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Inspire the Next

DATASHEET

Anomaly Detection and Prediction Analytic

Shorter Time to Value for Asset-Intensive Analytics Solutions

The Anomaly Detection and Prediction Analytic from Hitachi provides digital twin and machine learning (ML) services with a deployable ML model. Use it with the Lumada Industrial DataOps, to create and deploy industrial IoT (IIoT) software solutions to better operate assets and more effectively schedule maintenance activities that reduce costs, prevent operations downtime, and provide higher levels of customer service.

Benefits

- Ability to predict when anomalies will occur, many times within a 48-hour lead time.
- High accuracy in anomaly prediction, compared to traditional time-based failure estimates.
- Optional integration between Digital Twins and third-party physics-based simulation software.

Unexpected downtime happens during operations, and it affects overall customer experience. The solution empowers solution builders to create applications that help maintenance personnel to perform just-in-time maintenance programs that reduce unexpected downtime and improve customer experience. Use this packaged analytic to enable "what-if" scenarios based on subtle changes in operating conditions. The goal is to find an acceptable operating pattern that yields reduced wear and tear on the asset, thus extending its remaining useful life and reducing failure rates. Use it to lower repair costs and repair frequency and increase overall maintenance predictability.

Built-in Anomaly Detection Model

This Analytic includes a prebuilt model for anomaly detection and prediction that can be retrained and refined using specific data for your assets. Use it to build solutions for:

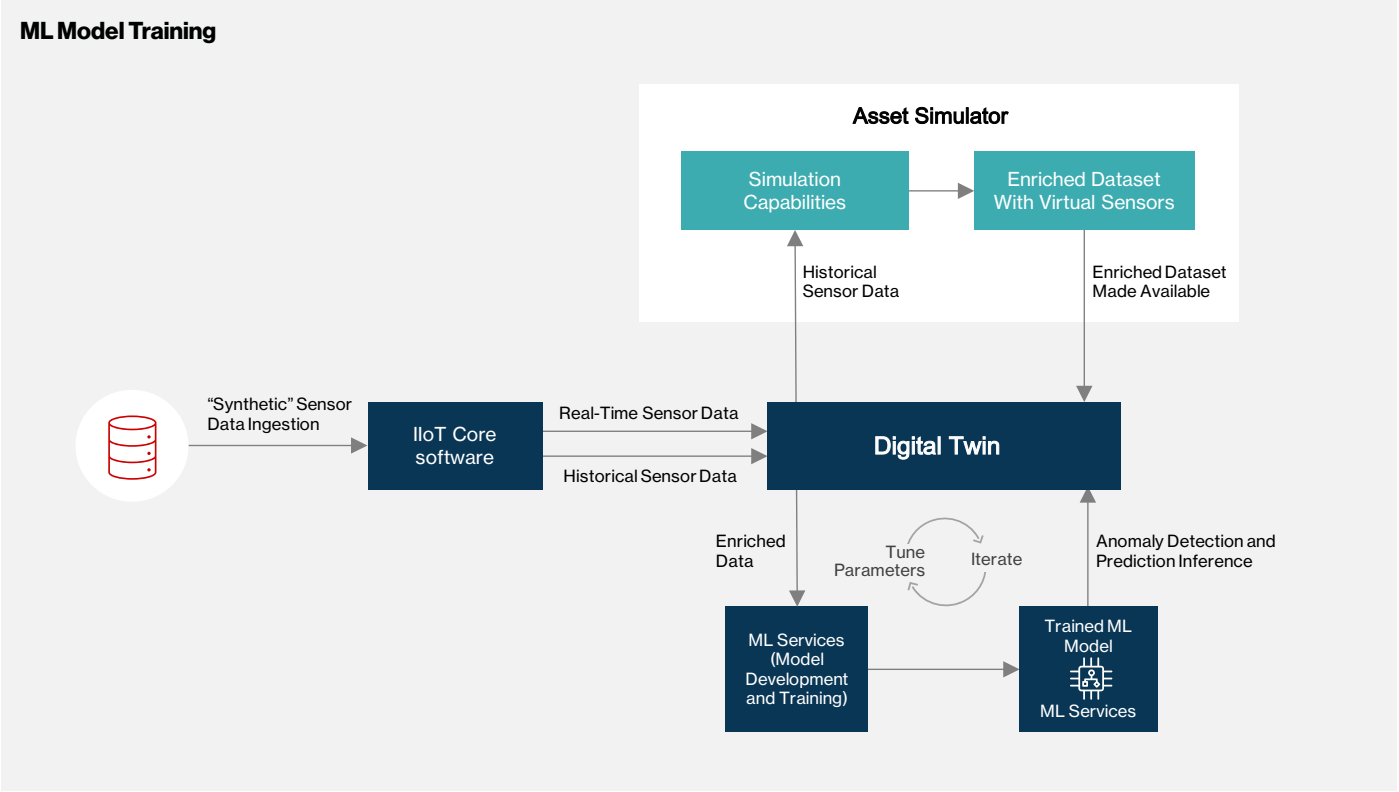
- Remote asset monitoring and management.
- Remote condition monitoring.
- Predictive maintenance.
- Anomaly detection and prediction.

