



Lombardy Technology Clusters

AEROSPACE ●

AGRIFOOD ●

GREEN CHEMISTRY ●

ENERGY ●

MOBILITY ●

ADVANCED MANUFACTURING ●

LIFE SCIENCES ●

TECHNOLOGIES FOR SMART COMMUNITIES ●

TECHNOLOGIES FOR LIFE ENVIRONMENTS ●

Lombardy Technology Clusters

"A goal without a plan is only a wish" wrote Antoine de Saint-Exupéry. This is the basic idea that guiding Regione Lombardia's policy on technology clusters, the subject of this publication, for almost ten years.

The objective has been clear from the outset: to encourage the widest possible participation of the territory within regional, national and EU strategies and initiatives, to ensure they have a concrete and positive impact on the competitiveness and well-being of our communities. In order to achieve this objective, the plan has provided for a governance action since 2013/2014 aimed at involving aggregations formed by Lombardy's research organisations and enterprises, operating within strategic sectors for innovation and competitiveness in the region.

In particular, Regione Lombardia has recognised and financially supported the development of 9 technology clusters at regional level, for the start-up and consolidation phase, with the aim of involving the entire innovation ecosystem and facilitating collaborations and synergies between the various players. This process was carried out in line with national guidelines¹, in connection with the Smart Specialisation Strategy - S3 process at both national and European level and in connection with the European Framework Programme for Research and Innovation.

The 9 Lombardy Technology Clusters (LTCs) recognised by Regione Lombardia bring together almost 700 subjects (including companies, research centres, universities, public and private institutions and other subjects of the Lombardy innovation ecosystem) distributed in all provincial territories and focused on a specific technology and field of improvement.

Over the years, LTCs have become increasingly mature in structuring their governance and have defined strategic development plans with clear medium- and long-term objectives consistent with regional policies supporting research and innovation. The ability of clusters to be inclusive with regard to local stakeholders has thus progressively increased, leading to greater openness towards the outside world in terms of representativeness and services offered to members.

The LTCs were involved and called upon to contribute to increasing Lombardy's competitiveness and attractiveness at national and international level, by implementing innovative processes in their respective fields of competence.

The 9 LTCs carry out - and will continue to do so - an important action of mapping the competences existing within them - and in the territory - first in the areas of specialisation and now in the ecosystems of innovation identified by the S3 of Regione Lombardia, which they have contributed to define and decline with ideas related to priorities and themes of strategic interest, acknowledged in the "Research and Innovation Work Programmes" which are updated every two years.

¹ Directorial Decree 257/Ric of 30 May 2012 and subsequent amendments and additions.

Clusters are recognised in the S3 approved by Regione Lombardia as strategic players to address challenges and promote good practices in the industrial value chain. The success of S3 lies in its *place-based* approach, where the territorial dimension and the Clusters' collaborative network are fundamental to adapt strategies to the specificities of the regional context, thus improving territorial competitiveness.

In the path from 2014 to today, Confindustria Lombardia has also constantly supported the 9 LTCs. In this respect, the Cluster Technical Committee has been set up to provide support on governance and cluster positioning in the context of national and European policies for internationalisation, innovation and competitiveness.

By sharing their mission with the other players in the Cluster governance, Lombardy companies can access to more innovation and research opportunities in a virtuous circle benefiting not only the supply chain involved, but also the entire regional economic and social system.

Faced with the consequences of the pandemic and the challenges posed by the green and digital transition, there is now a need to convert entire supply chains as soon as possible, at the risk of disorientating the industrial fabric. Clusters can contribute by offering opportunities for dialogue to define and implement research projects, as well as the emergence of ambitious innovation initiatives, thanks to their *expertise* and deep knowledge of value chains.

Moreover, today we find a vertical specialisation in the National Recovery and Resilience Plan as a *modus operandi* that therefore allows the Clusters to become the entities entitled to contribute to the development of the missions identified in the plan.

This report aims to highlight the results and growth of the 9 LTCs and at the same time to promote awareness of the added value they create in the Lombardy region through the initiatives undertaken.

Alessandro Fermi
Councilor for University, Research, Innovation,
Regione Lombardia



Francesco Buzzella
Chairman of Confindustria Lombardia



INDEX

Lombardy Intelligent Factory Association	6
High Technology Cluster Agrifood Lombardy	8
Lombardy Mobility Cluster	10
Lombardy Life Sciences Cluster	12
Lombardy Cluster for Technologies for Living Environments Foundation	16
Cluster of Technologies for Smart Cities & Communities - Lombardy	18
Lombardia Aerospace Cluster	20
Lombardy Energy Cleantech Cluster	22
Lombardy Green Chemistry Association	24
Co-design for the development of Lombardy	26
The role of Confindustria Lombardia in supporting innovation in the regional production system	27

LOMBARDY INTELLIGENT FACTORY ASSOCIATION



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Advanced Manufacturing

TECHNOLOGY AREAS

Advanced Manufacturing materials, processes, methods and technologies

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

GREENSMARTMED (Interreg Euro-MED), SMART-Growth (I3), BATMASS (I3), PLASTIX (Interreg Europe), AI REDGIO 5.0 (Horizon Europe), DeremCo (I3), PIMAP4Sustainability (Single Market Programme), LCAMP (Erasmus+), ADMA TranS4MErs (Horizon 2020), ADMANTEX2i (COSME - Clusters Go International), 4 Motors of Europe (4ME), Vanguard Initiative (VI), S3 Thematic Platforms and Partnerships (S3P), European Cluster Collaboration Platform (ECCP), EDIH Manufacturing Network (EDIH4MANU), World Economic Forum (WEF).

HEADQUARTERS

Via G. Colombo, 83 - 20133 Milan (Italy)
Place du Champ de Mars 1/3, 1050 Brussels (Belgium)

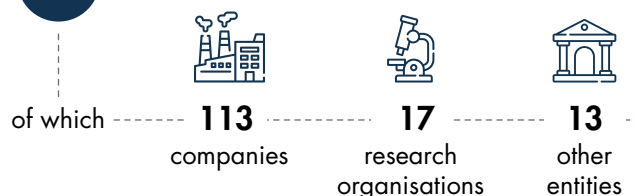
WEBSITE

www.afil.it/



NUMBER OF MEMBERS

143



SUCCESS STORIES

Development of the Lombardy Roadmap for Research and Innovation on Circular Economy:

the Roadmap (officially endorsed by Lombardy Region in 2020) aims to address the transition to a Circular Economy in the region, in line with its S3 priorities. The development of the document began in 2019 as a core action of the Strategic Community De- and Remanufacturing for Circular Economy.



