APM Integrity

One-stop shop to optimize your Enterprise Mechanical Integrity program

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Addressing your modern business challenges

Owner operators must address mounting safety and environmental pressures with systems that ensure the safe operation and containment of their processes. Mechanical integrity regulations require a significant amount of data be captured to ensure process equipment is designed, fabricated, installed, operated, and maintained properly to mitigate associated risks. The overabundance of data makes it increasingly difficult to understand current risk levels and drive optimization of mechanical integrity inspection and engineering resources.

APM Integrity is built for dynamic risk

APM Integrity, part of GE Digital's Asset Performance Management, equips asset-centric organizations with an integrated set of tools to calculate risk and asset lifetimes to generate, implement, and execute optimized inspection strategies while streamlining auditability and compliance governance.

Designed with enhanced mobility, contextual visualization, and dynamic risk evaluation, APM Integrity offers customers a comprehensive, scalable, and sustainable solution tailor-made for their fixed asset mechanical integrity program.

BENEFITS

01 Fully integrate mechanical integrity and inspection initiatives across an enterprise resulting in higher asset availability and lower catastrophic incident probability

02 Develop and optimize inspection strategies through risk-based inspection methodologies (API RP 580, 581)

03 Enable compliance with OSHA 1910.119 process safety management requirements & manage risk at an optimum level using configurable reports, metrics, dashboards, and key performance indicators

04 Integrate with EAM/SAP to manage work processes

05 Improve inspector productivity by using digital mobile inspection technologies that are more efficient than paper-based methods

06 Automatically re-analyze integrity and safety risk, based on data from field inspections, UT programs and process historians to ensure strategies are adjusted to mitigate failure risk

Real cost-savings and reliability results

$325K Saved annually in inspection costs

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1,135% Improvement in meant time between failures

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£2.2M Saved annually with Risk Based Inspection

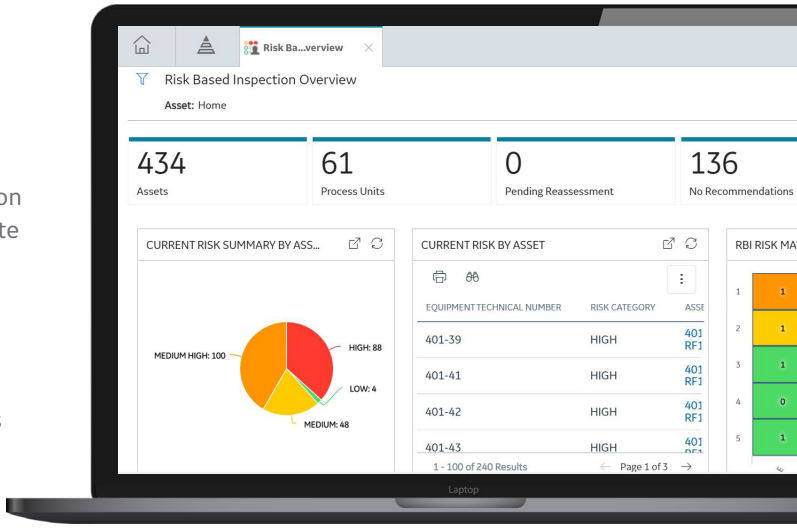
LEARN MORE

RISK BASED INSPECTION (RBI)

Avoid equipment failures and potential risk related to fixed assets

Assess the likelihood and consequences of failure to optimize inspection rigor based on overall risk (compliant with American Petroleum Institute (API) standards 580 and 581).

- Define corrosion loops and integrity operating windows (IOWs), assign potential degradation mechanisms (PDMs), and rank equipment based on risk.
- Integrate with inspection management and maintenance programs
- Ability to perform bulk evergreening and re-assessment of RBI analyses

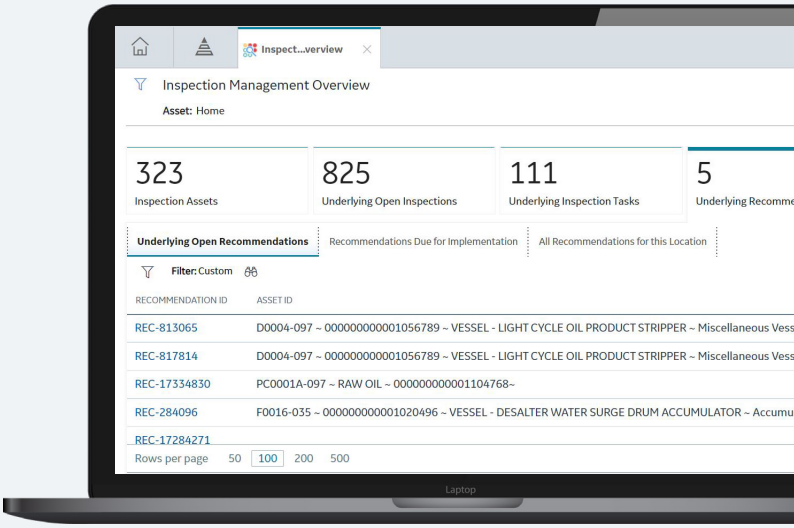


INSPECTION MANAGEMENT

Lower inspection costs

Manage inspection plans on a variety of asset classes, document the condition of each asset, and track inspection recommendations to closure

