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matrix 99

ABOUT

Matrix99 a.s. was founded in 1999 as a spin-off "STROM Telecom", large ICT company that developed and implemented OSS (Operational Support Systems) and BSS (Business Support Systems) for TELCOS

The idea behind spinning-out¬ Matrix99 a.s. was to create a company that could leverage experiences, solutions, and technologies used traditionally for large TELCO companies to create novel solutions for Utilities companies.

Matrix99 developed the aiLake for Energy Efficiency (www.matrix99.net), based on Azure and Microsoft .NET technologies

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aiLake
3mDER.DSO

Matrix99 aiLake.3mDER.DSO is Metering-Modeling-Management (3m) of Distributed Energy Resources (DER) for Distribution Service Operators is a platform that enables real time monitoring, analyzing, predicting, modelling of consumption, co-generation, and costs/expenses of electricity, water, gas and thermal energy usage support for Distribution System Operators and Metering and Billing companies that provide these services.


▶ System support data is collected using all the main metering and IoT protocols

▶ Flexible Extract-Transform-Load (ETL) processing offers practically non-limited number of metering records

▶ Metering and/or billing service companies can collect and pre-process data, so DSOs can concentrate on their core business – better distribution of electricity, gas, heat and water.

▶ This can be an opportunity for the TELCO companies that owns communication networks to extend their services portfolio

▶ Also optionally, in connections with CRM and billing systems, rates using flexible tariff plans are supported, adding flexibility to existing systems

▶ The usage of the CIM (IEC standards)/CDM(MS/Adobe/SAP initiative) as internal and external data models enable easy integration with utilities and business ICT systems

▶ The-best-of breed equipment and communication technologies enable the implementation of solutions in the harsher industrial and residence conditions

▶ Flexible hybrid architecture (cloud/on site-edge) enables the optimum design of the solution

▶ This further reduces in-front investment and Total Cost of Ownership (TCO)

▶ Business models – Software as a Service (SaaS) keep up-front investments to a minimum.

▶ Machine Learning algorithms help to detect points of losses, usage patterns, points of potential failures etc.,

▶ Metering of co-generated sources is supported (photovoltaic, wind generation, bio-generation, geo-generation, water reusage, etc.)

▶ Optional modules – rating, charging and billing enable flexible tariff models via Azure Digital Twins for electricity, water, heat and gas networks as models described in JSON-LD-based Digital Twin Definition Language (DTDL).

Supported Devices and 3rd party systems:

Matrix99 aiLake.MDER.DSO supports devices and 3rd party dara collection systems using the following standarts for communications:

▶ MODBUS (serial and IP)

▶ DLMS

▶ M-BUS (Wired and Wireless)

▶ IEC 61850

▶ AMQP, MQTT, REST/JSON

▶ IEC61968 SIDMS

▶ SOAP

▶ WebServices
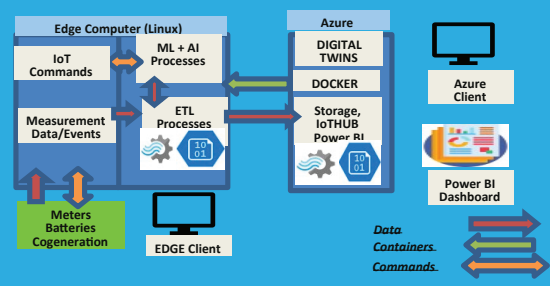
BENEFITS

Matrix.aiLake.MDER.DSO brings the following benefits for Electricity, Thermal Energy, Water and Gas distributors and their customers:

▶ Real Time Monitoring of consumption

▶ Cost reductions

▶ Planning and optimization of consumption and equipment replacement

▶ Technical and non technical losses detection

▶ Co-generation metering support

▶ Prediction of consumption, costs and equipment failiures

▶ Billing data preprocessing with flexible tariff system