



# LOMBARDY ENERGY CLEANTECH CLUSTER

PRESENTATION LE2C

**2023**



# LE2C FROM 2009 TO TODAY



## MISSION

LE2C supports the growth, innovation and competitiveness of the Lombardy production system in the **Energy and Environment** sectors

2009

Lombardy Energy Cleantech Cluster is born, one of the 9 Lombardy Technology Clusters

2014

Become a “**Recognised Association**” by Region Lombardy



2015

First Italian cluster to obtain the **Gold Label** from ESCA, certifying the excellence of its work

2018

Renewal of LE2C's **brand identity** and **website**

2020

Opening a **VAT number**

2022

LE2C is a partner in **4 European projects**, **1 national project** and **3 regional projects**

2023

Acquisition of **3 new projects**



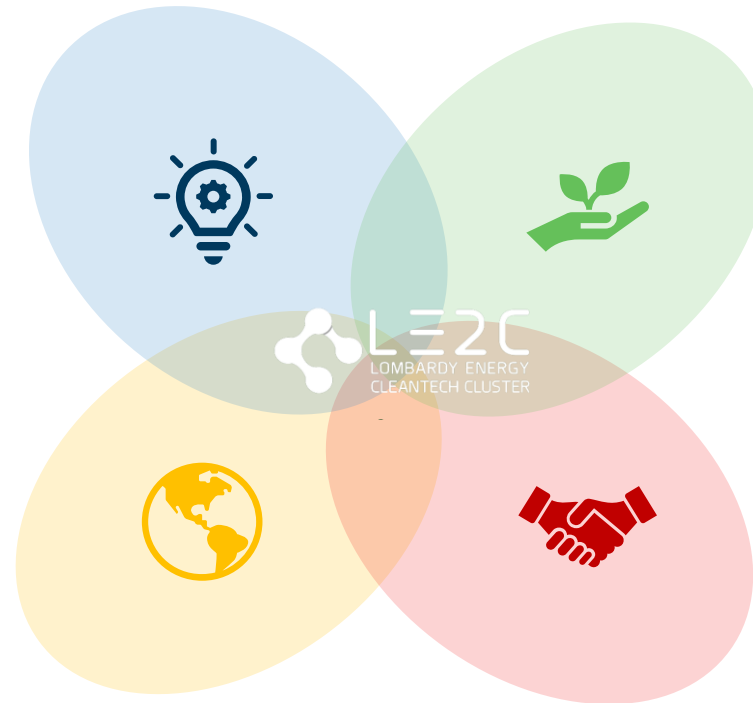
# PRIORITY OBJECTIVES



Lombardy Technology Cluster for Energy and Environment to support growth, innovation and competitiveness of the regional production system

It favours **technological innovation**

Promotes **internationalisation**



Strengthen the **Lombardy production system** by supporting the sustainability chain

Influences **regional, national and international policies**

LE2C supports the internationalisation of its companies and technology transfer, facilitating access to regional and EU funding and organising trade missions and B2B





