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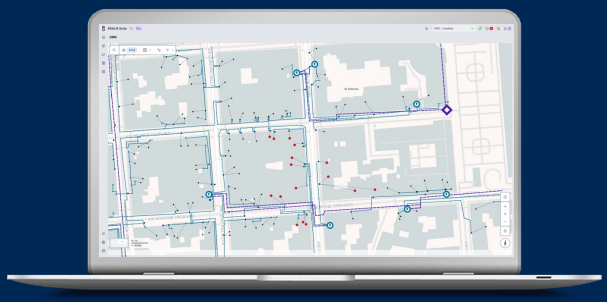
Smart Grid Manager

An integrated management solution for the low voltage network



An improvement of reliability and quality of service to end users

The **increasing complexity of the network**, due to bidirectional power flows, hosting capacity and flexibility services, **involves the need to visualize real time status of the LV components** in order to optimize network management and reduce line losses.

Moreover, **DSOs normally don't have visibility of the LV networks**, relying directly on customer notification to identify faults or outages. The **need to extend remote control and automation from MV to LV is extremely crucial** for improving the reliability and quality of service to final users.

With Smart Grid Manager a clear picture of the LV grid is displayed to **detect and locate faults in a faster way**, potentially before customers are exposed to them.

Discover the Solution

Smart Grid Manager is an **integrated tool allowing for the remote supervision, control and data acquisition of the LV grid.** The solution enables real time visualization of network status both from control centers and directly from the field via smartphone.

Eventually, **events occurring on the medium voltage network affecting the low voltage side can also be reported** through integration with MV SCADA systems.

The solution is a **completely web-based software**, with a SCADA server running on virtual machines placed on-premises or in cloud. Smart Grid Manager is **interoperable with a wide range of external solutions** including ERP, OMS and HES, relying on multiple data for a better grid supervision. The management of the LV network by its Graphical User Interface (GUI), and some specialized reports and features, allows to **digitalize the operational activities of the field crews**, making the process of **recording maneuvers simpler, faster and easier**.

Visibility & Control

A dedicated SCADA enhances network quality indicators and enables remote control via Smart Street Boxes, reducing outage duration

Interoperability with multiple systems

Smart Grid Manager allows multiple integrations both with external systems and operational reports (to understand the network status)

Field Activities Digitalization

The intuitive GUI and specialized reports fully digitalize field operations, empowering crews with a smoother, faster and smarter way to record every maneuver

Covered use cases

A new way to **see, understand, and control low-voltage networks**, instantly, intuitively, effortlessly.

What it enables...

Real time visualization

Collection and visualization of real-time data, measurements and energy supply status from smart components installed on the LV network, **providing** immediate **visibility on the grid's health**, **enabling** quicker **detection of anomalies** and supporting faster, data-driven operational decisions.

Real time topology

Tracking of network configuration changes in real time, highlighting if the network is powered or not (in normal/out of the normal state) and the number of users out of service.

MV and LV map display

Thanks to the interconnection with external GIS and SCADA systems, MV and LV networks are shown on a cartographic map, allowing the solution to **propagate and make clearly visible the impact of a MV outage in the LV network.**

Capillary monitoring of LV network

Proactive monitoring of the LV grid through last-gasp signals and integration with 2nd-generation meters to **identify areas with loss of voltage, improving early detection** of issues and speeding up restoration action.

Generation of operational reports

Automated creation of detailed reports on network status (events, outages, users out of service by line, generator-set activations), **enabling quicker insight and more informed operational decisions.**

LV Remote control & Automation

Operates street boxes equipped with micro-RTUs via IEC-104, enabling **comprehensive remote control** and **automation of the LV grid**, while **contributing to reduced SAIDI, lower OPEX** and overall improved network efficiency.

Business Impact

SAIDI Optimization

up to 10-30% SAIDI reduction

SAIFI Reduction

up to 5-15% SAIFI reduction

OPEX Efficiency

up to 15-40% OPEX efficiency through field inspections reduction