Energy management system of Salonit Anhovo cement manufactory

Salonit Anhovo is the leading cement manufacturer in Slovenia and boasts a 90-year tradition. Cement is a basic constituent of concrete and is a widely used construction material. Salonit specializes in hydraulic cement, special cement, lime, mineral raw materials, composites, etc.

The cement industry is a major energy consumer, so Salonit Anhovo is keen to develop new technologies and optimize their energy use.

The industrial environment is inhospitable, contains a lot of dust particles, has a high moisture rate and greasy areas.

As an environmentally and energy-friendly company, Salonit decided to carry out an energy management project. The project included an introduction to energy management systems and energy optimization in cement manufacturing. It is a large industrial area and LoRaWAN communication was the only suitable alternative to the classical wired system.
Salonit uses over 90 GWh of electrical energy annually, more than 8 GWh of gas, and over 400,000 m3 technological water. The cost of the consumed energy in the company amounts to more than 6,000,000 EUR/year. The industrial area spans over an area of more than 6 km^2.

In order to effectively connect the meters and the network, we set up the LoRa wireless communication.

In order to reach and carry out the measurements and prices, we selected ComBox.L, an innovative product by Solvera Lynx.
Expanding the existing LoRaWAN network enabled us to cover the entire industrial area and set up the communication devices in all the less accessible places.

Salonit Anhovo consumes a lot of energy sources. They perform measurements of electric energy use, gas, compressed air, and technological water. Getting some of the measurements is tough, as all the water meters are located underground.
We installed 36 ComBox certified LoRaWAN devices, 11 of which are for gas metering, 10 are for water metering, 5 for compressed air, and 10 are used for electricity meters. The rest of the metering was done via conventional methods and were hardwired to the Combox.M communication devices.

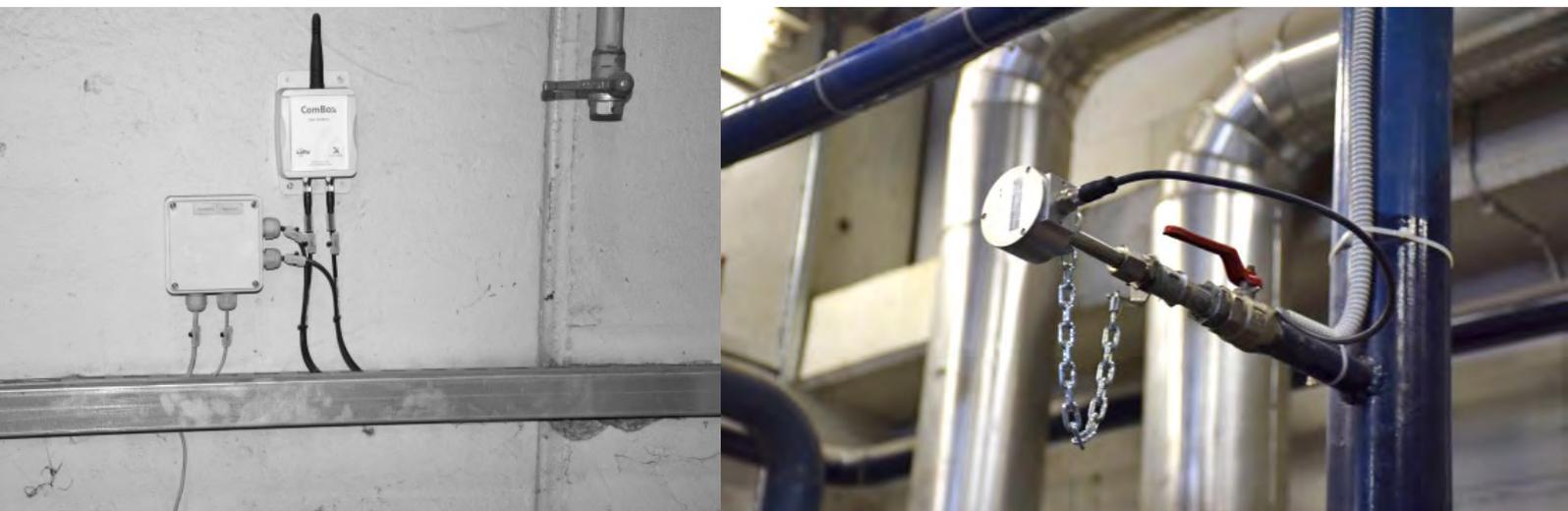• **Hardwired metering using ComBox.M devices:**

- **Water consumption metering using LoRaWAN communication:**

- **Gas consumption metering using LoRaWAN communication:**

- **Compressed air consumption metering using LoRaWAN communication:**

- **Electricity consumption monitoring using LoRaWAN technology (retrofitting old cabinets):**

Combox.L communication devices collect data from meters in regular 15-minute intervals and transmit the readings via the "LoRa" network to gateways, which then transmit them to the EMS (Energy management system). This is all done using the standard LoRaWAN communication protocol.

The data is gathered and analysed in the GemaLogic energy management program.

← → C 🔒 https://gemalogic.salonit.si/gema/faces/portlets/report/basic.xhtml?conversationId=1009

🔍 Splošni pregled

06.09.2016 16:21

Parametri

Prikaži

Obdobje»
Od: 05.09.2016
Do: 11.09.2016
☐ Izključi vikende
☐ Izključi praznike

Časovni interval:
Dnevni

Začetek dneva:
Polnoč

Grafični prikaz:
☐ Ne prikaži grafa
☐ Kumulativno seštej

Tabelarični prikaz:
☑ Ne prikaži tabele
☐ Prevrni tabelo
☐ Vsota
☐ Povprečje
☐ Min
☐ Max

Izbira podatkov (13/100):

⊟ 📁 Salonit Anhovo (13/100)

Grafični prikaz

05/09/2016 – 11/09/2016

Legend:
- Salonit Anhovo > ZP Salonit
- Filtri > ZP Termofluid
- Kompresorji > ZP Ogrevanje skale (nekorigiran)
- Kompresorji > ZP Ogrevanje skale
- TP14 > ZP RP
- Kompresorji > EE Kompresorji
- Kompresorji > EE Kompresor GA 55
- Kompresorji > EE Kompresor GA 90
- TP14 > EE TR1 Hladilnik klinkerja
- TP2 > VO MC – skupaj
- Avtomehanika Jevšček > EE Avtom. Jevšček
- ESAL Barvarnica > VO Fazoni
- Glavni vodovod – vodarna > EE Vodarna Gorenje polje