

# Distribution Automation

## Multi-purpose Network Platform



In today's energy dependent world, rarely is a single technology or solution capable of providing everything that utilities and consumers need to manage energy better. Landis+Gyr has been providing Distribution Automation solutions for over 25 years – leading the market in bringing together a total end-to-end solution for distribution grid management and monitoring.

The Gridstream® Distribution Intelligence solution from Landis+Gyr includes distribution automation capabilities built on a secure, highly reliable and scalable communications network. This enables two-way communication, including peer-to-peer, for a variety of distribution automation and grid management applications. DA radios leverage the backbone of the RF Mesh network to establish continuous, around-the-clock communication paths for data collection, monitoring, and control functions.

The RF network supports robust, low-latency communications with devices to enable applications such as auto-sectionalization, transformer monitoring, capacitor bank control and fault detection. Intelligent applications

distributed among the DA radios and DA end devices allow decision making to happen at the device level and between multiple devices, in many cases, speeding results. These highly functional DA radios are interoperable with a multitude of distribution equipment that optimizes a utility's investment today and for future upgradeability that aligns with the utility's pace of business value.

### HIGHLIGHTS:

- Operates on multi-purpose network that supports AMI, Distribution Automation and other Landis+Gyr grid management solutions
- Provides proven integration with DA equipment such as RTUs, Switches, Reclosers, Regulators, Capacitor Banks, and FCIs from multiple manufacturers
- Supports battery-backed communications for control during outages
- Delivers messaging prioritization with SCADA control given highest priority
- Supports multiple protocols, including DNP, Modbus and others
- Offers Dynamic, Scheduled, and Exception polling of DA end devices
- Enables management of renewable and other types of distributed energy resources
- Supports standards-based network components, software and software integration
- Supports electric, water, wastewater, and gas utilities
- Provides over-the-air support of DA endpoints



# DISTRIBUTION AUTOMATION

## System Components

### Intelligent Sensing

Strategically placed throughout the distribution network, sensors provide multiple benefits including identification of fault locations and causes to support quicker restoration efforts and proactive actions to avoid future unplanned outages. This can drive improvements in reliability performance indices like SAIDI and CAIDI. Landis+Gyr's S610 Line Sensor is an intelligent sensor that provides fault detection, captures key power quality data for day-to-day grid management and supports renewable energy integration with the ability to detect and report on reverse power flows.

### Intelligent Automation and Control

Supervisory Control and Data Acquisition (SCADA) provides the remote visibility and control required for operating the power system. The use of SCADA in the distribution system allows operators in

the control center to monitor the activity and status of field devices. These include reclosers, voltage regulators, switches, and other electronically controlled devices that are equipped with communications technology such as the Landis+Gyr integrated DA radios. Operators can also issue commands to remote devices to take actions like open or close, or change settings. The Gridstream Distribution Intelligence solution integrates with the utilities existing SCADA system as well as Landis+Gyr's own SCADA solution, *SCADA Center*.

### Secure Data Management

The power industry has generalized the use of the DNP3 protocol for control center to field device communications. The use of DNP3 in a gateway between the utility's control system and the communications network ensures the security of the control operations, while supporting the continued use of legacy

devices and protocols such as DNP3, Modbus and others. Landis+Gyr's DA Gateway is an intelligent communications gateway software solution that provides a configurable interface between utility centralized control applications and the communications network.

### Distribution Management System

Distribution network operators face ever increasing challenges, with higher performance targets as customers and regulators raise the bar of expectations. The multi-purpose Gridstream communications network enables distribution utilities to deliver higher reliability, customer service and reduced operating costs while maintaining workforce safety and addressing major evolving technology challenges. A multi-purpose network expands capabilities for renewable integration, data analytics, outage management, load management, volt/var management, and more.