

APM Strategy

Develop asset strategies to optimize across availability, reliability, and costs



Business challenges

Industrial companies today are challenged with complex industry dynamics volatile market conditions, increased competition, changing workforces, and constrained budgets. For any industry, however, it's a priority to safely drive production at the least risk and lowest cost, while maximizing performance.

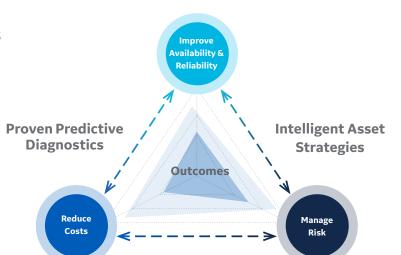
With the advent of advanced control systems and increasing instrumentation, enormous amounts of data are being generated by assets every day. In this new environment, your organization needs to know what all that data means and which assets are most critical to meet business objectives.

A continuous loop of improvement

Predix Asset Performance Management (Predix APM) is a suite of software and service solutions designed to help optimize the performance of your assets. Predix APM increases asset reliability and availability while optimizing maintenance costs, mitigating operational risks, and reducing total cost of ownership (TCO). The suite connects disparate data sources and uses advanced analytics to turn data into actionable insights while fostering collaboration and knowledge-management across the organization. Predix APM works across all equipment, all OEMs, and all industries, across the plant, and across the fleet.

Built on Predix Platform, Predix APM gives organizations the flexibility to develop new analytics and applications, making it versatile to meet changing needs. while ensuring optimal performance at a lower sustainable cost by *balancing cost*, *availability and reliability, and risk*.







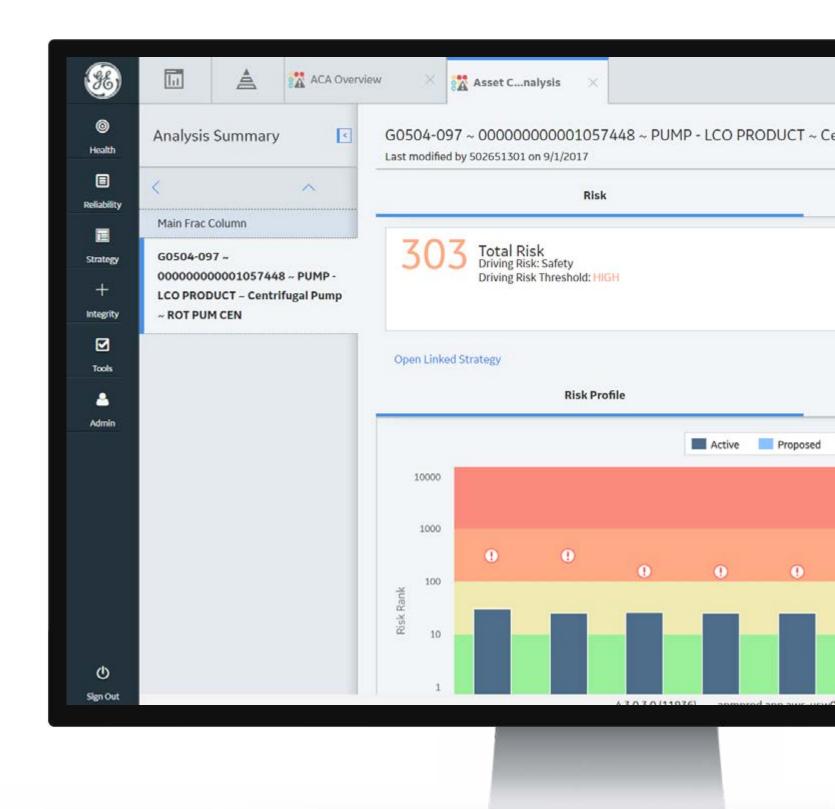
APM Strategy

APM Strategy, a Predix APM solution, provides a common methodology to develop and manage asset strategies by using a risk-based approach to conduct analysis of individual assets, a group of assets, or an asset system. By balancing risk, production goals, and resource investment, APM Strategy allows asset-intensive organizations to focus costs on the most critical assets—reducing maintenance and inventory costs, increasing availability and reliability, and moving away from reactive maintenance practices to a proactive approach.

APM Strategy can help you:

- Analyze: Identify potential failures of individual assets and entire systems, thus reducing unplanned downtime
- > **Determine:** Perform optimal maintenance, inspection, or redesign activities, while most effectively balancing risk and costs
- > **Optimize:** Implement strategies based on failure modes and effects analysis (FMEA), predictive analytics, health indicators, policies, and reliability analyses
- > **Develop:** Create strategies in various work management and control systems for complete integration and improved productivity

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Capabilities of APM Strategy

Reliability centered maintenance (RCM) >

APM Strategy supports two robust methodologies for identifying potential failure modes. RCM, built upon the standard SAE JA1011, "Evaluation Criteria for Reliability-Centered Maintenance Processes," facilitates the development of strategies that will reduce the effects of functional failures from a system perspective, which may have a more significant impact on production and costs than simple mechanical failures.