Signature of Lombardy Protocol for Sustainable Development:

in 2022, AFIL signed the Protocol, therefore confirming its commitment to implement the principle of sustainable development within its scope of activities. AFIL provides its contribution to the Regional Strategy for Sustainable Development, with proposals and initiatives that also involve the Cluster members and the regional ecosystem.

Contribution to the Lombardy initiative for the development and consolidation of advanced industrial regional value-chains:

since 2022, AFIL has been involved in the development of regional value-chains proposals, also relying on its Strategic Communities active in the fields of Circular Economy and Digital Transformation. A strong liaison with this regional initiative has been created with Interreg Europe PLASTIX project.



ONGOING PROJECTS 2024



SYNERGIES with other regional or national strategies

PLASTIX



PLASTIX (Plastics Revolution for European Regions) project aims to facilitate **industrial transition towards a resource-efficient economy, circular economy growth and eco-innovations** in the 6 participating regions (Lombardy, Catalonia, Fryslân, Savinja-Šalek, Tampere and Värmland) as well as in other European ones. The project tackles the growing problem of **plastic waste, its recyclability, reusability and replaceability** as a part of the transition towards a more circular economy.

By identifying good practices and novel solutions through interregional exchange and co-creation, the project aims at **helping regional policy makers to improve existing policy mechanisms or create new ones**.

The regional policy instrument addressed by AFIL within PLASTIX is the **Development and consolidation of advanced industrial regional value-chains**, launched in 2022 by **Lombardy Region**, which is involved in the project as **Associated Policy Authority**.

At the same time, AFIL has established a strong liaison with the members of the **Strategic Community and regional value-chain on Advanced Polymers**, acting as the **Regional Stakeholder Group**.

AI REDGIO 5.0



Originating from the **Efficient and Sustainable Manufacturing (ESM) Pilot - Digital Transformation demo-case** and the **Artificial Intelligence (AI) Pilot of the Vanguard Initiative**, AI REDGIO 5.0 project focuses on renovating and extending the alliance between Vanguard European regions and **Digital Innovation Hubs (DIHs)**, taking into account the outcomes of Horizon 2020 I4MS **AI REGIO project** and implementing a competitive AI-at-the-Edge Digital Transformation of Industry 5.0 Manufacturing Small and Medium Enterprises.

AI REDGIO 5.0 innovation action is conducted by a **consortium of 43 partners from 18 countries** (Italy, Slovenia, Netherlands, France, Belgium, Spain, Romania, Czechia, Denmark, Hungary, Austria, Sweden, Cyprus, Luxembourg, Portugal, United Kingdom, Serbia). The consortium is composed of 7 SMEs from different manufacturing sectors and 13 technology providers, including some Lombardy actors directly involved to demonstrate regional competences and capacities at European level.

AFIL is leader of the **Communication and Dissemination activities** and is engaged in the active promotion of the **Open Calls** for third parties as an opportunity for all regional stakeholders.

SMART SPECIALISATION STRATEGY S3

**Advanced Manufacturing
Ecosystem
Sustainability Ecosystem**

PNRR

Mission 2

Green revolution
and ecological transition

Component 1

Circular economy
and sustainable agriculture

SMART SPECIALISATION STRATEGY S3

**Advanced Manufacturing
Ecosystem
Connectivity and
Information Ecosystem**

PNRR

Mission 1

Digitalisation, innovation,
competitiveness, culture
and tourism

Component 2

Digitalisation, innovation,
competitiveness
in the production system

HIGH TECHNOLOGY CLUSTER AGRIFOOD LOMBARDY



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Nutrition

TECHNOLOGY AREAS

Lombardy's agri-food chain that fosters collaboration between the various players to promote and improve technological development and innovation and to support the competitiveness and growth of the sector

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

European Cluster Collaboration Platform, EU4FOOD, Space4Globe, Neptune Blue Growth Accelerator

HEADQUARTERS

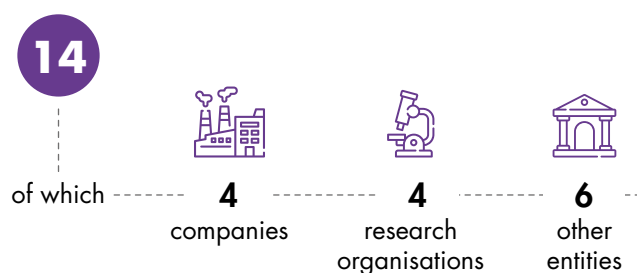
Via Einstein - loc. Cascina Codazza - 26900 Lodi

WEBSITE

www.clusteragrofoodlombardia.eu



NUMBER OF MEMBERS





ONGOING PROJECTS 2024

Call Horizon Europe

Assessing and improving labour conditions and health and safety at work in farming

Preparation of the project proposal related to the Call of the Horizon Europe Framework Programme - Cluster 6 - 2022 - Communities - 01 - 02, with the aim of developing tools to assess and improve **working conditions in the agricultural sector**.

The Call funds projects that promote health and safety in agriculture, equipping the sector with smarter and more innovative solutions that also enhance agricultural work.

Call Horizon Europe

Enhancing biosecurity in terrestrial livestock production

The Cluster is currently working on the submission of a project under the Horizon Europe Framework Programme Call - Cluster 6 - 2022 - Farm2fork - 01 - 03, which aims to develop and validate methods and tools for the prevention and mitigation of **infections** on **farms** or in **livestock** management sites of various types (cattle, sheep, poultry, etc.).

The measure aims to support Research and Innovation projects that contribute to preventing and controlling infectious animal diseases, thus ensuring **public health** and promoting **sustainable agriculture**.

The call is in line with the European Commission's **Farm to Fork** (F2F) strategy for a transition to fair, healthy and resilient livestock production systems, including the reduction of antimicrobial use.



