

MICROELECTRONICS IN LOMBARDY



invest in
Lombardy

POWERED BY



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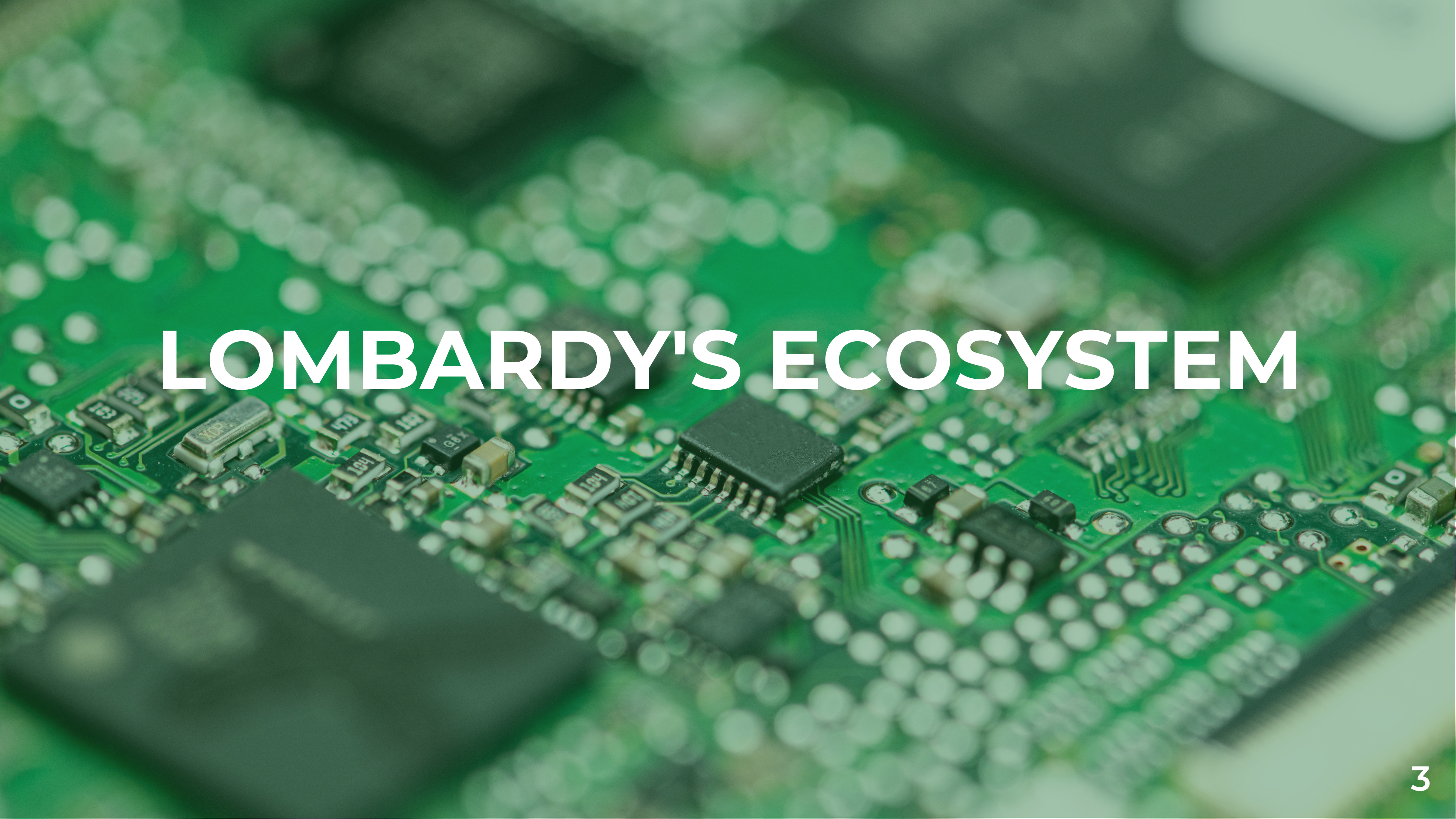
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LOMBARDY'S ECOSYSTEM

LOMBARDY'S FAVORABLE ECOSYSTEM

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 REGION FOR:



