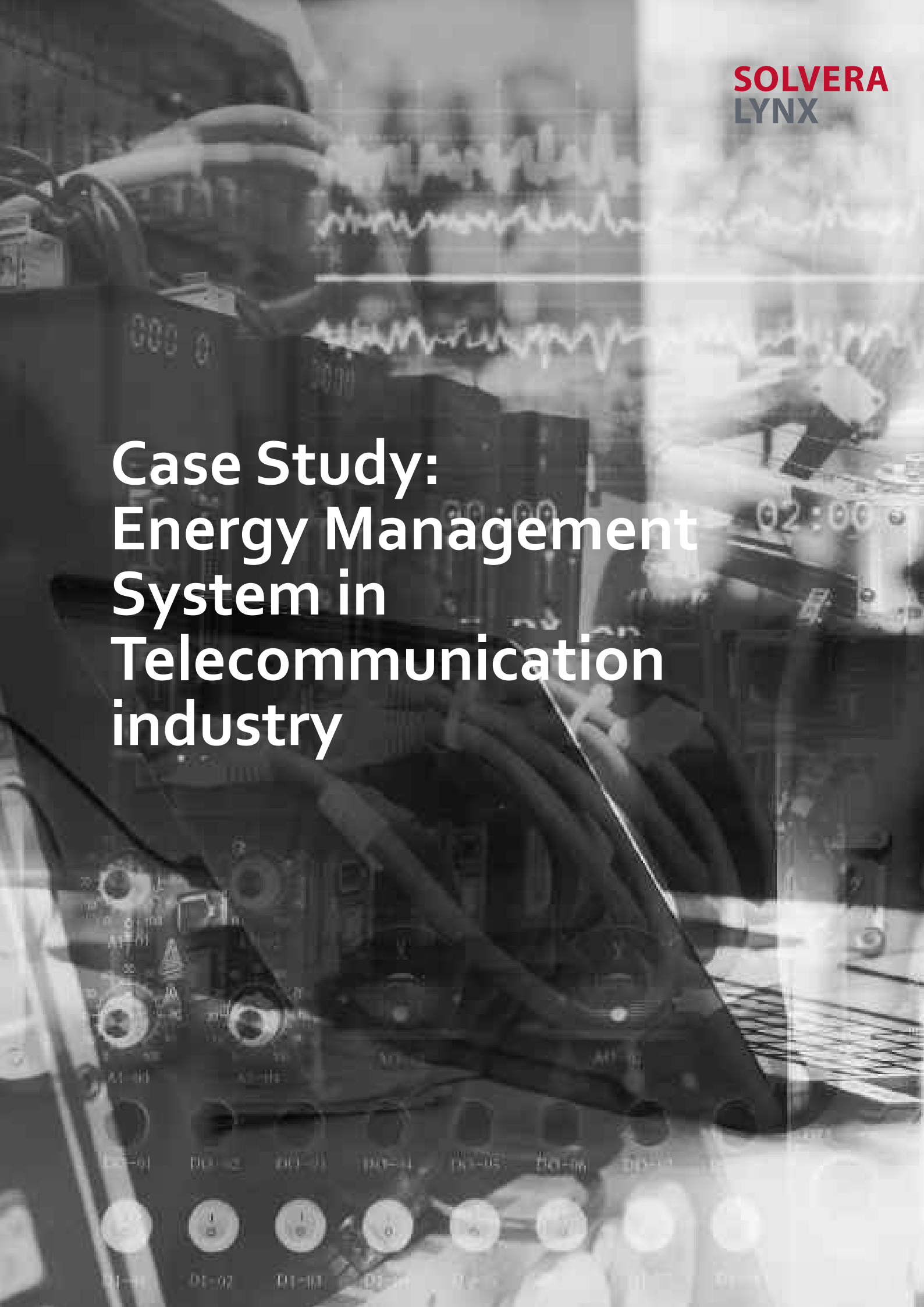
SOLVERA
LYNX

Case Study: Energy Management System in Telecommunication industry



ENERGY MANAGEMENT IN TELECOMMUNICATION INDUSTRY

TELEKOM SLOVENIJE KEY FIGURES

Consumption of resources:
Electricity, heat (district heating and natural gas)

Electricity consumption:
80 GWh/year

Data sourses:

- Bill collection
- SCADA Historian
- Communication devices GsmBox.X4 - 32 data points

GENERAL COMPANY DESCRIPTION

Telekom Slovenije is a comprehensive communications service provider in Slovenia, it also operates through its subsidiaries on the markets of South-Eastern Europe in Kosovo, Bosnia and Herzegovina, Croatia, Serbia, Montenegro and Macedonia. It also operates through its subsidiaries on the markets of South-Eastern Europe in Kosovo, Bosnia and Herzegovina, Croatia, Serbia, Montenegro and Macedonia. The Group's activities include fixed and mobile communications services, digital content and services, multimedia services and digital advertising, system integration and cloud computing services, construction and maintenance of telecommunications networks, and conservation of natural and cultural heritage in the Sečovlje Saltpans Regional Park.