SYNERGIES

with other regional or national strategies

SMART SPECIALISATION STRATEGY S3

Nutrition Ecosystem

PNRR

Mission 2

Green revolution and ecological transition

Component 1

Circular economy and sustainable agriculture

SMART SPECIALISATION STRATEGY S3

Nutrition Ecosystem

PNRR

Mission 2

Green revolution and ecological transition

Component 1

Circular economy and sustainable agriculture

LOMBARDY MOBILITY CLUSTER



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Smart Mobility and Architecture

TECHNOLOGY AREAS

Sustainable and smart mobility

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

Attending several European projects (such as COSME, Horizon, LIFE, CEF). International Network: EUSALP, ARA- Automotive Regions Alliance, Four Motors of Europe, ECH2A, C2Future

HEADQUARTERS

Piazza Leonardo da Vinci 32, Milano (Italy)

OPERATIONAL OFFICES

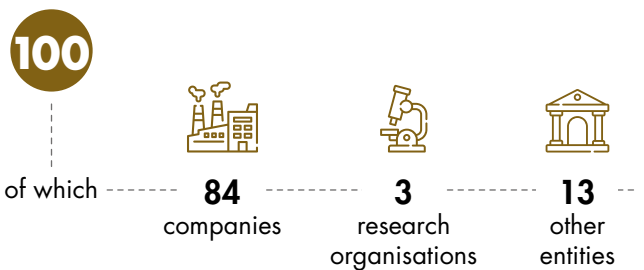
Via Cefalonia 60, Brescia (Italy)

WEBSITE

www.clusterlombardomobilita.it



NUMBER OF MEMBERS



SUCCESS STORIES

CLM projects, also at national and European level, cover various areas, in particular:

- Sustainability and alternative drives (electric, endothermic engine, fuel cells) and Renewable Fuels;
- ITS technologies, digitalization and AI for new transport service;
- vehicle lightweighting and new materia

For each area, successful projects have been developed that have led to the development of new product and process technologies. Noteworthy are the recent projects for electric traction (Hyper, Inproves, COEVE), methane (DualING) or hydrogen (Shine) and the one on on-board sensor technology - AI (Road Safety).



ONGOING PROJECTS 2024

COEVE

Componenti Eccellenti lombardi per Veicoli Elettrificati (Lombardy's Excellent Components for Electrified Vehicles)

The project is based on the creation of a supply chain capable of responding to the demands of global manufacturers of electric vehicles, with the aim of creating in Lombardy an excellent ecosystem in automotive component industry (but including also railway, waterborne and aircraft vehicles industry).

The supply chain made up of 38 excellent companies (operating in electric motors or transmissions, power systems, batteries, energy/thermal management systems and other key components) will be able to meet the future needs of vehicle electrification to ensure a green and digital transition and promote sustainable and safe mobility.

Innovation and production autonomy of electric vehicle components, development of technologies to make electric vehicles more efficient and safer, and increasing the competitiveness of Lombardy component companies are other objectives of this strategic project.

SHINE

Sustainable Hydrogen in New Mobility and Energy Management

The project goal is to realize 'demonstrator' that, using the electricity produced by a hydroelectric power station, produces 'green hydrogen' with a "compact" new generation electrolyser inside a 'multifunctional' fuel station, where two city buses (but in perspective also hydrogen-powered cars) in service in the Brescia city will be powered. The aim is to test the development possibilities of the hydrogen chain and its components in a medium-sized context with the possibility of extension and replication in various fields, to spread knowledge and experience on the use of hydrogen.

This highly replicable project has been included in a list of European projects worthy of support (European Commission of LIFE and European Clean Hydrogen Alliance Projects).

IA for the mobility and road safety

The project "Road Safety" supported by Artificial Intelligence algorithms, a sensor and image collection system for monitoring road infrastructure and increasing the road safety, developed within the MoSoRe@Unibs (Sustainable and Resilient Mobility) financed by the Regione Lombardia is evolving towards new Smart Mobility monitoring and development systems, always based on innovative use of the vehicles which, from being an "object in transit", becomes the interpreter of a territory, providing data for various, innovative services.



SYNERGIES

with other regional or national strategies

SMART SPECIALISATION STRATEGY S3

Smart Mobility and Architecture Ecosystem Sustainability Ecosystem

PNRR

Mission 2

Green revolution and ecological transition

Component 2

Renewable energy, hydrogen, grid and sustainable mobility

SMART SPECIALISATION STRATEGY S3

Smart Mobility and Architecture Ecosystem Sustainability Ecosystem

PNRR

Mission 1

Digitalisation, innovation, competitiveness, culture and tourism

Component 2

Digitalisation, innovation and competitiveness in the production system

Mission 4

Education and research

Component 2

From research to enterprise

LOMBARDY LIFE SCIENCES CLUSTER



Cluster lombardo
scienze della vita



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Health and Life Science

TECHNOLOGY AREAS

Medical Devices, Digital Health, Health and Wellness, Pharmaceuticals, Biotechnology

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

Digital Innovation Hub (EDIH), European Union of Private Hospitals (UEHP), Council for European BioRegions (CEBR), Vanguard Initiative

HEADQUARTERS

Via Pantano, 9 - 20122 Milano

WEBSITE

www.lombardialifesciences.it/en/



NUMBER OF MEMBERS

114

of which



63

companies



36

research
organisations



15

other
entities



SUCCESS STORIES

Support to the Lombardy Region's Call Hub Research and Innovation: among the 33 projects eligible for funding, 11 fall within the Health and Life Science Ecosystem and all the lead partners are members of the Lombardy Life Sciences Cluster. In addition, the Cluster also supports partnerships through communication and dissemination activities.

Launch of a Public-Private Working Group on Clinical Trials and Privacy, to identify gaps and potential actions supporting clinical trials attraction in Lombardy.

Activation of a Digital Health Working Group in close connection with the Council for European BioRegions (CEBR) and the Vanguard Initiative, gathering 38 of the most advanced industrial regions in Europe.



ONGOING PROJECTS 2024

SmartLS - Decentralized Clinical Trials

Project for the development of a regional model aimed at the activation and management of decentralized clinical trials, promoting the use of digital systems and the development of clinical studies based on decentralized solutions.

C4Life - Continuity of Care

Project for the development of a collaborative ecosystem to promote the creation of solutions and experiments in the continuum of care area, fostering prevention, quality of life and longevity.

Life sciences networking activities



Meet in Italy for Life Sciences - MIT4LS, an annual event that facilitates networking between the various bodies active in the life sciences sector through a platform provided by the EnterpriseEurope Network (EEN).

Events/workshops dedicated to Cluster Members to facilitate matching and collaborations on common interests, facilitating technology transfer and innovative projects activation, as done for the Ospedale San Raffaele Valve Center, launching new clinical trials to improve clinical pathways and care.



Collaborations with local partners, EU and international stakeholders to communicate the value of Lombardy Life Science and Healthcare to the world, organize business and institutional missions, signing agreements with international stakeholder, in order to open new markets to both the Cluster members and Lombardy Region. In 2024, the Cluster and one of its members (FRRB) joined a business mission to the Emirates, meeting with local health and life science innovation stakeholders.



