

California utilities should have used digital twin technology instead of power shutoffs



Northern California's proactive power outages were not necessary last fall. Digital Twin technology can predict utility line failures and turn off power in milliseconds to avoid the potential of sparks igniting the surrounding area.

Digital twin technologies are gaining traction across industries and use cases. Initially devised as a means of monitoring assets and production settings in manufacturing, this technology has quietly seeped into other verticals like hospitality, construction, and building management and soon, electricity delivery.

The premier problem digital twins will solve is predicting power grid failure, which would alleviate the social, economic, and political issues that resulted from efforts to reduce the incidence and degree of catastrophes, property loss, and deaths stemming from downstream effects of power grid failure—such as recurring wildfires.



Digital twins can allay these concerns because they're based on real-time signals from a comprehensive set of factors that could be indicative of power grid woes related to environmental, meteorological, or technology concerns. Moreover, they can deliver accurate predictions for each of these factors well in advance of failure—in some cases as much as 28 days.

Read the full article at [PowerGrid International](#).

Three Necessities For Maximizing Your Digital Twins Approach

The digital twin premise is arguably the most viable means of implementing equipment asset management throughout the industrial internet. It's an exceptionally lucrative element of the internet of things (IoT), with an applicability that easily lends itself to numerous businesses. Its real-time streaming data, simulation capabilities and relationship awareness may well prove to be the "killer app" that makes the IoT mainstream.

Digital Twins Types

There are presently three types of digital twins: those for individual assets, operations and predictions. In this article, we will focus on individual assets. Examples of these assets include drilling machines in the oil and gas industry or assembly line equipment. Each type of digital twin creates a three-dimensional simulation of the real-world features it models based on relationships of IoT data. The simulated models capture and contextualize this low-latent data about each asset for vital visibility into its performance. This real-time data provides a blueprint for diminishing downtime,

scheduling maintenance and monitoring other factors that impact overall asset productivity and ROI. At scale, each factor translates into significant savings, increased performance and greater chances for optimization.

The crux of the digital twin's expansive capabilities is almost entirely predicated on solving one of the more time-honored data management difficulties: data modeling. But the schema issues complicating downstream data modeling processes such as transformation, integration and predictive analytics can be swiftly redressed by knowledge graphs that simplify this vital prerequisite. The standards-based data models of semantic knowledge graphs deliver unparalleled flexibility, interoperability and low latency for which IoT deployments are renowned. *(Full disclosure: My company specializes in semantic knowledge graphs.)*

Read the Full Article at Forbes.