# OUR MEMBERS



## OUR MEMBERS

 **103**  
ENTERPRISES

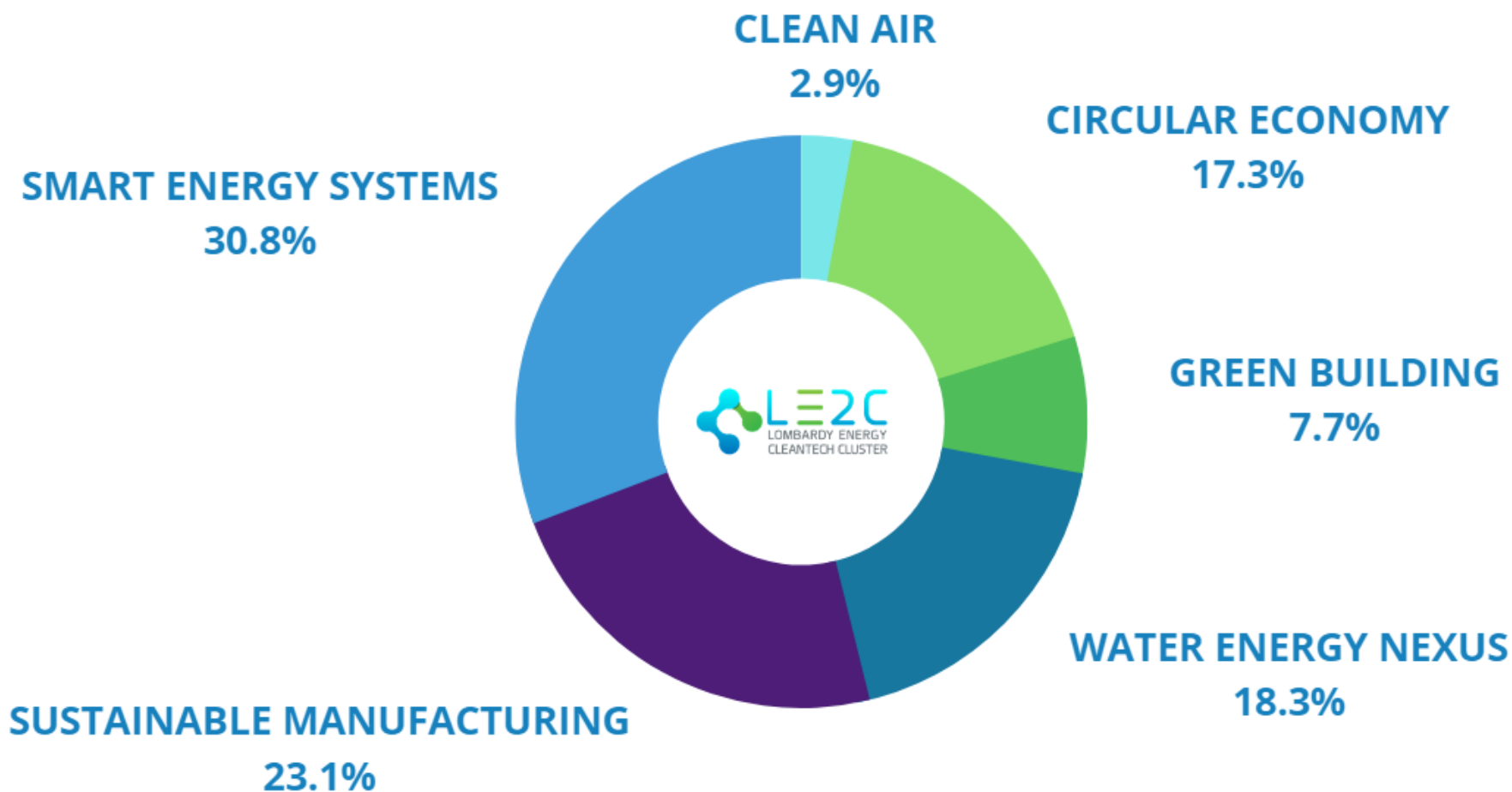
 **12**  
UNIVERSITIES  
AND RESEARCH  
CENTRES

