Sentient Energy is Using Analytics to Transform the Modern Distribution Grid

Bringing existing power grids into the 21st Century is a challenge, but Sentient Energy is leading the charge.

The current U.S. electrical infrastructure is aging at an alarming rate. Grid distribution systems around the country have old materials and technologies, many even dating back to the 1940s and 50s. As technology and an ever-growing need for a stable power increases, grid systems around the country are seeking robust solutions for improving their responsiveness to problems with the grid.

One of the most reliable and practical solutions for addressing an aging electrical power grid is the use of real-time, intelligent grid monitoring. Intelligent sensors along the grid line help monitor, analyze, and notify utility and network providers when a disturbance occurs. When this technology is coupled with advanced analytics capabilities, the sensors can predict the nature of the fault and suggest solutions for a quick resolution.

As Jim Keener, CEO of Sentient Energy, Inc., explains, "Utilities need intelligent sensing, control and analytics Networks that cover the entire six million miles of the U.S. Distribution Grid — both overhead and underground."

Detecting and Resolving Network Disturbances in Real Time

Sentient Energy, provides intelligent solutions to existing power grid systems with powerful grid monitoring systems that use analytics to detect, predict, and analyze issues. Sentient can rapidly deploy its advanced monitoring tools to help energy providers around the country improve grid reliability and lower operational costs.

Cost-effective grid monitoring systems and their supporting analytic models also need to be able to communicate to backend systems across multiple types of communications platforms. This requires the use of intelligent sensors that are easy to install and highly reliable, with minimal maintenance required. Real-time, low maintenance monitoring and fault detection reduces downtime and improves overall grid performance.

Sentient's grid monitoring solutions capture detailed data locally and process that data at many points along the network. The intelligent sensors then communicate specific alerts and analyzed results to Sentient's proprietary analytic modules. This decentralized approach to managing the grid maximizes the amount of information gathered in the field, while minimizing the amount of data transmitted.

A Leader in Advanced Grid Monitoring and Analytics

As a leading provider of advanced grid monitoring sensors and analytics for electric utilities, Sentient Energy makes power delivery safe, reliable, and distributed energy resource (DER) ready. The company provides the industry's only grid analytics system that covers the entire

distribution network with quickly deployed intelligent sensors and analytics that identify and analyze potential faults and other grid events.

Sentient Energy's Grid Analytics System consists of intelligent sensors, distributed apps and their proprietary Ample Analytics suite. Their specialized line monitors are designed to detect, capture, analyze, and communicate faults and non-fault disturbances in real time over both AMI/DA mesh networks and cellular networks.

As Keener says, "Intelligent Sensing, Control and Analytics Networks (ISCAN) are rapidly becoming the must-have 'SCADA equivalent' for utilities' vast distribution grid. Sentient Energy offers the industry's only analytics and intelligent sensing network that covers the entire distribution network with line sensors that can be quickly deployed, and analytics that identify and analyze potential faults and other grid events."

Sentient firmly believes that intelligent sensors and analytics will play a transformational role in modernizing the existing grid, especially as more DER systems, such PV Solar and storage batteries, are added.

Sentient Energy Chief Revenue Officer, Venkat Bahl, explains, "Currently, distribution companies have little real-time control or visibility into these assets that create a bidirectional power flow that must be carefully integrated with bulk generation. You can't optimize DER if you don't know where currents are reversed or where voltages are still present after an outage event."

With a rapidly changing world and an aging electrical grid, practical, cost effective, and robust solutions are needed. Sentient Energy is leading the way in helping to make power delivery safe, reliable, and DER ready. They lead the market with the largest mesh network line sensor deployments in North America, and partner with leading utility network providers including Silver Spring Networks, Landis + Gyr, and AT&T.

For more information about Sentient Energy and intelligent power grid solutions, visit www.sentient-energy.com.