Pain Points That You May Be Experiencing

- Lack of near real-time visibility or difficulty monitoring industrial assets.
- Difficulty monitoring assets distributed throughout different physical locations, across geographies.
- Unplanned downtime affecting your assets.
- Poor customer service experiences due to interrupted service.
- Costly downtime and repair costs.

Accelerated Assembly Tools

The ML services model manager trains your specific ML model by accessing historic data and routing datasets through the ML service to influence responses. It can optionally call third-party simulation engines, sending payloads, and receiving back the result, synchronously. This creates the ability to augment existing sensor data with inferred values that can't be easily measured in the physical world, such as angular acceleration, torque, and so forth. The embedded asset model also provides the user the ability to create, update, and delete a digital asset from the user interface.



Deploy Analytic Applications With Confidence

In deployment, data ingestion provides the ability to read data from industrial sources and sensors. Data processing is applied to the ingested data by reading its payload and redirecting parts of it to select destinations. Internal data storage functions are included with the ability to also forward the collected data to a destination of choice. Data can be exchanged with digital twins with the ability to create, update, and delete digital assets as needed. Prebuilt ML models can be applied as analytics applications based on customer-specific operational challenges and requirements.

The same simulation capabilities can be extended to run-time, where the digital twin is constantly updated and compared with calculated results to correct for asset degradation: for example, motor-bearing wear or heat-exchanger fowling. That way the analytics can account for the state of your equipment at any time during its life cycle.

Analytics can be deployed to on-premises and cloud platforms.

Step Up to Hitachi's Full Lumada Asset Performance Management (APM) Capability

As a step up from the Anomaly Detection and Prediction Analytic and the applications developed with it, APM and Lumada Manufacturing Insights industry solutions are designed to provide health and performance insights to prevent critical asset failures while optimizing asset life-cycle costs. These solutions enable companies to leverage their online and offline data to drive more intelligent, risk-based approaches to asset management in alignment with industry standards, such as ISO 55000 and PAS 55.

- Manage asset health cost-effectively.
- Effectively address identified risks.
- Prioritize repair and replacement decisions.
- Know the "when + what if," which is the next level in asset management.

The capabilities that Hitachi provides through Lumada's software for IIoT and Lumada DataOps extend your data management and analytics framework into industrial operations.

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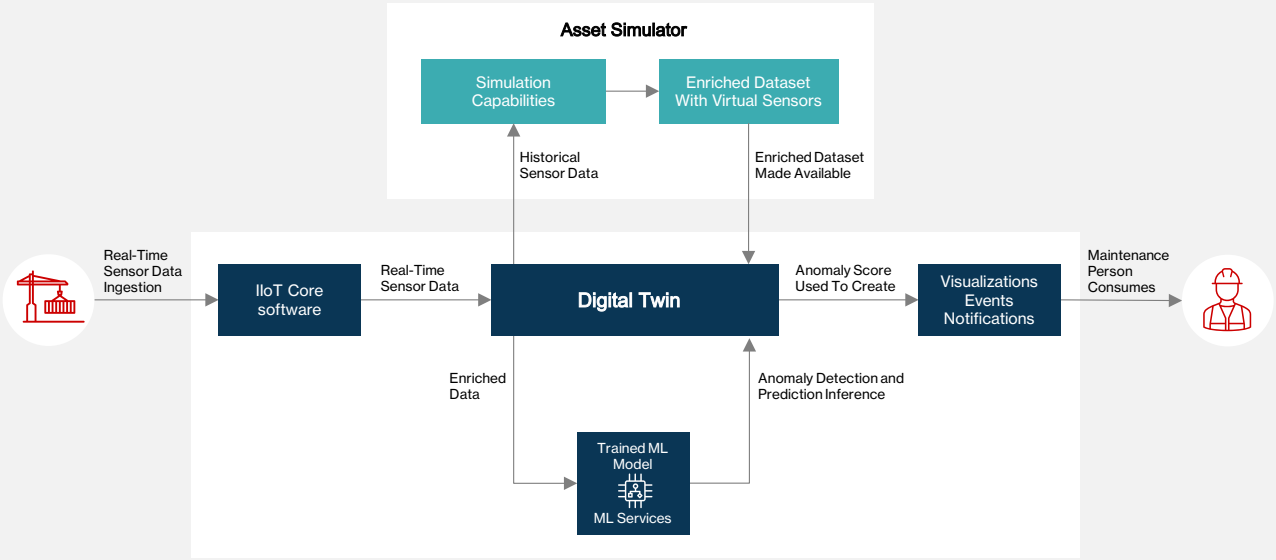
Running Application Performing Inferencing



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Hitachi Vantara solves digital challenges by guiding you from what's now to what's next. Our unmatched industrial and digital capabilities benefit both business and society.

Contact Us For a Demo

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