SOLVERA
LYNX

Case Study: Energy Management in the Glass Industry

CASE STUDY: ENERGY MANAGEMENT SYSTEM IN THE GLASS INDUSTRY

GENERAL COMPANY DESCRIPTION

The Steklarna Hrastnik Company is the leading glass products manufacturer in Slovenia with a 150-year tradition. The company specializes in special glass packaging, glassware and lighting, as well as handmade items. The production takes place in two organizational units, where the energy consumers and measuring stations are dispersed over the entire production area.

As an environmentally and energy-friendly company, Steklarna Hrastnik decided to carry out an energy management project. The project included the complete digitalization of energy data with the purpose of implementing an energy management system which provides a transparent view of energy consumption, offering a tool for employees to perform more relevant energy management and energy efficiency activities in order to reduce energy costs. Energy optimization of glass manufacturing across such large and dispersed industrial area was made possible by utilizing new innovative LoRaWAN communication technology instead of the classical wired system.

OUR SOLUTIONS

Energy consumption monitoring

Electricity, compressed air, natural gas, oxygen, water (sanitary water, cooling water)

Energy efficiency analysis and predictions

1. Energy efficiency performance indicators
Energy consumption vs production output
Energy consumption vs m³ compressed air
2. Energy performance and targeting
Targeting energy consumption quantities and costs
3. Alarm in case of consumption or cost deviations

System and process monitoring

1. Machine status monitoring
Machines, furnaces, lighting, cooling technologies, vacuum pumps
2. Air and Water conditions monitoring
Temperature, pressure
3. Alarm in case of system failures, inefficient operations and water leakages

RESULTS

1. Transparency over energy/and water consumption and detailed analytics (digitalization of energy data, alerts and short response times in case of system deviations)
2. Energy efficiency improvements through real time energy monitoring and advanced analysis, benchmarking and forecasting
3. Time-independent overview and evaluation of energy consumption in accordance with tariffs, thus allowing schedules optimisation for production.

BENEFITS

1. **Energy consumption reduction in the first year of solution implementation**
- Electricity consumption reduction
- Natural gas consumption reduction
- Total energy consumption reduction
- Reduction of energy losses caused by water and compressed air leakages
- CO_2 emissions reduction

2. Support in ISO 50.001 implementation

KEY FIGURES

Locations: 2

Consumption of resourses: Electricity, compressed air, natural gas, water, oxygen

MEASURMENTS

Data points: 315

64 from the SCADA system

2 through gas supply system