GDP

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



NUMBER OF COMPANIES

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



HUBS SUPPORTING INNOVATION

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

INFRASTRUCTURES & CONNECTIONS

05



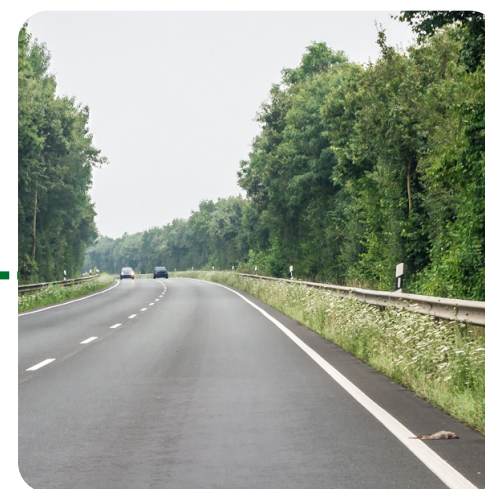
1,920 km

of railway networks



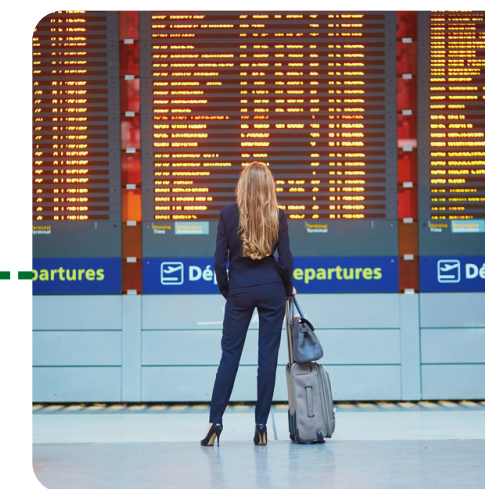
700 km

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



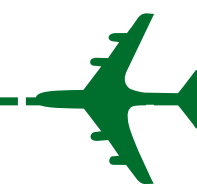
8 h to New York



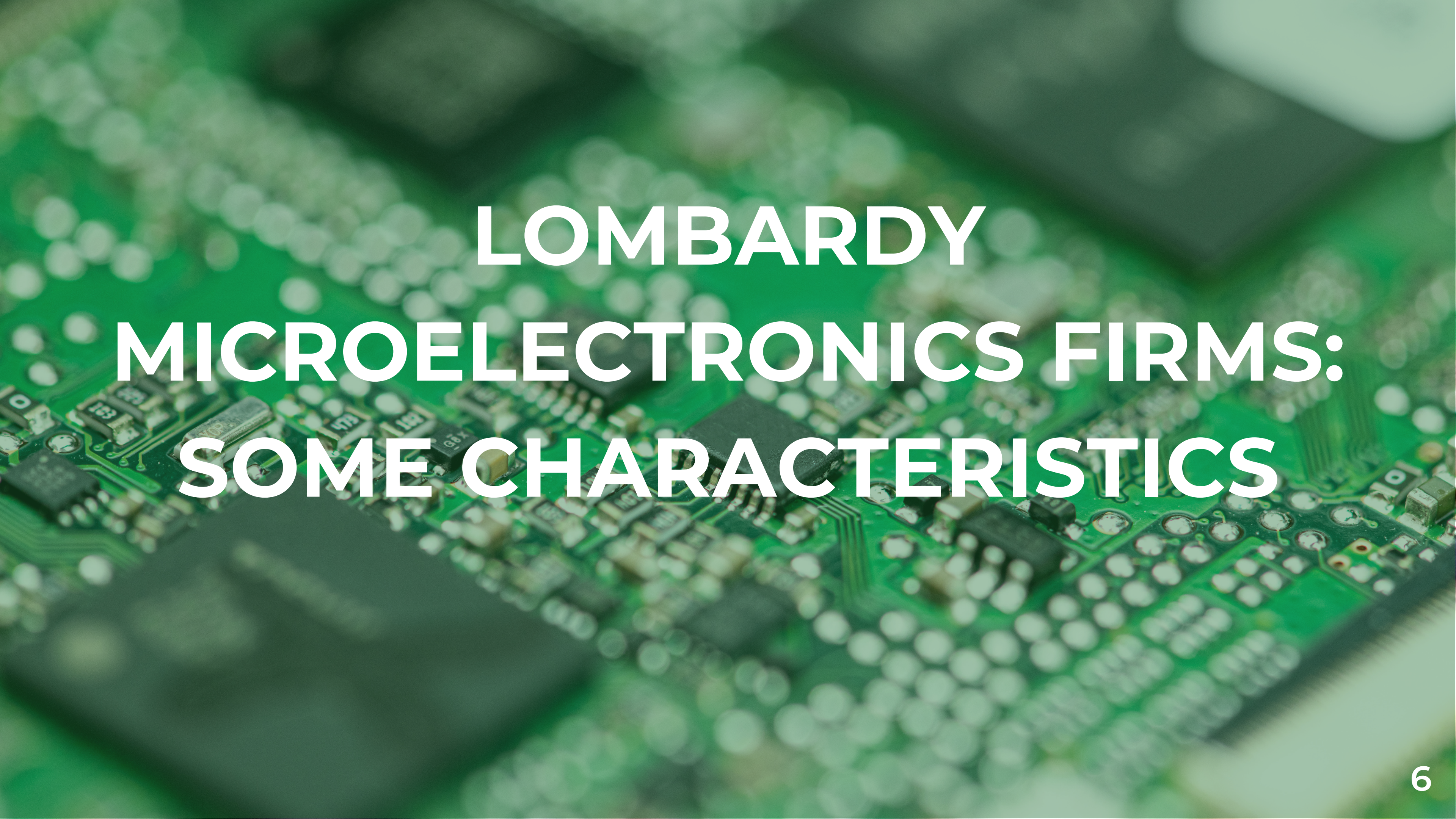
6 h to Dubai



1.50 h to London



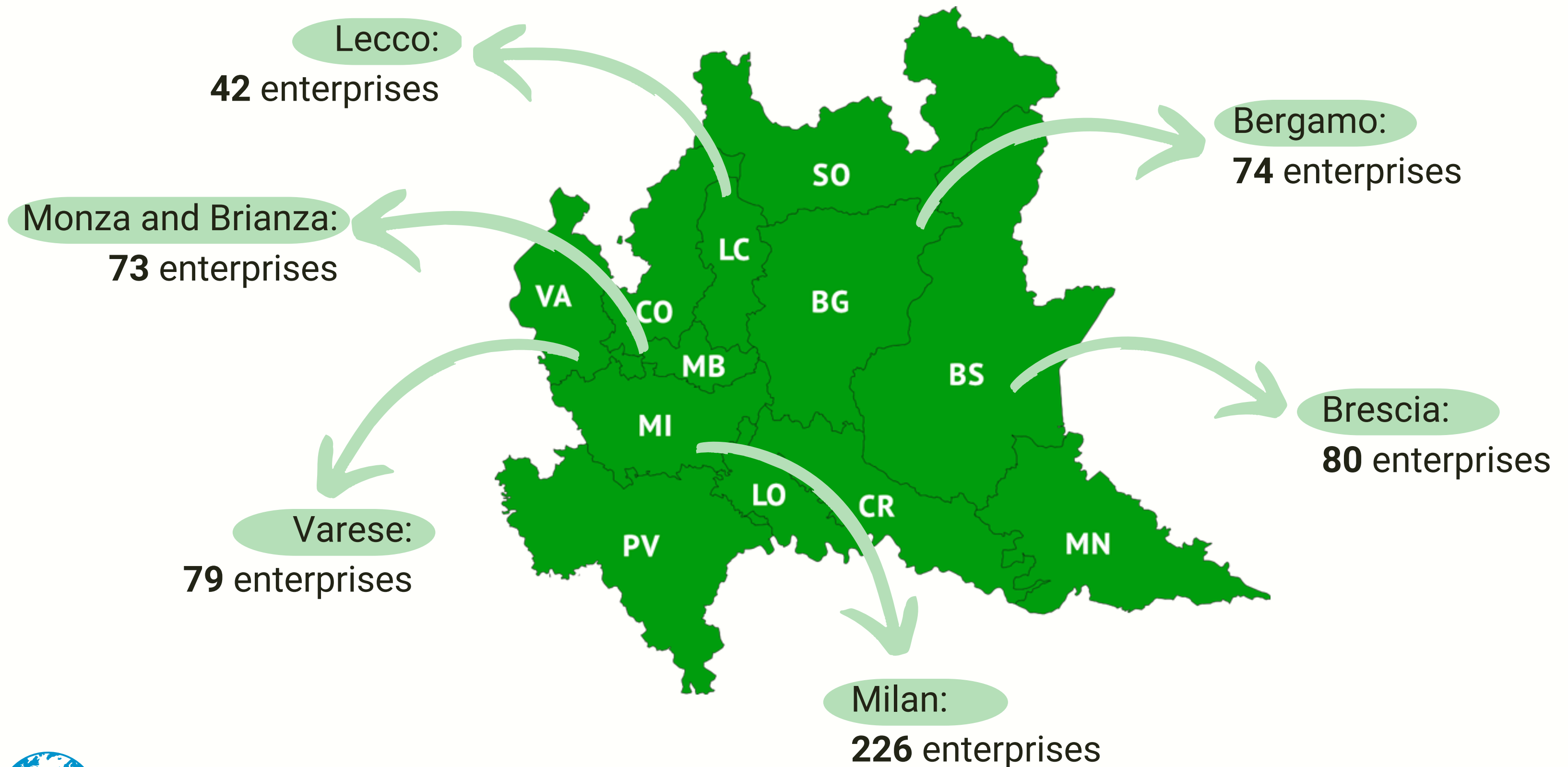
1.30 h to Paris



LOMBARDY MICROELECTRONICS FIRMS: SOME CHARACTERISTICS

NUMBER OF ENTERPRISES AND THEIR DISTRIBUTION

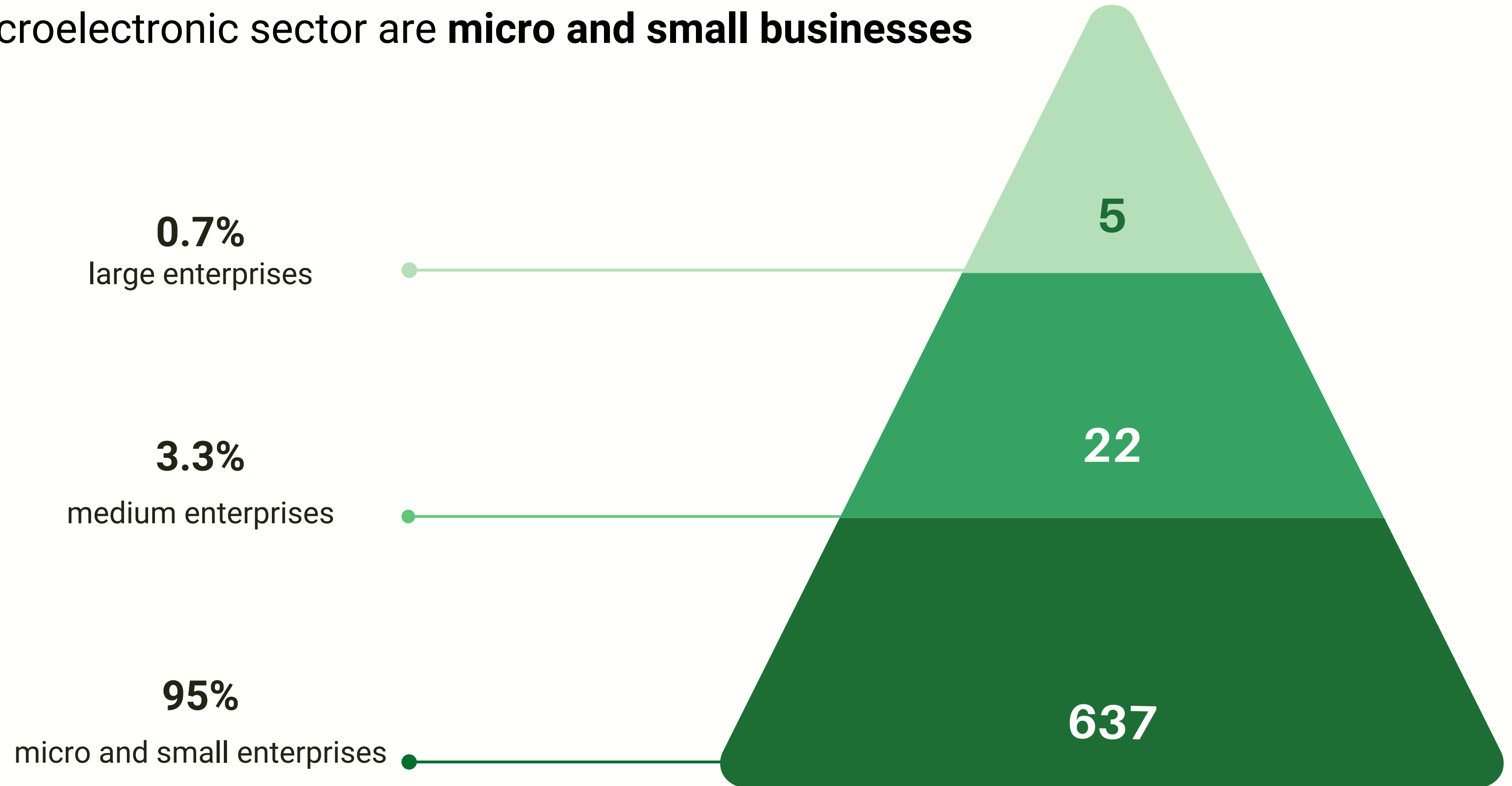
Of 2.463 microelectronics enterprises in Italy in 2020, **668** were in **Lombardy** (27% of the Italian total)