 **14**  
INDUSTRIAL  
ASSOCIATIONS  
& NON-PROFIT  
ORGANISATIONS

 **8**  
PUBLIC  
BODIES AND  
INSTITUTIONS

 **2**  
FINANCIAL  
INSTITUTIONS

 **4**  
MEDIA  
COMPANIES

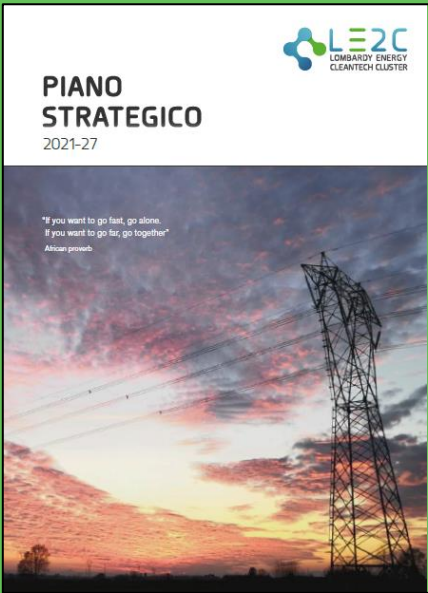




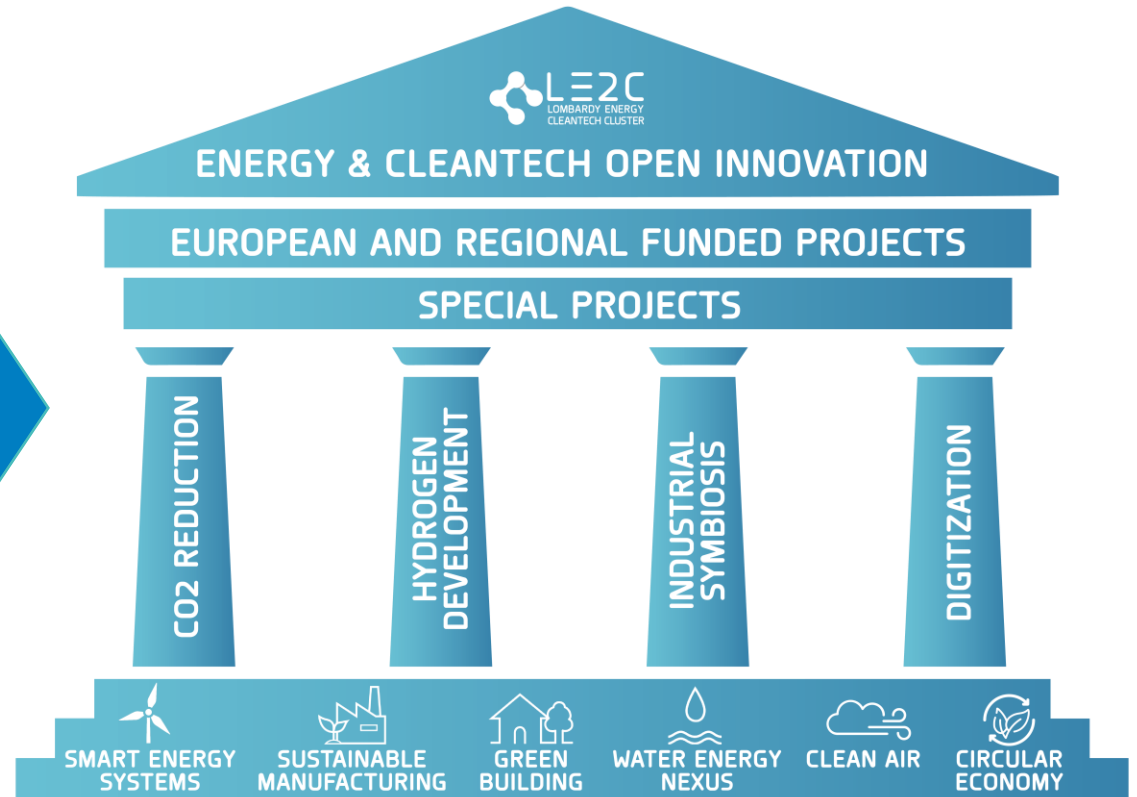
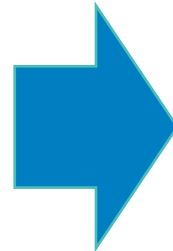
# STRATEGIC PLAN 2021-27