The main objectives of the EM project were: complete digitalization of energy data for energy management system implementation, accumulation of all data in one place (collection of data from different sources), transparent view of energy usage , implementation of a tool that enables the introduction of a comprehensive energy management system and energy efficiency initiatives in order to reduce energy consumption and costs, business unit comparison & benchmarking.

OUR SOLUTIONS

IMPLEMENTATION OF THE PROJECT IN THREE STEPS:

- **1st Step - Bill Collection - Entry of Accounting Data.** Collecting data about electricity consumption from the measurement points for all locations on a monthly basis (high and low tariff), billing power and consumed reactive energy. Data is imported from Excel, which was sent to Telekom by electricity suppliers.
- **2nd Step – Historian (a service that collects data from various devices in the SCADA network and logs into a database) – Data Transfer from an existing Information System**. Data from the sub-measurements of electric energy (collocation, technology) are collected in the Historian database. From here, information is transmitted from the existing information system to the GemaLogic application server.
- **3rd Step – Data Transfer via Communication Devices (ComBox.X4).** Data from calorimeters and gas meters (for large object heating) are transmitted via the Solvera Lynx communication devices.

INNOVATIVE TOOLS FOR ENERGY MANAGEMENT

- **Energy Management Software GemaLogic®: Basic Tools** - Data Analyses, monitoring (Current, Archive Data), Alerts (SMS, e-mail), User's created analyses / reports, Dashboards; **Energy Efficiency Tools** - Contour Plot, Specific Consumption (KPI), Monitoring & Targeting (M & T), Cumulative Sum of Deviations (CuSum); **Special tools** - Energy bills archive, Tariff & Costs analysis, Weather data & forecasts, Data import, Data exchange (web services).
- **Communication equipment:** 21 GsmBox.X4® devices.

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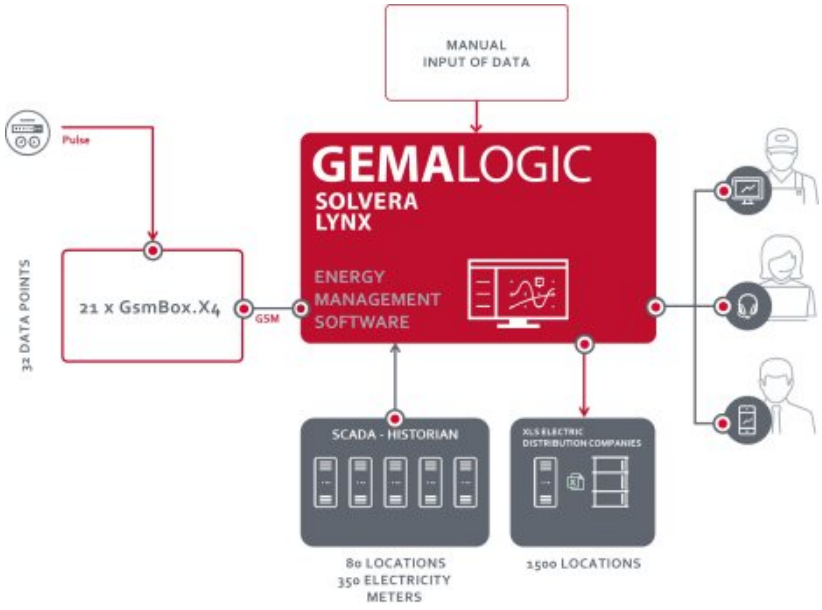
SYSTEM ARCHITECTURE



RESULTS AND BENEFITS

Implementation of a tool that enables the introduction of a comprehensive energy management system and energy efficiency initiatives in order to reduce energy consumption and costs.

Complete digitalization of energy data and transparent view of energy usage
- Systematic and real-time energy monitoring, advanced analysis, benchmarking
- Multi-level Energy Usage Monitoring - from maintenance workers to company management

Advanced energy management and analytics
- Targeted monitoring of energy consumption and costs
- Energy bill insights for the people responsible for EM

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

Energy costs reduction
- Analyses and avaluation of offers from different energy suppliers

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