

Best practices innovative per la gestione sostenibile delle problematiche urbane

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RINA: Competence and Experience



OVER 150 YEARS OF EXPERIENCE

RINA provides a wide range of services across the Energy, Marine, Certification, Transport & Infrastructure and Industry sectors through a global network of 170 offices in 65 countries.

RINA is a member of key international organisations and an important contributor to the development of new legislative standards.

RI A What is RINA today **3700** Colleagues 170+ Offices **65+** Countries **LEVEL OF RINA PRESENCE:**

Our markets





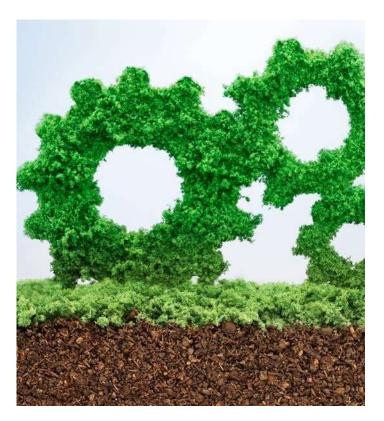
Sustainability to...



Increase Environmental Awareness

Ensure Compliance with local laws, international directives, and Standards

Improve Social and Economic Context



PLANHEAT Project





Integrated tool for empowering public authorities in the development of sustainable plans for low carbon heating and cooling

European Union Horizon 2020 Research and Innovation Programme

Project objectives:

The main objective of PLANHEAT is to develop and validate through real use-cases an **integrated georeferenced easy-to-use tool** for the mapping, planning and simulation of H&C systems at local level.

The tool will support local authorities in selecting, simulating and comparing alternative low carbon and economically sustainable scenarios for heating and cooling (from a panel of advanced technologies) that could balance the demand.



PLANHEAT Project

RINA role: Project Coordinator



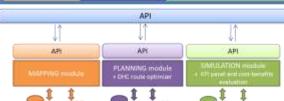
Support local authorities in

- Mapping the local available low carbon energy sources (RES and Waste Heat)
- Mapping the forecasted demand for heating and cooling
- Define and simulate alternative economically reliable scenarios (DHC, CHP, RES...)
- interactions of the new scenarios with the Understanding infrastructures networks (DHC, and pipelines, electricity. gas sewage. transportation)
- Evaluate the impacts of the new solutions through energetic, economic and environmental KPIs)

Open source and user-friendly tool







hand one many, soler radiation many weather data, subsell temperature, industrial waste heat, overage buildings energy consumption STACSTAT, ISA, Coninc. GEG2O, REVE shahohone. Openstreetmap, etc.)

Specific data from other

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Cadastral maps, gas networks, DH networks, electricity networks, sewage networks, energy consumptions from reconitored and users, etc.

Data created within the englect 1. Georeferenced database populated with HDH and COH to include UHI

2. Database including energy efficiency and retrofitting measures for buildings and related % of H&C demand reduction 3. Specific data on industrial waste energy-coming from industries, waste incenerators, power plants, and for

cooling purposes LMG terminals and WG decompression stations 4. Soudflic data for supply sources Salar energy, biomass, geothermal energy, water bedies, sewage network, data centres, shopping mall. underground sentilation shaft

Relevant input data for planning purposes like already available technologies libraries

linespy planeing oriteria for HIGC finergy objectives at local level fixed in existing plans, already existing urban plans for the future development of specific areas. national plans, resources availability and usability, technical constraints for technologies. installations, economic constraints. energy tariffs, interactions with other infrastructures including electricity networks, gas grid, transportation network, etc.

Specific data coming from mapping module

Specific input date for DHN

Input data from mapping module: a GIS file with the consumers location, producers of heat, street patterns where to install pipes , armoal host demand.