SYNERGIES with other regional or national strategies

SMART SPECIALISATION STRATEGY S3

Health and Life Science Ecosystem

PNRR

Mission 6

Health

Component 1

Innovation, research and digitisation of the National Health Service

Component 2

Proximity networks, facilities and telemedicine for territorial health care

SMART SPECIALISATION STRATEGY S3

Health and Life Science Ecosystem

PNRR

Mission 4

Education and research

Component 2

From research to enterprise

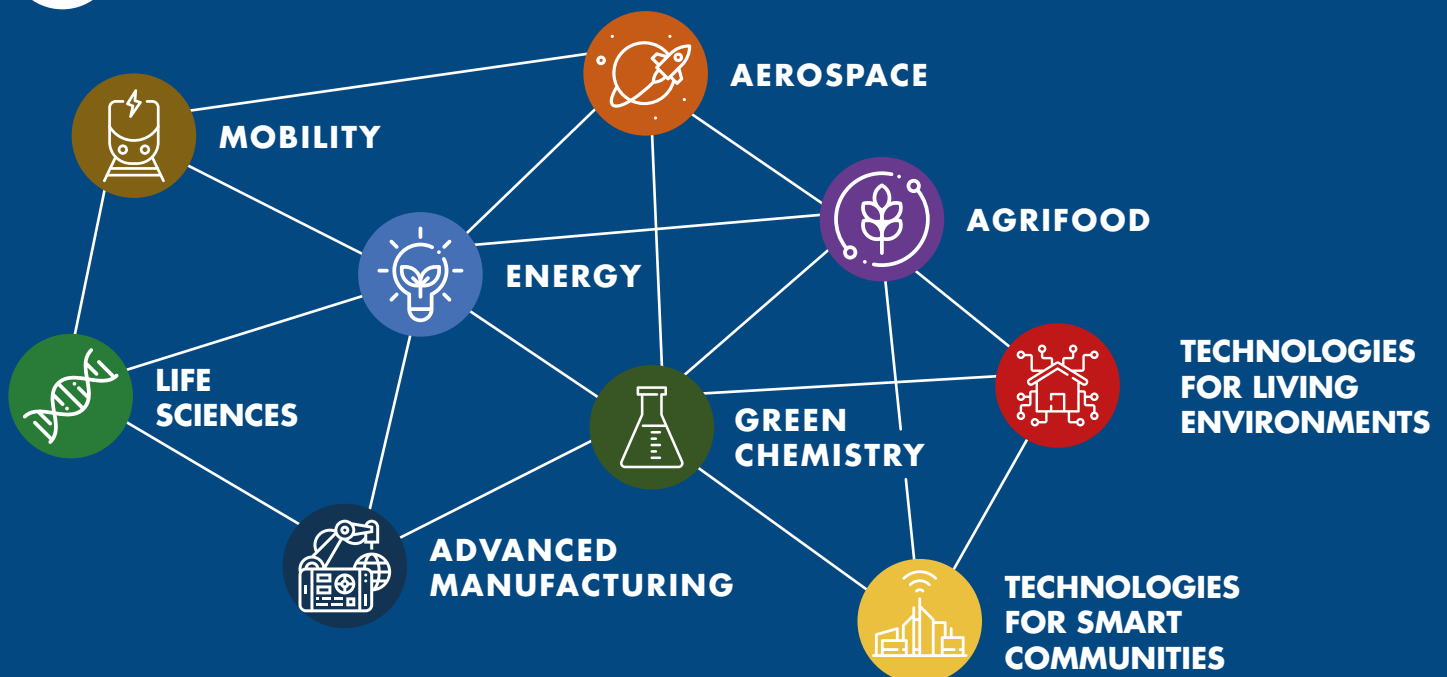
9 Lombardy Technology Clusters

"Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition"

M. Porter



TECHNOLOGICAL AREAS





GOVERNANCE



Regione Lombardia has encouraged the creation of the 9LTCs in order to foster the **aggregation** between research and industry.



The **European Commission** considers Clusters as key actors to stimulate **innovation** and promote **scale up** of SMEs.



Confindustria Lombardia supports the 9LTCs in governance and lobbying activities on national and European policies and measures.



NUMBER OF MEMBERS

794

of which

585

COMPANIES

111

RESEARCH ORGANISATIONS

98

OTHER ENTITIES



LINES OF ACTION



Privileged relationship with Region



System actions with the territory



Support for SMEs



Catalysts of public funds



Innovation accelerators



International networking

LOMBARDY CLUSTER FOR TECHNOLOGIES FOR LIVING ENVIRONMENTS FOUNDATION



**CLUSTER TAV
TECH FOR LIFE**

CTL TECNOLOGIE PER
GLI AMBIENTI DI VITA



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Health and Life Science

TECHNOLOGY AREAS

Health and Well-being, Digital Health, Personalised Medicine, Rehabilitation, Nutrition, Active Ageing, Health Tourism & Sport, Future Environments of Life

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

Vanguard Initiative Smart Health Pilot, Medical Technologies partnership (MedTech), XpanDH project, JA-ImplementAL project

HEADQUARTERS

Viale Tonale, 28/30 - 23900 Lecco

WEBSITE

cluster.techforlife.it



NUMBER OF MEMBERS

31

di cui



9

companies



13

research
organisations



9

other
entities



SUCCESS STORIES

- European project: MedTech4Europe (2018-2022)
- InterregAlpine Space: HEALPS 2 (2019-2022)
- Interreg Alpine Space: (2018-2020)
- Call-HUB SpatialS3 (2020-2022)
- Project Autitec (2028-2021)
- Project DESIGN4All (2013-2016)
- Project Smart Piquer (2017-2019)
- Project Ability (2014-2015)

Creation of a stable and fruitful collaboration between SMEs and research institutes/IRCCS: technical and scientific collaboration between the company Astir Srl, IRCCS Don Carlo Gnocchi and the Cluster itself. This partnership, which is enabling the development of a technological solution for cognitive rehabilitation at home.

Innovative partnerships: Cluster TAV supported the establishment of the consortium and the presentation and to date dissemination of the sPATIALS3 project – Regione Lombardia's Call Hub, considered best practice as the Cluster TAV facilitated the inclusion of 4 clinical institutions (including 2 IRCCS) within the Hub, thus creating the basis for the collection of specifications, design and implementation of clinical trials. Supporting ASST Lecco for the participation in the JA Implemental.

