

IMPROVEMENT

PUBLIC BUILDINGS USE MICROGRIDS TO ENHANCE THEIR ENERGY SUSTAINABILITY



PROJECT CODE: INTERREG SUDOE SOE3/P3/E0901
CALL: INTERREG SUDOE SOE3
PERIOD: 42 MONTHS
BUDGET: 2.501.926,27€
PRINCIPAL INVESTIGATOR: ANTONIO MORENO MUÑOZ



Today there is talk of "positive energy buildings", where surplus energy is shared between energy communities. Within this framework, the IMPROVEMENT project aims to enhance the energy efficiency of public buildings, ensuring that they have high levels of reliability and resilience due to the critical load needs that they meet.

From an energy point of view, the project will develop a new generation of renewable microgrids for the supplying of thermal and electrical energy. The latter will be based on advanced energy management systems, with hybrid storage supported by hydrogen, batteries and supercapacitors, which will be combined with predictive control techniques.

This is a project of the SUDOE Interreg call, in which countries from Southwest Europe, France and Portugal are participating. In Spain, the Andalusian Energy Agency and the Hospital de La Axarquía, in Malaga, are contributing

as partners. The research group at the University of Córdoba, coordinated by Professor Antonio Moreno Muñoz, focused on the design of an IoT platform for the supervision of the quality of the electrical energy, capable of generating

early alarms that report malfunctions that may occur in these types of networks.

IMPROVEMENT will run two pilot tests to implement and validate the new developments. One of them will be located in Puertollano (Ciudad Real), and the other, in Lisbon.

The UCO research team hopes to be able to incorporate the proposals and improvements developed by the project into public buildings; not only hospitals, but also other buildings that can also have critical loads.

Through its line of research, the IMPROVEMENT project aims to convert existing public buildings into zero-energy ones



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