Grid Diagnostic Suite

IoT-based energy automation applications

Highlights

- **Faster overview** of grid-wide energy automation systems
- **Increased availability** of smart grids and **enhanced cost efficiency**
- **Predictive maintenance** and **improved service quality**
- **Manufacturer-independent,** thanks to IoT standards
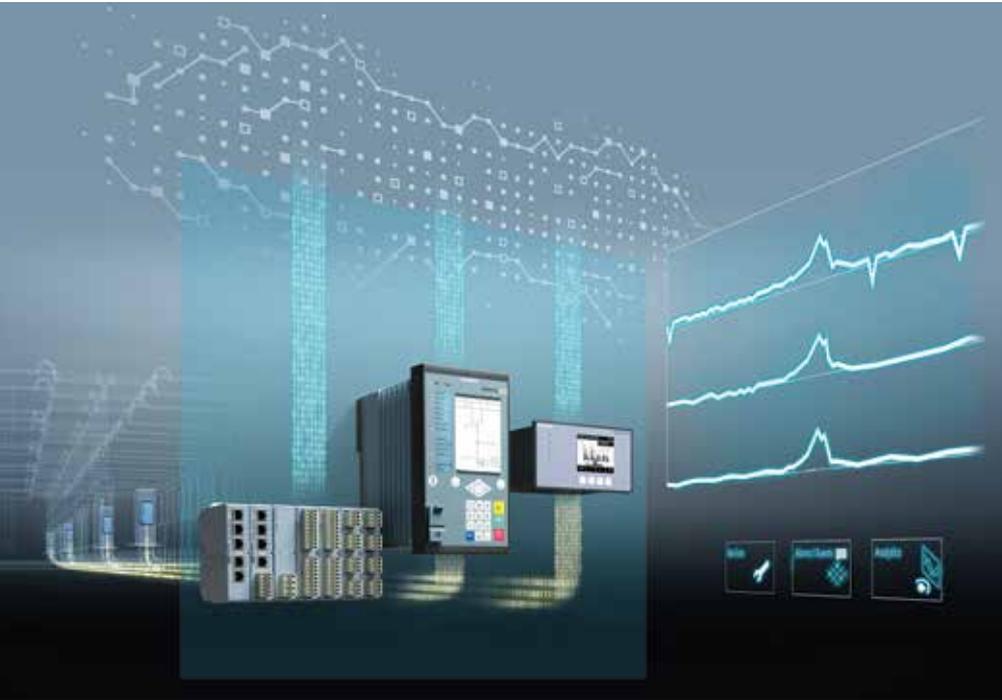
Power grids in particular are facing new challenges due to the expansion of e-mobility and the increasing infeed of volatile generating capacity. The IoT-based applications in the Grid Diagnostic Suite let operators manage the growing complexity of their power grid, increase its availability, and operate it cost-effectively.

The Grid Diagnostic Suite includes a total of four different cloud-based applications that can collect essential data from the installed energy automation field devices and analyze it in the cloud. The device data is securely transferred to the cloud via Sicam GridEdge – which functions as a data concentrator and gateway – and is made available there with no additional engineering effort.

The Siprotec Dashboard displays data such as fault recordings and fault logs quickly and clearly in a map view, station view, or device view. Users can get access to these machine data easily in the cloud. The Sicam Navigator provides comprehensive monitoring of wired medium- and low-voltage grids and secondary distribution stations. This makes it possible to present power grid performance transparently and, in the event of a fault, precisely pinpoint the exact grid section. For distribution grids with overhead lines, Sicam Localizer provides detailed information on the status of individual grid segments and clearly and concisely displays faults.

For operators of geographically distributed power grids, power quality (PQ) is extremely important, for example, to ensure the quality of supply to industrial plants, data centers, and electrical distribution systems. The PQ Advisor Premium app can record and display grid parameters such as voltage, current, frequency, and harmonics with no gaps.

In the central MindSphere cloud, users can seamlessly consolidate, visualize, and evaluate the data from the Grid Diagnostic Suite. This enables distribution grid operators to quickly tap into useful information on the state of their grid. Grid faults can be detected at an early stage, vulnerabilities identified, and necessary measures implemented on schedule. ■

› **siemens.com/ioe**