



SIEMENS

Siemens Advanta

LOW VOLTAGE GRID INSIGHTS & MANAGEMENT SOLUTION

The increasing volume of distributed generation, electric vehicles, and heat pumps leads to volatile power flows in the low voltage grid (LVG) and will cause more complex grid states and significant pressure on the grid infrastructure. To ensure reliable and efficient grid operation, it is necessary for grid operators to use the flexibilities provided by curtailment of Distributed Energy Resource (DER) infeed and active management of Electric vehicle (EV) charging stations.



The use of digital technologies and innovative solutions enable distribution grid operators to maximize the utilization of the existing network and adopt a proactive role in the decentralized energy ecosystem.

OUR VISION FOR YOUR FUTURE

Solution for the LV Grid

The open and modular Siemens Advanta Low Voltage Grid Insights & Management Solution is based on proven technologies that support standards, scalability and highest interoperability.

The offering provides Distribution System Operators (DSOs) with real-time network state transparency for grid planning and control, improving network resilience, safety, and efficiency. It offers an innovative system for optimized, proactive management of the grid.

Moreover, advanced analytics applications support DSOs in forecasting the growing impact of DERs to automate grid planning and -management processes, and to make better, data-driven investment decisions.

LVG digital twin

The core of our solution consists of a digital model of the low voltage grid which allows the simulation of all network states caused by the volatility of DER and EV charging stations.

The data model integrates heterogeneous data sources to be imported from existing Utility IT-systems, such as

- Meter Data Management System
- Geographical Information System
- Customer Information System
- Asset Management System
- Network Planning System

Deployment of additional IoT devices in the network, providing data to the platform, will lead to a higher accuracy of the digital twin.

Maximise value out of smart meter data

The ongoing expansion of Advanced Meter Infrastructure and sensor-equipped assets generate vast amounts of data. This solution supports DSOs in managing and transforming the readily – or soon to become – available data into actionable insights for better decision making.

In our experience, grid operators can already benefit from additional data even in the early stages of a smart meter roll-out. Our solution allows the estimation of a realistic load flow and the utilization of the entire low voltage grid, even with limited available smart meter data.



Value driven implementation

With a tailored step-by-step approach, the digital potentials for network operators are consecutively unlocked, delivering value essential to master the challenges of a decentralized energy ecosystem:



Enhanced transparency of network assets' condition and health



Optimized and cost-efficient utilization of grid infrastructure



Improved reliability of power supply and customer satisfaction



Example use cases enabled by the Low Voltage Grid Insights & Management Solution include:

- Monitoring of power quality
- Monitoring of line utilization
- Congestion management
- Automated connection assessment
- Network planning invest/reinvest
- Outage management

Why Siemens Advanta?

- As a major smart metering system integrator in Europe and North America, we have participated in rolling out over 80 Mio Smart Meters in the past years
- +70 customers served across 15 countries
- We provide a unique combination of IT / OT competence, digital transformation experience, as well as extensive domain know-how in power utilities
- Named a Leader in *IDC MarketScape: EMEA Service Providers for Digital Grid Enablement 2019 Vendor Assessment & IDC MarketScape: North American Distributed Energy Resource Management Systems Strategic Consultants and System Integrators 2020 Vendor Assessment*

Get in touch

Leverage from our capabilities, infrastructure and domain expertise to provide your utilities with the technology solutions they need to integrate the digital transformation and remain competitive and proactive.

Business request:
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About Siemens Advanta

We provide end-to-end IoT solutions and create your unique digital journey - from consulting to design and implementation.

Offering unmatched industrial DNA paired with strong IoT experience to drive sustainable growth in a digital world, we support you globally to successfully re-invent your business.

For more, visit www.siemens-advanta.com