Digital Energy

NETWORK CONNECTIVITY

Reduce outage O&M and technical losses, improve customer satisfaction and accelerate ADMS rollout

KEY OUTCOMES

- Reduce outage O&M with a more accurate network model
- Improve customer satisfaction by preventing incorrect outage and restoration notifications
- Detect hidden unbalanced load and reduce technical losses
- Accelerate data readiness for advanced distribution management system (ADMS) implementation
- Improve accuracy and reduce future challenges with DERMS programs

KEY FEATURES

- Analyzes data from OMS, AMI, CIS, and GIS for superior accuracy compared to pure voltage based methods
- Error detection and recommended corrections for customer to transformer assignment errors and customer/transformer phase errors

OVERVIEW

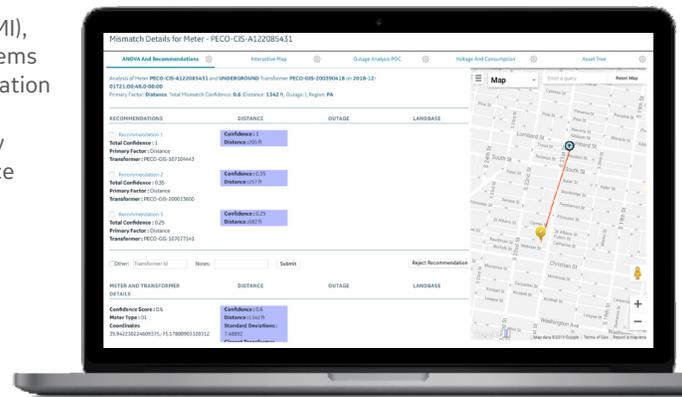### Grid Modernization Starts With Reliable Data

GIS data errors can cause significant operations and maintenance (O&M) waste and prevent electric utilities from realizing the benefits of advanced distribution management solutions and automation programs.

Correcting connectivity errors in CIS and GIS typically involves manual, ad-hoc communications between grid operators, GIS technicians and distribution engineering; which is why current processes can't keep up. Correcting the last 5-15% of connectivity errors—a pre-requisite for many grid modernization programs—is impossible without a modern, data-driven analytic approach.

Network Connectivity

GE's Digital Energy Network Connectivity application uses Artificial Intelligence to deliver highly accurate corrections of customer-to-transformer association errors, and transformer and customer phase association errors.

The application analyzes data from outage management systems (OMS), advanced metering infrastructure (AMI), customer information systems (CIS) and geospatial information systems (GIS) and can be configured to automatically push corrections into source systems.

Digital Energy
Network Connectivity

Reduce outage O&M and technical losses, improve customer satisfaction and accelerate ADMS rollout

DIGITAL ENERGY DATA FABRIC

GE's Grid Analytics solutions run on our Digital Energy Data Fabric, a platform that standardizes the storage and consumption of data across the energy value chain, from centralized power generation to consumption by end users and prosumers.

By unifying data on a secure, scalable platform that applies artificial intelligence (AI), machine learning (ML) and Big Data compute capabilities, the Digital Energy Data Fabric enables GE and our customers to create solutions that deliver network-level optimization quickly using a stable, model-driven approach.

Bridge the IT/OT Gap to Deliver Network Level Optimization

Common Information Model (CIM) support combined with data transformation capabilities enables us to plug-in to IT and OT systems made by a variety of vendors, including distribution and transmission network models from GE's Electric Office network-based Geospatial Information System (GIS).

Outage data from your Outage Management System (OMS) can be utilized to deliver predictive vegetation management, storm outage prediction, and meter-to-transformer and phase identification solutions. Domain-specific micro-services serve as building blocks for multiple solutions, like 3-phase network tracing and power flow calculations. The Digital Energy Data Fabric data hub service closes the loop between analytic output and IT/OT systems input, providing a flexible and future-proof platform to deliver Network Level Optimization.

DIGITAL ENERGY GRID ANALYTICS

Storm Readiness

Utilizes high-resolution weather forecasts, historic outage data, crew response data and GIS to accurately forecast storm impact and optimal crew staffing levels and dispatch. GE 's Storm Readiness application decreases customer outage minutes, accurately predicts outages levels and distribution across the service territory, helps optimize crew spend and dispatch, and improves worker safety.

LEARN MORE

Effective Inertia

Measures and forecasts the combined inertia-like effects of rotating machines, passive load responses, and active generator controls. GE Effective Inertia is a non-intrusive solution which uses EMS and PMU data to measure the real time effective inertia in each regional area, giving confidence to operators in regions with deep renewable penetration. A machine learning Effective Inertia forecast allows forward planning for lower frequency response services and reductions in curtailment fees and penalties.

LEARN MORE

Contact Us
www.gepower.com/contact