

Operations monitoring solution in Accor Invest hotels

November, 2018 - Version 1.0

"The SMATI solution designed for water & energy monitoring tools provided us a first answer to the evolution of business needs. The teams are already considering the algorithms that could be deployed in the future to give even more efficiency to the solution in the interest of our customer and in the way of reducing our carbon footprint. "

Arnaud Patat, Senior Vice President Digital, Construction & Innovation AccorInvest



Company name : HXperience
Headquarters : Paris, FRANCE
Year founded : 2014
Industry sector : Software Publisher



Company name : Groupe AccorInvest
Headquarters : Luxembourg, LUXEMBOURG
Year founded : 2017
Industry sector : Hotel Property Owner & Operator



The LoRaWAN™ network is implemented by Kerlink's product, WiNet™ iFemtoCell

Challenge

Born from the sale by AccorHotels of its property portfolio, AccorInvest is now a world leader in hotel real estate. It acts as an investor, owner and hotel operator with a portfolio of 885 hotels in 26 countries.

The project between AccorInvest, HXperience and Kerlink was born from the group's general goal on reducing the carbon footprint and the "Low-carbon" plan initiatives launched in its real estate assets in 2016.

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Understand & act to reduce the carbon footprint of hotels and optimize their operations

For AccorInvest, the first issue was about sustainable and economic development. AccorInvest has identified that water & energy consumptions represented more than half of the average 17kg of CO₂ produced per available room each day.

To reduce its consumption, AccorInvest has first to be able to continually and precisely measure the various operation parameters, what is made technically and economically possible by connected devices. The digitalization of hotels should therefore make possible to set up a global performance management and decision-making support solution.

Guarantee comfort, quality of service and anticipate the evolution of customer needs in hotels

The quality of service for hotel guests, whether it comes to comfort or sanitary, is a major challenge for the hotel operator.

The cross-referencing of the parameters measured in the hotel in real time with operating data should make it possible to quickly identify corrective actions and value creation levers aimed at constantly improving the level of service provided to the customer.

The arrival of Artificial Intelligence will also allow the hotel manager to anticipate any technical problems that may arise within the hotel or predict some usage to offer more personalized services.



Transform and enhance the value of operation and maintenance jobs in the hotels industry

Finally, the implementation of these new innovative technological solutions contributes to the transformation of the operations and maintenance activities within hotels, by enhancing their strong business skills much more. Thus, making building parameters available in such a simple way allows everyone to focus on activities with high added value for customers, to remove some repetitive boring actions and to facilitate decision-making.

Solution

As early as 2016, AccorInvest began to focus on connected objects applied to monitoring water and energy consumption. After a pilot project, with Artelia and HXperience on around 20 hotels involving around 600 sensors, AccorInvest's operational maintenance teams launched the deployment enabling each hotel to monitor the water and energy consumption correlated with each use (accommodation, kitchen, spa, etc...) using business indicators, but also to monitor all critical maintenance processes.

The solution deployed is based on several connected devices installed in hotels that collect data on water, gas and electricity consumption, but also monitor the temperature of domestic hot water and refrigeration units as well as air quality within the hotel and immediately alert the operator in the event of a problem.

The solution is based on LoRaWAN™ technology, which offer wireless communication without SIM card and allows a long-range link between the sensor and the gateway.

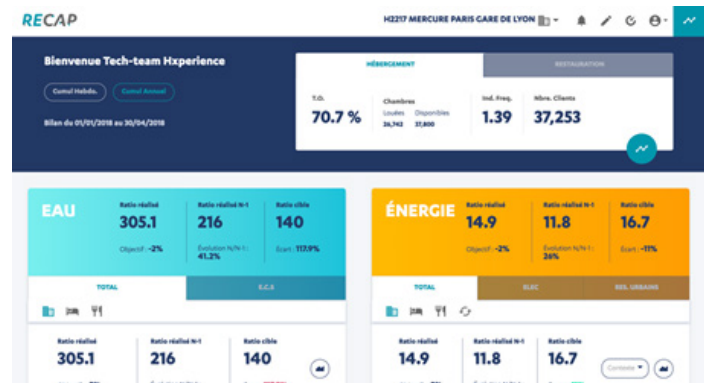
Placed inside the hotel, Kerlink's gateway – named Wirnet™ iFemtoCell – makes possible to deploy a LoRaWAN™ network that covers all cover all the sensors deployed in the building.

The solution provides unparalleled openness and scalability, while providing unparalleled security and network robustness.

All the data sent by the various connected objects is then collected within the SMATI software solution provided by HXperience, which allows the data from each hotel to be collected, processed and analyzed in real time.

Architecture of the deployed solution

Cross-referencing this information with the hotel's activity data (number of nights, number of meals, etc.) makes it possible to provide relevant business indicators for hotel managers and maintenance teams in the form of synthetic dashboards.



Example of dashboard

Benefits

The result of this first step of digitizing hotels is now being measured not only on consumption and therefore the carbon footprint of the AccorInvest group, but also on a better quality of service and comfort available to the customer with a promising impact on the operations and maintenance teams.

Better responsiveness of maintenance teams and customer satisfaction

Beyond controlling consumption, the solution implemented allows maintenance teams to have a real tool for monitoring the hotel's critical equipment and thus to be able to immediately detect malfunctions that avoid major inconveniences for hotel guests (hot water malfunction, air quality problem, water leak detection, etc.) as well as revenue losses associated with customer dissatisfaction.

Reduction of consumption, improvement of operational processes and support for investment decisions

The detailed analysis of consumption data by use makes it possible to identify the causes of over-consumption or operational malfunctions and to correct them. It also helps to guide teams towards appropriate renovation decisions in hotels.

Positive return on investment

This project and the associated operational actions have a Return on Investment rate of more than 40% thanks in particular to the identification of problems that were previously difficult to detect, such as water leaks that could save a hotel up to €30,000 per year, operating problems with Air Handling Units, or process problems within a hotel.

The solution proposed by Artelia, Hxperience and Kerlink now provides an initial response to AccorInvest's business needs, whether in terms of reducing carbon footprints, making critical teams available or guaranteeing comfort for hotel guests.

"AccorInvest obtained a result that met a very high level of business requirements. It is a chain of solutions that works and where each AccorInvest employee will find reliable data on a daily basis"

Arnaud Patat, Senior Vice President Digital, Construction & Innovation AccorInvest.

Next Steps

AccorInvest's ambition is to continue the deployment and evolution of the solution in its hotel network. In addition, AccorInvest is using this solution as the first concrete action in the group's digital

transformation. The data analysis tool must make it possible to guide investors and hotel operators in their decision-making and enable them to adapt their know-how to the changing needs of customers from the design phase of buildings.

The AccorInvest teams are working with Artelia to consider new use cases that they would like to add to the SMATI solution as well as all the predictive services they could have at their disposal thanks to the use of the Artificial Intelligence features available within SMATI.

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