The Strategic Plan was presented in early 2021



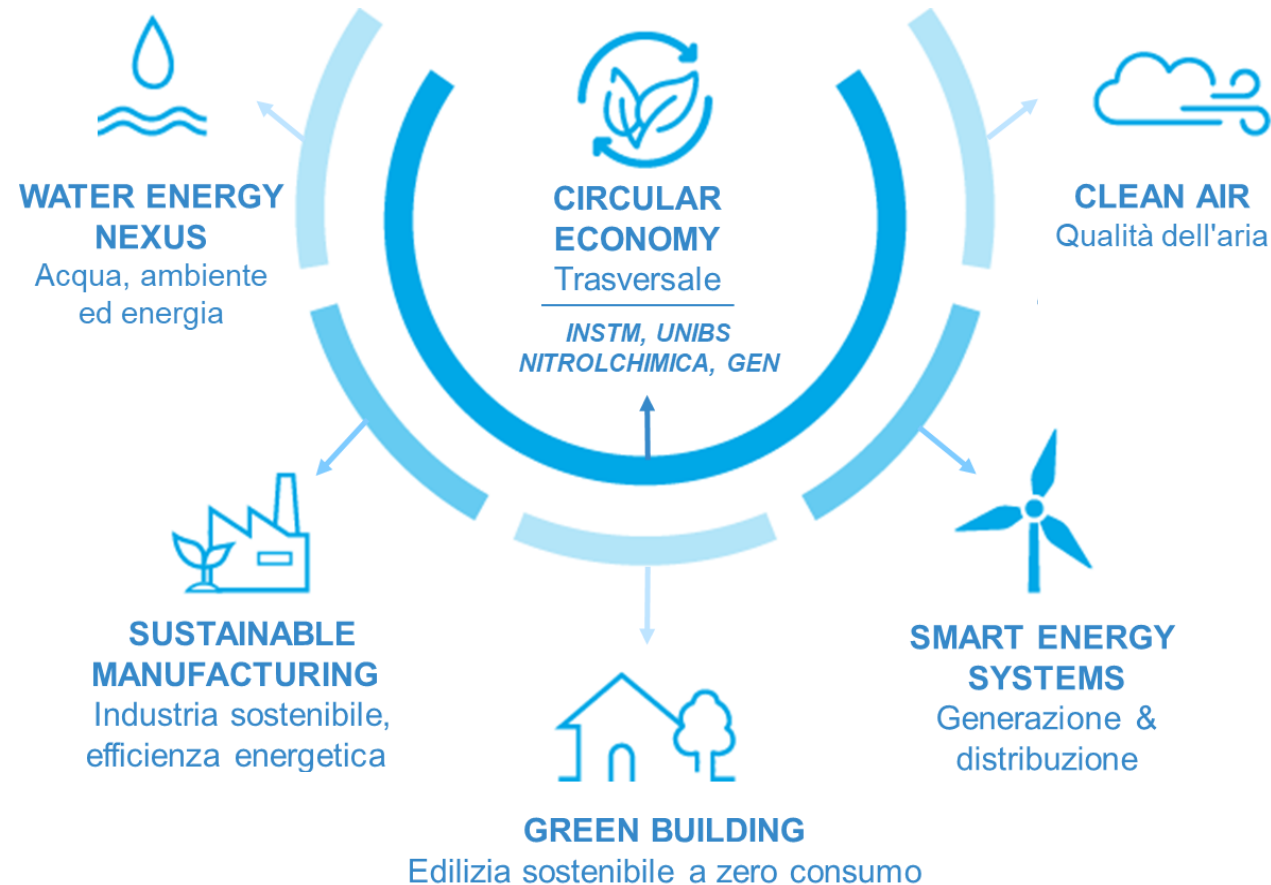
Available on the LE2C website!





