

POWERED BY



ADVANCED MANUFACTURING IN LOMBARDY



invest in
Lombardy

REALIZED IN COLLABORATION WITH



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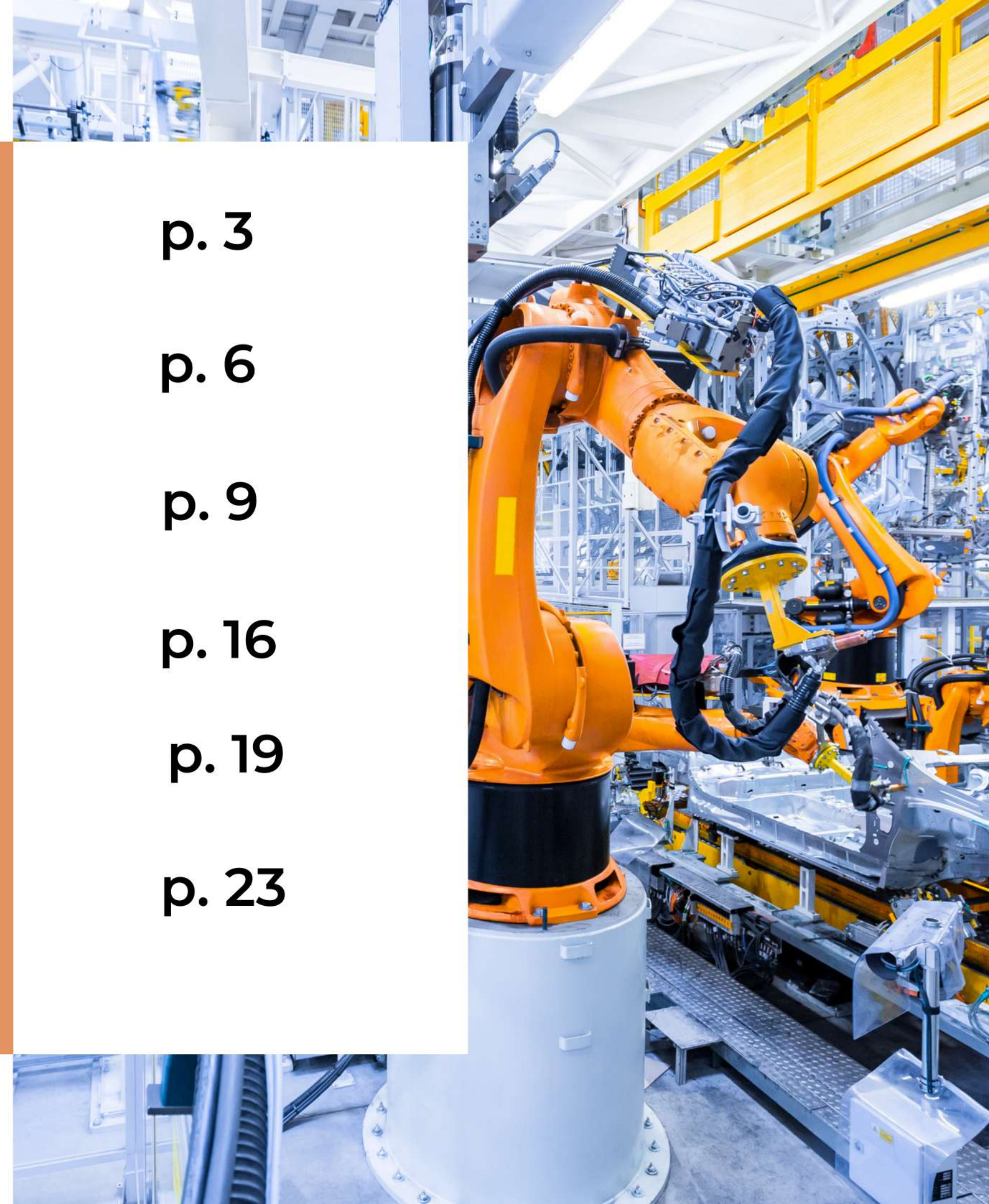
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WHY LOMBARDY

LOMBARDY IN A SNAPSHOT

04

Why Lombardy

AMONG THE TOP EUROPEAN REGIONS



- **2nd** EU Region for GDP
- **Among the 67** out of 240 European **Strong Innovator** Regions

