

Asset performance management

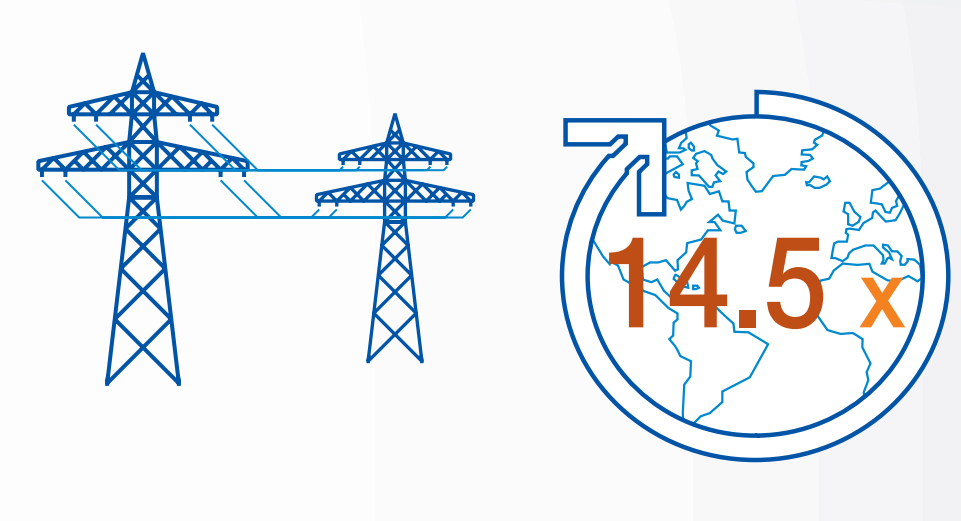
How to turn complex data into clear and actionable intelligence

The electrical power industry is asset-intensive and saddled with an aging infrastructure. Meanwhile, improved asset monitoring and communications are delivering an overwhelming flow of data. An effective asset performance management system utilizes this 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. **\$1,000,000,000,000**

There are over **360,000** miles of transmission lines in the US – that's enough power lines to circle the earth **14.5** times.



There are over **100,000** transmission transformers installed in the US today.



Aging infrastructure

The **power grid**, a critical lifeline infrastructure, is **aging rapidly**.

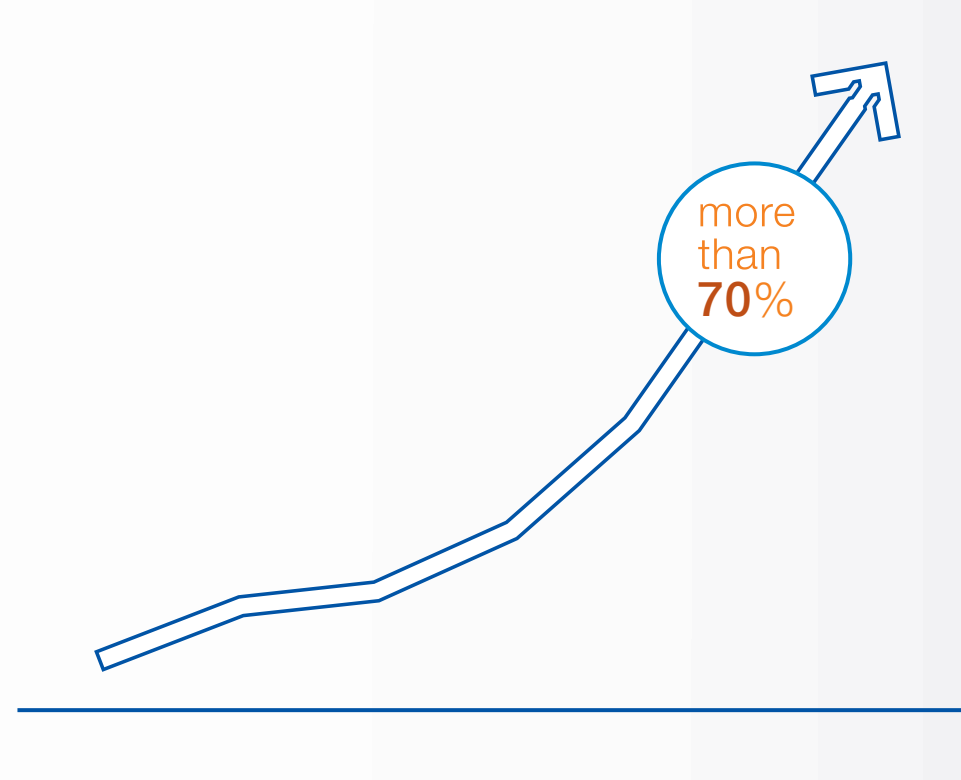
The average power transformer was installed when **The Beatles** were still on top of the music charts.



