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SUPPLY OF THE CENTRAL INFORMATION SYSTEM

FOR THE REMOTE READOUT OF ELECTRIC METERS AND PROCESSING OF MEASURED DATA
FOR THE STREDOSLOVENSKÁ ENERGETIKA - DISTRIBÚCIA, A.S. COMPANY



Stredoslovenská energetika - Distribúcia, a.s., (SSE-D) is a distribution energy company. It operates in the Žilina, Banská Bystrica and part of the Trenčín region, where it distributes electricity to almost 740,000 customers – entrepreneurs and households. It offers services related to the operation of the distribution system to its customers

Thanks to the solution of the central information system for the remote readout of electric meters and the processing of the measured data from Aqist a.s., today SSE-D brings its customers a new way of reading electricity consumption with the aim of more effective usage. Smart metering systems are free of charge, introduced in several stages to final customers connected to an LV level, whose annual consumption exceeds a minimum of 4 MWh.

A smart measuring system (hereinafter IMS) is an electronic system that uses smart metering instruments capable of measuring the quantity consumed, or the energy produced. It further allows for the collection, processing, transfer and provision of such data to end customers and other market participants. The reason for the implementation of the IMS is mainly the strengthening of the rights and protection of consumers in the electricity market and to support the active involvement of all market participants, mainly the users. Directive of the European Parliament and of Council No. 2009/72/EC requires Member States of the European Union to introduce IMS by 2020.

The end-user of electricity can, by means of the information obtained from the IMS, decide on the effective use of their daily electricity consumption during the day. Thanks to smart metering, it is much easier to monitor how much electricity we spend at a specific time as well as change and regulate consumer habits accordingly, which can help save electricity.

The aim of the project implemented by Aqist a.s. was the introduction of a new information system - the Central IMS, implementing not only new legislative requirements, but also improving user comfort and increasing the efficiency of SSE-D business processes. Specifically monitoring, remote electric meter readings, electric meter parameterization, measured data processing and process monitoring for the purposes of billing and managing of electricity distribution. At the same time, it was a task to create conditions for the use of measured data for the development of the electricity system and the management of the LV system with the need for integration into smart-grid networks.

The first phase was primarily focused on building the Central IMS and integrating it with existing systems and used measuring instruments to meet the requirements of legislation. The cornerstone of the system was the BillienAMM product, TollNet, a.s., to which 8 system modules and 12 advanced services were delivered and adapted. Despite the considerable scope of work, the first phase of the project was successfully completed in the course of several months, passed user acceptance tests and by 1 January 2016, the required functionality was put into operation.

The central IMS was delivered within the first stage of the the project, among other:

- supporting assembly and the new remote parameterization of smart electric meters;
- communication with smart electric meters through the DLMS/COSEM protocol;
- the reading of data from the new smart electric meters;
- the processing of data in the Central IMS;
- synchronization of master data and sending the recorded data to SAP IS-U;
- sending the readout to the OKTE external system;
- remote on/off switching of the electric meters;
- updating tariff calendars according to the requirements of the SCADA system;
- the possibility of SSE-D clients to use the energy data portal.

The aim of the second phase of the project was the complete replacement of the existing system for the remote readout of electric meters, including the balancing of the module and the migration of existing electric meters to the new individual consolidated Central IMS BillienAMM.

In the course of 2016, within the second phase of the project, the Central IMS gradually delivered, among other things:

- the reading of data from the electric meters of the original Central RMR;
- the replacement of the functionality of the original Central RMR;
- data migration from the old Central RMR;
- the use of the extended functionality of data management;
- sending and receiving of data to/from all other SSE-D systems;
- additional functionalities, for example, managing of alarms and limiters.

TESTIMONIAL CUSTOMER

"We are happy with the progress and outcome of our cooperation with Aqist. We were able to fully automate the processes of reading, processing, transformation, validation and delivery of the measured data for internal and external customers' distribution. Thanks to the support of the technical standards and norms (DLMS Protocol/COSEM), interoperability is ensured with different types of electric meters from different manufacturers, enabling us as a company to choose from a wider offer of measuring technologies on the market. This brings benefits of alternative financial savings in tender procedures for electric meter suppliers.

Interoperability is not just the reading and management of end metering devices themselves, but also exchanging data between the Central IMS and other SSE-D-operated systems. The Central IMS system is prepared with a reserve, processing data with more than 150,000 metering devices, making it the most sophisticated system used in electric energy."

Mgr. Anna Rechteriková
Director of Customer Service

The KEY PARAMETERS of the Central IMS BillienAMM in SSE-D

- the processing capacity of readouts of more than 150,000 smart meters, together with sending to external systems (over 30,000 currently operated and processed for about one hour);
- the remote parameterization of all smart electric meters (setting up profiles, calendars, switching off);
- automation of collections and acquisitions from electric meters;
- automatic processing of events and alarms;
- native integration for external entities on the electricity market;
- the integration of all types of smart meters and RMR electric meters into one center;
- replacement and consolidation of the functionality of the original remote data collection.

THE BENEFITS OF THE PROJECT FOR THE CUSTOMER

- compliance with legislative requirements;
- automation of the processes for reading, processing, transformation, validation and provision of measured data for internal and external entities;
- the integration of the original Automatic Meter Reading system of the new Advanced Metering Infrastructure system;
- into a single consolidated standardized ecosystem with a single structure of the measured data, which ensures the full operation of SSE-D metering;
- the interoperability of different types of meters from different manufacturers, without the need of a long and demanding system integration thanks to support from the DLMS/COSEM Protocol, interoperability also applying to the exchange of data between the central IMS's and other external systems operated by SSE-D;
- a possibility with a large reserve of processing data from more than 150,000 measuring instruments, ranking among the top in the Slovak market;
- significantly shortening the time for the automatic sending of the measured data to OKTE thanks to high performance;
- the possibility to provide the measured data to SSE-D customers online through a customer portal;
- unified supervision and management of all system components and problem-free expansion with additional modules/functionality in the future thanks to the use of Billien;
- the replacement of the original system of higher quality and generationally newer one;
- creating conditions for the use of the measured data for the further development of the electricity system, the management of the distribution system with a vision of integrating into the smart grid network.