Machine & Equipment Health from GE Digital

Part of our Asset Performance Management suite
Modern industrial equipment generates gigabytes to terabytes of data every day. When organized, visualized, and analyzed properly, this big data can expose hidden anomalies and enable pre-emptive action, leading to optimized performance. But without visibility into the data, you can be vulnerable to blind spots and risk.

**Intelligent asset strategies**

Asset Performance Management (APM) from GE Digital is an integrated suite of four software and service offerings powered by Predix, the operating system for the Industrial Internet. APM enables intelligent asset strategies to collect and manage all your data and information to make the best decisions that help maximize overall asset and operational performance, and to continuously improve and learn, automatically.

APM helps asset-centric organizations drive safer and more reliable operations while ensuring optimal performance at a lower sustainable cost by balancing cost, availability and reliability, and risk.

So how do you get started?
Machine & Equipment Health

Part of our APM suite, GE Digital’s Machine & Equipment Health (M&EH) solution is not only the foundation, but also the common enabler across all the other APM solution offerings: Reliability Management, Compliance & Integrity Management, and Asset Strategy Optimization.

The first step of your APM roadmap starts with M&EH. It provides the foundational element for all APM solution offerings by standardizing the collection, integration, modeling, and analysis of disparate data to a single unified view. M&EH leverages artificial intelligence (AI) to manage data across a variety of assets and systems, creating a comprehensive and validated data repository and unified view of operations at the asset, plant, and enterprise levels. By solving the challenge of data disparity and latency associated with the management of industrial assets, M&EH provides a real-time view of asset health and status.

The addition of new capabilities to M&EH accelerates time-to-value for a comprehensive real-time control-to-cloud solution offering. These capabilities provide the ability to automate the ingestion and integration of disparate data sources through machine intelligence. They also collect and correlate data to enable analytics that can detect and diagnose asset performance issues, including determining root cause and detecting anomalies. The software can quickly visualize data in charts, graphs, or geospatially through user-specific dashboards, and it can also track KPIs, search data, and apply ad-hoc trending or analysis.

M&EH can help you:

- **Gain a real-time contextual view** of asset health, status, and issues—anytime and anywhere (edge, cloud, and hybrid)
- **Bring together data** from operational technology (OT) and information technology (IT) systems, alarms, and events to give a contextualized view of asset performance
- **Detect and diagnose asset performance issues** to help prevent unplanned downtime and increase asset utilization
- **Make better decisions through user-specific dashboards** and unified data views that provide operational insights to drive real business outcomes
Features of Machine & Equipment Health:

- **Connectivity**
  This capability allows for the secure collection, intermediate storage, backhaul, and administration of time-series and enterprise data from external sources to edge/on-premises and cloud-based APM applications—one time during setup or continuously.

- **Data management**
  Data management includes structuring and contextualizing data to the life cycle asset model to provide a unified view of asset data and enables APM applications and analytics to consume APM data through governed and consistent APIs. Data management leverages AI and machine learning to automate the ingestion, modeling, and mapping of disparate data sources into a canonical asset-oriented model.

- **EAM integration**
  EAM Integration brings the valuable information already being gathered by business systems into GE Digital’s APM for meaningful analysis to drive business decisions and help build an intelligent asset strategy in line with corporate objectives.

- **Condition monitoring**
  Condition monitoring determines and reports the current health of the asset in its operating context and provides anomaly detection by calculating metrics and driving rules-based exceptions. It supports both continuous surveillance via data monitoring as well as discrete or periodic surveillance via rounds and calibration management.

- **Data analysis and visualization**
  Data analysis and visualization provides capabilities to query and present asset data. Users can perform additional analyses by using underlying time-series data and other data types to validate a detected anomaly and determine root cause. This capability enables creation of dashboards by using preconfigured KPI templates and widgets.

- **Event management**
  Event management triggers impact assessments and investigations and provides contextual visualization of events, notifications, and automated response workflows.

- **Recommendation management**
  Recommendation management enables users to centrally manage all recommendations that have been derived from a variety of analyses and inspection types, including reliability analytics, reliability centered maintenance, failure mode and effects analysis, and root cause analysis, among others.

- **Benchmarking**
  Asset Answers, our benchmarking solution, provides instant benchmarking of a company’s physical asset performance against that of not only global industry peers, but also internally, asset to asset and site to site. The tools and KPIs available empower users to clean, filter, and interpret performance data to systematically diagnose and isolate underperforming assets. Monthly data refreshes mean organizations can always compare against current market performance, ensuring practitioners and managers alike have the equipment insights they need to maintain their competitive advantage.

- **Customer Story–Whitegate**

  The 445-MW Whitegate plant is located 25 miles east of Cork, Ireland and provides power to 10% of the country. With GE Digital’s APM, Whitegate now has a single, consolidated view of the entire plant. It’s turning data into useful information and operating more reliably and efficiently.
How do you get started with Asset Performance Management?

Visit our website to learn more about Machine & Equipment Health, the foundation of GE Digital’s APM.
About GE

GE (NYSE: GE) is the world’s Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the “GE Store,” through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

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