THE MOST ATTRACTIVE REGION IN ITALY:

FDI



- **€ 11** billion (from 2012 to date)
- **24,7 %** of 44.4 bln € Italy's FDI



1ST ITALIAN REGION FOR:



GDP

- **€ 368** billion
- **22%** of Italy's GDP



NUMBER OF COMPANIES

- About **816K** companies
- **6,300** multinational companies
- **4,2 million** employees



HUBS SUPPORTING INNOVATION

- **26%** of certified national incubators
- **18%** of national fablab

INFRASTRUCTURES & CONNECTIONS

05



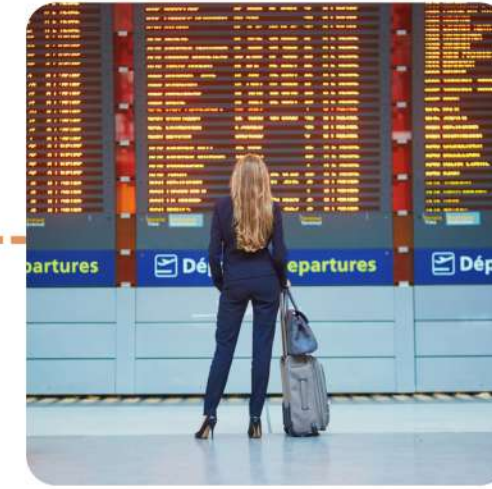
1,920 km
of railway networks



700 km
of highways



11,000 km
of provincial roads



4
international airports

Lombardy offers a wide range of direct flights to the main European and global destinations



10 h to Beijing



8 h to New York



6 h to Dubai



1h. 50 to London



1h. 30 to Paris



ADVANCED MANUFACTURING: METHODOLOGY, DEFINITION AND TRENDS

ADVANCED MANUFACTURING: METHODOLOGY AND DEFINITION

07

Advanced Manufacturing is characterized by **innovative technological levels** and **well-developed research competencies** for improving products or processes.

Therefore, with the term "advanced manufacturing", we do not identify a single sector, but rather a **way of doing business**, which can be applied throughout different manufacturing industries, involving the innovative use of **technological processes**.

Regional context gets a high manufacturing value, with strong technological and research competencies in machinery and manufacturing systems development and management.

Lombardy Region is also committed to pushing and developing the industries that drive advanced manufacturing.

The government program S3 - Smart Specialization Strategy - aims to support and promote innovation and research to anticipate and meet successfully the challenges of the future in these fields.

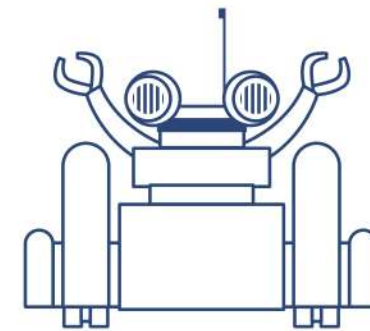
In this regard, a relevant role is played by **AFIL**, the regional technological cluster for Advanced Manufacturing. The cluster is the reference actor for the LOMBARDY for the defining of R&I strategies in the advanced manufacturing sector.



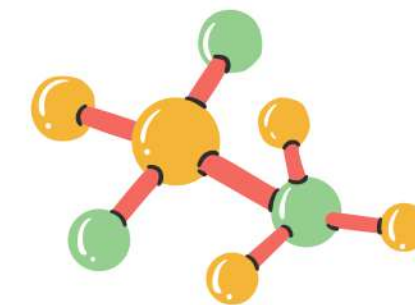
Technology



Innovation



Automation



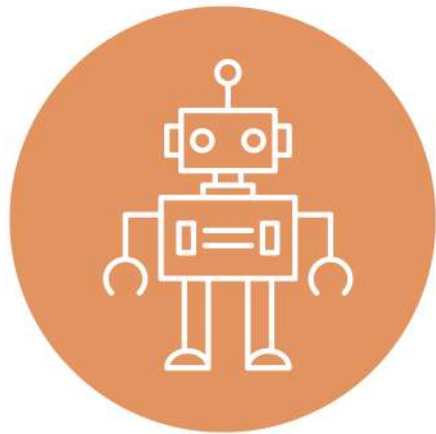
R&D

Advanced Manufacturing: trends

The future of the Manufacturing Sector will be characterized by sophisticated hardware combined with innovative software, devices, and huge amounts of data and analytics.

