

POLIEDRA **Politecnico di Milano**

Poliedra, a research centre at Politecnico di Milano, develops and uses innovative methodologies and tools as regards environment, mobility, decision aiding and participation into public decision processes. Poliedra has participated in several European projects, designed and developed in partnership with research centres, public bodies and consulting companies.

In addition to its own staff, Poliedra can exploit the know-how of the 12 departments of Politecnico di Milano, one of the most important Italian technology universities in engineering, architecture and design.

EXPERTISE

- **environment and public participation**
 - strategic environmental assessment of plans and programmes and environmental impact assessment
 - environmental concerns integration in structural funds programmes
 - capacity building and awareness raising projects
 - public participation in decision-making processes
 - sustainable development strategies and environmental sustainability tools
- **decision aiding and operational research**
 - indicator definition and estimation
 - project and policy evaluation methods (e.g. multi-criteria analysis)
 - group decision support systems and negotiation procedures
 - GIS and webGIS designing and implementation
 - optimization of systems and processes
 - routing and scheduling algorithms
- **mobility**
 - flexible services (e.g. car-pooling, sharing, demand-responsive transit)
 - mobility management and soft measures for behavioural change
 - travel demand management measures (e.g. congestion charge)
 - electro-mobility
 - last mile distribution with electric and non-motorized vehicles
 - multi-modal traveller information systems
 - simulation models (e.g. for car and bike sharing)
 - urban logistics optimization models

In the last two years, Poliedra participated in the following European projects as partner or as technical assistance for Regione Lombardia ()*

2017-2021
Interreg Europe

[P-IRIS](#)

Policies to improve rural areas' innovation systems by professionalizing networking and use of innovation tools

2017-2021
Interreg Europe

[PROMETEUS](#)

PROMotion of EmobiliTY in EU regionS

2017-2017
Interreg Europe
(*Regione Lombardia)

[GPP4GROWTH](#)

Green public procurement for resource-efficient regional growth

2016-2020
Horizon 2020 SCC-01-2015

[Sharing Cities](#)

2016-2019
Urban Innovative Action

[OpenAgri](#)

New Skills for new Jobs in Periurban Agriculture

2016-2018
Erasmus +

[CARE](#)

Empowering climate resilience

2016-2018
Interreg Alpine Space
(*Regione Lombardia)

[CESBA Alps](#)

CESBA Alpine Space Sustainable Territories

2016-2018
Interreg Alpine Space
(*Regione Lombardia)

[INTESI](#)

Integrated territorial strategies for services of general interest

2016-2020
Horizon 2020 SCC-01-2015

[Sharing Cities](#)

2014-2017
Intelligent Energy Europe

[BiTiBi](#)

*Easy and energy efficient from door to door
Bike+Train+Bike*

2013-2017
Seventh Framework Programme

[INSPIRE-Grid](#)

*Improved and eNhanced Stakeholders
Participation In Reinforcement of Electricity Grid*

2013-2016
Intelligent Energy Europe

[Pro-E-Bike](#)

Promoting electrical bicycles and scooters for delivery of goods and passenger transport in urban areas

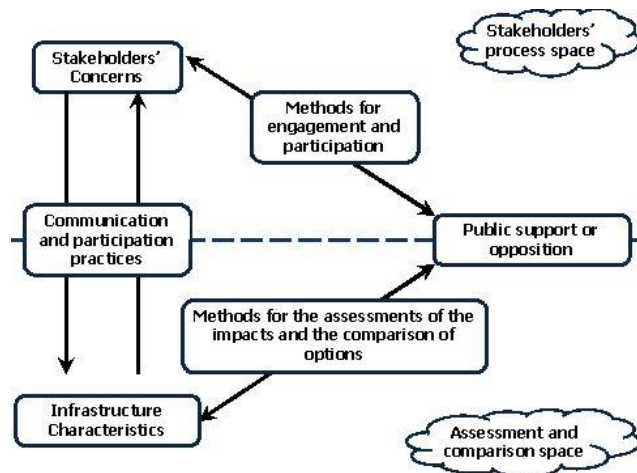
The following projects are examples related with **stakeholder engagement**, innovative **environmental assessment** tools, **energy**, and planning and strategies for **local and regional development**.

INSPIRE-Grid - Improved and eNhanced Stakeholders Participation In Reinforcement of Electricity Grid

With ten partners from six different countries, INSPIRE-Grid, a FP7 project, aims to increase stakeholder engagement in grid expansion projects, better manage conflicts, and speed up the permitting process. By way of an interdisciplinary approach, INSPIRE-Grid developed stakeholder-led processes and designed an expert-led European good practice guide. Methods to facilitate decision-making have been newly combined with engagement tools and tested with stakeholders from existing or concluded grid development project case studies.