About **30** are foreign companies

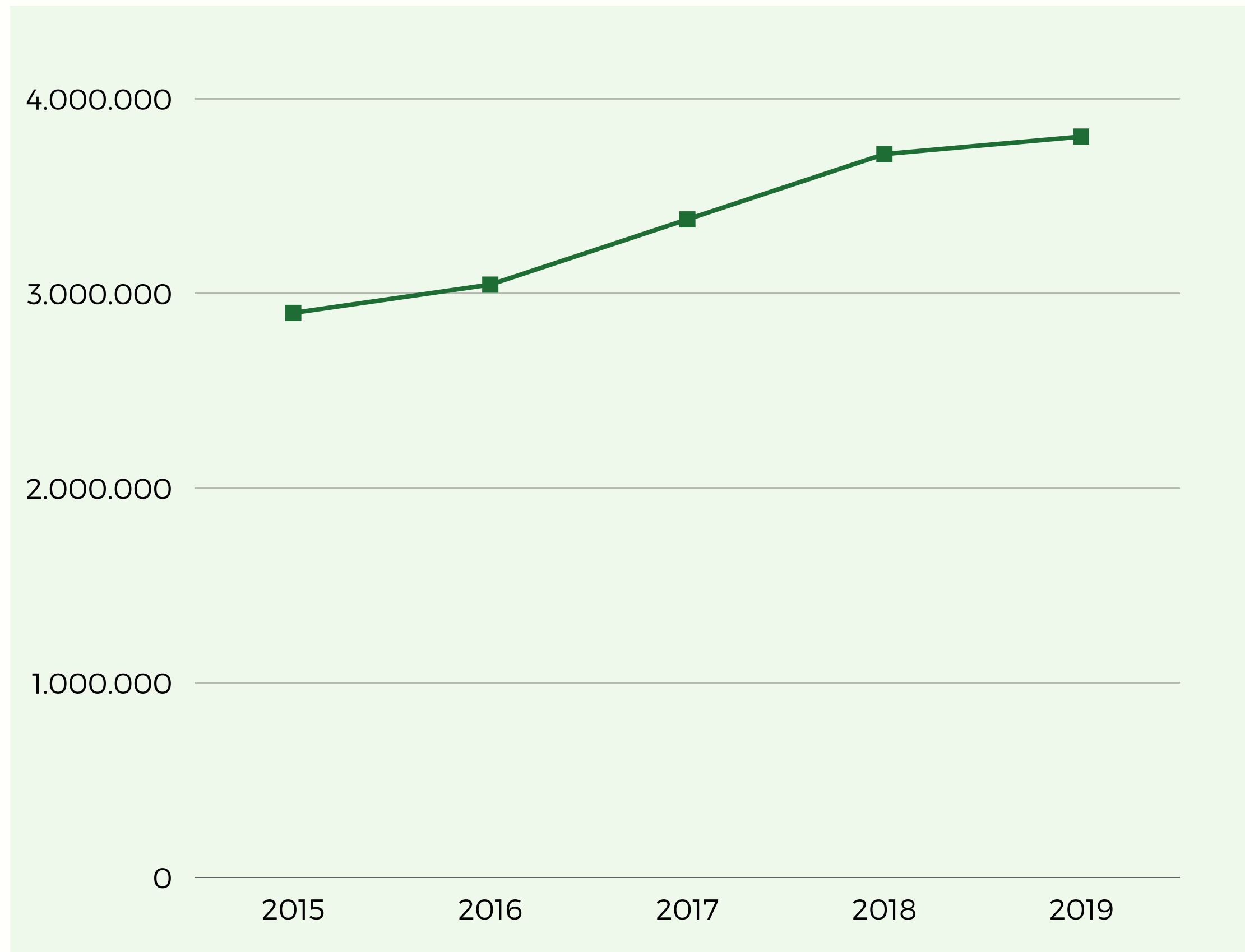
FIRMS BY SIZE

The majority of Lombardy's companies in the microelectronic sector are **micro and small businesses**



THE MICROELECTRONICS ENVIRONMENT

The yearly turnover increase shows how the sector is constantly growing in Lombardy



