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Smart metering rollout in the heart of Europe

Landis+Gyr was the supplier of choice for a country-wide rollout in the principality of Liechtenstein.

Landis+Gyr delivered a comprehensive smart metering solution covering the entire European principality of Liechtenstein. The publicly owned utility Liechtensteinische Kraftwerke (LKW), the sole supplier of electricity in the country, decided to implement Landis+Gyr's Gridstream® end-to-end solution to optimize customer service, enhance awareness of power quality and facilitate outage detection.

In 2011, LKW started a project with Landis+Gyr to introduce the new intelligent metering technology to improve their operations and the overall customer experience. Prior to the rollout, Landis+Gyr had already delivered devices to LKW. "We already had a business relationship with LKW, but this was the first time that we worked on project together," says Stephan Krähenbühl, Senior Customer Project Manager, Landis+Gyr EMEA. Part of the tendering process was demonstration which gave Landis+Gyr the chance to showcase the robust, proven functionality of their smart metering system.

Liechtensteinische Kraftwerke (LKW)

Liechtensteinische Kraftwerke (LKW) is a publicly owned utility with more than 170 employees, responsible for the energy supply of the entire principality of Liechtenstein. LKW serves more than 23,000 households and delivers more then 400 gigawatt hours of power a year. As a producer and supplier of energy LKW has been providing light, heat and movement for Liechtenstein since 1923. In addition to this, LKW offers a range of other services and innovations that complement the power business. The focus is on electronic and multimedia installations in the networks, as well as in new constructions and renovations.

After the successful software integration in LKW's system environment and the completed test phase with 850 meters, over 23,000 residential meters were replaced by E450 smart meters. Landis+Gyr's smart metering solution enables multi-energy measurement: gas, water and heat can also be read out without using additional hardware and all the data is managed in a single system. "We only need to connect the E450 via the integrated MBus interface to the existing meters to enable smart metering for all types of energy," says Krähenbühl. Currently, more than 3,000 gas, water and heat meters can be read out remotely, but there is potential for 9,000 more meters to be connected to the smart metering solution.

Among the main drivers for the smart metering project was LKW's need to enhance their collection process and reduce the related costs. The solution's remote power disconnection/connection option helps LKW to reach this target and saves the cost of installing dedicated payment terminals. Furthermore, accurate information about energy consumption facilitates the detection of energy theft.

E450 – enables more accurate consumption-based energy profiling

E450 is an advanced residential meter, which integrates core functionalities, such as powerful e-metering, multi-energy data collection, remote and local communication and end user interaction. This innovative metering device has been developed as a core system component of the Landis+Gyr's Gridstream® solution to optimize daily utility processes.

A core benefit for LKW is the chance to provide accurate billing reflecting consumption in near real time. Depending on the customer group, bills are sent out on a monthly or quarterly basis. At the same time, consumers get the chance to monitor their daily consumption via an online portal. The flexibility of the solution to introduce various tariffs and to change billing intervals paves the road for new future pricing models. New pricing models are an important tool for improved energy demand management.

"With the smart metering foundation established, the door is now wide open for further innovations in the energy market." Bruno Schütz, Head of Data collection and Metrology for LKW

Besides current energy consumption figures, LKW also receives information about power quality and power outages from the smart energy meters. The company is now more aware of the network status; it can easily identify and locate disturbances, which means they can be detected and fixed much quicker.

A VPN remote access to the Landis+Gyr Customer Support Center allows quick and efficient support without incurring additional travel expenses. During a number of training sessions, both on-site and in the Landis+Gyr Training Center, the responsible LKW professionals learned how to deal with software, installation and maintenance of the field devices, such as smart meters and data concentrators. They also familiarized themselves with the structure of the PLC communication network.

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Our technology

Gridstream® e2e smart metering solution

- 23,000 integrated E450 meters with breakers

- Integrated MBus interface enables multi-energy measurement: gas, water and heat can also be read out without using additional hardware

- PLC communications

- Gridstream AIM smart metering software

- Training

Highlights

- Remote readings and on-time information on energy consumption bring efficiency to billing and customer service processes

- Smart metering provides the foundation for new product offerings that allow better energy management

- Information on power quality and power outages at end-users increase visibility of the LV network status

- Consumers can view their daily consumption data in real time through an online portal helping them to monitor and optimize their energy use