, packaging and refilling**, in addition to design services, labelling, distribution and sales.

PACKAGING MACHINERY IN EMILIA-ROMAGNA

Manufacturing and repairing of machinery for packaging represent the core sector of the regional packaging division.








Packaging machinery
No. Employees – 2021**Manufacture of packaging machinery in Emilia-Romagna (2021)****624 local units**

13,936 Employees	51% vs the national value
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4.6 bln € Turnover	45% vs the national value
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The **highest concentration of people employed** is in the provinces of Bologna, Parma and Modena. Other districts in the sector are present also in the provinces of Reggio Emilia and Rimini.

SOME LEADERS IN THE PACKAGING INDUSTRY

COMPANY	DESCRIPTION
 AETNA GROUP S.P.A.	Produces and sells on an international level wrapping machines for fully automatic stretch film packaging, shrink wrappers, shrink wrapping machines with film thrusting systems, wrap around case packaging, taping machines.
 COESIA Group (G.D., ACMA, etc.)	Coesia is a leading international group including companies such as G.D (machines to produce and package cigarettes) and ACMA (packaging machine for products like: industrial bakery, confectionery, detergents and soaps, high-value products or dense/foaming, food and beverages).
 I.M.A. Industria Macchine Automatiche	Produces packaging solutions, mainly with IMA SAFE S.R.L. and IMA FLAVOUR S.R.L. for the Pharmaceutical and Nutraceutical, Cosmetic and Other, Tea and Coffee sectors.
 MARCHESINI GROUP	Produces machines for: cosmetic labelling, phial labelling, flacons, thermoformers, wallets, cartoners, vertical type cartoners, Wrapping and Overwrapping, Case packing and Palletizing.
 OCME Srl	Company which specializes in the Beverage industry. It supplies complete production lines for: Beer, Mineral water, Soft drinks, Wine & liqueurs. It also focuses on FTC (Food, Toiletries and Chemicals) for which it supplies filling systems for viscous liquids, packaging and palletizing systems.
 SACMI	Produces a complete range of automatic machinery for labelling glass, plastic and metal containers for the beverage, food, detergent, pharmaceutical and packaging sectors; sorting lines, packaging and palletizing for the ceramic industry; refilling machinery.
 TETRA PAK PACKAGING SOLUTIONS	Produces: containers, treatment systems (for milk and dairy products drinks, cheese, ice cream, convenience foods), refilling machines, distribution systems, assistance.

AEROSPACE



Aerospace is one of the main priorities in the development strategy of the Emilia-Romagna Region, with strong synergies with the mechanical engineering and automotive clusters in aerospace-related fields: helicopters, aircrafts, drones, composite and advanced materials, fastening elements, cubesats, nano-satellites and additive manufacturing. Big Data and Supercomputing also play a key role in many applications related to aerospace, including weather forecast, earth observation, simulation/development, VR/AR. Regional clusters related to aerospace work on applications that include health & well-being and agri-food, ranging from commercial space flights to precision farming. infoaerospace@art-er.it

SPACE ECONOMY IN EMILIA-ROMAGNA

SOME OF THE TOP COMPANIES

HELICOPTERS/ AIRCRAFTS

- [CURTI](#)
- [ELYTRON AERONAUTICA](#)
- [FAMA' HELICOPTERS](#)

ADVANCED AND COMPOSITE MATERIALS

- [DALLARA COMPOSITI](#)
- [BARCELLA](#)
- [BUCCI COMPOSITES](#)
- [MAE](#)
- [NOVAC](#)

FASTENING ELEMENT AND STRUCTURAL COMPONENTS AND SYSTEM

- [POGGIPOLINI](#)

COMPONENTS IN TITANIUM, STEEL, ALUMINIUM

- [MATECAM](#)

CUBESATS

- [SITAEI](#)
- [CSHARK](#)
- [NPC SPACEMIND](#)

ENGINES

- [DIESELJET](#)
- [AERNOVA AEROSPACE](#)
- [LUCCHI R.](#)

