



Preparing for a major smart rollout:

TAURON Dystrybcja GZE pilots a comprehensive smart metering solution

TAURON Dystrybcja GZE, former Vattenfall Distribution Poland, and Landis+Gyr expand their long-term cooperation into residential smart metering. Landis+Gyr delivered its Gridstream™ smart metering solution to the utility, to pilot a smart metering rollout and to establish best practices for the major project of implementing smart metering for 1.1 million end-users.

TAURON Dystrybcja GZE is preparing for a full smart metering rollout for all its 1.1 million customers by 2020, following regulation in Poland and the EU. In order to be fully prepared for the upcoming challenge, TAURON Dystrybcja GZE will implement a comprehensive pilot to test the smart metering solution and the deployment processes. Based on these results, the utility can establish best practices in terms of logistics, IT infrastructure and internal resources, and gain a realistic understanding of how to fully benefit from smart metering.

The partnership between Landis+Gyr and Vattenfall Distribution Poland began in 2002. The cooperation's focus has mainly been on industrial, commercial and grid metering. In addition to the significant number of delivered ICG devices, the utility runs Landis+Gyr's Gridstream Converge system for data acquisition and processing for 10,000 ICG metering points. The partnership

for piloting residential smart metering is a natural consequence of the good cooperation and a well-recognized solution delivered to the ICG sector.

TAURON Dystrybcja GZE set tight criteria for the smart metering system: it had to be a full end-to-end solution interoperable with third-party vendor devices from the very

beginning of the implementation. Two-way communication throughout the metering chain was not to be compromised - remote controls of relays and connecting/disconnecting loads were regarded as very important functionalities as well as remote firmware upgrades, and the system had to adapt flexibly into Tauron's existing IT infrastructure.

TAURON Dystrybcja GZE former Vattenfall Distribution Poland

After 10 years of operating within the Polish market, in December 2011, the Vattenfall Group decided to sell Vattenfall Distribution Poland to TAURON Group - the total transaction value amounts to PLN 4.62 billion. TAURON Dystrybcja GZE operates as a Distribution System Operator in an area inhabited by 4.6 million people and 440,000 companies. The company delivers 11% of electricity in Poland and has 1.1 million customers. In 2011, TAURON Dystrybcja GZE distributed 11TWh and sold 6TWh of electric energy. In total, the Tauron Dystrybcja Group has a customer base of 5.2 million customers in Poland and is the market leader in terms of customer volume.

An advanced solution to meet the tight criteria

The Landis+Gyr Gridstream solution met the customer needs, and the pilot project began in March 2011. The delivery includes 11,600 smart electricity meters and 95 data concentrators as well as PLC communications and Gridstream AIM software. Furthermore, 95 transformers will be equipped with E550 meters to enable transformer station monitoring. One thousand Gridstream ready IDIS-meters from ISKRA will be integrated into the system. Landis+Gyr will manage the rollout project and the trainings for solution users, administrators and installers, while actual meter installations will be carried out by a partner of TAURON Dystrybcuja GZE.

The smart metering system, Gridstream AIM, provides a broad range of functionalities to support TAURON's internal processes. The AIMIA platform ensures smooth integration of the smart metering system with the utility's current IT systems in billing and SCADA as well as Data Warehouse and WOM. The Data Warehouse system serves as a global data repository, storing data and providing a communication proxy point between the various systems used in the corporation. The WOM system of the utility is used for installation management, and the two-way information flow between the smart metering system and WOM secures reliable and efficient rollout process.

Advanced tools for network monitoring provide valuable information on power quality and network losses, while the versatile reporting tools support the utility in its daily operations. The Gridstream solution includes also InSight monitoring application that

provides an efficient tool for system administrators to follow the system operation, communication reliability and other important parameters. For customer service personnel, Dashboard application ensures a quick and easy access to the near real time smart metering data and enables prompt, reliable answers to any end-user inquiries and claims.

Improved business processes and network management

TAURON Dystrybcuja GZE expects to reap significant benefits from its smart metering investment. While still in the pilot phase, the system has already shown its capabilities in terms of identifying the losses within the network, caused both by technical reasons and as a consequence of tampering. Customer service can be further improved, as the system provides near real time consumption information and enables on-demand reading requests as well as remote controlling of loads. In addition, TAURON Dystrybcuja GZE's end customers will get access to their personal consumption data via a web-portal and thus be able to optimize their own energy consumption.

The basic functionality of the smart metering system is to bring validated data into TAURON Dystrybcuja GZE's billing system. Smart meters read the hourly consumption values, and once a day the consumption information is transmitted to the smart metering system, where it's validated and delivered to the billing system. The AIMIA interface of Gridstream AIM software enables efficient two-way communication between the systems. At the same time, the system's capability to remotely switch electricity on and off can be used to improve the charging of the

billing receivables.

A new functionality integrated in the Gridstream solution provides a useful tool for network monitoring. In transformer area monitoring, the total sum of consumption figures of the metering points in the transformer area is compared to the figure metered directly within the transformer. Imbalances between the values identify errors or misuse and provide the impulse for further investigation. Accurate information about transformer loads and load development also helps to identify areas in which the transformer's capacity needs to be improved.

The integration of Gridstream AIM with the utility's SCADA system speeds the network's outage recovery. The smart metering system provides improved visibility into the low voltage network's status (< 0.4 kV) and provides a communication gateway for the SCADA system.

"We are very satisfied with Landis+Gyr's comprehensive Gridstream solution. Due to their broad experience in smart metering, they can provide us with a functionality which delivers a lot more than just billing values. "Their advanced network monitoring tools are bringing us a step closer to Smart Grids", says TAURON Dystrybcuja GZE's CEO Piotr Kołodziej.

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Gridstream

Our technology

- + 11,600 smart meters (E450; E350)
- + Transformer station monitoring with E550
- + PLC communication completed with GPRS
- + Gridstream AIM smart metering software
- + Integration of 1,000 Gridstream ready Iskra IDIS meters
- + Management of installation process
- + Training for solution users, administrators and installers

Project highlights

- In a pilot smart metering project with Landis+Gyr, TAURON Dystrybcuja GZE establishes best practises for the major project of implementing smart metering for 1.1 million end-users.
- Gridstream AIM supports IDIS interoperable meters from 3rd party vendors and the pilot includes integration of 1,000 IDIS meters. Interoperability with a board range of smart metering devices ensures that the utility is not dependent on a single meter vendor supplier.
- The advanced network monitoring tools in the Gridstream solution provide the utility with transparency to the low voltage network; power quality and network status information is now easily available. Integration with the SCADA system brings new, powerful tools to manage the network.