Manufacturing companies are beginning to experiment with the transformative effects of the latest manufacturing technologies and innovations. These innovations will have to respond to the sustainable transition process, as well as the supply chain optimization and the increasingly central role of man in the planning stages.

Five of the most significant and recent **manufacturing trends** are summarized below:



Advanced Robotics & cognitive automation will lead to greater efficiency, closing the manufacturing skills gap



Cybersecurity technologies, processes, and practices will help in empowering the manufacturing environment



Advanced analytics will provide actionable insights and make autonomous or semi-autonomous predictions



Digital design and simulation will enable digital integration and access to digital data across the manufacturing lifecycle



Internet of Things (IoT) will lead to manage material costs, product price, and demand fluctuations by analyzing big data



**LOMBARDY'S SPECIALIZATION
AND SUCCESS STORIES IN THE
ADVANCED MANUFACTURING**



€132 bln of export
(27% of national total)



€257 bln revenue



€66 bln value added



84,912 enterprises



**903,826
employees**



**9 regional
clusters**

Eurostat, Istat (Data updated to 2019)

LOMBARDY

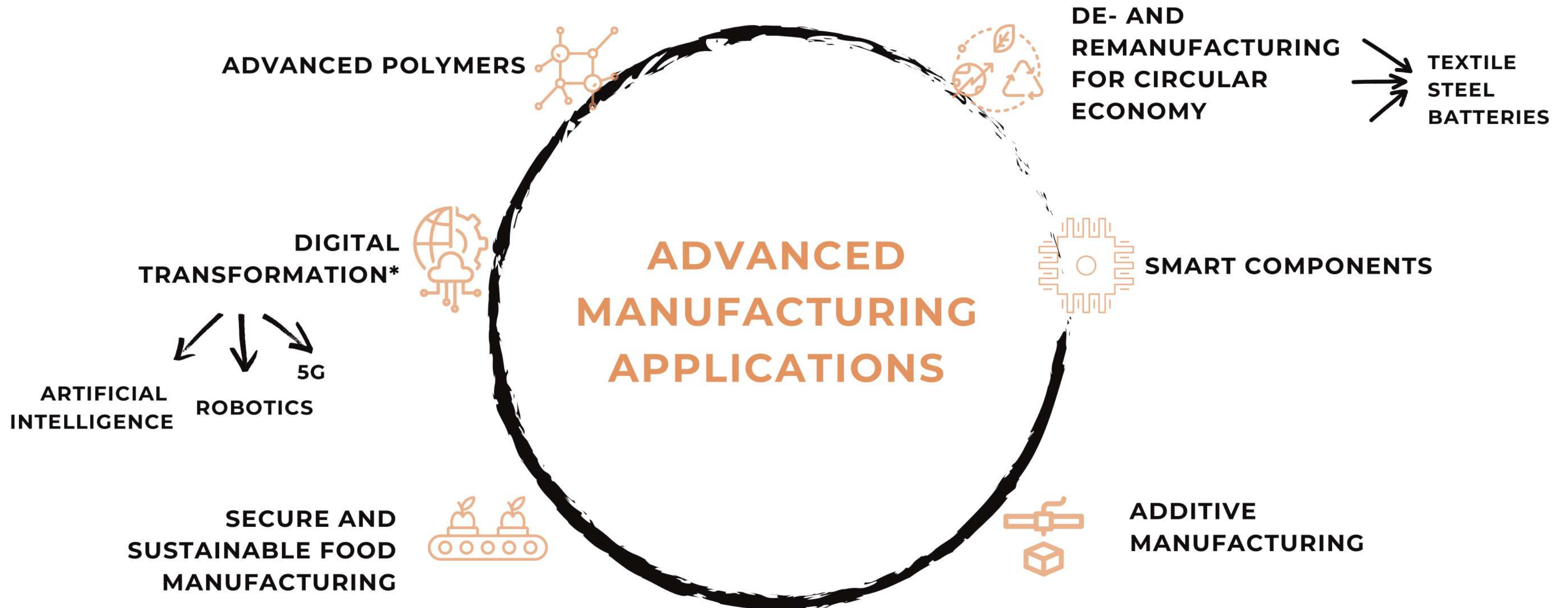
MANUFACTURING BUSINESS ECOSYSTEM

- **1st region in Italy** in terms of turnover and value added and **2nd** in Europe in terms of employees
Considering NUTS2 regional classification*
- **1st Italian region** by number of **patents** in **manufacturing technologies** registered at the EPO (European Patent Office): **140** patents per million inhabitants

