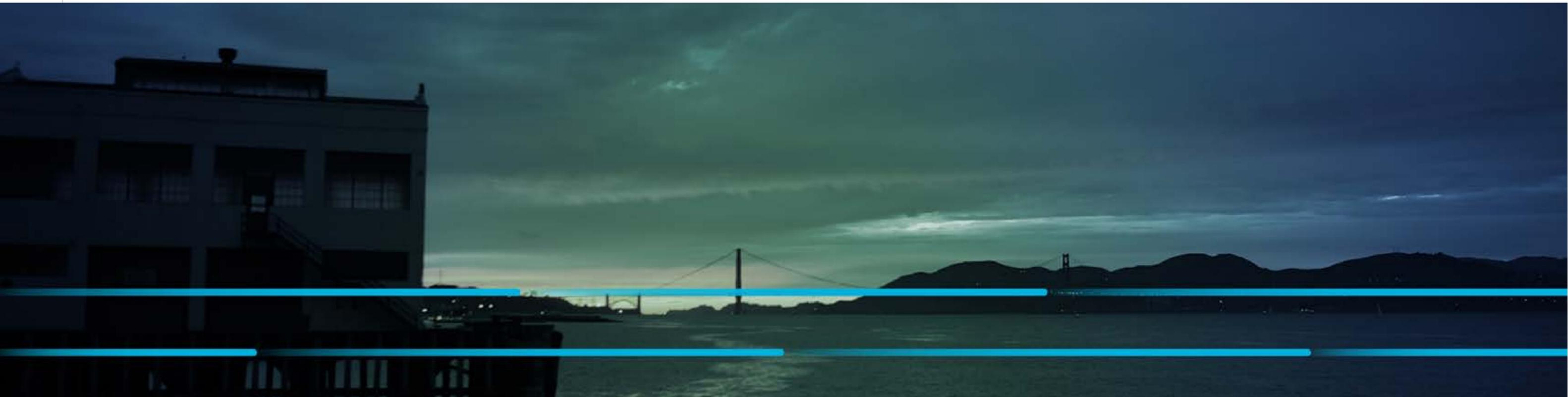




APM Integrity

Manage asset integrity and compliance by monitoring changing risk conditions



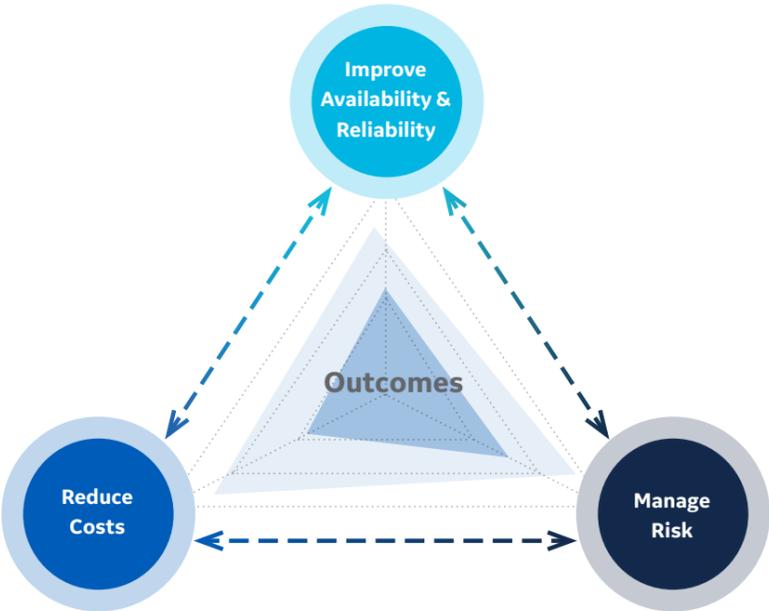
Business Challenges

To implement and maintain a cost-effective regulatory compliance strategy, it is critical that inspection, safety, and maintenance capabilities are streamlined to deliver the utmost efficiency and actionable insights for asset-centric industrial organizations. With the application of risk-based principles, owner operators can define

effective strategies for maintaining operational goals within maintenance budget constraints. And through automation of a lifecycle approach, the effectiveness of this strategy can be used to modify the strategy itself.

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.