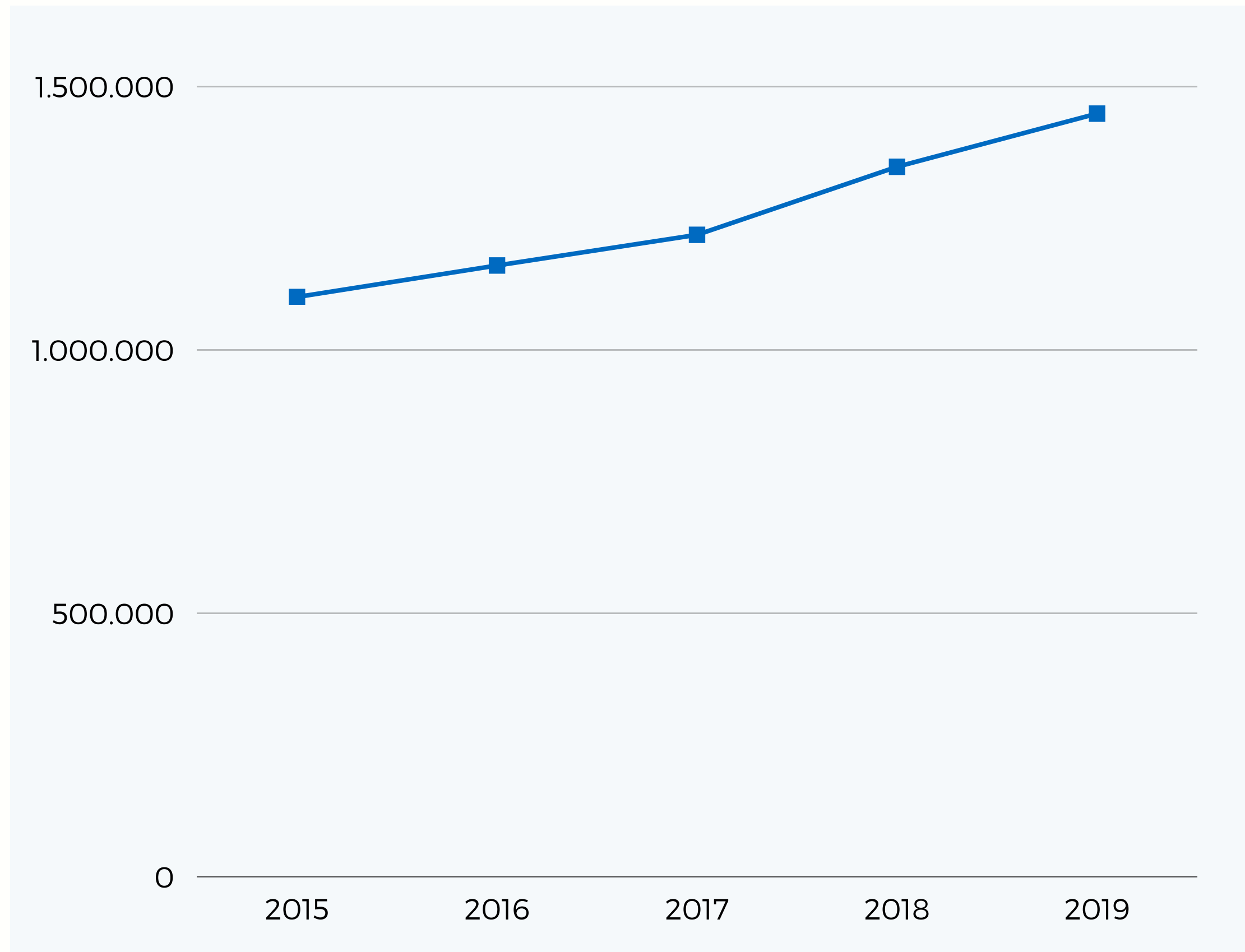
€ 3,8 mln

TURNOVER IN 2019



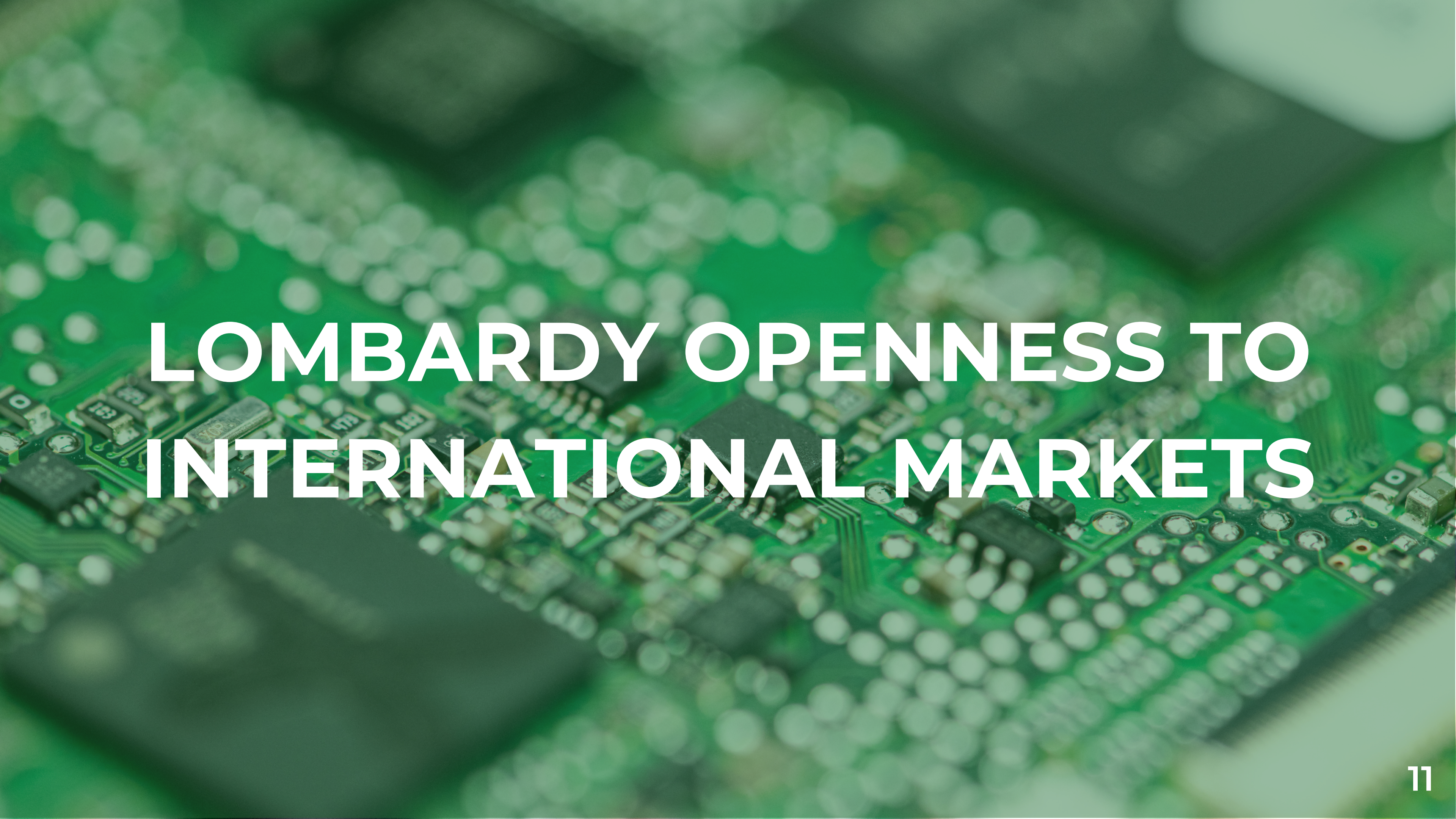
THE MICROELECTRONICS ENVIRONMENT

The same happened to the value-added from 2015 till 2019



€1,4 mln

VALUE ADDED IN 2019



LOMBARDY OPENNESS TO INTERNATIONAL MARKETS

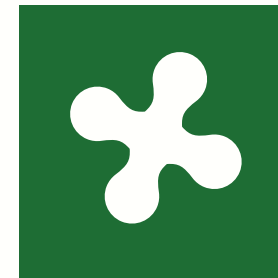
VOLUMES OF EXPORT IN ITALY AND LOMBARDY

2019



4.6 bln €

The value of goods exported by Italy



1.8 bln €

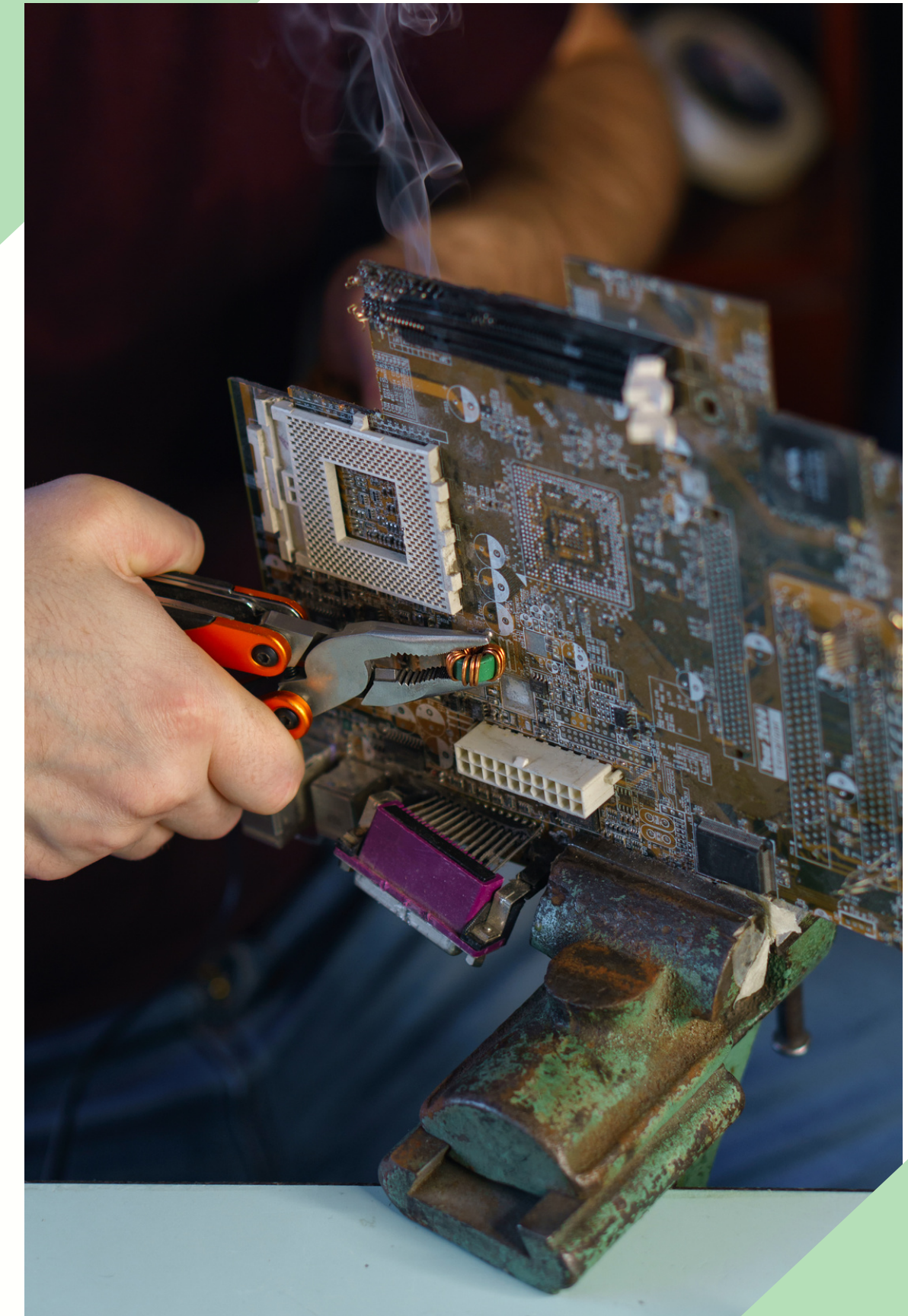
The value of goods exported by Lombardy

Compared to other Italian regions, Lombardy is the one that **exported the most** in the first quarter of 2022, followed by Sicily (€191 mln) Emilia-Romagna (€98 mln) and Piedmont (€65 mln)*.