# AREAS OF COMPETENCE

LE2C accelerates **dialogue** and **synergies** between **companies** and **research centres** in the **energy** and **environment** sectors with the aim of increasing growth, innovation and competitiveness of the Lombardy ecosystem. The activities are divided into **6 areas of competence**:



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# AREA SMART ENERGY SYSTEMS

*TerrAria – Giuseppe Maffei*

## ENERGY COMMUNITIES

- CER chain Lombardy Region

*Politecnico di Milano – Francesco Grimaccia*

## ENERGY OFFSHORE

- Pilot ADMA Energy and marine renewables

*Simplifhy – Sergio Torriani*

## YHDROGEN

- Pilot Hydrogen – Vanguard Initiative
  - H2ERE Network

*RSE - Omar Perego*

## BATTERIES

- Advanced materials on batteries (AMBP)



**Area Smart Energy Systems**

Generation e distribution

*Research contact person :*

**Ricerca sul Sistema Energetico (RSE)**

*Industrial contact person :*

**Turboden SpA**



# STRATEGIC WORKING TABLES



## Area Water Energy Nexus

### GdL Emerging and Priority Micropollutants (2018 – in progress)

- First results: publication of the 'Emerging Pollutants' Report and closure of the first phase of the project (2020).
- Today: 5 Working Subgroups: 3 active technical subgroups.

**Memorandum of Understanding** signed with the Lombardy Region.



## Area Smart Energy Systems

### HYDROGEN

- Activated **Platform H2RE Network**
- Hydrogen Pilot Coordination - **Vanguard Initiative** – 23 EU regions
- **Working table H2** - 24 companies, 5 research, 1 association



## Filiere strategiche

### Chain CER (2022 – in progress)

Chain recognised by Region L.15 participating companies and research institutes1 project presented/financed4 provinces involved (BG, BS, MI and VA)

### Chain «EDINNOVA2T» (2022)

Chain recognised by Region L.14 participating companies and research institutes2 provinces involved (BG and MI)



Joint work with Assolombarda and H2IT to realise the [H2ERE Network digital platform](#) where **research centres** and **companies** collaborate to realise **hydrogen-related experiments and projects**



**H2ERE**

**PRODUZIONE**

- Elettrolisi
  - AEM
  - PEM
  - SO
  - Altro
- Altri metodi di produzione

**STOCCAGGIO, TRASPORTO, DISTRIBUZIONE**

- In superficie
  - Serbatoi di stoccaggio
  - Idruri metallici
  - Altro
- Nel sottosuolo
- H2 in rete
  - Blending con gas naturale
- Vettori liquidi
  - Liquefazione
  - Vettori liquidi organici (LOHC)
  - Ammoniaca
  - Altro
- Trasporto
  - Gasdotti

**Filtri scelti**

- Altri metodi di produzione x
- Liquefazione x
- Gasdotti x

[Cancella tutti](#)



## European Collaboration Platform

### S3 Industrial Modernisation partnerships

Almost 150 regions and countries have engaged in 24 interregional partnerships along shared S3 priorities with the aim to develop investment projects for industrial modernisation.

1. **Vanguard Initiative ADMA Energy and marine renewable** (RL – **LE2C** co-coordinator)
2. **Advanced materials on batteries** - AMBP (RL Region Partner – member AFIL - **RSE** + **LE2C**)
3. **Water Smart Territories** (RL Region Partner – executive member **LE2C** + **Gruppo CAP**)
4. **Vanguard Initiative Hydrogen** (Region Lombardy – **LE2C** co-coordinator)
5. **ICEI Alliance** - (Industrial Circular Economy Investment)

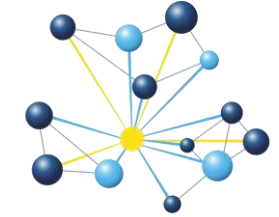
<https://s3platform.jrc.ec.europa.eu/s3-industrial-modernisation-partnerships>



# VANGUARD HYDROGEN INITIATIVE



**Network of 42 European regions** to strengthen the regional innovation ecosystem by ensuring the **active participation of industry** and related **business organizations**



**VANGUARD INITIATIVE**  
New growth through smart specialisation

## COORDINATORS

- **Lombardy (IT) – LE2C**
- Malopolska (PL)
- Slovenia (SLO)

