

The background image is a composite of a night landscape with mountains and city lights, overlaid with a digital network visualization. The network consists of glowing nodes and connecting lines, with several nodes labeled with numbers: 23, 15, 16, 42, and 5. A semi-transparent inset box in the upper left shows a simplified version of this network diagram. In the bottom right, there are long-exposure light trails from a road or highway, suggesting movement and energy flow.

SIEMENS

Ingenuity for life

Gain insight into assets and operations proactively

EnergyIP Analytics – Equipment Load Management

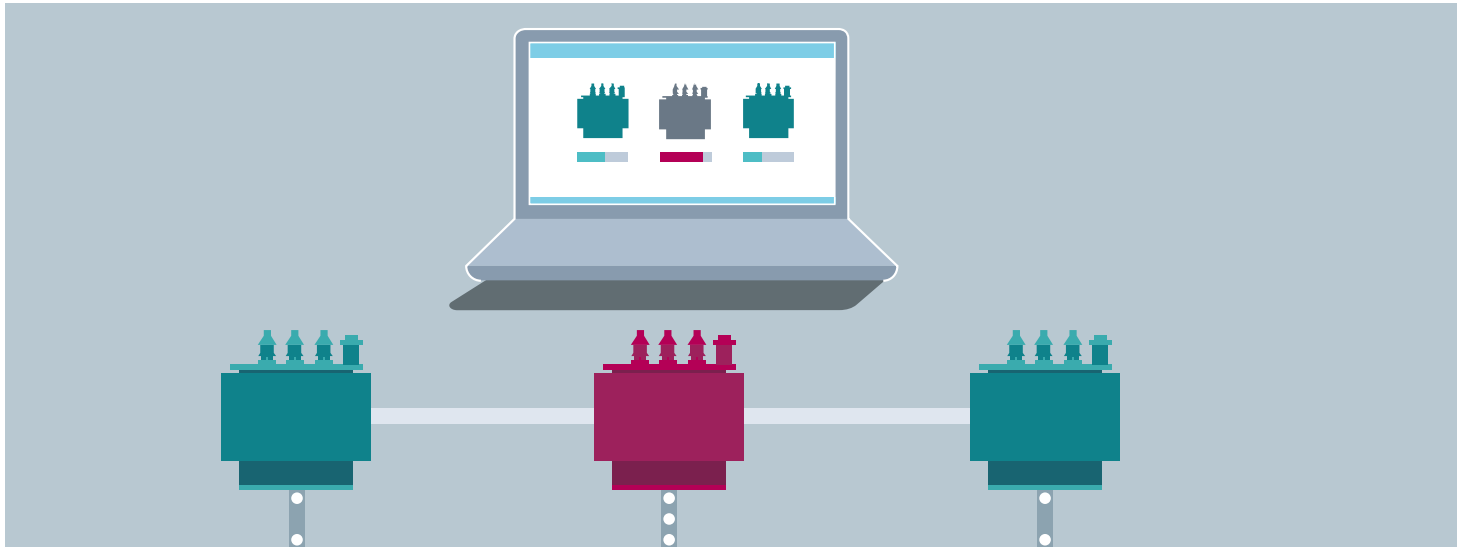
siemens.com/energyip-analytics

The energy system is changing dramatically – and this is posing new challenges but also new opportunities to distribution grids. Transparency about generation and consumption, costs, and power quality are becoming increasingly important as a result. It is this knowledge that will pave the way for making the adjustments needed to optimize grid efficiency and supply security. Rolling out an advanced metering infrastructure (AMI) is costly, but now the time has come to create value from meters. The key to this lies in analytics.

Siemens has developed the right solutions for realizing this. EnergyIP is an extremely powerful, flexible, and scalable platform that easily handles millions of sensors – be it smart meter or others – and the huge volumes of data generated. The Siemens Sinalytics framework provides tools and intelligence for advanced data analytics in a secure environment.

With EnergyIP Analytics – Equipment Load Management (ELM), Siemens offers a solution that leverages existing AMI meter data to allow a preventative maintenance approach for the installed transformer. Existing AMI meters are an ideal starting point for more granular data sets. Using the consumption data for each meter and aggregating them to the transformer, the intelligent algorithms then offer instant benefits for the utility by answering the following questions:

- What percentage of the time are my transformers overloaded?
- How will the actual load affect the transformer's lifespan?
- Which transformers should be investigated and prioritized for replacement?



EnergyIP Analytics – Equipment Load Management

Main benefits

Main benefits

Utilities with thousands of transformers connecting millions of customers are looking for predictive and preventative maintenance as a key differentiator to protect customers and revenue streams. The unique ability to take consumer data and create a virtual meter on each distribution transformer provides detailed views for each asset, creating actionable recommendations from big data produced by AML investments. Moving from a run to fail approach, ELM provides visibility and builds in predictability to operational processes.

Reducing outages

A typical outage for reactive overhead transformer replacement can range from 6 to 10 hours at a cost of thousands for the asset and crew time. But in addition, consider the other impacts such as reliability (outages to customers) and safety (accidents, injuries, property and business claims). With loss of revenue factored in, the total cost not to manage equipment loading is much higher than the actual asset expense as well as the crew time to address failures 24/7.

Transformers can fail because of overloading (physical causes or a combination)

Although it is not possible to directly address physical causes, ELM provides mission critical information that is readily available to prevent overloading and predictably reduce customer outages resulting in an improved top line for the business.

Currently, many utilities have very little information available to predict failures, and with limited asset management budgets crew time is a significant operational cost.

Plug-and-play custom algorithms

Big data analytics is usually a journey and not an event. Every open door enables new possibilities and ELM allows the plug-in of custom algorithms so that you can further explore and unlock the value of your own data.

In the cloud or on-site

ELM can either be deployed on-site, on an existing system, or as a Software as a Service (SaaS) cloud model that integrates with available data sources.

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