PRINTED CIRCUITS BOARDS

- [CISTELAIER](#)
- [REDOX](#)

ADDITIVE MANUFACTURING

- [BEAMIT](#)
- [CRP TECHNOLOGY](#)

ADAS AND AUTONOMOUS DRIVING

- [HIPERT](#)

DRONES

- [DIFLY](#)
- [ITALDRON](#)
- [ZEPHYR](#)
- [CURTI](#)

SOLUTIONS IN SPACE APPLICATIONS

- [ADAPTRONICS](#)
- [HIGHTECH](#)
- [NPC SPACEMIND](#)
- [NAUTILUS](#)
- [NOVAC](#)

and many more

EARTH OBSERVATION

- [MEEQ](#)
- [STUDIOMAPP](#)
- [GECOSISTEMA](#)

HEALTH, WELL-BEING AND FOOD FOR AEROSPACE

- [TECHNOGYM](#)
- [BARILLA](#)
- [GRUPPO VILLA MARIA](#)
- [gASTRONOMICA](#) (start-up)

PROJECTS/INITIATIVES WITH REGIONAL INVOLVEMENT

- Initiative supporting space economy collaboration in Houston
- **Mirror GOV SAT COM** (Innovative satellite system)
- **Mirror Copernicus** (innovative infrastructures)
- **I-CIOS** (Commercial In Orbit Servicing)
- Agreement between regional government and national air force
- Regional membership in **European network NEREUS**

ECOSYSTEM/ COLLABORATIVE R&D

- **CICLOPE** - University of Bologna Centre for International Cooperation in Long Pipe
- **Clust-ER Mech** - FLY.ER value chain "avionics and aerospace"
- **Clust-ER Innovate**, **Clust-ER Health**, **Clust-ER Agrifood**
- **IR4I** - Innovation and Research in Aerospace/Aeronautics.
- **ANSER** - Aeronautics and Space in Emilia-Romagna.
- **CINECA** - The largest Italian computing centre.
- **Forlì Aeronautical Technology Pole** - Facilities and laboratories dedicated to training, research, experimentation
- **Forum for the promotion of the regional aerospace cluster**, including universities, technopoles, research centres



Invest in **MECHANICAL ENGINEERING** in Emilia-Romagna

FDI - Foreign Investments






Source: AIDA Bureau Van Dijk, ART-ER/Invest in Emilia-Romagna

Some important Foreign Direct Investments (FDI) in mechanical engineering in Emilia-Romagna