Fair: the Cluster participate for 7 consecutive years at the SMAU Milano with a booth proposing products/services/prototypes and disseminate. 7 projects' prize were win by partners.



ONGOING PROJECTS 2024

European project: XpanDH



XpanDH is a two-year (1 Jan. 2023 – 31 Dec. 2024) Horizon Europe project that aims to empower people and organizations to create, adapt, and explore the use of digital health solutions. To do so, the project promotes the adoption of the European Electronic Health Record Exchange Format (EEHRxF).

26 partners are involved in this project.

XpanDH will deliver four outcomes:

1. improved cross-border digital health solutions in the EU by developing technical resources and promoting the use of standardized technical specifications for specific use cases.
2. better access, control, and portability of your health data through digital services based on EEHRxF specifications.
3. informed policy makers and the eHealth Network about the EEHRxF and how it can be extended to other use cases.
4. provide diverse populations with training materials, specialized tools, guidelines, mentorship programs, and collaboration initiatives.

The Cluster is involved in two WPs: Growing Digital Health ecosystems and Dissemination & Outreach.

PNRR projects

Fit4MedRob: Fit for Medical Robotics

It aims to revolutionize current rehabilitation and assistive models for people of all ages with reduced or absent motor, sensory, or cognitive functions, by means of novel (bio)robotic and allied digital technologies and of continuum of care paradigms that can take advantage of the novel technologies in all the phases of the rehabilitation process, from the prevention up to the home care in the chronic phase. This will be possible by carefully identifying the unmet needs of patients and healthcare practitioners, and by tackling them with current and novel (bio)robotic/bionic technologies, via multi-centric clinical trials jointly conceived by bioengineers, neuroscientists, psychiatrists, psychologists and functional/preventive limb surgeons.

AGE-IT: Ageing Well in an Ageing Society

The overall objective of Age-It is to provoke a quantum leap in Italy's contribution to research on ageing, making it a leader in research as well as in strategic European and global value chains. Applying a holistic, interdisciplinary, and problem-solving approach, Age-It overcomes the fragmentation of different perspectives on ageing, involving a critical mass of partners including research and educational institutions, care providers and civil society associations, businesses and industries.



SYNERGIES

with other regional or national strategies

SMART SPECIALISATION STRATEGY S3

Health and Life Science Ecosystem
Social Development Ecosystem
Connectivity and Information Ecosystem

PNRR

Mission 6

Health

Component 1

Proximity networks, facilities and telemedicine for territorial health care

Component 2

Innovation, research and digitisation of the National Health Service

SMART SPECIALISATION STRATEGY S3

Health and Life Science Ecosystem
Social Development Ecosystem
Connectivity and Information Ecosystem

PNRR

Mission 6

Health

Component 1

Proximity networks, facilities and telemedicine for territorial health care

Component 2

Innovation, research and digitisation of the National Health Service

CLUSTER OF TECHNOLOGIES FOR SMART CITIES & COMMUNITIES - LOMBARDY



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Health and Life Science, Culture and Knowledge, Connectivity and Information, Smart Mobility and Architecture, Sustainability, Social Development

TECHNOLOGY AREAS

Digital Systems

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

Smart Cities Tech, European Cluster Collaboration Platform

HEADQUARTERS

Via Giovanni Durando, 38 - 20158 Milano

WEBSITE

www.clusterscclombardia.it



NUMBER OF MEMBERS

88

of which



69

companies



11

research organisations



8

other entities



SUCCESS STORIES



Smart City Now (SCN), organised by the SCC Cluster, is an annual event, now in its fifth eighth, involving numerous stakeholders from the business world, regional institutions and local authorities, research centres and universities. The focus of SCN is to bring to the public's attention the issues that concern the complex world of Smart Cities with examples, success stories and best practices. In the 2023 edition more than 500 participants attended sessions dedicated to energy, mobility, networks and digital twin.



ONGOING PROJECTS 2024

AMBITIOUS Digital solutions for the 5G era



The project AMBITIOUS drives European digital innovation for a sustainable future by addressing the challenges of climate change, urbanisation, energy production and occupational safety. Focusing on AI, 5G and IoT, the project empowers SMEs to compete globally, improve safety measures and minimise energy waste. It promotes inter-regional collaboration, commercialisation and growth opportunities for start-ups while providing testing grounds, funding and support for innovation activities. Through technology development and partnerships with large companies and academic institutions, the project accelerates innovation and improves the visibility and integration of SMEs in EU value chains.

The Cluster actively participates in the AMBITIOUS project, focusing on the AGORA Pillar. AGORA aims to develop a platform facilitating the standardized and secure sharing of data among telemedicine applications developed by various SMEs. This approach enables the development of new services by making data available. The SCC Cluster engages its members and interested parties in identifying the needs and requirements for tools and services. It leverages its established networks to recruit users for testing applications during the experimentation and evaluation phase. Additionally, the Cluster promotes cascade funding calls at the regional and national levels.

Smart Land



The Smart Land project aims to develop a supply chain for the implementation of appropriate technological systems aimed at supporting the monitoring, consultation, forecasting and analysis of information considered fundamental for the management of the territory and its verticalities (e.g. Water Management System, Air Quality Monitoring, Land Consumption Management, Weather Precision Forecasting, Structural Monitoring...).



SYNERGIES with other regional or national strategies

SMART SPECIALISATION STRATEGY S3

Health and Life Science Ecosystem
Information and Connectivity Ecosystem
Sustainability Ecosystem

PNRR

Mission 1

Digitalisation, innovation, competitiveness, culture and tourism

Component 2

Digitalisation, innovation and competitiveness of the production system

SMART SPECIALISATION STRATEGY S3

Health and Life Science Ecosystem
Information and Connectivity Ecosystem
Sustainability Ecosystem

PNRR

Mission 1

Digitalisation, innovation, competitiveness, culture and tourism

Component 2

Digitalisation, innovation and competitiveness of the production system

LOMBARDIA AEROSPACE CLUSTER



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Smart Mobility and Architecture, Connectivity and Information

TECHNOLOGY AREAS

Aerospace

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

EACP (European Aerospace Cluster Partnership)

HEADQUARTERS

Operative Headquarter: c/o Confindustria Varese, Piazza Monte Grappa 5, Varese

Legal Headquarter: c/o Confindustria Lombardia, Via Pantano 9, Milano

WEBSITE

www.aerospacelombardia.it/en



NUMBER OF MEMBERS

114

of which



106
companies



6
research
organisations



2
other
entities



SUCCESS STORIES

Technological topics: paths on Industry 4.0, Additive Manufacturing, Space Economy, Circular Economy.

