Data-Driven Decisions in T&D

Seeq®

ELECTRIC UTILITIES

Data Sources

- EMS/SCADA, DMS, ADMS, AMI, Metering, Relays and Sensors

Data Cleansing

- Signals are cleansed to remove outliers, downtime, and abnormal operating data before establishing monitoring boundaries and models.

Calculations & Conditions

- Capsules are created for unique modes of operation. Metrics are calculated to analyze the time aged and time elapsed. Calculations are scaled across multiple transformer assets leveraging the Treemap view in Seeq Workbench.

Challenge

In the electric utilities industry, accessing existing data is difficult due to the required data often being distributed across data sources. The data is often incredibly dense, both in frequency and volume, with thousands of assets. As a result, data is often used only for reactive troubleshooting rather than proactive decision making around capital expenditures and the proper operation of assets.

Solution

Seeq allows the end-user or subject matter expert (SME) to unify data access, allowing for a live connection to data across many different databases from a single application interface. The subject matter expert can interact directly with the required data, without having to go through extra steps to ETL and align the data, to perform calculations or condition-based analytics. These analytics are then scalable across assets, leveraging an existing, or built-in-Seeq, Asset Tree and the Asset Swap functionalities and Tree Map view.

Results

SMEs have a reduced barrier to entry for analytics, empowering them to use existing data to:

- Reduce OpEx and CapEx expenditures by extending the life of assets and plants through proper, data-driven preventative maintenance
- Gain an increased lead time for decisions/maintenance to minimize costs and impact to operations
- Reduce catastrophic asset failures by increasing visibility to KPIs and early failure detection

Reporting & Collaboration

- Trends, Metric tables, multivariate scatter plots, and Treemap visualizations are combined into an Organizer Topic for quick consumption of the analytics by stakeholders. Visualizations are configured with auto-updating and scheduled date ranges so that reports were ready for daily morning meetings.
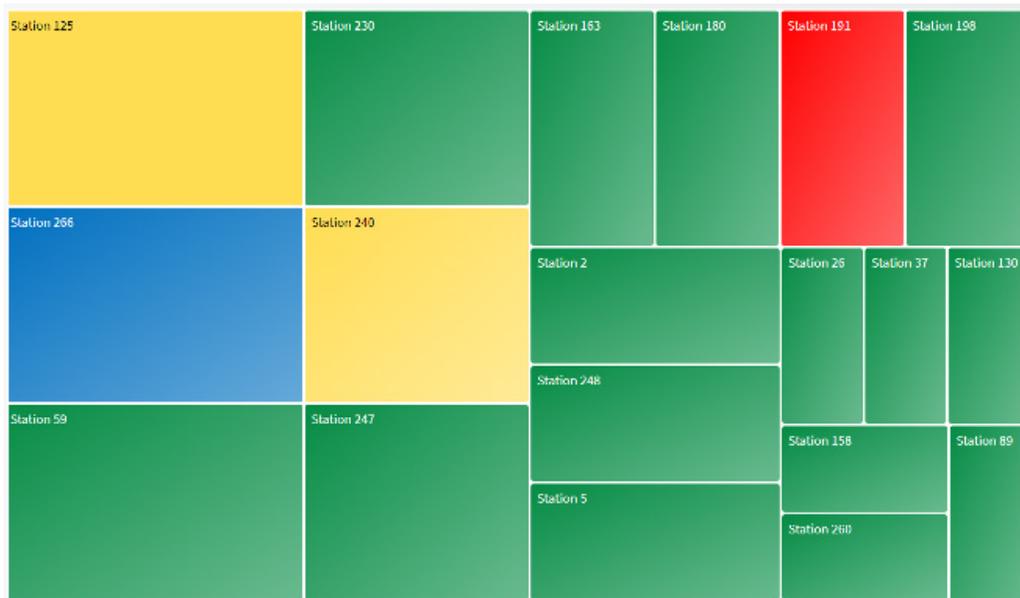
Treemap used to identify transformers operating in perilous conditions throughout a region.