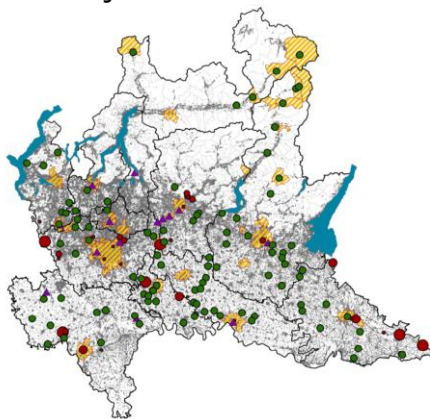
Poliedra lead the work package concerning the design and development of methodologies for the assessment and comparison of grid infrastructures.

Poliedra developed a participatory multi-criteria decision aiding procedure to structure and solve problems characterised by conflicting stakeholders' needs.



SEA of the Regional Program on Environment and Energy

Poliedra carried out the Strategic Environmental Assessment (SEA) of the Regional Program on Environment and Energy, which defines the strategy to achieve the Europe 2020 targets for climate change and energy sustainability. The Program's main objective is to reduce the energy consumption from fossil fuels, to increase the renewable energy sources and to reduce greenhouse gas emissions. The Program provides a coordinated set of actions concerning different sectors (residential, commercial, industry, agriculture).



The SEA assesses the significant effects of program's actions on the environment, as well as the cumulative effects, taking into account in particular three evaluation issues (health and quality of life, landscape, climate change).

"River contracts" technical secretariat



Technical support to Regione Lombardia on the management and development of "Contratti di Fiume" ("River Contracts"). *River Contracts* are negotiated planning tools focusing on the regeneration of river basins encompassing environment, landscape and urban development. Their planning process is based on public participation, involving all relevant stakeholders. The joint venture has worked as a technical secretariat supporting the regional team in developing public participation and territorial animation, spreading knowledge and backing up the construction of the basin plan's contents.

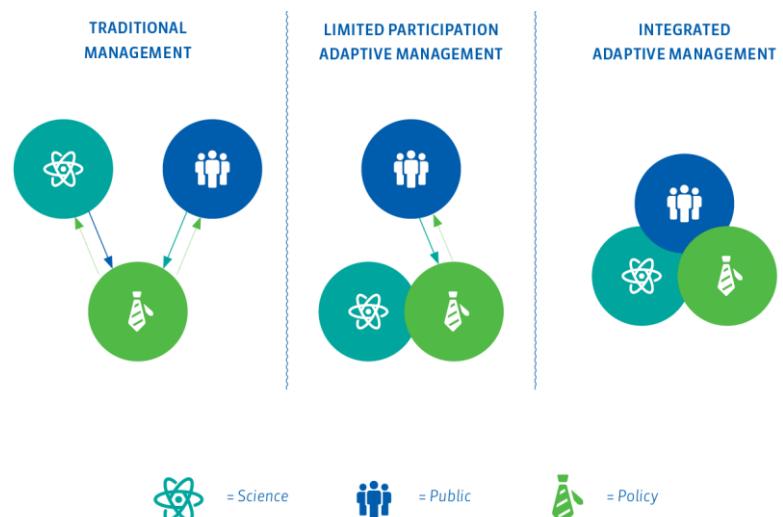
Poliedra has been in charge of supporting projects design on Lambro, Seveso and Olona basins. To this aim, Poliedra has participated in the inter-directorate working group set up to examine, assess and steer such projects. Moreover, Poliedra has edited the methodological document about the River Contracts monitoring system.

AWARE - how to Achieve sustainable WATER systems connecting Research, people and policy makers in Europe

The focus of AWARE, a FP7 project, was the definition of a methodology for the management of participative decisional processes, applied on three case studies (Po delta, gulf of Riga, Seine delta).

The methodology, developed according with Water Framework Directive, aimed to engage the key actors into the sharing of knowledge, moving from an organisational learning approach to the wider concept of social learning. Scientists, policy makers and citizens from Austria, Belgium, France, Germany, Italy, Latvia, Norway have contributed to the project.