Supply chain: e-scouting platform, certification project, Lean Manufacturing, KPIs, contracts, product insurance, Industrial Performance and other personalized paths for SMEs.

Internationalisation: collective participation in international exhibitions, international growth path of SMEs, preliminary assessment of the internationalization capabilities of the supply chain towards the US market, creation of value proposition.

Business networking: creation of mini-missions for SMEs using a Cluster2Cluster model (Switzerland, Baden Württemberg, Poland, Auvergne-Rhône-Alpes...)

Education: focus on Technical Institutes and Universities to support internships in companies, corporate training, Memorandum of Understanding with local institutions, agreements for the inclusion of undergraduates and recent graduates in Cluster companies.



ONGOING PROJECTS 2024

Advanced Air Mobility (AAM) Project for Winter Olympics Games 2026

The objective is to develop initiatives regarding mobility and safety. Considering mobility, the focus is on Advanced Air Mobility (AAM), which includes, in addition to traditional helicopter vertical flight, also Urban Air Mobility (UAM) through the use of innovative aircraft, hybrid propulsion aircraft, green fuel aircraft, full electric aircraft.

For the safety of the event, the topic is a control system for the management of satellite data that allows the monitoring of the event sites, also through the use of space technologies.

LAC is the "connection" between the Lombardy Aerospace Sector, the Lombardy Region, the Metropolitan City, the Municipality of Milan, the Milan-Cortina Foundation and the variety of subjects involved to strengthen the different programming coordination procedures, both for the success of the events and to achieve lasting legacies.

Around 20 member companies involved + reference bodies for the sector e.g. ENAC, ENAV.

Budget: still to be quantified.

LAC will ensure coordination by its staff. Companies and universities will develop research and implementation projects.

The project is linked to ENAC's Advanced Mobility development plan.

Internationalization and Business Networking activities

Organization of the joint participation of the Cluster and member companies in international exhibitions and B2B show.

Around 60 member companies participated in at least one B2B show or fair with the Cluster, for a total of more than 300 participations.

Planning and organization of Cluster2Cluster meeting with the participation of SMEs on both sides, development of contacts with transversal and cross-sectoral clusters.

Around 30 member companies involved.

Activities on the 2024 Cluster calendar:

Civil & Military Aeromixer III: Wrocław (Poland) 17 April 2024

Aerospace & Defense Meetings Sevilla: Seville (Spain) 14-16 May 2024

Space Meetings Veneto: Venice (Italy) 20-22 May 2024

Ila Berlin: Berlin (Germany) 5-9 June 2024

Farnborough International Airshow: London (United Kingdom) 22-26 July 2024

European Rotors: Amsterdam (Netherlands) 4-7 November 2024

Aeromart Toulouse: Toulouse (France) 3-5 December 2024

Casa Vallonia "Space & Aeronautics": Turin (Italy) 11 April 2024

Outgoing Mission To Türkiye: Istanbul (Türkiye) 17-19 March 2024



SYNERGIES

with other regional or national strategies

SMART SPECIALISATION STRATEGY S3

Smart Mobility and Architecture Connectivity and Information Ecosystem

PNRR

Mission 3

Infrastructures for sustainable mobility

Component 2

Integrated logistics intermodality

Mission 4

Education and research

Component 2

From research to enterprise

SMART SPECIALISATION STRATEGY S3

Smart Mobility and Architecture Connectivity and Information Ecosystem

PNRR

Mission 4

Education and research

Component 2

From research to enterprise

LOMBARDY ENERGY CLEANTECH CLUSTER



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Sustainability

TECHNOLOGY AREAS

Water Energy Nexus - water management and purification, Smart Energy Systems - energy production and distribution, Green Building, Sustainable Manufacturing, Clean Air, Circular Economy

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

ESECA (COSME), iDesignRES (Horizon Europe), RISE (I3), SYSCHEMIQ (Horizon Europe), EDIH Lombardia (MIMIT), SMaRT PCBs (MASE), Tech4lib (Fondazione Cariplo), Vanguard Initiative, ICEI Alliance (ICEI-A), European Cluster Collaboration Platform (ECCP), S3 Partnerships of European Regions (ESPC), Digital Innovation Hub (DIH), Enterprise Europe Network (EEN), Cluster Tecnologico Nazionale Energia (CTNE)

HEADQUARTERS

Via Pantano, 9 - 20122 Milano

WEBSITE

energycluster.it/en



NUMBER OF MEMBERS

140

of which



104
companies



10
research
organisations



26
other
entities



SUCCESS STORIES

In 2022, LE2C activated the working table on **Renewable Energy Communities (RECs)**. From this initiative the strategic supply chain "Transition to the RECs ecosystem" was born, promoted by the Cluster and officially recognized by the Lombardy Region. The partners' goal was to develop an inclusive bottom-up approach, different from the traditional turnkey model. The supply chain, led by TerrAria srl, involves 11 LE2C member entities, representing companies and consortia operating in the provinces of Bergamo, Brescia and Milan.

In 2023, the supply chain partners submitted a project proposal under the Lombardy Region's Call "**Filiere & ecosistemi 2023**" obtaining funding for the project "**Transition to the RECs ecosystem**." The project objective was to promote the deployment of RECs and to raise awareness of the importance of renewable sources for environmental and economic sustainability.

In addition to the creation of software aimed at supporting the start-up phase (technical and economic definition of the RECs) and the post-establishment phase (management of RECs), the project investigated **two pilot cases** related to an industrial group in Lombardy:

- 1. individual remote self-consumption:** New photovoltaic plant in Cuggiono serving individual self-consumption with virtual connection between two separate company sites, but under the same primary cabin.
- 2. renewable energy community:** Expansion of PV plant in Legnano to serve a corporate REC (between company and employees residing under the same primary cabin or local associations/foundations).



ONGOING PROJECTS 2024



SYNERGIES with other regional or national strategies

SYSCHEMIQ



SYSCHEMIQ (2022-2026) is a project funded by the Horizon Europe Program that aims to **accelerate the transition to a circular plastics economy**.

The main objective is to **promote the reuse of waste from plastic packaging**, as well as to **foster the adoption of innovative technologies for plastic collection and treatment** and to **facilitate the exchange of knowledge and sustainable practices** at the European level. The project involves **21 European partners** that represent the fields of industry, scientific institutions, education, public administration, cities and European networks.

