Gain Added Value from Your APM Reliability Investment in the Cloud from GE Digital

Digital Twin Blueprints for 350+ Assets Out-of-the-box

A cloud deployment of APM Reliability, powered by SmartSignal, gives organizations the power of predictive analytics at scale. GE Digital's Asset Performance Management (APM) portfolio is built on modernized infrastructure that enables predictive analytics to be leveraged across nearly any asset with a sensor. With APM Reliability, customers receive expert support from GE to define and develop Digital Twins for their most critical assets. As a continued investment in our customers, GE Digital has announced the addition of APM Reliability Digital Twin Blueprints to our Accelerators library that provides more that 350 Digital Twin blueprints at the click of a button.

APM Reliability Self-Service Digital Twin Blueprints

AI/ML Supported

- Empirical modeling techniques leveraged to support predictive diagnostics that reduce costly unplanned downtime and equipment failures.

- Diagnostic analytics and rules indicate probable cause and suggested root cause of problem.

Similarity Based Modeling (SBM) Methodologies

- Supervised machine learning under the artificial intelligence (AI) umbrella. A form of non-parametric modeling with the ability to learn a similarity function that measures how similar or related multiple objects are.

Model Configuration

- Based on asset-type and program goals, models can be easily configured to ensure proper monitoring coverage and accurate behavior.

- User selected operation data or auto training algorithms utilizing data clustering techniques to train models automatically.

Self-Learning with Anti-Drift

- Able to ingest large data sets to learn and adjust models based on operating profile.

- Built to eliminate model drift to remove the unknown of using predictive solutions.

Alerting Accuracy Investments

- Sensor Health Monitoring (SMH) is a feature of APM Reliability that works to suppress false-positive alerts so that users can focus on the information that matters.

Digital Twin Comparison

- Compare like assets across a site or fleet with just a few clicks. Easily overlay asset performance data in a single view to gain a full understanding of how your assets are performing.

Time-to-Action Analysis (TTA)

- Gain the ability to set, view and adjust predictive alert thresholds. TTA gives users the choice of how far in advance they would like to predict potential failures, using linear or non-linear regression algorithms, providing the ability to be more proactive in their work.

Adaptable and Scalable

- With self-service blueprints design specifically for your organization's assets, users can adapt models and scale the blueprints to like assets within APM. This provides the ability to scale predictive programs, which leads to more diagnostic failure coverage and return on investment (ROI).

Services Supported

- With the help of GE experts in coordination with your organization's SMEs, Digital Twins can be created for nearly any asset.

Self Supported

- Users have the ability to create a Digital Twin directly in the software based on their own knowledge and IP without and GE personnel involved.

Industries and Asset Types Currently Covered by Digital Twin Blueprints via Accelerator Library

Power Generation

Traditional

Gas Turbines all major OEMs, Steam Turbines, Generators Air/Hydrogen/Water cooled, HRSGs, Feed pumps, Condensers, Transformers, Boilers, fans, Heat Exchangers, along with other Balance of Plant (BOP) Assets.

Renewables

Wind Turbines for major OEMs in Onshore & Offshore installations, Solar, Inverters, Hydro turbines, along with a growing catalogue of Energy Transition assets.

Nuclear

PWR/BWR Reactors, Steam turbines, generators, heat exchangers, feedwater pumps, jet pumps, coolant systems, and other asset types.

Aviation

All major engine OEMs for narrow-and wide-body aircraft.

Oil & Gas

- Centrifugal compressors covering multiple seal system configurations, pumps, motors, reciprocating/screw/integral compressors, gearbox/hydraulic couplings, expander turbines, aeroderivative turbines, power block assets, and other rotating equipment.
- Furnaces, heat exchangers, columns, towers, separators, reactors, absorbers, along with other process assets.
- LNG propane compressors, Mol Sieve Beds, Main Cryogenic Heat Exchangers, regenerators, columns, and other assets in the process train.

Metals & Mining

Multiple haul truck OEMs, dragline systems, reclaimers, mills, hoists, crushers, pumps, motors, blast furnaces, electric arc furnaces, continuous casting, rolling mills, and other assets supporting the Metals and Mining process.

Subscription-based Accelerator Blueprints

- Includes benefits of Self-service but for a subset of equipment types**
- Out-of-the-box Digital Twin Blueprints to monitor critical equipment
- Pre-built configurations that provide context and best practices
- Sensor location insights and failure modes monitored easily viewable
- Blueprints outputs (Alerts and calculated tags) are integrated in other Accelerator solutions for Health and Maintenance score calculations
- Web portal (Accelerators Content Library) available to browse the catalog of available Blueprint and download new or updated Blueprints
- Supports over 350 GE and non-GE assets, with new assets added regularly
- Spans power generation, oil & gas, renewables, and other key industries
- Flat subscription fee ideal for mixed fleet organizations with a high asset count

**disclaimer: GE Digital also provides Digital Twin blueprints outside of the listed areas. Areas listed are representative of high-value use cases in which GE supports most often.

Get scale and speed with Accelerators in the cloud.

Digital Twin blueprints for APM Reliability deliver GE expertise.

START NOW