COMPANY	INVESTOR	COUNTRY OF ORIGIN	TYPE OF BUSINESS
METAL PRODUCTS			
EVIOSYS PACKAGING ITALIA Srl	TITAN HOLDINGS COÖPERATIEF U.A.	Netherlands	Metal packaging for food industry
CISA Spa	ALLEGION PLC	Ireland	Lock, cylinders, keys and other security solutions
ELECTRONICS, OPTICS AND MEASURING EQUIPMENT			
TEKO TELECOM Srl	HENRY CLAY BLVD. ANNEX LLC / JMA WIRELESS	USA	Communication systems
MARPOSS ITALIA Spa	MARPOSS AG	Switzerland	Precision equipment. Inspection, measurement and process control solutions
PUMPS, HYDRAULICS AND REFRIGERATION SYSTEMS DIVISION			
EMERSON AUTOMATION SOLUTIONS FINAL CONTROL ITALIA Srl	EMERSON ELECTRIC CO	USA	Valves, actuators and regulators
BUCHER HYDRAULICS Spa	BUCHER INDUSTRIES AG	Switzerland	Manufacture of other pumps and compressors
AUTOMATION AND INDUSTRIAL MECHANICS DIVISION			
TETRA PAK	TETRA LAVAL HOLDINGS B.V.	Netherlands	Machinery and mechanical equipment
BERCO	THYSSENKRUPP AG	Germany	Undercarriage solutions for earthmoving machinery
AMADA ITALIA Srl	AMADA HOLDINGS CO., LTD.	Japan	Manufacture of other machinery and equipment (include parti e accessori)
CFT Spa	ATS CORPORATION	Canada	Solutions covering the entire production process of Food and Beverage
TRANSPORT VEHICLES AND THEIR COMPONENTS			
DUCATI / LAMBORGHINI	VOLKSWAGEN (FAMILIEN PORSCHE/PIECH)	Germany	Motorcycles / Automotive
MASERATI	STELLANTIS N.V.	Netherland	Automotive
MANITOU ITALIA Srl	MANITOU B.F.	France	Machinery and mechanical equipment
TOYOTA MATERIAL HANDLING	TOYOTA INDUSTRIES CORPORATION	Japan	Material handling equipment
AVL Italia Srl	AVL List GmbH	Austria	Power Train System Engeneering
BORGWARNER SYSTEMS LUGO Srl	BORGWARNER INC	USA	Electrified vehicle products
LOMBARDINI Srl	THE KOHLER FAMILY	USA	Engines
FERRETTI Spa	GOVERNMENT OF CHINA	China	Luxury yacht shipyard
META SYSTEM	SHENZHEN DEREN ELECTRONIC CO.,LTD.	China	Automotive Electronic Design
ENERGICA MOTOR COMPANY Spa	IDEANOMICS, INC.	USA	Electric motorcycle
GOLDONI KEESTRACK Srl	PFH	Belgium	Tractors
DANA MOTION SYSTEMS ITALIA Srl	DANA INCORPORATED	USA	Mechanical transmission products
C.I.A.P. - COSTRUZIONE ITALIANA APP. DI PRECISIONE Spa	HONDA MOTOR LTD	Japan	Gearboxes and motorcycle gears

Invest in **MECHANICAL ENGINEERING** in Emilia-Romagna

INTERNATIONAL FAIRS

	MECSPE www.mecspe.com Technologies for innovation	Where: Bologna Key figures: 59,845 visitors (2023)
	MECFOR www.mecforparma.it Engineering, manufacturing & subcontracting	Where: Parma Key figures: about 150 exhibitors (2022)
	METEF www.metef.com Metals, Extrusion, Foundry	Where: Bologna Key figures: 3,348 professional visitors (2022)
	SPS-IPC-DRIVES www.spsitalia.it Smart Production Solutions	Where: Parma Key figures: 38,713 visitors (2023)
	BOLOGNA INTERNATIONAL BOAT SHOW www.salonenausicobologna.it	Where: Bologna Key figures: about 60 exhibitors (2022)

AUTOMOTIVE SECTOR

	AUTOPROMOTEC www.autopromotec.com Automotive Equipment and Aftermarket Products	Where: Bologna Key figures: 75,141 professional exhibitors (2022)
	E-TECH EUROPE www.e-tech.show The automotive electrification industry	Where: Bologna Key figures: more than 3,300 specialized visitors (2023)
	FUTURMOTIVE www.futurmotive.com Energy and ecology transition and new business model for the automotive industry	Where: Bologna Key figures: integrated in Autopromotec in 2022
	SALONE DEL CAMPER www.salonedelcamper.it Caravanning and tourism en plein air	Where: Parma Key figures: more than 100,000 exhibitors (2022)

OTHER TRADE FAIRS WHICH INVOLVE COMPANIES FROM THE VARIOUS MECHANICAL SECTORS

EIMA INTERNATIONAL - www.eima.it Agricultural Machinery
CIBUS TEC - www.cibustec.it Exhibition of Technologies for Food Industry
MACFRUT - www.macfrut.com Plants, technologies and services for the production, conditioning, marketing and transport of fruit and vegetables
GEOFLUID - www.geofluid.it Exhibition & Conference of Technology and Equipment for Prospecting, Extracting and Conveying Underground Fluids
H2O – Accadueo - www.accadueo.com Technologies for treatment and distribution of drinking water and wastewater treatment
SIGEP - www.sigep.it The Dolce World Expo
SAIE - www.saiebologna.it Exhibition of new building industrialization and land use
REMTECH - www.remtechexpo.com Remediation Technologies (including CHEMTECH on chemical innovation)
COSMOPACK - www.cosmoprof.com Various components of the cosmetics production chain
R2B - www.rdueb.it Research to Business is the first international exhibition about Research and Higher Skills for Innovation in Italy aimed at fostering cooperation between advanced research and industry