Assolombarda, 2022

ADVANCED MANUFACTURING IN LOMBARDY

Lombardy region gets a high manufacturing value, with outstanding technological and research competencies in several applications (in line with the trending topics of AFIL Strategic Communities)



* Not exhaustive list

Lombardy

Competitive advantages of the Advanced Manufacturing Industry

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1 STRONG INSTITUTIONAL AND INNOVATIVE NETWORK

Lombardy's territory is full of **innovation centers** that guarantee the coordination of the manufacturing networks and carry out **relevant researches and development projects**

2 COMPLETE SUB-INDUSTRIES

Lombardy hosts **complete production chains**:

- ICT
- Mechatronics
- Industrial Automation
- Robotics

3 HIGH QUALITY EDUCATION SYSTEM

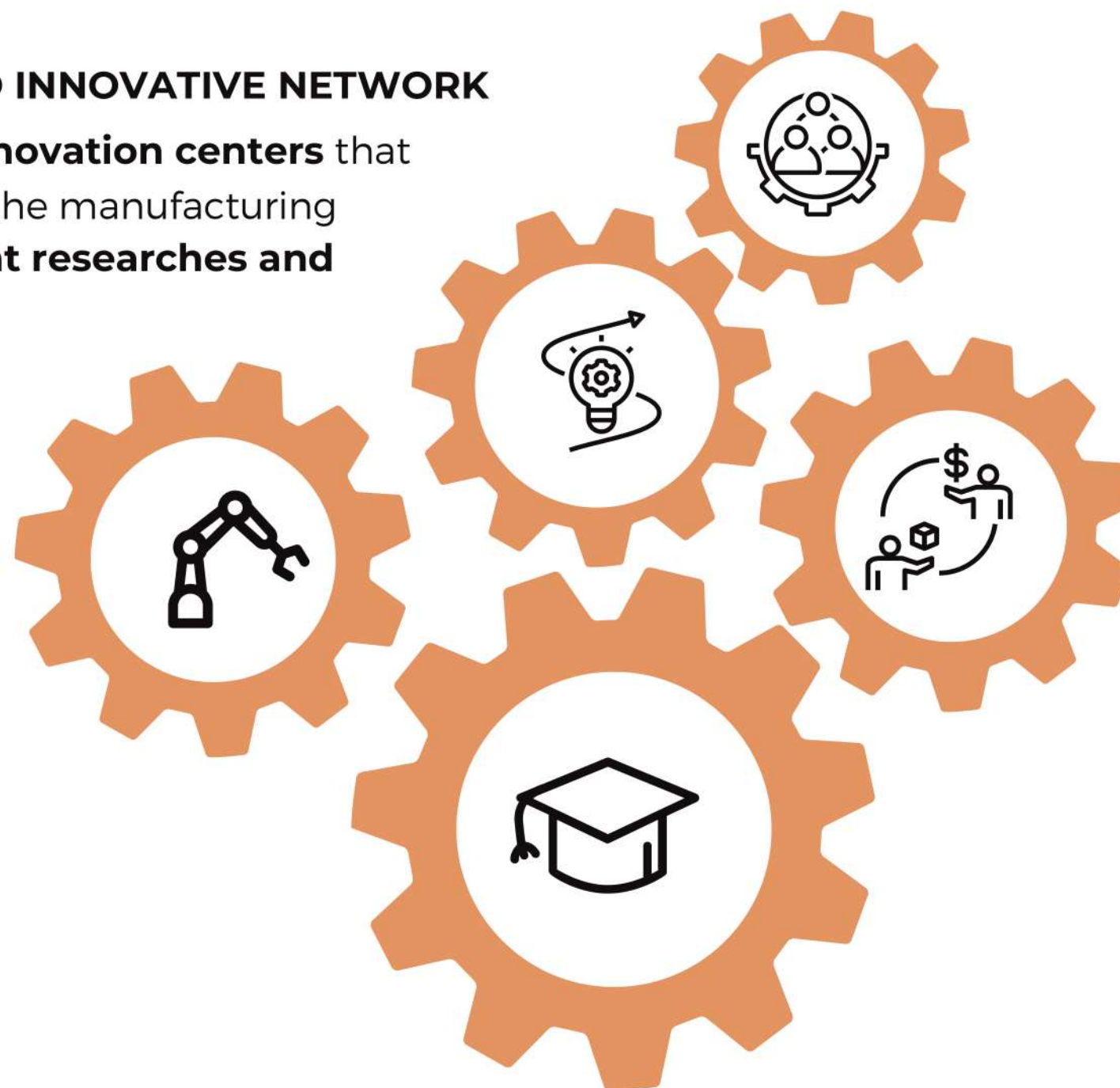
- **15 Universities**, including the **Polytechnic of Milan** (**13th in the world** for Engineering&Technology)
- **53.996 engineering students**
- **14.750 graduates** in relevant subjects
- **+ 6.000 students** enrolled **Technical Institutions**

