

CSTB HABITAT TOULOUSE

BUILDINGS - FACILITIES

CUSTOMER STORY



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Habitat Toulouse captures accurate data for accurate decisions in smart buildings

In the city of Toulouse in the South West of France, the local housing authority, Habitat Toulouse, manages over 17,500 buildings. They opted to put in place a retrofit program to optimize their buildings' energy efficiency. As soon as the decision was made, they faced several key questions: On what basis were the costs to be justified? How were the renovations to be prioritized? To make the right choices, data was necessary. So how could they obtain complete and accurate facts to make the right decisions at the right time?

Habitat Toulouse turned to the experts in building innovations, the CSTB (the French Scientific and Technical institute for construction). Could they provide a solution to measure the buildings' current existing energy demands, and find the options to lower them as much as possible?

Empower smarter decisions based on accurate measurements

- **Collect all data**

The first step of the project was to deploy the Actility ThingPark LoRaWAN network platform solution. After that, measurements could begin. All types of data related to energy performance were collected: heating, cooling, ventilation, humidity, energy consumption of lighting and appliances. The data gathered by sensors was delivered to the ThingPark OS platform. In real time, the data was then analyzed and audited, taking into accounts factors such as weather conditions, and each family's behavior. Gerard Lepain confirms that:

"this service delivers accurate, objective measurements and the feedback necessary to support our commitment towards efficiency improvement and higher performance for our housing properties."

PROJECT KEY FIGURES

 **17,500** houses managed

 **94%** social housing

 **1,250** refurbished homes as of end 2015

- 2016-2017 Second winter experiment
- 168 Homes equipped with LoRa sensors

- **Measure impacts**

The following step of the project was to analyze the collected data, which not only enabled the housing manager to justify relevant thermal insulation, but also to quantify their impact. According to Lionel Bertrand, the main benefit of ThingPark is that *"it provides a clear and accurate visibility of energy performance, which has never been available before. This helps make smart decisions for future investments; decisions which are now founded on reliable information, not on intuition or approximation."*

For Habitat Toulouse, the pilot project in the 168 habitations will run for a second winter to consolidate energy efficiency data. As part of their efforts to constantly improve the performance of all their properties, the public housing authority plans to further deploy ThingPark gateways and sensors to more apartments throughout the city.

Measure energy performance and define potential improvements

A key objective for CSTB's is to stay ahead of market demands. This French organization provides research and innovation, consultancy, testing, training and certification services in the construction industry. When Habitat Toulouse approached them with their problem, Lionel Bertrand, Head of Innovation and Development in the Energy & Environment department, knew he had the solution. His team at the CSTB had been working with Actility to develop an innovative service for analyzing energy consumption in occupied buildings. The service could measure energy performance and highlight potential improvements by integrating various factors such as temperature, human behavior and electricity consumption. Homes are equipped with LoRaWAN (Long Range Radio technology) network sensors and rooftop base stations. Gerald Lepain, Real Estate Director at Habitat Toulouse, was thrilled with the possibilities the project offered, and chose to launch a test project in 168 apartments.

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G rard Lepain, Director of Owners at Habitat Toulouse