Invest in **MECHANICAL ENGINEERING** in Emilia-Romagna

INNOVATION ECOSYSTEM

HIGH TECHNOLOGY NETWORK



MECH “Mechatronics and Motoristics Clust-ER”, association of public and private organisations: companies, research centres and training institutions.

HIGH TECHNOLOGY NETWORK

Laboratories – Mechanics Materials Platform

[LINK - DISCOVER INDUSTRIAL RESEARCH IN 'MECHATRONICS AND MATERIALS'](#)



- [CIRI AEROSPACE](#)
- [CIRI MAM](#)
- [CNR-ISSMC](#)
- [CNR-NANO S3](#)
- [CNR-STEMS FE](#)
- [DAL Digital Automation Lab](#)
- [DTM](#)
- [ENEA-TEMAF](#)
- [F.M. Lab](#)
- [GHEPI Lab](#)
- [HFT Highftech Engineering srl](#)
- [HTS Hypertec Solution S.r.l.](#)
- [IL SENTIERO INTERNATIONAL CAMPUS](#)
- [INTERMECH-Mo.Re.](#)
- [ISTITUTO GIORDANO](#)
- [LIAM](#)
- [MechLav](#)
- [MISTER Smart Innovation](#)
- [MUSP](#)
- [NANOPROM CHEMICALS](#)
- [NCS Lab](#)
- [REI Lab](#)
- [STZ](#)
- [TRLab](#)

S3 – SMART SPECIALISATION

RESULTS OF THE REGIONAL SMART SPECIALISATION STRATEGY S3 (updated December 2021)

- 2,162 funded R&D projects,
- 1,128 M€ of total investment
- 436 M€ of public funds
- 999 new researchers

UNIVERSITY AND TRAINING

MASTER	Where and Link
Motorvehicle University of Emilia-Romagna (MUNER)	Bologna and Modena
DEGREE COURSES	University and link
Engineering	Bologna, Ferrara, Modena and Reggio Emilia, Parma, Piacenza
COMPETENCE CENTER	Where and Link
BI-REX , Big Data Innovation and Research Excellence	Bologna and Emilia-Romagna

HIGHER TECHNICAL TRAINING

Who and What	Where and Link
Polytechnic Network Higher Education and Technical raining (IFTS) - Mechanical Systems and constructions	Emilia-Romagna (only IT)
ITS MAKER FOUNDATION - Higher Technical Institutes in Mechanics, Mechatronics, Motor industry and Packaging	Bologna, Forlì, Modena, Parma, Piacenza, Reggio Emilia, Rimini
Foundation FITSTIC, INDUSTRY 4.0	Emilia-Romagna (only IT)

ENTREPRENEURIAL ASSOCIATIONS

Who and What	Where and Link
ACIMAC Ceramics	Modena (only IT)
UCIMA Packaging and Packing	Modena (only IT)
Associazione Meccanica	Bologna (only IT)
Club Mechatronics - Unindustria	Reggio Emilia


INNOVATION CENTER

Who	Link
DEMOCENTER Foundation - including institutions, associations, banks, businesses	Modena (only IT)

INTERNATIONAL TALENTS



Click for more info on mechatronics and automotive - internationaltalents.art-er.it

A detailed close-up of industrial machinery, featuring carbon fiber components and various cables. The image is used as a background for the contact information.

investinemiliaromagna@art-er.it
www.investinemiliaromagna.eu