4 SKILLED WORKFORCE

Lombardy boasts a **talent pool with R&D skills** and **highly specialized know-how** and worldwide renowned designers and creative thinkers

5 FAVORABLE MARKET

The region provides access to more than **800 million European consumers** and create a favorable commercial hub for the EMEA market, while consolidating marketing and sales strategies



Some national and international companies in Lombardy



2022

Sustainability by Design: Tenova develops an IoT platform for monitoring the emissions of innovation processes: an IoT data analytics solution, based on Microsoft technologies, to measure the footprint of IT systems, reduce costs, save energy and limit environmental impact.



2022

After being recognized as a "Lighthouse Plant", a production plant that is solely based on Industry 4.0 technologies, the company is about to make a transition to a 5.0 industry under the banner of three keywords: person-centeredness, resiliency, and sustainability.



2021

Reconversion of the plant in Cremona. The project includes an industrial and environmental redevelopment of the areas, deploying resources up to €227 million.



life.augmented

2021

Creation of a single production pole given by the union of the two production buildings currently in place in the Agrate Brianza (MB) site. The scope of the investment is to improve production capacities to better respond to the growing market demand.



2021

Realization of a sort of Hydrogen Valley in Lombardy. The project (named H2iseO), starting in 2023, is to equip the areas with a fleet of hydrogen trains and related infrastructures.



2019

With the presentation of the Lighthouse Steel 4.0 Project, in collaboration with Tenova, the company became part of the Lighthouse Plant Club, whose aim is the promotion and dissemination of facilities at both national and international delegations.

The logo for FNM, consisting of the letters 'FNM' in a bold, blue, sans-serif font. The 'F' and 'M' have horizontal bars extending from their top and bottom respectively, creating a stylized, interconnected look.

MARCH 2021

FNM - A2A - SNAM - ENEL

The list of companies that are working on the realization of a sort of Hydrogen Valley in Lombardy- in particular in Sebino and in Valcamonica - is getting longer. The project (named H2iseO), starting in 2023, is to equip the areas with a **fleet of hydrogen trains and related infrastructures**.

The logo for ST, featuring a stylized blue 'S' and 'T' intertwined. Below the logo, the text 'life.augmented' is written in a smaller, lowercase, sans-serif font.
life.augmented

APRIL 2021

ST MICROELECTRONICS

The company announced in April 2021 the project of creating a **single production pole** given by the union of the two production buildings currently in place in the Agrate Brianza (MB) site, aiming to improve production capacities to better respond to the growing market demand. The investment amount to several million dollars in the next two years.

The logo for Arvedi, featuring the word 'Arvedi' in a bold, blue, sans-serif font. Below the text is a graphic element consisting of a series of vertical black bars of varying heights, resembling a barcode or a stylized 'A'.

JUNE 2022

GRUPPO ARVEDI

The company, operating in the steel industry with a turnover of approximately € 3.1 billion and 3,600 employees, is the **world's first zero-emission steel producer**. The steel company has announced the obtaining of the **important certification to market carbon steel with a zero net Co2 emissions certificate** from September 2022 for all types of metal processed by the parent company in Cremona and the cold plant in Trieste.