Overall, Italy's export in the sector increased: from 4.6 bln € in 2019 to 4.9 bln € in 2021

Lombardy registered the highest regional increase: from 2.3 bln € in 2019 to 2.5 bln € in 2021 *



LOMBARDY'S PRODUCTION FOR THE INTERNATIONAL MARKET*

13

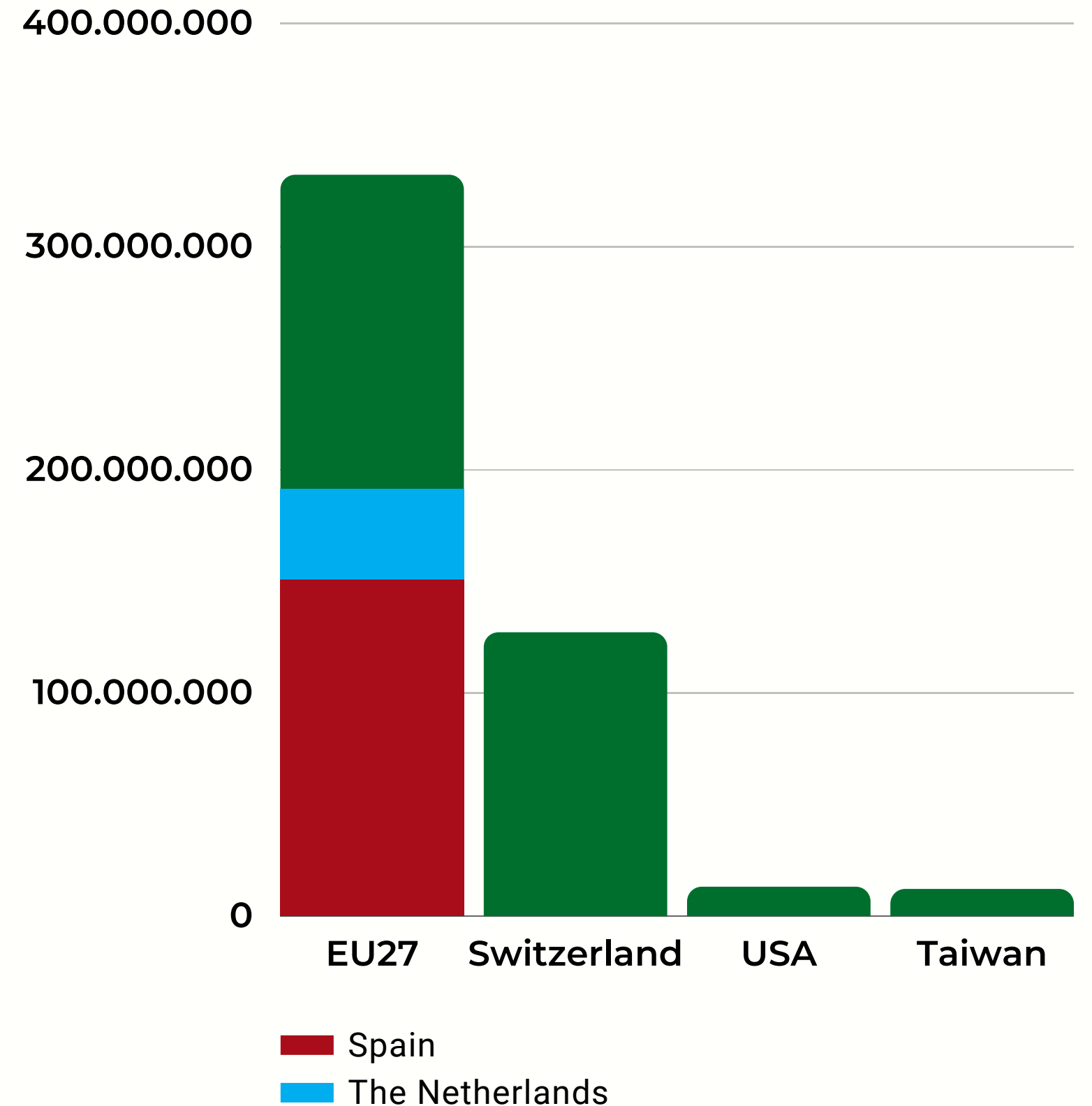
The European Union is the main destination for Lombardy export. In fact, in the first quarter of 2022, Lombardy exported **332 mln €** to the 27 EU countries (45% of global export). In particular:

- **Spain** 155 mln (22%)
- **The Netherlands** 40 mln (5%)

For **non-european countries**, the main destinations are:

- **Switzerland** 127 mln (18%)
- **USA** 13 mln (1,7%)
- **Taiwan** 12 mln (1,6%)