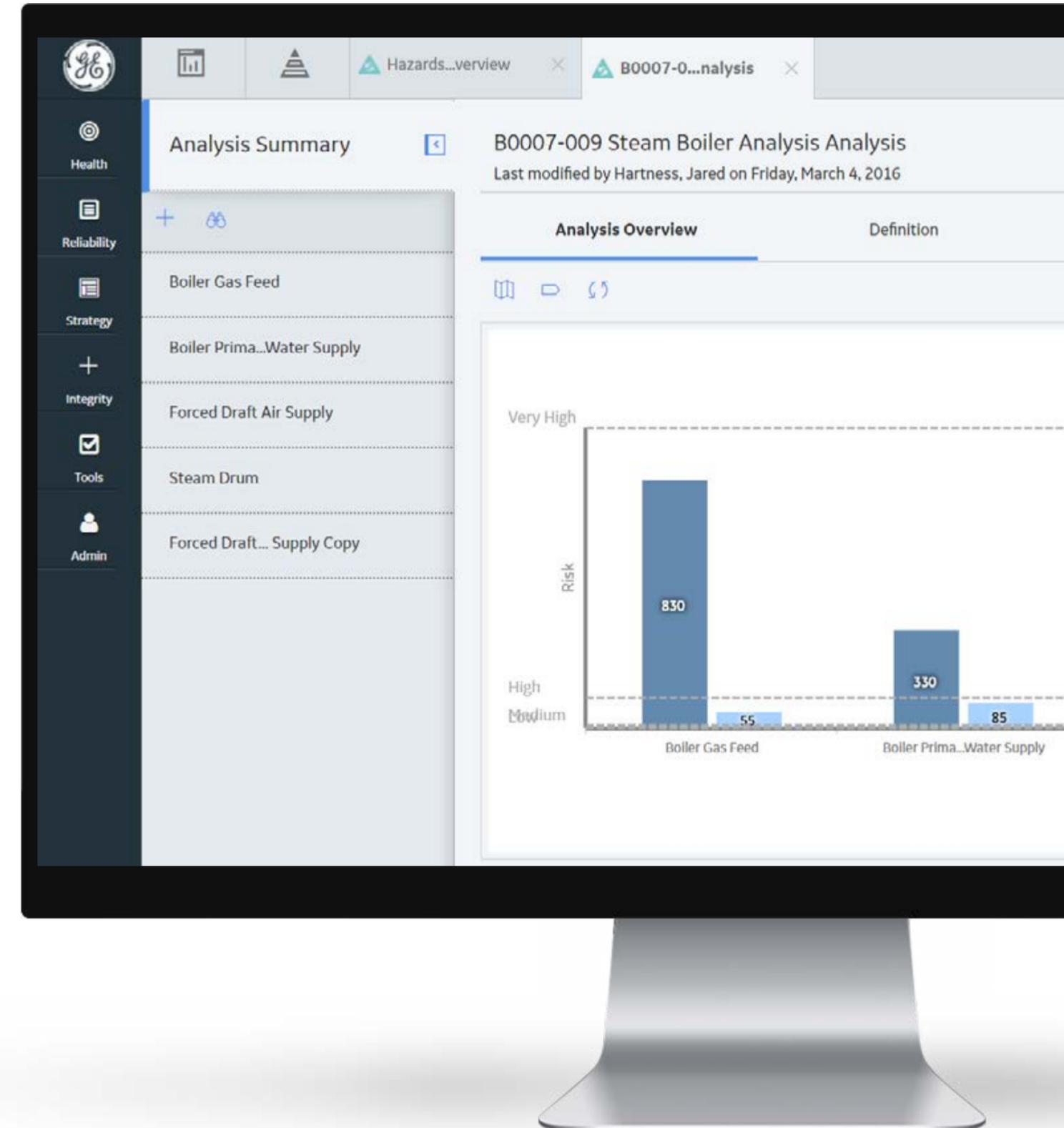
APM Integrity

APM Integrity equips you to enable a closed loop mechanical integrity program across your enterprise. This inspection solution helps your operators to reduce risk, lower inspection costs, and manage regulatory compliance relative to your fixed assets. Using an integrated set of tools, APM Integrity enables you to calculate risk and the remaining useful life of assets to generate, implement, and execute optimized inspection strategies while streamlining auditability and compliance governance. The solution also facilitates compliance with various Process Safety Management (PSM) requirements such as process hazard analysis, mechanical integrity, and management of change.

APM Integrity can help you:

- > **Develop and enhance** inspection strategies that support risk-based inspection methodologies such as API 580, 581.
- > **Enable compliance** with OSHA 1910.119 process safety management requirements.
- > **Integrate compliance and integrity initiatives** across your enterprise to maximize asset availability and lower the likelihood of catastrophic incidents.

