



An European urban transition project towards more sustainable cities through innovative solutions, in the fields of mobility, energy and digital.

## Smart City

### Global project

**Coordination: Cartif**  
**European grant: 18 M€**  
**30 partners, 6 countries**  
Period: Dec.2016 - Nov.2021  
Demonstrators: Nantes, Hamburg, Helsinki

@mysmartlife\_EU  
<https://mysmartlife.eu/>

### Nantes demonstrator site

**Coordination: Nantes Métropole**  
**European grant: 4,5 M€**  
**10 partners**

Coordinator:  
benoit.cuvelier@nantesmetropole.fr

[metropole.nantes.fr/mysmartlife](https://metropole.nantes.fr/mysmartlife)

## Energy



Action leader  
**Nantes Métropole**

Contact  
[jonathan.lefebvre@nantesmetropole.fr](mailto:jonathan.lefebvre@nantesmetropole.fr)

## ACTION OVERVIEW



### Energy retrofitting of multi-owner buildings

This action has been implemented by Nantes Metropole, in 2020. A deliverable (D2.3) has been written and describes in detail this action. Link to the publications listing: <https://mysmartlife.eu/publications-media/public-deliverables/>

#### ► OBJECTIVES

- › To increase the number of energy renovations in Nantes Metropole area
- › To support high-performance energy efficiency renovations, level "BBC" (Low Consumption Building)
- › To assess the impact of condominium renovations and gather feedback on this topic

#### ► IMPLEMENTATION



Project management Solécité - © Nantes Métropole

#### CHALLENGE

In light of the climate challenges, energy management and the development of RES are becoming two important levers for reducing greenhouse gas emissions, notably in the residential field. With its roadmap for energy transition, Nantes Metropole has shown its willingness to act, in particular with the 1<sup>st</sup> commitments focused on retrofitting. The widespread implementation of renovations in Nantes area is essential to achieve these objectives. Given the significant investment that this represents, the support of individuals in their energy renovation project, including condominiums, becomes imperative.

#### SOLUTIONS

Five of the 20 or so condominiums that have carried out BBC-level energy renovation work have been integrated into the mySMARTLife project. The work covered three main areas:

- › The insulation of the building: facades, high and low floors, windows.
- › Technical equipment: production of domestic hot water (DHW) and heating, replacement of the ventilation system.
- › Instrumentation for monitoring: heat meters, temperature, and CO2 sensors, ...

Two condominiums have also integrated renewable energy into their heating or DHW systems:

- › Connection to the heating network for heating,
- › Solar thermal installation for DHW production.



To facilitate the development of energy renovations, Nantes Métropole has provided financial aid for projects reaching the BBC level as part of the national "Investissements d'Avenir" program. These grants covered audits, project management studies, energy-impact work, and post-work evaluation.

## MONITORING

The monitoring consists in analysing the consumptions related to heating, DHW production, and ventilation, but also includes measurements on air quality and indoor comfort (CO2 rate, temperature, and humidity...). These data will be compared with meteorological data. A field survey of occupants will also be carried out. An examination with a thermal camera will allow to identify possible implementation anomalies or thermal bridges.

Several indicators have been defined to carry out this monitoring: energy consumption (heating and DHW), electricity consumption in buildings, and greenhouse gas emissions for each of these uses.

These indicators will be aggregated with those of all the actions of the Nantes-based mySMARTLife demonstrator to give a consolidated result of the overall impact of the project.

This evaluation will be used both to detect any additional adjustments to be made to the technical equipment, and to provide more general feedback on energy renovations in condominiums.

## ► BENEFITS

### Environmental

- › Increase in the number of renovations with high energy performance requirements in the area: reduction in energy consumption.
- › Lower greenhouse gas emissions

### Co-owners

- › Improved thermal comfort
- › Lower energy bills
- › Valuation of the condominiums

### Economic

- › Development of the business in the building field on the territory by the growth of renovations.



Project management Mervane  
Architectes © Mervane Architecte



Project management Axens © Stéphane Ménoret



Project management Solécité © Solécité



This project has received funding from the European Union's Horizon 2020 research and innovation programme under agreement n°731297.



2 cours du Champ-de-Mars  
Nantes 44 923 CEDEX 09  
Tél. : 02 40 99 48 48

[metropole.nantes.fr](http://metropole.nantes.fr)