## INVOLVED REGIONS

- Lower Saxony, Germany
- Saxony, Germany
- Norte, Portugal
- Gavleborg, Sweden
- Aragon, Spain
- Asturias, Spain
- Galicia, Spain
- Scotland, UK
- Wales, UK

*+ 4 regions have already asked to join*

## **MACRO PROJECT AREAS:**

- **Distribution and export**
- Production and production technology (standardization)
- **Business diversification** and product marketing
- **Application opportunities** (mobility, domestic e industrial uses)
- **Skills development and new professions**

## **DEMO PROJECTS:**

- **Standardisation of hydrogen pipelines and vessels “HydroComp”**
- **Replacement of fossil fuels for hydrogen in industrial processes**
- **Regional H2 Portfolios & Lessons Learned**
- **Hydrogen Skills Cooperation & Networking**
- **Small-scale Hydrogen Valley**

<https://www.s3vanguardinitiative.eu/pilots/hydrogen-h2>



# 2022 IN PILLS

18

**Informative and educational thematic meetings organised by LE2C**

16

**Events and initiatives in which we participated**

5

**Foreign Missions, Meetings and International Fairs**

3

**Strategic Working Groups**

11

**New members**

14

**Endorsement letters in support of members**

**30%** funding obtained out of 14 projects submitted

8

**Active projects**

Of which:

- **4** European projects
- **1** National project
- **3** Regional projects





# ACTIVITIES CARRIED OUT BY LE2C IN 2022



Some highlights

Download the [Activity Report 2022](#) from the website







# WEB AND SOCIAL COMMUNICATION



## 2022 IN PILLS



LINKEDIN

NUMBER OF PUBLISHED POSTS **124**

FOLLOWER **1.531** +447 in 2022

VIEWS TO PAGE **1.617**

VIEWS TO POSTS **66.551**



[www.energycluster.it](http://www.energycluster.it)

**+ 21.000** NUMBER OF INDIVIDUAL USERS ON THE SITE

**26.254** VISIT THIS WEBSITE IN 2022



TWITTER

NUMBER OF PUBLISHED POSTS **145**

FOLLOWER **700**

VIEWS TO POSTS **29.300**



## PROJECT

## BUDGET

## DURATION



**R-ACES** – HORIZON 2020, aims at facilitating **energy cooperation, heat recovery and heat exchange** in high potential European industrial parks.

**TOTAL** – € 1.980.376  
of which **LE2C** – € 144.816

**JUN 2020 – MAR 2023**



**EU TECHBRIDGE** – COSME, promotes the internationalization of SMEs operating in the sectors of **water and energy** towards the target markets of the USA and Canada

**TOTAL** – € 449.963  
of which **LE2C** – € 72.707

**SET 2020 – FEB 2023**



## PROJECT

## BUDGET

## DURATION



**ESECA** – COSME, promotes the internationalisation of SMEs operating in the renewable **energy and smart grid sectors**, towards sub-Saharan Africa

**TOTAL** – € 548.771  
of which **LE2C** – € 102.090

**SET 2021 – SET 2024**



**SYSCHEMIQ** – HORIZON EUROPE, aims to accelerate the transition to a **circular plastics economy**, with the ultimate goal of creating urban-industrial plastics districts.

**TOTAL** – € 11.280.000  
of which **LE2C** – € 142.687

**MAY 2022 – 2026**



**iDesignRES** – HORIZON EUROPE, aims to provide public authorities and grid operators with **open-source** tools to plan and optimise the adoption of **low- and zero-emission energy sources**

**TOTAL** – € 6.015.695  
of which **LE2C** – € 130.720

**JUN 2023 – 2027**

# Integrated Design of the Components of the Energy System to Plan the Uptake of Renewable Energy: an open-source toolbox



**HORIZON EUROPE → RIA (Research Innovation Action)**

Call: HEU-CL5-2022-D3-01-13

Energy system modelling, optimisation and planning tools

**GOALS:** provide public authorities and grid operators with **open-source tools** that enable them to plan and optimise the adoption of **low- and zero-emission energy sources** and the upgrading of resilient infrastructures on a regional, national and European scale

