



‘Monitor, detect, improve’

Spain
Food industry

TRL 9

Investment cost
40,000 €

Savings
46,000 €/year
425,000 kWh/year

Main NEBs (other benefits)
Improved management
Reduced energy consumption
KPIs potential increased

Monitoring system

In industry it is essential to know the energy consumption of each of the production processes, to optimize it and be able to control any deviation that may occur. The automation of reading processes greatly simplifies operations and generates significant cost savings. This industry incorporated a new system to integrate all the measurement equipment by using SMARKIA MONITOR. The monitoring system has allowed the middle and high-level directors to better know the energy consumption in the process areas, incorporate and follow up KPIs for their processes and obtain an better picture of the industry energy consumption, detecting energy efficiency measures.

Description

The use of a monitoring system allowed the plant to:

Monitor: Smarkia's telemetry cloud service allows real-time monitoring of any energy source (electricity, gas, water, heat ...). Easily track your consumption or energy variables that have relevance to the costs.

Analyze: due to its powerful algorithms, the telemetry service analyses energy data, generates indicators, calculates baselines,

detects deviations and predicts future consumption.

Share: information flows in real time throughout your organization generating events and alarms, delivering reports to measure, benchmarking ... Your user policy will allow you to adjust access privileges by workplace, facility or country.

Optimize: the telemetry service not only saves you energy, it also saves time and resources. Eliminate your needs infrastructure hardware and

software, maintenance contracts, backups ... It gives you the possibility of receiving the information in a timely manner that you need without the need for complex procedures of information processing, verification and validation of results.

What is the improvement focus?

To use monitoring system to improve the overall energy management of the industry, detecting high consumptions, benchmarking and

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using the information to propose energy efficiency measures.

The result in this industry was an energy efficiency improvement of +2% due to the detection by the monitoring system, thus the food

industry reduced its energy consumption from 8,500,000 kWh to 8,075,000 kWh.

Benefits

Calculations

The calculations show a quick idea of the costs and returns of this practice, as well as the economic impact after the implementation of the management system. In order to be clear, the initial situation is directly compared with the final situation and a table of differences is shown broken down into the different key points of savings, using an average price of electricity and emissions considering their expected evolution.

The investment costs include the initial costs plus fees for 5 years, which is the lifetime of this project. It could be extended to more years afterwards.

	Data
Productive capacity [t/year]	1,200
Annual energy consumption currently [kWh/year]	8,500,000
Annual improved energy consumption [kWh/year]	8,075,000
Annual energy savings [€/year]	425,000
Annual economic savings [€/year]	46,000

Total investment (€)	40,000
Energy savings [kWh/year]	425,000
Average electricity price [€/kWh]	0.11
Average emission price [€/tCO ₂]	20.00
Emission reduction [tCO ₂ /year]	127
Energy economic saving (€)	46,000
Emission economic saving (€)	2,500
Total economic savings (€)	48,500
Return period (years)	0,8

About ICCEE

The project ICCEE, www.iccee.eu, funded by the EU programme Horizon 2020, aims at improving energy efficiency in the cold chain of the food & beverage sector and making it easier for the sector to undertake energy efficiency measures across the entire supply chain and accelerate the implementation of energy audit results.

ICCEE follows a holistic approach that moves from a single company perspective to the assessment of the entire cold supply chain. Existing financing schemes for SMEs will be assessed: the optimal ones will support the implementation of energy efficiency measures. ICCEE objectives build on 2 pillars:



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