- Capability to support large-scale inspection programs
- Ability to capture inspection data using mobile devices and synchronize with APM
- Integrate with EAM/SAP

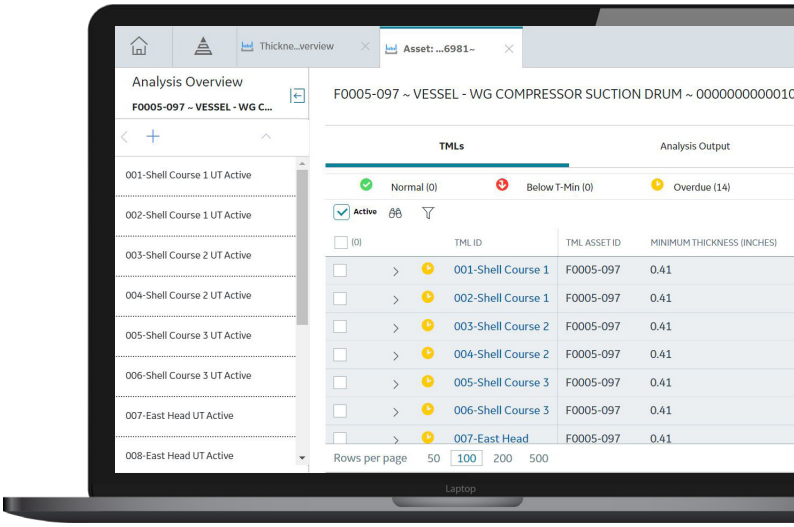


THICKNESS MONITORING

Improve efficiency and reduce risk related to corrosion

Manage large-scale corrosion and thickness measurement programs – calculate the minimum thickness required to safely operate the equipment, corrosion rate analysis, as well as next-inspection and retirement-date calculations

- Applicable to a diverse set of stationary equipment, such as pipelines, piping, vessels, exchangers, tanks, boilers and more
- Ability to manage rotation of pipes used in slurry pipelines to mitigate severe erosion

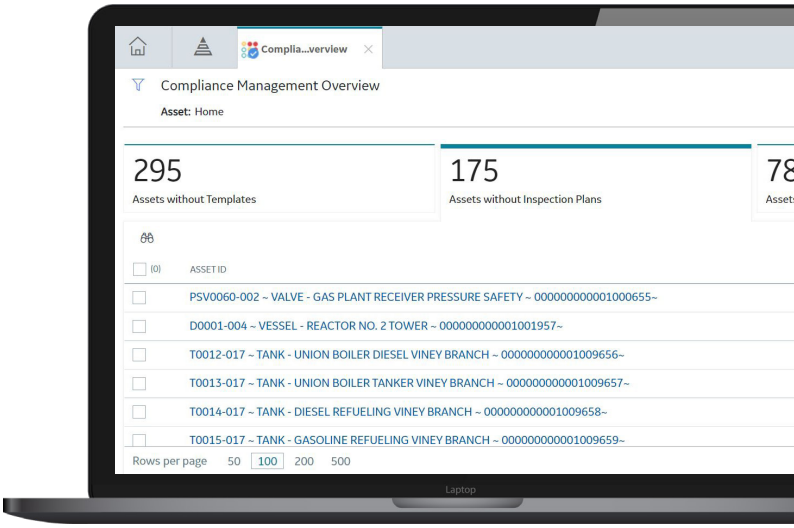


COMPLIANCE MANAGEMENT

Monitor Equipment Compliance

Track when your equipment should be inspected to comply with global standards

- Applicable across geographical locations, regulatory bodies and industry authorities
- Enable inspection requirement as per NR-13 (Brazil) and BetrSichv (NR-13) regulations

