

Challenge description

This company is an important electrical production and distribution company, with a specific core business in efficiency and energy saving solutions (Energy Service Company – ESCO): during the last years they have been focused on renewable energy sources and optimization of energy consumption in residential and industrial buildings.

A consistent part of company business is evolving in supplying not only the raw material (energy) but also tools and devices to optimize power consumption in final user application, offering money savings and gaining Euro White Certificates: these are documents certifying that a certain reduction of energy consumption has been obtained and the distributors of electricity are required to undertake energy efficiency measures that are consistent and real, with a pre-defined target reduction percentage.

How to prove and demonstrate that energy efficiency has been achieved?

Solution

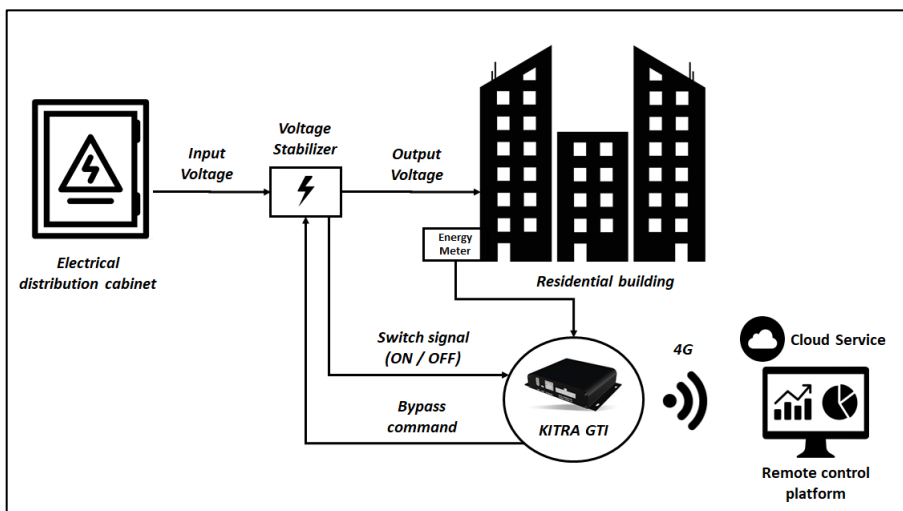
Each voltage stabilizer device placed in between the distribution cabinet and the building has been fitted with a KITRA GTI IoT Gateway and Edge Computing, that is collecting real information from the field of use, gathering data and sending information to a detailed monitoring & control platform on Cloud.

Thanks to the use of KITRA GTI the company can easily demonstrate the effectiveness of their tool, by simply by-passing the stabilizer device and showing the difference in energy consumption comparing the enabled / disabled condition: this is a secure and stable process to correctly measure the performance of their final product and validate it.

Technical breakdown

Each KITRA GTI collects the following data:

- **Energy consumption:** through a RS-485 MODBUS connection, KITRA GTI device is able to collect from the energy meter the data about real-time energy consumption of the complete building that the electrical cabinet is serving.
- **Bypass enable / disable command:** the digital output signal of KITRA is sent to a switch commuter to bypass the voltage stabilizer when it's needed to compare the "original" energy consumption of the building to the optimized situation.
- **Commuter switch ON / OFF confirmation:** KITRA GTI gets a digital signal from the stabilizer to prove that the bypass has been enabled or disabled, so the remote control platform can show the real-time consumption in the two conditions.



Conclusions and advantages

- **Real-Time performance validation:** the energy saving process is real-time certified, this means effective money saving to final user and a reduced environmental impact. The company can also get Euro White Certificates which are tradable on energy market.
- **Energy Saving:** the data collection on energy consumption enable possible marketing activities to give the final user a more precise visibility on their customer profile and to drive the importance of relying on energy saving tools and devices.
- **Improved visibility on final application and Remote Control:** all the voltage stabilizer are safely monitored in a remote control room, it means that the company can understand how the devices are used and keep the working parameters strictly controlled to prevent bad functioning