To address the challenges related to plastic waste, SYSCHEMIQ aims to promote systemic change by adopting **efficient redesign, reuse and recycling strategies**. In addition, project partners are working on the **design of sustainable and innovative plastic products**, with the aim of facilitating recycling, reducing costs and minimizing environmental impacts.

LE2C is committed to **promoting the replicability of SYSCHEMIQ's systemic model in the Lombardy Region**. This commitment translates into the organization of workshops and webinars aimed at disseminating and sharing the digital tools and activities developed in the context of the project. By involving experts in the field, LE2C facilitates the exchange of knowledge and best practices to foster an effective transition to a circular plastics economy.

VANGUARD INITIATIVE

LE2C, representing the **Lombardy Region**, is actively involved in two working groups within the Vanguard Initiative: **ADMA** and **Hydrogen**.

ADMA Energy - Aims to make the EU a world reference in the **production of high-efficiency components for marine renewable and offshore energy**, promoting **collaboration** between SMEs, research centers and other actors to develop a **competitive, interregional value chain**.

Hydrogen (H2) - **LE2C is co-coordinator of the Hydrogen Table**, which aims to **foster European cooperation in the hydrogen sector**, focusing on the goal of **creating a knowledge and innovation community**, engaging SMEs and achieving the EU's green hydrogen goals.



In the context of hydrogen, LE2C, together with Assolombarda and H2IT, has promoted the creation of **HERE Network**, a networking platform that **facilitates dialogue between research and industry**, promoting the meeting between companies interested in investing in hydrogen and institutions with expertise and infrastructure for technological development.



In addition, within the LE2C cluster working tables, the strategic supply chain "**DeHSK - Development Hydrogen Skills**" was born, involving 22 actors spread over 7 provinces in Lombardy, aiming to **develop skills to promote a sustainable economy, support the innovation of hydrogen** as an energy carrier for **decarbonization**, and foster local economic growth in the clean hydrogen sector.

SMART SPECIALISATION STRATEGY S3

Sustainability Ecosystem

PNRR

Mission 2

Green revolution and ecological transition

Component 1

Circular economy and sustainable agriculture

SMART SPECIALISATION STRATEGY S3

Sustainability Ecosystem

PNRR

Mission 2

Green revolution and ecological transition

Component 2

Renewable energy, hydrogen, network and sustainable mobility

Component 3

Energy efficiency and building rehabilitation

Mission 4

Education and research

Component 2

From research to enterprise

LOMBARDY GREEN CHEMISTRY ASSOCIATION



GENERAL INFORMATION

REFERENCE ECOSYSTEM

Sustainability

TECHNOLOGY AREAS

Sustainable Chemistry, Biorefineries, Bioeconomy of the Future

EUROPEAN PROJECTS AND INTERNATIONAL NETWORKS

Attending several European projects (such as COSME, Horizon, LIFE, CEF). International Network: EUSALP, ARA- Automotive RegionsAlliance, Four Motors of Europe, ECH2A, C2Future

HEADQUARTERS

Piazza della Trivulziana, 4/A - 20126 Milano

WEBSITE

www.chimicaverdelombardia.it/en/



NUMBER OF MEMBERS



SUCCESS STORIES

Bioeconomy Dialogues are events organized by the LGCA Cluster to highlight and promote local projects and initiatives that mobilise the community active in the bioeconomy and green chemistry sector. Encouraging relationships between universities, research centres and companies, bioeconomy dialogues promote the exchange of knowledge and new business and research opportunities.

Organised annually at the headquarters of companies and universities, they represent an opportunity for all bioeconomy actors operating in the Lombardy region to meet, exchange ideas and information, to create a development plan ocused on topics and working groups of interest. The initiative was launched in 2018 and has mobilized over 500 operators in national and international matchmaking sessions.

Since 2016, the LGCA has been the technical coordinator of the **Bioeconomy Pilot of the Vanguard Initiative**. This European network brings together 35 regions interested in rapidly bringing bio-based products to market as promising alternatives to fossil-based ones. It is driven by the political commitment of regions to use their Smart Specialization Strategy to stimulate new growth through bottom-up industrial innovation in common priority areas.

The bioeconomy pilot project enhances interregional cooperation between industries and academia to stimulate innovation in the biobased sector by supporting the most promising pilot plants through interregional business opportunities and attracting public-private investments. To date, the pilot project has helped mobilize over 70 million in investments based on public-private partnerships.



ONGOING PROJECTS 2024



SYNERGIES with other regional or national strategies

Forest Eco Value (funded by Interreg Alpine Space Programme)



Forest EcoValue promotes sustainable business models based on valorising forest resources to ensure their conservation through circular, green and organic value chains in energy, construction, chemical/pharmaceuticals, food and recreational activities.

By bringing together public and private sector efforts and citizen participation, Forest EcoValue aims to create **market structures and payment systems for forest ecosystem services**. Through these sustainable business models, Forest EcoValue can generate green businesses and job opportunities, thus boosting the economy of the entire Alpine region.

SMART SPECIALISATION STRATEGY S3

Sustainability Ecosystem

PNRR

Mission 2

Green revolution and ecological
Transition

Component 1

Circular economy
and sustainable agriculture

SYMBIO (funded by EU Horizon Europe Programme)

Led by LGCA, SYMBIO provides European regional communities with tools and methods for building **bio-based business models based on circularity and industrial symbiosis**.

Thanks to tools for the integration of big data and artificial intelligence, SYMBIO shapes highly profitable symbiotic business models with replicable sustainability at the EU level to increase bio-based products on the market and provide a modelling and measurement system and monitor the symbiosis and its social, economic, and environmental impacts.

Involving all actors in the supply chain in a quadruplex approach unlocks local development potential to promote sustainable, innovative, tangible and participatory paths towards the green transition.

SMART SPECIALISATION STRATEGY S3

Sustainability Ecosystem

PNRR

Mission 2

Green revolution and ecological
Transition

Component 1

Circular economy
and sustainable agriculture

Co-design for the development of Lombardy

For Regione Lombardia, research and innovation are a pillar for the sustainable and prosperous growth of its territory. They permeate the entire spectrum of activities in the area - industrial, scientific and academic, human capital development, laboratories and infrastructure, citizens' activities, services and organisation - that can boast excellence in various fields in Lombardy.

In the current difficult economic and social context the primary objective of Regione Lombardia is to guarantee the multiple transitions that will have to be faced in a fair and governed manner, to allow the recovery and progressive development of its territory.