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Capabilities of APM Integrity

> Risk based inspection

Most inspection programs are mandated by regulatory agencies with the power to apply significant penalties for non-compliance. To improve cost-effectiveness, many organizations are turning to risk based inspection (RBI) as a preferred methodology. This RBI methodology is based on and has been certified as complying with American Petroleum Institute (API) standards 580 and 581. This provides the ability to assess the likelihood and consequences of failure to optimize inspection rigor based on overall risk. The visual surveillance and inspection of both fixed and linear assets is a critical element in assessing the current condition of the asset and avoiding equipment failures. RBI can be seamlessly integrated into inspection management and maintenance programs.

> Hazard analysis

Based on international standards, such as the IEC 61882 Hazard and Operability Studies (HAZOP Studies) - Application Guide, the hazard analysis capability is both a regulatory requirement as well as an integral part of an overall risk-management process—focused on identifying

and assessing risks and managing the reduction of those risks. Hazard analysis is fully integrated with capabilities in our Asset Strategy Optimization solution.

> Inspection management

Inspection management provides the ability to drive large-scale inspection programs and ensure compliance with federal, state, and local requirements—including API standards. It allows asset owners and operators to manage inspection plans on a variety of asset classes, document the condition of the asset, and track inspection recommendations to closure.

> Thickness monitoring

Effective thickness monitoring activities are an essential component of a Predix APM program, helping to eliminate equipment failures. This capability provides the ability to calculate remaining useful life and inspection priority based on corrosion rates or thickness measurements. Thickness monitoring can be integrated with a variety of data loggers, thereby streamlining the collection of thickness data. Tasks associated with thickness monitoring can also be integrated into EAM/CMMS systems and solutions.

> Management of change

The management of change (MOC) capability follows a systematic approach to delivering a change, taking into consideration all aspects of operations which will or could be impacted because of the change. Using MOC, changes are undertaken as “change projects.” In a change project, changes are formally introduced, approved, and implemented as tasks. MOC provides a flexible solution for creating and managing change projects, communicating changes to team members, and enforcing an approval system to provide accountability for the change. With MOC, users are able to comply with change management requirements by relating records from other Predix APM solutions to ensure that all impacted areas of the organization are recorded as changed elements in the change project. This, in turn, provides organizations with a greater degree of auditability, which is essential in industries that require MOC as a regulatory compliance requirement.

Real customer results:

\$325K

Saved annually by improving mechanical integrity in turnarounds

[Learn More](#)

14%

Reduction in corrective maintenance

[Learn More](#)

25%

Increase in preventative maintenance by improving mechanical availability

[Learn More](#)

£2.12

Saved annually by using risk based inspection capability

[Learn More](#)



Predix Asset Performance Management

APM Integrity is one of four Predix APM solutions:

Predix Asset Performance Management | Cloud

- APM Health**
 - Anytime, anywhere, unified view of your assets' current state and health.
 - Health manager
 - Rounds
 - Calibration management
- APM Reliability**
 - Predicting equipment issues before they occur.
 - Reliability analysis
 - Digital twin blueprints
 - Predictive diagnostics
 - Root cause analysis
- APM Strategy**
 - Optimize across availability, reliability, risk, and costs through asset strategies.
 - RCM / FMEA
 - Strategy library
 - Strategy manager
 - Lifecycle cost analysis
- APM Integrity**
 - Reduce cost and risk for enterprise fixed equipment inspection programs.
 - Risk based inspection
 - Inspection management
 - Thickness monitoring
 - Hazard analysis
 - Management of change

Predix Essentials

- IT/OT Connectivity & Integration**
 - EAM systems
 - HMI/SCADA, Historian, MES systems
 - Asset controllers & sensors
- Edge-to-Cloud Computing**
 - Industrial data fabric
 - Analytics & machine learning
 - End-to-end security
- Monitoring, Analysis & Event Management**
 - Dashboards, interactive data analysis
 - Criticality, alerts, cases, recommendations
 - HMI visualizations & alarms

Predix APM offers multiple benefits, including:

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

[Learn more about our complete Predix APM offering](#)

Do you want to learn more about optimizing your asset integrity program to reduce risk, lower inspections costs and improve employee productivity?

Visit our website to learn more about APM Integrity.

VISIT OUR WEBSITE





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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