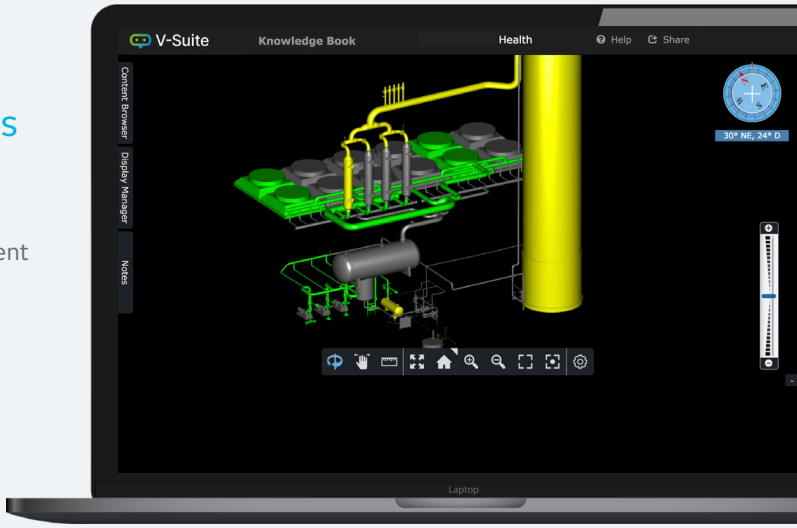


3D VISUALIZATION

Enhance contextual and situational awareness of critical assets

Through GE Digital's partnership with Visionaize, APM Integrity applications such as Risk-based Inspection (RBI), Inspection Management and Thickness Monitoring now include enhanced 3D visualization capabilities for critical fixed assets in the plant.

- Ability to have risk, corrosion and thickness data presented both digitally and graphically on the respective 3D models
- Enhances decision-making ability of daily users such as inspectors, planners, technicians, and corrosion analysts



APM Safety

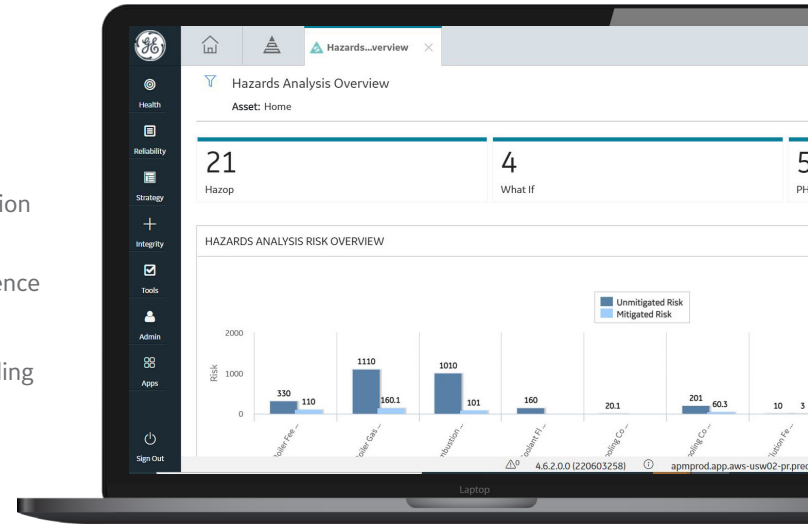
APM Safety supports work processes for designing and maintaining critical assets whose failure can lead to catastrophic incidents. APM Safety provides integrated tools to identify and mitigate process safety hazards, manage critical safety instrumentation, and manage equipment and process changes that can increase safety risk.

MODULES

HAZARD ANALYSIS

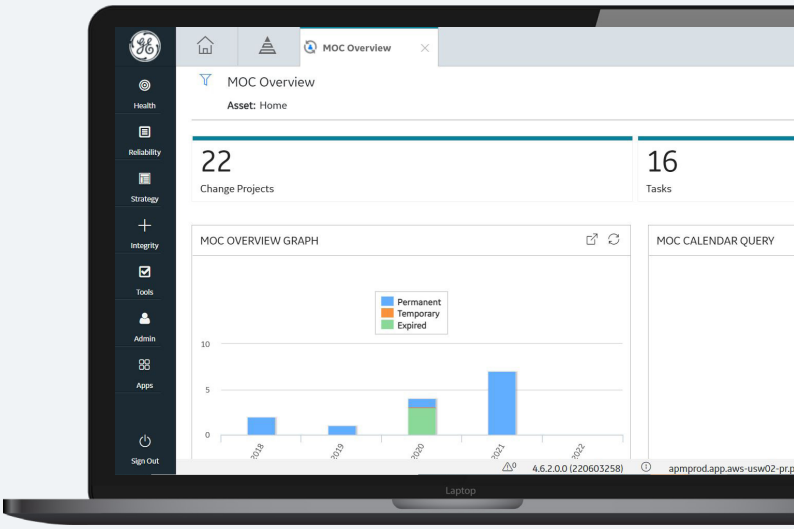
Hazard Analysis capability is based on international hazards analysis standards such as IEC 61882 Hazard and Operability Studies Application Guide. It includes:

- Definition of scope: Potential causes that could lead to a consequence
- Safeguards: Mitigate and prevent the consequence from occurring
- Recommendations: Used to create strategy actions, thereby enabling a “closed loop” approach



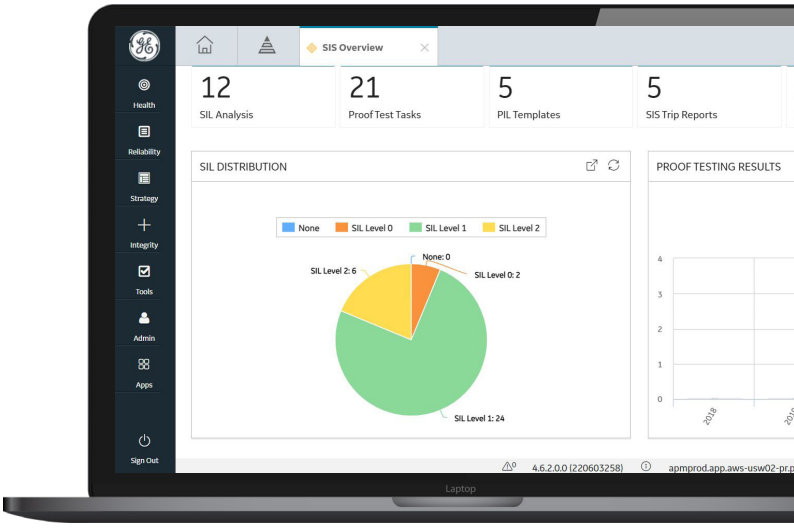
MANAGEMENT OF CHANGE (MOC)

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.



SAFETY INSTRUMENTED SYSTEMS (SIS) MANAGEMENT

Designed based on ISA 84/IEC 61511 and IEC 61508, this capability helps manage phases of the safety lifecycle, from design through operation and maintenance to the eventual decommissioning of instrumentation systems.



GE Digital's APM Suite

GE Digital APM increases asset reliability and availability while optimizing maintenance costs, mitigating operational risks, and reducing total cost of ownership (TCO). The software connects disparate data sources and uses advanced analytics to turn data into actionable insights while fostering collaboration and knowledge-management across the organization. Available on premises or in the cloud, APM works across all equipment, all OEMs, and all industries, across the plant, and across the fleet.

Industrial Data Diagnostics

Pinpoint opportunities to improve data quality and asset performance

Data quality recommendations
Benchmark analytics
Failure mode analysis
PM diagnostics
Manufacturer comparisons
Improvement tracker

APM Health

Unified view of assets' current state & health

Rounds / Rounds Pro
eLogs
Health manager
Calibration management

APM Reliability

Predicting equipment issues

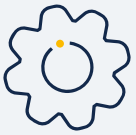
Reliability analytics
Root cause analysis

Performance Intelligence

Thermal Performance and Economic Advisory

SmartSignal

Predictive diagnostics
Digital twin blueprints



APM Strategy

Reduce risk & optimize life cycle cost

RCM/FMEA
Strategy management
Strategy optimization
Strategy implementation
Lifecycle cost analysis

APM Integrity

Helping to keep facilities contained & compliant

Compliance management
Inspection management
Thickness monitoring
Risk based inspection

APM Safety

Reduce hazards risk within industrial processes

Hazard analysis
SIS management
Management of change

APM Foundation / Essentials

IT/OT Connectivity & Integration

EAM systems
HMI/SCADA, Historian, MES systems
Edge OT connectivity and analytics
GIS systems

Data Management & Processing

Common asset model (or) hierarchy
Analytics management and execution*
Infrastructure Data Fabric*
Policy designer
End-to-end security

Monitoring, Analysis & Event Management

Advanced Visualization*
Dashboards, interactive data analysis
Criticality, alerts, cases, recommendations
HMI visualizations and alarms*

*Cloud only

Explore the benefits of APM

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

Learn more
about our complete APM offering

It's time to optimize your asset integrity program to reduce risk, lower inspections costs, and improve employee productivity.

GET STARTED

About GE

GE Digital, an integral part of GE Vernova's portfolio of energy businesses, is a $1 billion software business putting data to work to accelerate a new era of energy. GE Digital has pioneered technologies like Industrial AI and Digital Twins to serve industries that matter for decarbonization like energy, manufacturing, aviation. Our software drives insights customers need to transform how they create, orchestrate, and consume energy. Over 20,000 customers world-wide use our software to fuel productivity and reliable operations while reducing costs and carbon for a more sustainable world. For more information, visit www.ge.com/digital. GE Vernova, a dynamic accelerator comprised of our Power, Renewable Energy, Digital and Energy Financial Services businesses, focused on supporting customers' transformations during the global energy transition.

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