MAIN DESTINATIONS FOR LOMBARDY'S PRODUCTION

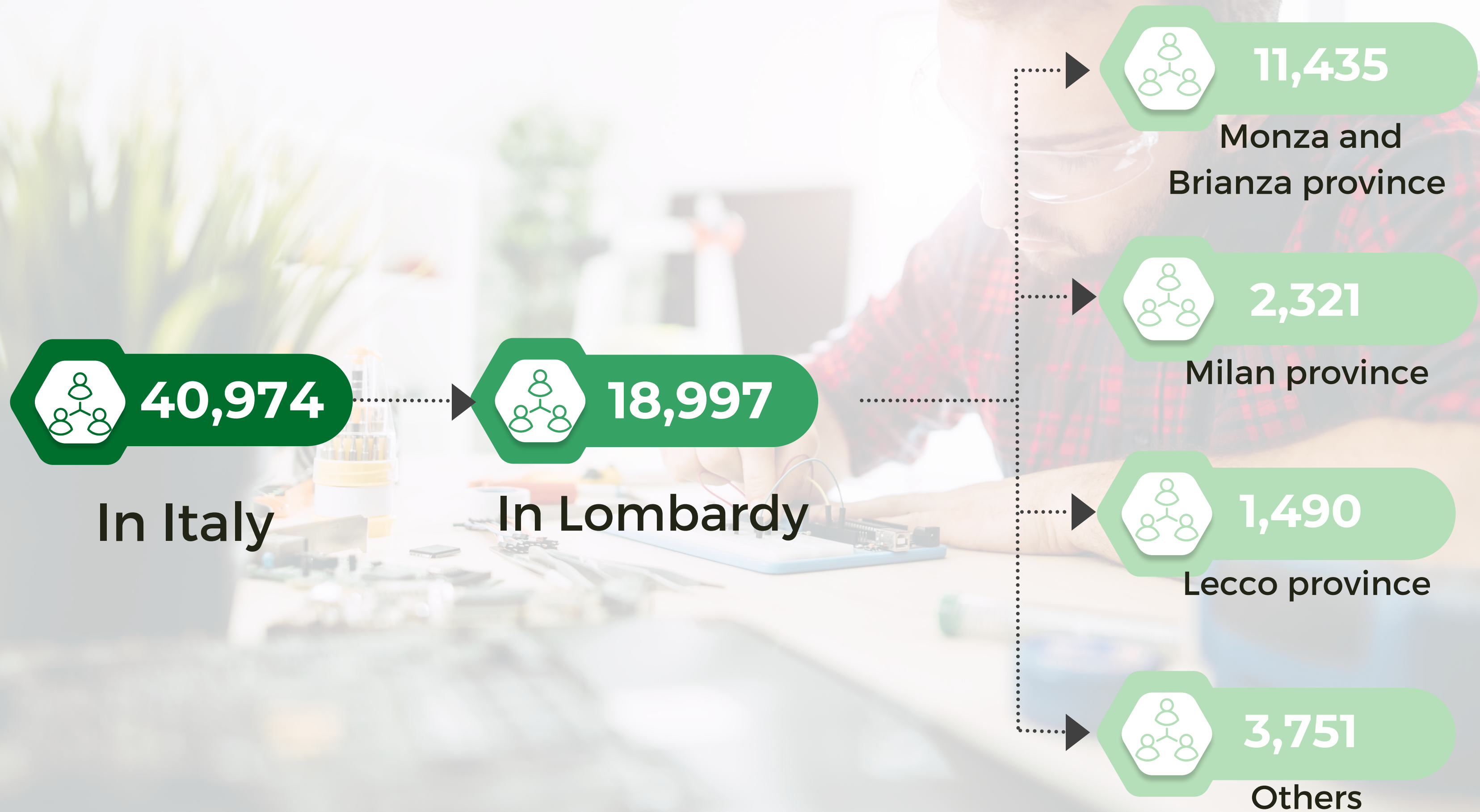




**EDUCATIONAL AND
RESEARCH EXCELLENCES FOR
A QUALIFIED HUMAN
CAPITAL**

NUMBER OF EMPLOYEES

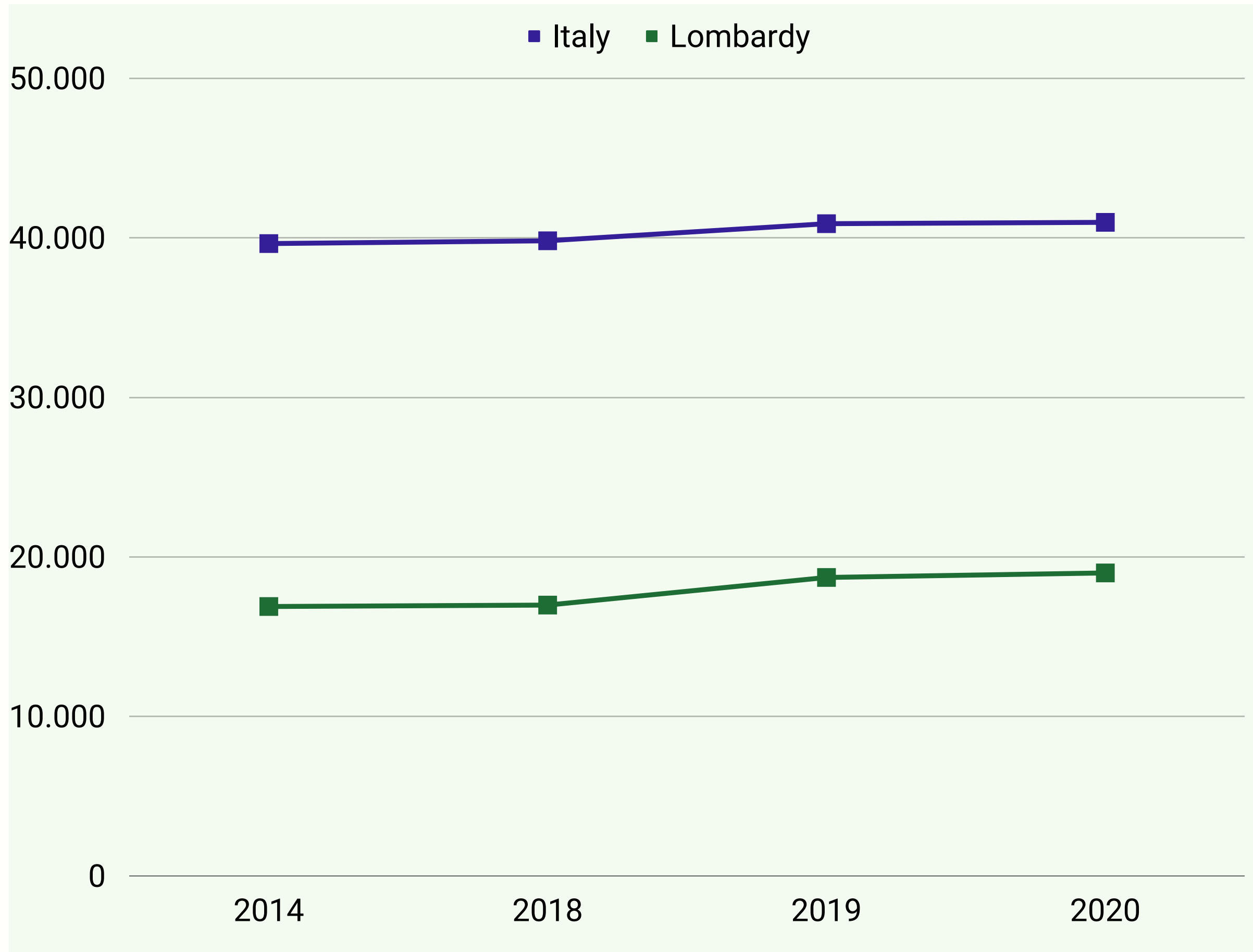
in the microelectronics sector in 2020:



A GROWING WORKFORCE

16

Microelectronics in Lombardy



In Italy: 39,643 people were employed in 2014. In 2019, the sector had 40,890 people employed, and despite the pandemic in **2020**, there were **40,974** people employed

In Lombardy: in 2014, there were 16,892 people employed against 18,713 in 2019 and **18,997** in **2020**

MICROELECTRONICS' COSTS OF EMPLOYMENT

In 2019 the average yearly costs were:



906 mln €

LABOR COSTS



708 mln €

WAGES AND SALARIES



Italy is the **third** most convenient country in Western Europe for **manufacturing labor costs**, with an average of **€ 28.8 per hour**, below the Euro area average (€ 30.6)

A SPECIALIZED WORKFORCE

Title	N. of employees
No title or primary school certificate	107
Middle school diploma	2,522
Professional qualification certificate	973
High school diploma	8,576
Bachelor's degree	683
Master's degree	4,531
Ph.D.	277
Data not available	284
Total	17,954



EDUCATIONAL SYSTEM EXAMPLES OF EXCELLENCES

Lombardy's knowledge system is highly articulated. It is characterized by **specialization in different technical-scientific disciplines** and is composed of world-class expertise and research groups thanks to its **15 universities**

Lombardy Universities with sector-relevant courses:

- Milano Politecnico
- Università degli Studi di Bergamo
- Università degli Studi di Brescia
- Università degli Studi Milano Bicocca
- Università degli Studi di Pavia



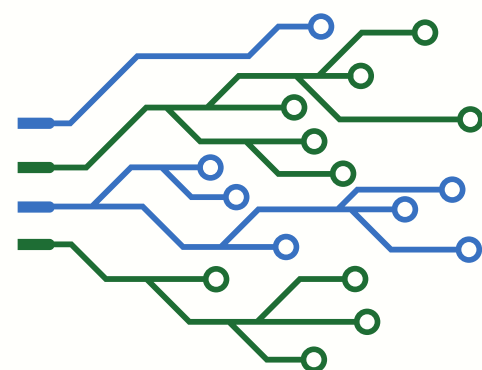
SOME OF LOMBARDY'S EDUCATION AND RESEARCH EXCELLENCES

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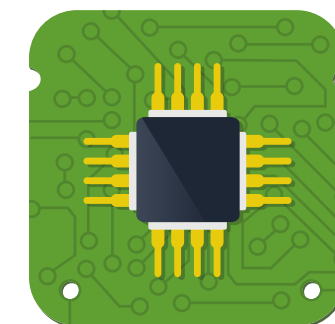


POLITECNICO
MILANO 1863

POLITECNICO DI MILANO is the 13th university in the world and 7th in Europe for **Engineering and Technology*** with **47,170 enrolled students** in 2022, of which **35,645 engineers**



In 2019, **Politecnico di Milano** and **Infineon Technologies** launched a **Joint Research Center** providing investments in research personnel and creating an innovative laboratory for the design of high-performance analog circuits



In 2021, **Politecnico di Milano** and **STMicroelectronics** have signed a new **collaboration agreement** that will lead to the establishment of a joint research center on **advanced materials for sensors (STEAM)**.

**QS World University ranking by subject 2022*

SOME OF LOMBARDY'S EDUCATION AND RESEARCH EXCELLENCES



UNIVERSITÀ
DI PAVIA

UNIVERSITY OF PAVIA ranks 10th among all Italian universities according to the Shanghai Academic Ranking of World Universities 2019.

About 300 students enrolled per year for the Electronics and Computer Science bachelor's degree and more than 12 Ph.D. graduates in Microelectronics per year.

Awarded as Top Author by the International Solid-State Circuits Conference (ISSCC)

National Ph.D. in Micro - and Nano-Electronics with 10 Universities involved and 41 Ph.D. scholarships
Project to create a **center of advanced nanoelectronics** to booster innovation, education, and promotion



Of the 500 electronic Engineers employed in Pavia and its surroundings, the **42 % graduated from the University of Pavia**



The University of Pavia inaugurated **The Gerolamo Cardano Park** for sustainable innovation. With 2400 sqm of research laboratories and spaces of training, it enhances the research and innovation resources of the University for the **creation of Sustainable Innovation** fostering the potential that comes from university-company collaborations

SOME OF LOMBARDY'S EDUCATION AND RESEARCH EXCELLENCES

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The **Institute for Microelectronics and Microsystems (IMM)** is an Institute of Consiglio Nazionale delle Ricerche (**CNR**) formed by 7 Units. Recognized worldwide as a research center of excellence in advanced nanotechnology



The **Agrate Unit of IMM** (a.k.a. Laboratorio MDM) is hosted within the R&D site of STMicroelectronics in Agrate Brianza.

The unit's mission is to perform **cutting-edge research** addressed to:

- The development of materials
- New architectures
- New fabrication approaches for nanoelectronics devices and microsystems



LOMBARDY SECTORIAL EXCELLENCES: SOME SUCCESS STORIES

LOMBARDY'S SUCCESS STORIES



- **TECHNOPROBE SPA**

Headquarters is in Cernusco Lombardone. It specializes in designing, developing, and producing **probe cards** for the biggest technology brands. The company is an international group **with a turnover of € 300 mln** and **11 offices** worldwide (Europe, Asia, and the United States). Technophobe is among the world's leading companies in the sector.



- **STMICROELECTRONICS SRL**

STMicroelectronics is based in Agrate Brianza (MB). The group is among the **world's largest semiconductor companies**. It is a global Italian - France company specializing in manufacturing **electrical equipment, electrical materials, and electronic components**. It is one of the 12 companies in the Pavia District with a turnover of **€1.6 bln** in 2020.

LOMBARDY'S SUCCESS STORIES



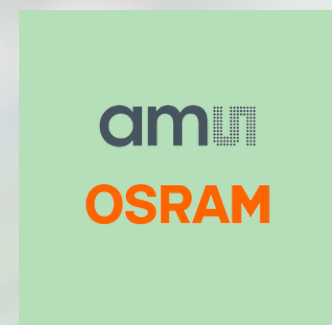
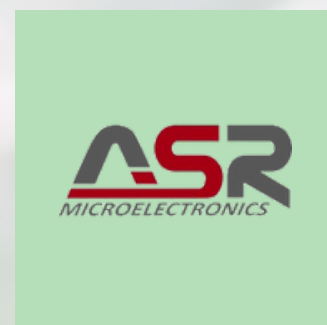
- **INFINEON TECHNOLOGIES**

Infineon Technologies is a multinational company leader in the **production of power semiconductors**. It offers semiconductor and system solutions for the automotive, industrial, and chip card sectors, focusing on the three central challenges of modern society: energy efficiency, mobility, and security.

- **INVENTVM**



INVENTVM is a leading Italian **fabless IC company**. Located in Pavia, Italy, in the heart of the Ticino River Silicon Valley. Founded in **2021** it specializes in **mixed-signal IC, DSP algorithms, and IP development**, with a specific focus on power management and audio. In 2021 the company's **revenue** was **€ 4.5 mln**.



THE MICROELECTRONICS DISTRICT

Born from a partnership agreement between the **University of Pavia** and some **microelectronics companies**, all located in the territory of Pavia and the southern area of Milan.

12

Microelectronics companies

500

Highly skilled engineers

22%

Of the highly skilled employees have a Ph.D

53%

Of employees with a Ph.D., received their title from the University of Pavia

FONDAZIONE DISTRETTO GREEN AND HIGH TECH MONZA AND BRIANZA

Born in **2008** the main purpose of establishing the Foundation was to aggregate companies with **strong technological connotations**, so as to **promote their industrial development**. The fields of **electronics and microelectronics** are the top sectors