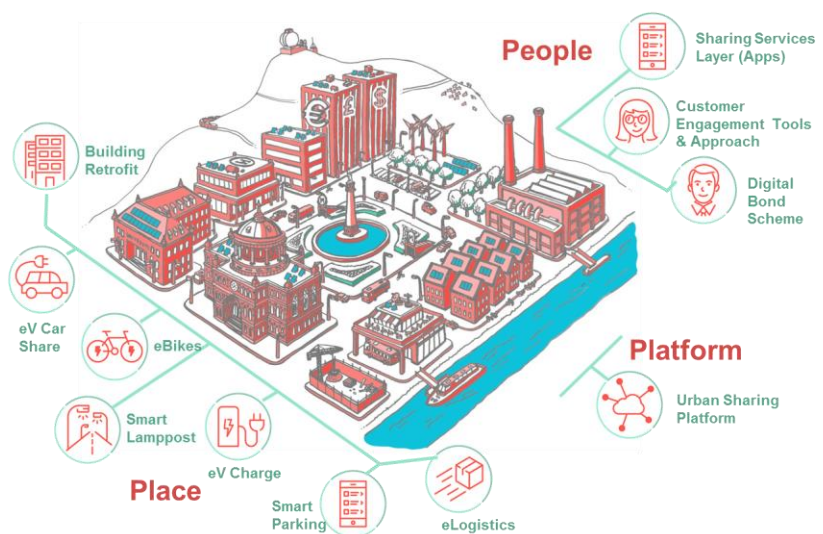
Poliedra was in charge for methodological aspects of the participative process, constantly monitoring the progress of the project.



Citizen engagement and E-mobility for Smart Cities and Communities

Sharing Cities is a H2020 project, funded under the Smart Cities and Communities call (SCC1), which involves more than 30 partners from 6 different European countries. Sharing Cities aims at creating smart districts in 3 lighthouse cities (London, Lisbon, Milan) and 3 follower cities (Bordeaux, Burgas, Warsaw). Innovative and smart solutions about electric mobility, building refurbishment, public lighting, ICT, citizen engagement will be designed, implemented and tested in each city, ensuring effective results and a high replicability. As regards the mobility measures, the project will develop services and infrastructures regarding electric car sharing, electric bike sharing, smart parking, e-logistics (with e-vans and e-bikes).

For Milan, Poliedra is responsible for the stakeholder engagement processes and supports the Municipality for the mobility measures setup. Moreover, Poliedra will develop an integrated engagement system for personal mobility, urban logistics and housing efficiency. The objective is to push to a behavioural change and social innovation through reward, and to co-design the services implemented in Milano within the project.



CESBA Alpine Space Sustainable Territories

Poliedra provides technical assistance to Regione Lombardia within the CESBA Alps project, financed by the Interreg Alpine Space. The objective of the project is to identify common criteria and indicators to define the environmental, economic and social development of mountain alpine regions.

**CESBA
Alps**



**Sustainable
Territories**

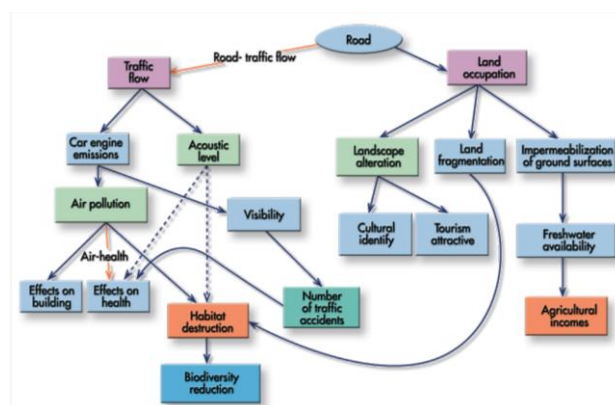
Poliedra will contribute to the definition of a set of local and supra-municipal indicators, significant for Lombardy, starting from existing databases and from indicators used in regional policies. A small set of significant key performance indicators, common to all participating regions, will be selected.

A software will allow to compare and represent the performance of the different territories. The project will also define the rules and modalities to implement its results in the policies of the participating regions.

SFIDA - Integration of environmental concerns and public participation into land planning processes

Project funded by the European Commission within the LIFE – Environment Programme and by Regione Lombardia. The main objective of the project was to design and implement a methodology and a Decision Support System (DSS) for integrating environmental concerns and public participation into land planning processes. The DSS was tested within the development of strategic options for sustainable tourism in the three partner Municipalities.

Several activities related to the decision-making process can be supported by the



DSS: organisation, transparency and communication; access to information and data analyses; generation of plan alternatives; estimation of the effects; evaluation and comparison of plan alternatives and negotiation between interested parties. The methodology used supports participation, transparency and traceability in the entire decision making process.

Poliedra was coordinator of the project and main scientific partner.

CARE - Empowering climate resilience

The project, financed by the EU Erasmus+ Program, involves 16 partners, 6 in Europe and 10 in Latin America, to address a very urgent topic: most Latin America countries are dealing with climate risk management issues, but they lack a holistic and common approach to resilience.



CARE aims at the collective production, development, sharing, testing and dissemination of Open Educational Resources, based on the use of collaborative Conceptual Maps. Being publicly available on the CARE e-learning platform in English and Spanish, they are expected to empower programme courses in HEIs (CARE Cmaps) and provide targeted training for professionals, public officers, policy makers (Open Training Modules).

Poliedra will contribute to most of the project activities and will lead WP2, aimed at developing CARE Cmaps and Open Training Modules.