The average age is **42 years**.

That is **2 years beyond** their designed lifetime.

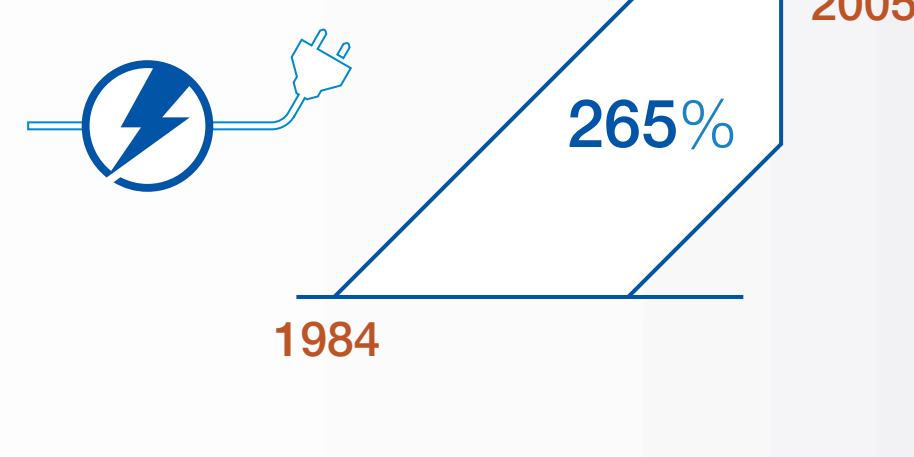
Global energy use has risen nearly **70%** since then.



The need to act

The repair-and-replace needs of the **aging power infrastructure** are significantly impacting **grid reliability**.

The number of major electric disturbances in the US has increased **265%** in since 1984.

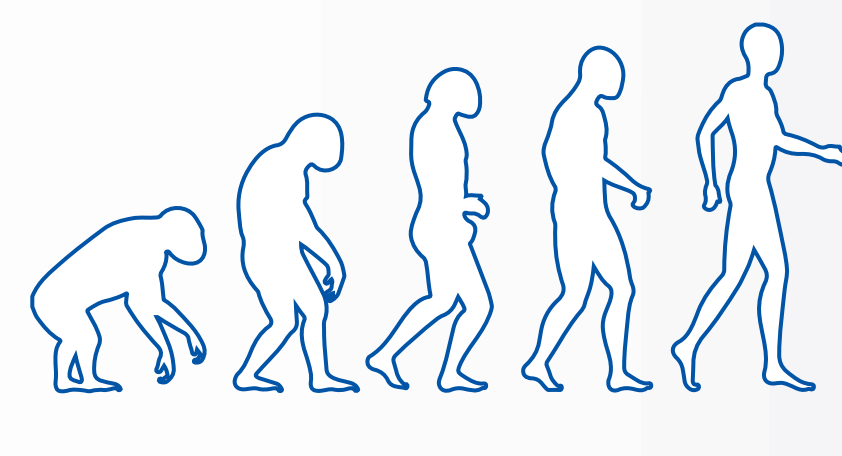


Every day, **500,000** Americans lose power for an hour or more. These outages cost the economy over **\$80 billion** per year – that's enough to fund **62 space shuttle missions**.



The data evolution

Technology and **data** are changing the nation's electric grid.

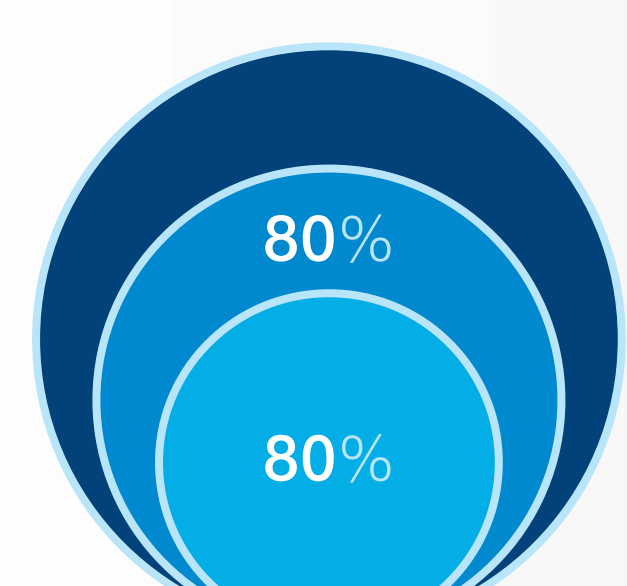


The world generated **five exabytes** of data - the equivalent storage of **1.25 billion DVDs** - from the dawn of civilization through 2003. Now that amount is created **every day**.