Recent Success Stories

SOME RECENT EXAMPLES OF FOREIGN FIRMS INVESTING IN LOMBARDY



ABB

The investment allowed the realization of a new **customers experience laboratory** in the R&D center in Bergamo. It will be useful to guide clients through different sustainable energy options and to speed up the process of product development.



Berlin Packaging

The investment consists of the opening of a **new EMEA headquarter** in Trezzano sul Naviglio (Milan). The new building reflects the company's values: **innovation, design, sustainability**, employee welfare, and support for the local area.



PPG Industries

The company opened its **new central powder coatings research and development center** for Europe in Milan. The center demonstrates advanced powder technologies and provides best-in-class customer and technical support.



St
Microelectronics

The project consists of the development of a **new production plant, for smart and discrete power** technologies. The outlet for it is going to be the automotive sector.



EDUCATION, RESEARCH AND INNOVATION

Educational and Research System

Lombardy's educational system guarantees **excellent specialization and extraordinary expertise** in several Advanced Manufacturing fields.

Specialized Laboratories of the Milan Politecnico. Some examples:

- Additive Manufacturing
- Cable Dynamics
- Electric Drives
- Material Testing
- Mechatronics and Smart Structures
- Non-destructive tests
- Process metallurgies and material analysis
- Test of mechanical components



Innovation and Research:

Lombardy is characterized by a structured research system operating in various scientific fields and relevant application environment. There are nearly **1,300 research and technology transfer centers** and productive activities focused on innovation registered at the regional level. In Lombardy, Manufacturing Sector is one of scientific industries in which there is a higher concentration of centers dedicated to providing technology transfer support services. The area of manufacturing also features a stronger focus on targeted investment initiatives by using efficiently public funding.



Lombardy Universities with sector-relevant courses.

Some examples:

- Milano Politecnico
- Università Cattolica del Sacro Cuore
- Università Carlo Cattaneo - Liuc
- Università degli Studi di Bergamo
- Università degli Studi di Brescia
- Università degli Studi Milano Bicocca
- Università degli Studi Pavia



Technical High School Education:

- ITS (Istituti Tecnici Superiori)
- IFTS (Istituti di Formazione Tecnica Superiore)

Innovation System



Como Next

It is a Digital Innovation Hub and a startup innovator. It houses 150 businesses, (of which 1/3 is a startup), and more than 900 workers in a space of over 21,000 sqm



Parco Scientifico e Tecnologico Kilometro Rosso

It is a scientific park, that brings together companies, universities, and research centers, to foster innovation in the manufacturing industry. In detail, it houses 60 companies, 37 laboratories, 40 R&D already financed projects, and 2,000 employees. In June 2020, within the park, a new research, and robotics laboratory, the **JOiINT LAB** was established as the result of the partnership between the between Istituto Italiano di Tecnologia, Consorzio Intellimech, Confindustria Bergamo, and Università degli Studi di Bergamo.



POINT Polo Innovazione Tecnologica Provincia di Bergamo

It is a technological park, where are located companies and research projects. Particularly, it includes 26 companies and with around 300 employees in a space of over 40,000 sqm





**LOMBARDY'S ADVANCED
MANUFACTURING CLUSTER
AND MAIN INSTITUTIONS**

A strong institutional network 1/2:

20

Cluster and main institutions



AFIL - Associazione Fabbrica Intelligente Lombardia

The regional cluster for **advanced manufacturing and industry 4.0**



Fab Lab Milano

A fully equipped **digital manufacturing laboratory**, created in order to connect students and artisans with companies



AEIT

Italian Association of Electrical, Electronics, Automation, Information and Communication Technology



Gruppo Meccatronici Assolombarda

Trade association representing **manufacturing companies dealing with the industry**



ANIE (Associazione Nazionale Imprese Elettrotecniche)

Federation to which adhere around **1400 companies** in the electrotechnical and electrical sectors



MADE - Competence Center Industria 4.0

The competence center for supports enterprises in the **digital transformation** towards Industry 4.0



ANIE Automazione

100 firms, it represents in Italy the reference for companies **supplying technologies for factory, process and network automation**



