Asset health management
How to turn complex data into clear and actionable intelligence

The electrical power industry is asset intensive and saddled with an ageing infrastructure. Meanwhile, improved asset monitoring and communications are delivering an overwhelming flow of data. An effective asset health management system utilizes data to achieve real-time performance analysis, empowering utilities to make sound decisions about these critical assets.

Asset intensive
North America's electricity infrastructure represents more than $1 trillion USD in asset value. There are over 360,000 miles of transmission lines in the US – that's enough power line to circle the earth 14.5 times. There are 100,000 transmission transformers installed in the US today.

Aging infrastructure
The power grid; a critical life-line infrastructure, is aging rapidly. The average age is 42 years, that is 2 years beyond their designed lifetime. Global energy use has risen nearly 70% since then.

The need to act
The repair-and-replace needs of the aging power infrastructure is significantly impacting grid reliability. The number of major electric disturbances in the US has increased 265% since 1984. Every day, 500,000 Americans lose power for an hour or more. These outages cost the economy over $80 billion per year – that's enough to fund 62 space shuttle missions.

The data evolution
The world generated five exabytes of data-the equivalent storage of 1.25 billion DVDs-from the dawn of civilization through 2003. Now that amount is created every day.

Technology
Today more than 80% of enterprise digitized information reside in individual hard drives and personal files. 80% of that data is unstructured, not secure, and not backed up.

“Utility-izing” data
This data can be utilized to identify the most critical assets for repair and replace decisions, thereby reducing operations & maintenance spending. With the continued deployment of intelligent equipment, utilities can collect and analyze far more data than ever before. For example, predictive maintenance can cost up to 10x less than corrective maintenance and can mitigate catastrophic failures that can cost as much as $25 million.

The POWER of OT / IT integration
An asset health management system is the epitome of OT/IT convergence, integrating existing monitoring infrastructure and systems with business intelligence, transforming operational data into actionable information. Combining ABB's engineering and systems expertise with Ventyx's business intelligence creates an end-to-end asset management system which means fewer catastrophic failures, prioritized maintenance and replacement decisions, optimized asset investment strategies, and improved productivity and safety.

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