To build a database of primary energy factors and greenhouse gas emission

factors (including SCA software databases ETS emission factors, etc... | for EPI panel

To run hourly simulations of the selected spenario and related baseline

1. Database of technology costs investment costs, energy and non-energy gowrational costs

2. Database of energy tariffs for the Bu-28 countries differentiated per country and energy vector (natural gas, electricity, oil derivate fuels, etc.) 3. Hourly profiles of energy demand from transport sector

Technical Assistance for the Development of an Emission Inventory System



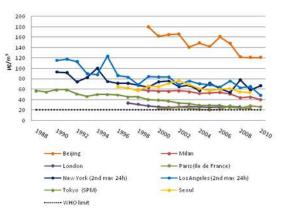
Client: Beijing Environmental Protection Bureau

Location: China

Scope of work:

- Capacity building on the international standards & European Experience
- Gap analysis on the current Beijing system
- definition of data collection and management tools
- Road map for the implementation of an El System
- Training workshops for City officials





UNALAB Project



Implementation and demonstration of co-created, innovative, replicable, and locally-attuned nature-based solutions to enhance the climate and water resilience of cities

European Union Horizon 2020 Research and Innovation Programme

Project objectives:

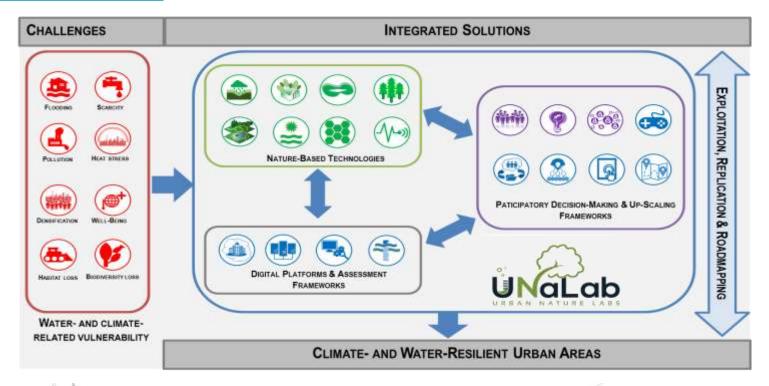
- Implementation of 'living lab' demonstration areas of nature-based solutions to enhance climate & water resilience of cities
 - Solutions selected via co-creation with stakeholders & implemented in the context of an integrated urban ecological approach
- Demonstration of evidence in 3 front-runner cities within urban innovation ecosystems
 - Tampere (FI), Eindhoven (NL), Genova (IT)
- Knowledge transfer & replication planning in 5 follower cities & beyond
 - Stavanger (NO), Prague (CZ), Cannes (FR), Castellón (ES), Başakşehir (TR)
- Creation of a robust evidence base & European framework for innovative, replicable, and locally-attuned nature-based





UNALAB Project







HISER Project



Holistic Innovative Solutions for an Efficient Recycling and Recovery of Valuable Raw Materials from Complex Construction and Demolition Waste

European Union Horizon 2020 Research and Innovation Programme

Project objectives:

- harmonized procedures, supplemented by an intelligent tool and systems for traceability of the supply chain, for highly-efficient sorting at source in demolition and refurbishment works,
- advanced sorting and recycling technologies with automated quality control for the production of high purity raw materials from complex C&DW,
- development of optimized construction products (such as low embodied energy cements, green concretes, bricks, gypsum plasters and gypsum plasterboards or extruded composites) with higher rates of recycled materials.



HISER Project



RINA role:



LCA-LCC effective tools for the evaluation of circular economy models

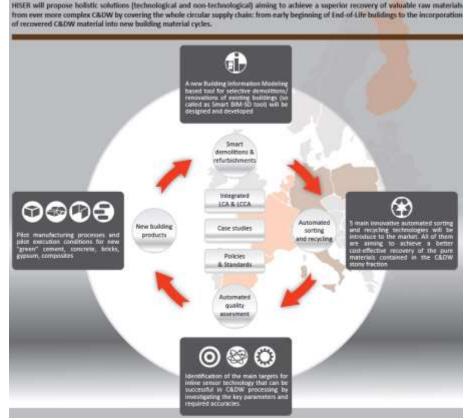


Development of policy and standard recommendations for the recovery and recycle of C&DW





The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 642085.



"World City Environmental Target" Road Map



Client: Beijing Environmental Protection Bureau

Location: China

Scope of work:

- Analysis of the Beijing situation on the path towards sustainability
- Identification of key topics for the City's sustainable development
- · Benchmark analysis with other World Cities
- Environmental Road Map definition based on the World Cities experiences
- Benchmarking Study on Air Quality and Mobility on 8 selected World Cities