Over
90

Member companies

Over
16,000

Employees

€3.8 bln

Turnover

45.3%

Operative income comes from
electronics and microelectronics
companies



INCENTIVES AND PUBLIC SECTOR FINANCED INITIATIVES

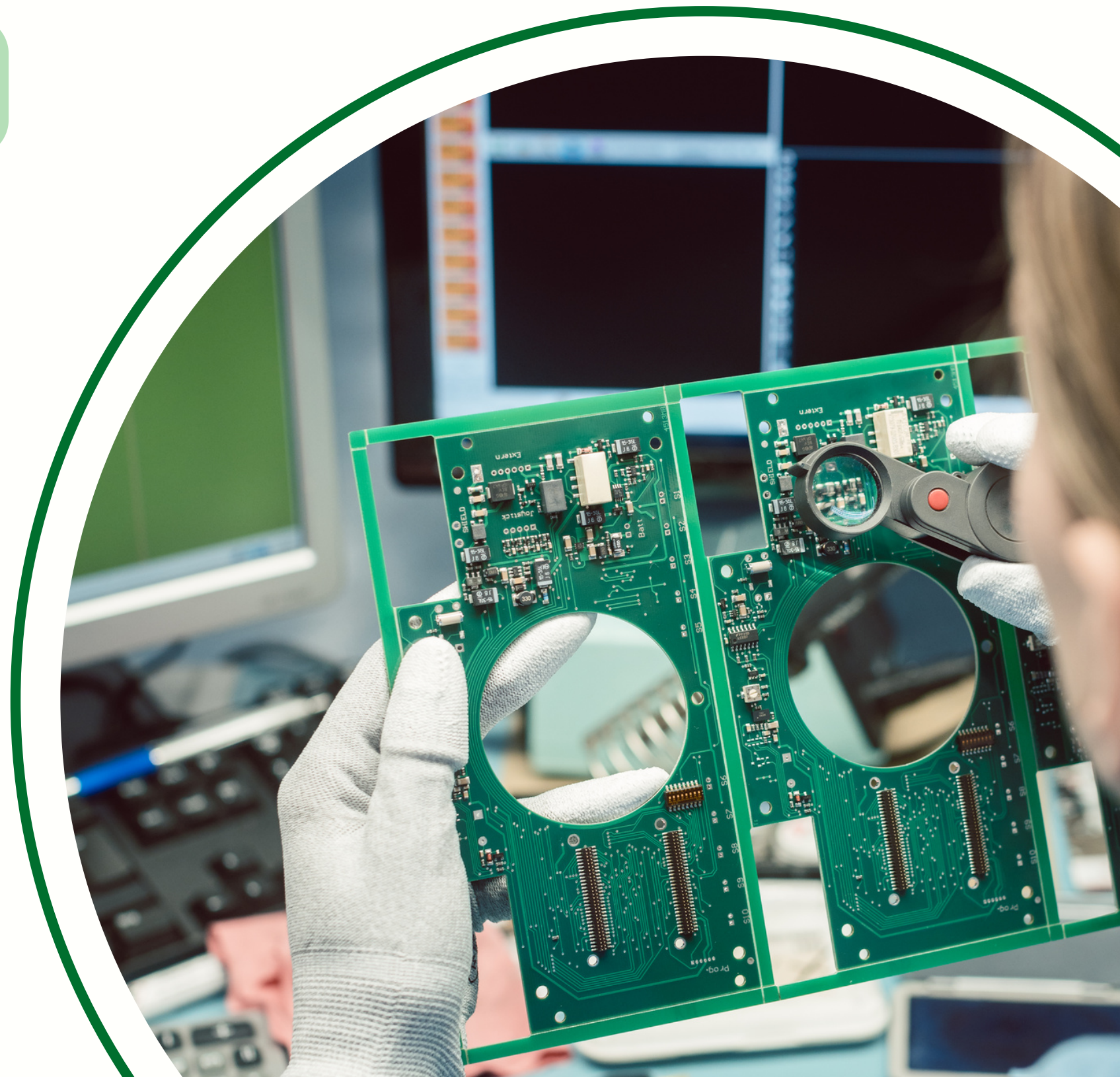
THE NRRP FOR MICROELECTRONICS AND RESEARCH

Italia Domani, the National Recovery and Resilience Plan (NRRP), is part of Next Generation EU, an economic recovery project dedicated to member states of a total value of 191.5 bln €

INNOVATION AND TECHNOLOGY OF MICROELECTRONICS

The investment aims to **support the development** of the strategic **value chain** of microelectronics by investing in **silicon carbide substrates**. The investment will be carried out in line with current state aid regulations and is expected to have positive effects on employment, both on skilled workers and researchers.

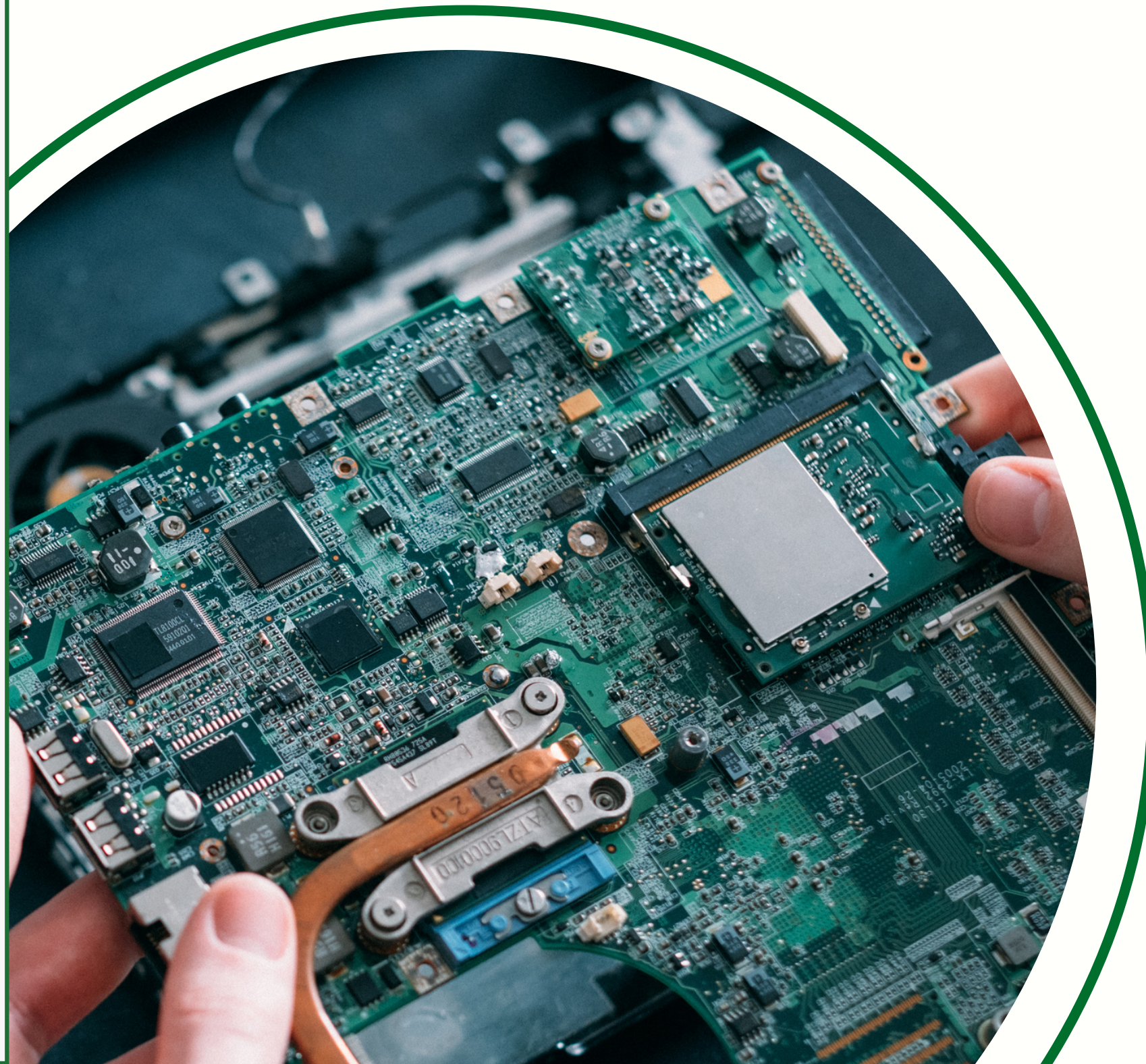
The total investment cost is: **€ 340 mln**



THE NRRP FOR MICROELECTRONICS AND RESEARCH

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Microelectronics in Lombardy



TRANSITION 4.0

The investment aims at **enhancing basic and applied research**, facilitating technology transfer, and promoting the digital transformation of manufacturing processes as well as the investment in intangible assets. It consists of a **tax credit scheme** and covers expenses to be requested in tax returns between 1st January 2021 and 31st December 2023

The total investment cost is: **€ 13.38 bln**

ONGOING EU AND NATIONAL PROGRAMS FOR MICROELECTRONICS



MADEIN4

The Ministry of Economic Development finances the program carried out by FCA, Comau, and STMicroelectronics in the field of industry 4.0.

The agreement provides for a total investment of over **18.7 mln euros**, for which the MISE provides **5.6 million** euros in subsidized loans, another **4 million euros** deriving from European funding.

The project was selected by the European Union as part of the **Ecsel Ju 2018** call (Electronics components and systems for European leadership).



EUROPEAN CHIPS ACT

With the European Chips Act, the EU will address semiconductor shortages and **strengthen Europe's technological leadership**.

It will mobilize more than **43 bln €** of public and private investments and set measures to prepare, anticipate and swiftly respond to any future supply chain disruptions, together with the Member States and international partners.

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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