


Case study: Energy Management System for Shopping and Logistic Centers






CASE STUDY: ENERGY MANAGEMENT FOR SHOPPING AND LOGISTIC CENTERS


SPAR FACILITIES KEY FIGURES:


 Consumption of resources: electricity, natural gas, liquid petroleum gas, district heat, fuel oil, water


 Facilities: 100 stores, 235.000 m² (2 – Minimarkets, 38 – Supermarkets, 47 – Hypermarkets, 13 – Megamarkets & Restaurants)


 Company Headquarters: 67.000 m² (Administration, Warehouse of dry and fresh goods, Bakery)


ENERGY CONSUMPTION

 Electricity consumption: 71.160 MWh/year

 Heat consumption: 5.520 MWh/year

 Natural gas consumption: Total 10.404 MWh/year
By Bakery 5.816 MWh/year

 Water consumption 100.000 m³ / year

 **Primary energy consumers:**
Primary electricity consumers: refrigeration technologies, HVAC, lightning.
Primary natural gas consumer: Bakery

GENERAL COMPANY DESCRIPTION

Company Spar Slovenia d.o.o. is a part of the multinational retail chain. It has been on the Slovenian market for more than 25 years.

SPAR and INTERSPAR are centrally supplied from their own energy distribution center in Ljubljana. Technologically equipped warehouses and logistic centers enable the daily supply of goods to all SPAR and INTERSPAR storefronts across Slovenia.

The company decided to run an energy management project with the purpose of implementing a comprehensive energy management solution in order to:

- Monitor and analyze real-time energy consumption
- Define and analyze key energy efficiency indicators
- Implement an energy accounting system

PROJECT'S EXPECTED RESULTS

Alarm system implementation

The detection of deviations and their causes in energy consumption and the possibility of quick action (e.g. water leakage)

Advanced benchmarking

Key energy performance indicators, M&T analysis

OUR SOLUTIONS

Energy consumption monitoring: electricity, heat, natural gas, water

Integration with SCADA system

Energy performance analysis through the monitoring of key energy performance indicators: targeting energy consumption quantities and costs; alarm in case of consumption or cost deviations

Energy accounting: energy consumption benchmarking, analyses of energy costs, energy accounting system implementation

Monitoring CO₂ emissions

Solution architecture: Software: GemaLogic Platform

EXPECTED BENEFITS FROM PROJECT IMPLEMENTATION

Electricity consumption reduction (by optimized distribution of refrigeration technologies)

Reduction of energy losses caused by water leakages

Reduction of water consumption by leakage detection

Optimization of electricity consumption during the summer (air conditioning) and heat consumption in the winter (heating)