Failure mode and effects analysis (FMEA)

FMEA provides a streamlined, asset-based alternative to the more comprehensive RCM approach. Analysts can identify failures and effects for each piece of equipment and then recommend actions to mitigate these failures. Unlike the RCM analysis, which focuses on preventing functional failures at the system level, the FMEA capability facilitates the identification and mitigation of the most critical failure modes defined at the equipment level.

Joy Global

> Strategy manager

The strategy management capability provides a common methodology to define actions and their mitigated risks for any asset, providing the ability to evaluate existing plans with basic qualitative risk analysis that is both straightforward and easy to use.

> Strategy library

Strategy library provides professionally designed asset strategy templates that include likely risks and recommended mitigating actions for more than 600 common equipment categories. Mitigating actions may include deployment of advanced predictive diagnostics (available through the APM Reliability solution) to detect and eliminate equipment failures.

> Lifecycle cost analysis

The lifecycle cost analysis capability can help asset owners understand "whole life" costs by capturing all relevant cost data associated with individual assets. groups of assets, or entire fleets. By making informed

Criticality analysis $\boldsymbol{\Sigma}$

cost.

As the leading supplier of advanced equipment, systems, and direct services for the global mining industry, Joy Global used APM Strategy to simplify workloads—creating results that enabled extensive reuse of parts and added future cost savings.

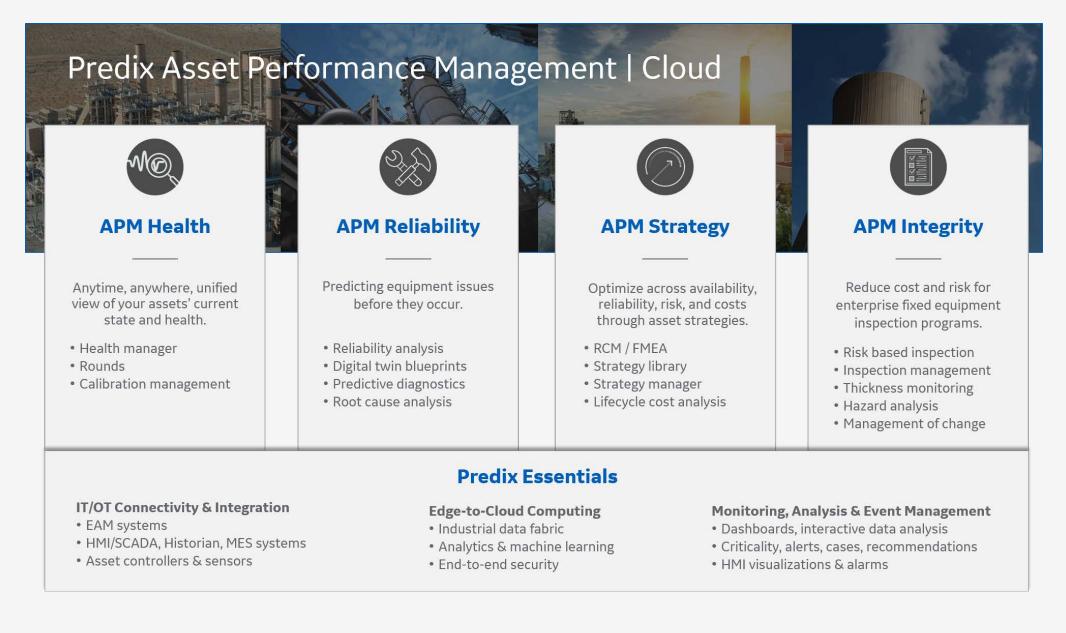
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decisions like when to repair or when to replace, the performance of asset strategies can be optimized over the long term, therefore reducing costs for entire sites or fleets over a defined period of time.

Criticality analysis provides a standard process for assessing and managing the criticality of systems and associated assets. A risk assessment, using a risk matrix, defines the criticality for each system and related asset with respect to risk consequence categories. Criticality is a key driver for developing risk-focused strategies that ensure the right work gets done, at the right time and at the right

Predix Asset Performance Management

APM Strategy is one of four Predix APM solutions:



Do you want to learn more about leveraging your asset data in ways that can increase productivity, mitigate risk, and optimize costs?

Visit our website to learn more about APM Strategy.



Predix APM offers multiple benefits, including:

- > Improves reliability, availability, and productivity
- > Optimizes maintenance costs
- > Mitigates risk
- > Maintains technical expertise (tribal and organizational knowledge)
- > Delivers continuous improvement

Learn more about our complete Predix APM offering



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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