

Energy Monitoring application

INNTEA KETON - powered by KITRA GTI -



Challenge description

The mission of INNTEA company (www.inntea.it) is to provide its customers with energy plants and innovative solutions in order to produce, earn and save energy using the most efficient technologies compatible with the environment: born in year 2009 the company approach the business of each renewable source also in EPC mode (Engineering, Procurement & Construction contractor) taking charge of the design, construction and maintenance of the plant.

Energy monitoring and energy saving activities are key topic in today's business discussions and there is a constant growing need of collecting production data and gather information to track down and monitor the real performance indicators of any industrial field including power generation plants; for these reasons the company decided to invest in the development of an innovative platform to offer detailed information and improve safety features for their final users.

Solution

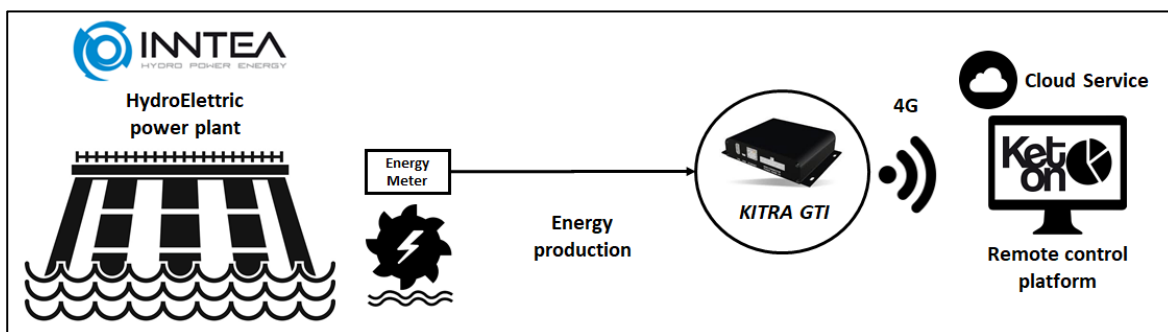
The willing to offer new high-value services network with a real impact on customer need led INNTEA to create a monitoring and control platform: KETON project was released in 2016 and it led to the creation of an energy monitoring platform that can manage the entire production and consumption process in real time, with tables and graphs and an easy dashboard visualization.

Thanks to the use of RushUp KITRA GTI the company is able to get the real-time data from the energy meter of each power plant, transferring all the acquired data through a secure 4G connection to the company Cloud application where the final user can perform aggregate analysis and define control threshold.

Technical breakdown

Each KITRA GTI collects the following data:

- Energy production: through a RS485 - MODBUS connection, KITRA GTI device is able to collect from the energy meter the data about real-time energy production of the hydro power plant and transfer information to KETON monitoring platform.
- Machine status: the device collects important information about the working conditions of the machine, enabling Big Data analysis and predictive maintenance operations.



Conclusions and advantages

- **Increased asset efficiency and predictive maintenance:** Understanding how a device is used and for how long allows for performance optimization and enhances profitability. When a monitored asset has a problem, technicians can get a full diagnosis prior to being dispatched. Technicians bring only required spare parts, increasing their onsite efficiency and helping reduce overall spare parts inventory.
- **Real-Time information:** the data collection on energy production means an high-value information to the final user, enabling detailed performance analysis and opening the possible integration into a complete setup of MES/ERP programs.
- **Market differentiation:** entering in the Industry 4.0 era means that adding even more new technologies can drive benefits to the next level. Companies that can have a digital twin of their operations will benefit from all the additional monitoring, control and optimization possibilities.
- **Reduced downtime:** Failures can be predicted and repairs scheduled in real-time. This increases asset availability and reduces operating costs.
- **Improved visibility and streamlined operations:** IoT-enabled asset tracking allows thousands of assets anywhere in the world to be managed from just one location. This value is more evident in business area of hydro power generation, where the location area of production plants is not always suitable for a direct and constant control.
- **Improved safety:** managing and monitoring the working conditions of the plant increase asset safety conditions enabling punctual maintenance.