Strategic planning for recovery must include a renewed focus on economic, social and environmental resilience, with a strong emphasis on integration between international, national and regional planning. The interventions and measures to be launched in the short and medium term will continue to be aimed at boosting the competitiveness of businesses, increasing the wellbeing of citizens, supporting internationalisation, strengthening the ability to attract foreign investments, enhancing research and supporting innovation in line with the **Regional Strategy for Smart Specialisation in Research and Innovation 2012-2027** (Smart Specialisation Strategy - RIS3) - approved by DGR no. XI/4155 of 30 December 2020¹. Good governance of RIS3 is an enabling condition for European regions to use the R&I resources of the European Regional Development Fund (ERDF).

The implementation of the Strategy in the Lombardy territory is carried out through its operational tool - the **RIS3 Work Programmes for Research and Innovation**, which encapsulate the technological priorities, the expected impact and how the Lombardy R&I system works towards achieving the Agenda 2030 objectives, Agenda translated in the "Regional Programme for the Sustainable Development", Resolution XII/262 of 11/05/2023.

A well-structured and multilevel governance has been ensured for the definition of both RIS3 and the Work Programmes, a necessary requirement for the implementation of RIS3. Following the paradigm of 'Responsible Research and Innovation' (RRI), regional stakeholder representatives are involved and participated in a variable geometry. In particular, the Interdirectional Working Group, which involves representatives of the Regional Departments and the Regional System, takes part in the process internally within the Region, as technical support to the Interdepartmental Steering Committee, and externally the members of the Development Pact, the Regional Forum for Research and Innovation and the Lombardy Technology Clusters, which bring together business associations, trade associations, research bodies, enterprises and social partners.

Together with the Lombardy Technological Clusters, a solid **co-design process** of development priorities for each RIS3 Innovation Ecosystem has been set up, grouped by macro-topics reflecting a clear alignment with European policies and with a clear objective of obtaining synergy between regional, national and European funds starting from strategies such as the Horizon Europe Framework Programme, the National Recovery and Resilience Plan, the National Research Programme, the Regione Lombardia's Sustainable Development Strategy. With the support of the Clusters and other territorial stakeholders, the **peculiarities of the Lombardy production and innovation system, the needs of the Lombardy companies** and the **transversality** of the development trajectories on which to focus the initiatives and measures of Regione Lombardia and its system, concentrate investments, support the increase of the company's propensity towards innovation, through the integration of innovative technologies to meet the challenges posed by digitalisation and the transition towards a sustainable production and consumption model, have been translated into the identified technological priorities.

The co-design process, initiated in the 2014-2020 European programming period and consolidated in the current programming period (2021-2027), is constantly evolving, enriched with new technologies and stakeholder involvement methods to detect emerging opportunities in the area at an early stage so that strategic development lines can be aligned and "adapted" according to real changes in the territory.

¹ Update of the Regional Lombardia's S3 2021-2027 and Approval of the 2024-2025 Research and Innovation Work Programmes with Resolution XII/1430 of 27/11/2023.

The role of Confindustria Lombardia in supporting innovation in the regional production system

Confindustria Lombardia is the regional representation of Confindustria that brings together the **9 Lombardy territorial associations and ANCE Lombardia**. With more than **13,000 companies** and **around 700,000 employees**, it represents almost a quarter of the entire Confindustria system.

It acts as a hub of the Lombardy Confindustria association system, through the promotion and integration of existing excellences and competences and, in particular, by exercising the **exclusive representation of Lombardy enterprises towards the Region**, overseeing the European policies for development and lobbying on the definition and implementation of the ERDF and ESF+ European Programmes. The aim is to strengthen the Lombardy production and innovation system, with a focus on the competitive advantage of the manufacturing sector, which is a driving force for the entire economy and an indispensable asset for creating development, transition, mobility and employment, by building operational relations and conveying concrete and useful proposals for the policies and investments of Regione Lombardia. The aim is therefore to build and develop strong and constant institutional relations with regional interlocutors, working closely with the federated associations to produce proposals to be presented to the Region for the competitiveness of the Lombardy businesses. At the same time, Confindustria disseminates information and documents on the legislative and administrative activities of the Region, thereby promoting shared interpretation within the system.

Confindustria Lombardia also lobbies all the other stakeholders and liaises with Confindustria, contributing to the activity and definition of national level positions, focusing on the issues of greatest importance for the Lombardy region.

This activity involves constant joint work with the Confindustria in the region, implemented at a political level in the meetings of the statutory bodies, such as the **Presidential Council** and the **Committee of Directors**, and at a technical level in the work of the **Commissions and Technical Committees**, made up of officials from Confindustria Lombardia and the territorial associations according to their areas of expertise and specialisation: Environment, Clusters, Cohesion and Development, Communication, Energy, Europe, Internationalisation, Education and Training, Labour, Industrial Policy and Innovation, Security, Territory and Infrastructure.

Confindustria Lombardia also manages, upon instruction by its member associations, special shared projects.



These include the **Digital Innovation Hub (DIH) Lombardia**, set up by Confindustria Lombardia and the Territorial Associations with the aim of being the “gateway” for companies to digital innovation and with the task of stimulating and promoting the production system’s demand for innovation, supporting companies in the challenges brought about by the transformation in key 4.0. DIH Lombardia creates value for companies by carrying out activities and promoting initiatives aimed at bringing companies closer to 4.0 technologies and assessing their application in the production process. In this process, companies are accompanied by the DIH in the assessment of their own digital maturity and towards those offering solutions and innovation.



Confindustria Lombardia is also a partner of the Enterprise Europe Network through the SIMPLER consortium. **Enterprise Europe Network (EEN)** is Europe’s largest SME supports network, operating in over 60 EU and non-EU countries. The network offers information and support services for accessing European opportunities, for internationalisation, in partner search and supply and in the management of innovation processes.



Confindustria Lombardia is also among the founding members, together with IMS International and Politecnico di Milano, of the **World Manufacturing Foundation (WMF)**, established with the support of Regione Lombardia in 2018, as a platform to promote industrial culture, expanding knowledge, promoting innovation and fostering cooperation in the manufacturing sector. The Foundation’s defining business model is that of the *Triple Helix*: its competitiveness is enhanced by cross-sector collaboration involving industry, academia and institutions. The Foundation also organises the World Manufacturing Forum, an annual event dedicated to manufacturing to discuss the most urgent challenges facing the sector.



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