Today more than **80%** of enterprise digitized information resides in individual hard drives and personal files.

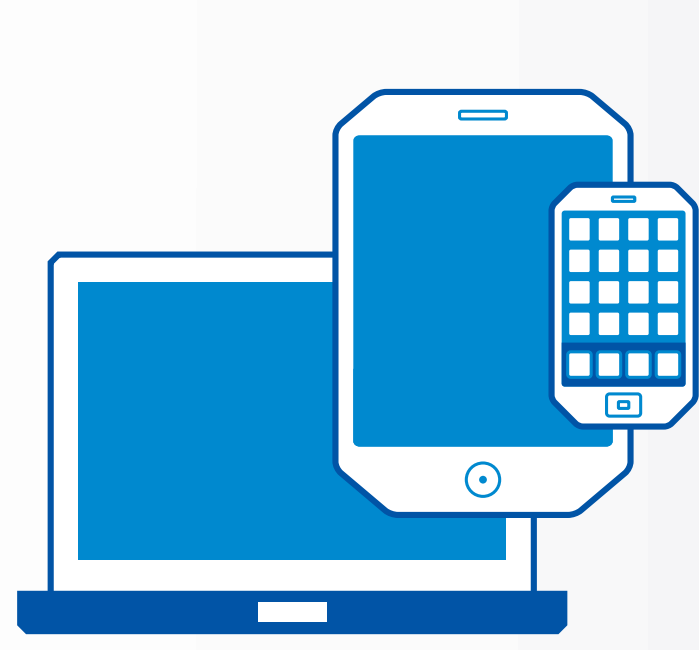
80% of that data is unstructured, not secure, and **not backed up**.



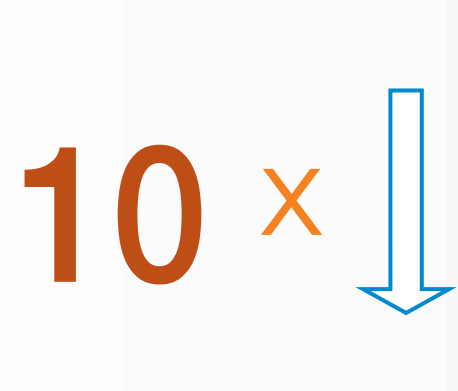
"Utility-izing" data

With the continued deployment of **intelligent equipment**, utilities can collect and analyze far more data than ever before.

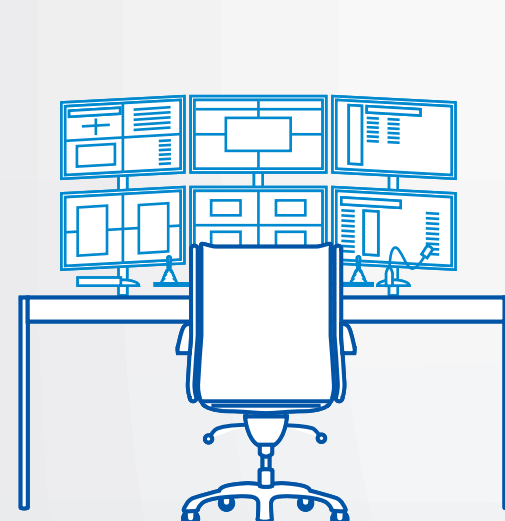
This data can be utilized to identify the most **critical assets** for repair and replace decisions, thereby **reducing operations and maintenance spending**.



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 IT / OT integration



An asset performance management system is the epitome of true IT/OT convergence, integrating existing monitoring infrastructure and systems with business intelligence, transforming operational data into actionable information.

Combining ABB's engineering, systems and analytics expertise creates an end-to-end asset performance management system, which means fewer catastrophic failures, prioritized maintenance and replacement decisions, optimized asset investment strategies, and improved productivity and safety.

Sources:

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- Gartner Group <http://www.gartner.com/pressroom/2013/03/14/energy-infrastructure-2013-2020-report.html>
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