## CHAPTER:

Norges Teknisk-Naturvitenskapelige Universitet (**NTNU**)

## PARTNERSHIP:

**22 subjects from** → Austria, Denmark, France, Germany, Greece, Italy, Czech Republic, Spain, Norway, Holland, Ukraine

Total budget : € 6,015,695

Budget LE2C: € 130.720

Duration: 48 Months

LE2C participates in alla WP3 “Demonstrators/ Use cases and need owners requirements”  
T3.3 Lombardy industrial eco-region (M28-39) D3.2



# REGIONAL AND NATIONAL PROJECT



## PROJECT

## BUDGET

## DURATION



**SMaRT PCBs** – funded by the Ministry of Ecological Transition, the project aims to develop new technologies for the **recovery, recycling and treatment of waste electrical and electronic equipment (WEEE)**

**TOTAL** – € 297.000

**JUN 2022 – JUN 25**



**EDIH Lombardia** – funded by MIMIT, aims to ensure the **digital transition of industry**, with particular reference to **SMEs**, and public administration, through the provision of services facilitating the adoption of **advanced digital technologies**.

**TOTAL** – € 5.996.900

**MAY 2023 – OCT 25**

# European Digital Innovation Hubs – EDIH Lombardy



Financed by the **Ministry of Enterprise and Made in Italy (MIMIT)**  
**PNRR** - Mission 4 component 2 Investment 2.3

**OBJECTIVES:** the objective of ensuring the **digital transition of industry**, with particular reference to **SMEs**, and public administration, through the provision of services facilitating the adoption of **advanced digital technologies**.

**CHAPTER:** MADE SCARL

**PARTNERSHIP** made up of **15 Lombard players**: 1 Competence Centre, 1 Digital Innovation Hub, 5 technology clusters (including **LE2C**), 4 Business Associations, 2 Financial Institutions, 2 EIT.

Total Budget: € 6.015.695  
Budget LE2C: € 71.492  
Duration: 30 Months

**LE2C partecipa ai Work Package:**

**WP 4 “Access to funds”** – to promote the effective and customised development of fund access services.

**WP 5 “Innovation network and ecosystem”** – organisation of events aimed at raising awareness of digitisation issues in Lombardy.



# REGIONAL PROJECTS



## PROJECT

## BUDGET TOT

## DURATION



**FANGHI** – Call “Call Hub Research and Innovation”, aims to promote an integrated approach of technological and intangible knowledge for the **development of new technologies for sewage sludge valorisation.**

**TOTAL** – € 9.904.708,53

**JAN 2020 – DIC 22**



**BIOMASS HUB** – Call 'Call Hub Research and Innovation', promotes the development of 'BIOMethane for a Sustainable Society', an Italian Laboratory of Circular Economy from biomethane.

**TOTAL** – € 9.453.106

**DIC 2019 – DIC 22**



**REVENUE** – financed by Fondazione Cariplo, aims to valorise organic waste from separate waste collection by promoting sustainable development.

**TOTAL** – € 294.000

**MAR 2020 – OCT 22**





# STAFF



Presidente  
Riccardo Bellato  
NITROLCHIMICA



Vicepresidente  
Maurizio Delfanti  
RSE



Cluster Manager  
Carmen Disanto



Social Media Manager  
Claudia Doria



Junior Project Manager  
Silvia Brembati



Senior Project Manager  
Desiree Scalia



Project Manager  
Fabrizio Guarrasi



Junior Communication and Graphic Designer  
Beatrice Dantone



# CONTACT US



**LE2C**  
LOMBARDY ENERGY  
CLEANTECH CLUSTER



**Regione  
Lombardia**

Tecnologici Lombardi

## Info & Contacts

LE2C | Via Pantano, 9 - 20122 Milano (M3 Missori)  
tel. +39.02.58370816 - info@energycluster.it  
[www.energycluster.it](http://www.energycluster.it)

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