SIRI (Associazione Italiana di Robotica e Innovazione)

Members of SIRI include research bodies, universities, manufacturers, integrators and importers operating in the robotics area

A strong institutional network 2/2:

21

Cluster and main institutions



CONFINDUSTRIA LOMBARDIA

Confindustria regional representation: 9 Lombard territorial associations, 13,000 enterprises and about 700,000 employees



DIGITAL INNOVATION HUB LOMBARDIA

The **regional hub of services related to Industry 4.0**, created by Confindustria Lombardia, together with the Lombardy Territorial Industrial Associations



FEDERTEC

Italian Federation of Mechatronic Technologies and Components for Fluid Power, Power Transmission, Smart Automation and Control of Industrial Products and Processes



CONSORZIO INTELLIMECH

Consortium of high-tech enterprises dedicated to the interdisciplinary research in the **mechatronics field**



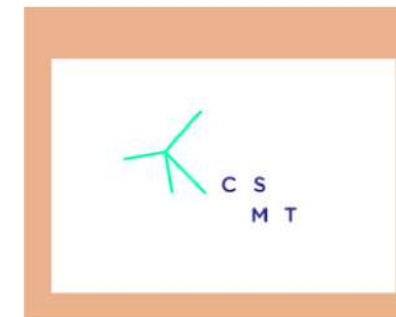
STIIMA - CNR

The institute of intelligence **industrial technologies** and system for advanced manufacturing deals to foster the innovation, sustainability and competitiveness of companies



INNOVHUB - STAZIONI SPERIMENTALI PER L'INDUSTRIA

Research Center with the aim to promote **scientific and technological development** in numerous fields of application



CSMT

Innovative Contamination Hub **develops projects by aggregating expertise** from academia and research, spin offs and start ups, companies, associations and institutions



REI INDUSTRIA E INNOVAZIONE

REI is a dynamic company which can **facilitate innovation** and the implementation of effective activities for **local socio-economic development**

AFIL – Associazione Fabbrica Intelligente Lombardia

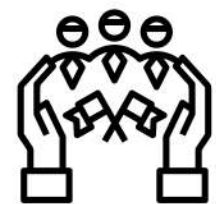
AFIL – Lombardy Intelligent Factory Association is the regional technological cluster focused on Advanced Manufacturing in Lombardy Region



2013
Foundation



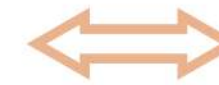
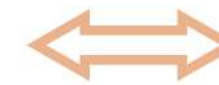
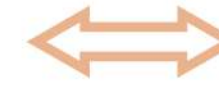
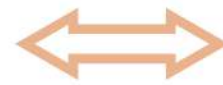
2014
Recognized as
Lombardy
Technological Cluster



2015
Private Association



Regione Lombardia



MISSION

- To be a reference actor for the region for the defining of research and innovation strategies in the manufacturing sector
- To set up a stable community by connecting companies, universities, research institutions and associations, thus favouring cooperation by promoting research and innovation projects and initiatives
- To support the development of a research and innovation extra-regional network through the participation to CFI - intelligent factory national cluster and the connection with different European regions within smart specialization strategies



HOW INVEST IN LOMBARDY CAN HELP YOU

INVEST IN LOMBARDY: ONE-STOP-SHOP DEDICATED SERVICES



LOCATION SCOUTING

Find the best locations for your business through a dedicated network of local public institutions and private partners



NETWORKING

We are a business integrator, facilitating the connection with private and public, local and national stakeholders



BUSINESS INTELLIGENCE

Providing useful information on sectors/markets, supporting the evaluation of business opportunities in Lombardy



INCENTIVES

Overview of the tax incentives, grants, loans, and applicable bilateral conventions with institutions



PUBLIC ADMINISTRATION

We facilitate the dialogue with the public administration & support you in dealing with administrative procedures



HUMAN RESOURCES

Assistance in choosing the most suitable staff recruitment channels for your business



START OF THE OPERATIONS

Tailor-made technical support for the set-up of a new business



EXPANSION & RELOCATION

General support to the expat workers in the relocation process

CONTACT US

FOR QUESTIONS, COMMENTS
AND DEDICATED SUPPORT



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