

Case Study: Energy Management System for Hospitals



ENERGY MANAGEMENT FOR HOSPITALS (REFERENCE - VINZENZ GROUP)

VINZENZ GROUP KEY FIGURES

 Consumption of resources: electricity, heat, water, natural gas
  Number of hospitals: 9
Facilities: 27 (330.400 m²)
  Metering points: 1000 +

ENERGY CONSUMPTION

 Electricity consumption: 36.000 MWh/year
  Heat consumption: 28.000 MWh/year
  Natural gas consumption: 27.000 MWh/year

 Total energy consumption: 91.000 MWh/year
  **Primary energy consumers:** lighting, cooling technologies, ventilation, space heating, domestic water heating, steam production

GENERAL COMPANY DESCRIPTION

The Vinzenz Group is one of the largest private providers of care facilities in Austria. The group includes seven hospitals, inpatient and outpatient rehabilitation centers and two care homes.

In order to comply with European Energy Efficiency Regulations, the implementation of the ISO50001 Energy Management Standard and meeting energy consumption reduction targets, the Vinzenz Group decided to carry out an energy management project with the following purposes: to implement an advanced energy management solution to save energy, restrict consumption and increase efficiency.

The main challenges were:

- **High energy consumption:** high energy consumption due to 24hour operation (lighting, heating, air condition), wide usage of cooling and heating technologies, the consumption of a large amount of natural gas for heating and an enormous consumption of hot water;
- High thermal and water losses;
- Lack of unified and efficient energy management system which covers all the facilities and providing energy consumption analyses, comparison and benchmarking between several buildings.

The main objectives of the project were:

Unified energy management system to monitor, accumulate and analyze energy consumption data for all the facilities »at one place«, which will allow energy consumption benchmarking and comparison between all the buildings, the remote monitoring of energy consumption, implementation of an alarm system, defining and analysis of key energy efficiency indicators and the introduction of an energy accounting system.

OUR SOLUTIONS

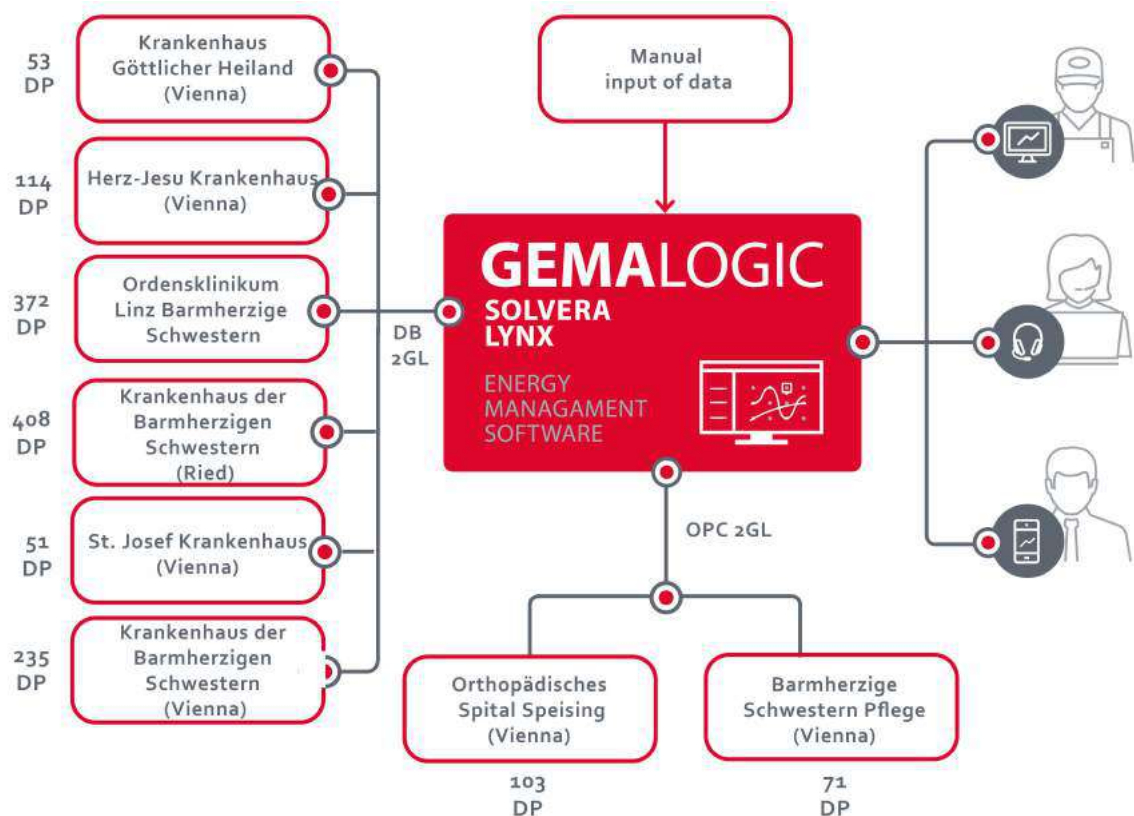
- **Tailor-made monitoring and customisation of the software platform for targeted analysis of energy consumption, especially in cooling and heating technologies:** total heated water consumption, consumption of heated water from solar collectors, consumption of heated water, energy consumption of boilers, temperature monitoring of sanitarian water;
- **Energy efficiency analysis:** definition of key energy efficiency performance indicators;
- **Energy performance and targeting:** energy consumption, cost targeting and alarm in case of consumption or cost deviations;
- **Energy accounting:** energy consumption benchmarking and advanced analysis of energy costs.



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SYSTEM ARCHITECTURE

DP - Data Points



RESULTS

Digitalization of energy data

- Systematic and real-time energy monitoring, advanced analysis, benchmarking, and forecasting

Advanced energy management and analytics

- Supporting the implementation of organizational and technical measures for effective energy management
- Targeted monitoring of energy consumption and costs

Alarming system implementation

- Identification of deviations and their causes (e.g., water leakage) in energy consumption and the possibility of quick actions

Energy efficiency improvements

- Greater efficiency and easier monitoring of the effectiveness of implemented measures

Introduction of a comprehensive energy management system and measures as a basis for achieving the energy consumption reduction target

- Energy consumption reduction in the first year of solution implementation
- Reduction of energy losses caused by water and compressed air leakages

Support in ISO 50.001 implementation

SOLVERA
LYNX

