# 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.)*

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