APM Reliability from GE Digital
Identify bad actors, avoid unplanned downtime

Model, track, and identify root cause

APM Reliability provides organizations the tools and techniques required to help understand, diagnose, and eliminate the root cause of unplanned downtime. Powered by Predictive Analytics, our application uses your data to support Predictive Maintenance (PdM) initiatives and build a long-term strategy to optimize performance. As part of a holistic Enterprise APM solution, or on its own, Reliability delivers.

Key features

- Predictive Analytics & Diagnostics
- Root Cause Analysis Automation (RCA)
- Generation Availability Analysis (GAA)
- Production Loss Analysis (PLA)
- Reliability Analytics (Distribution Analysis and Weibull)
- Supports Power Generation, Oil & Gas, Renewables, Metals & Mining, and Aviation assets

CASE STUDY

Dorad Energy

Using a predictive analytics strategy, Dorad Energy Ltd, Israel's first major (and second largest) Independent Power Producer (IPP), has avoided an estimated $4M in expenses in less than four years and become one of the most reliable IPPs. The private utility implemented GE Digital's Asset Performance Management (APM) software as the foundation of their reliability process.

Read more →

$4 MILLION
Cost avoidance estimated at $4M in savings in less than 4 years

840 MW
APM cloud deployment across combined cycle power plant with a capacity of 840MW

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01 Early Detection and Prevention

- Leverage Predictive Analytics, powered by SmartSignal, to get alerts of performance anomalies
- Benefit from 340+ out-of-the-box GE & non-GE asset blueprints, providing faster time-to-value
- Easily on-board new assets, such as Renewables, with custom models

02 Systematic Remediation of Criticalities

- RCA allows users to visualize potential criticalities and manage maintenance strategies
- Develop recommendations that limit the impact, or completely eliminate, critical events
- Document sequential events that may lead to a failure, enabling analysts to improve assets performance, processes, and culture

03 Reporting Compliance and Data Integration

- Integrate data from maintenance, operational, planning, and financial systems to generate analysis for continuous improvement
- Meet North American Electric Reliability Corporation (NERC) requirements consistently and streamline performance improvements

04 Meet and Achieve Production Goals with Confidence

- Measure production capacity effectively, allowing for: decreases in losses, elimination of surprise losses, and historical data benchmarking and comparison
- Easily visualize production losses in one standardized dashboard and reconcile necessary adjustment recommendations

05 Quantify 'True Cost of Failure'

- Gain insights into historical costs, failure frequencies, and production asset trends
- Drilldown into specific assets to uncover underlying causes of failure and provide remediation activities

06 Failure Pattern Insights and Planning

- Understand failure causes and contextualize in one simple view
- Plan with multiple analysis tools like spares analysis, distribution analysis, system reliability analysis, and more
- Conduct Weibull analysis with available data in near real-time

APM Reliability technical specifications

APM Reliability includes:

- Data integration tag mapping for application input data
- Predictive models deployed in cloud
- Model validation and QC
- Analytic configuration and diagnostic coverage
- Application software
- Implementation and Subscription/Acceleration Plan for a customer-selected term
- Managed Services – Optional service offering depending on project

Other requirements:

- Edge Device (quoted by GE Digital) or other method like S2C (Server to Cloud) connection to continuously stream data to cloud
- Data system interface to Edge/S2C device (DCS or Historian via OPC or other data exchange protocol)
- Cyber security (i.e., firewall)
- Connectivity into CMMS/EAM

Customer supplied materials:

- Historian master tag lists
- Piping and instrumentation diagrams (P&IDs)
- Sample data sets including historical data covering load range and seasonal variation (i.e., 12 months of data)
- Historical upgrade events, major maintenance activities performed
- Plant and major equipment design information
- Process layout details like DCS screenshots
- Configuration data support access to plant personnel and data/information support personnel
- Technical support for data questions, sensor investigations and alternative data source discussions
- Work order history information
- Production records as required or seen fit

To view application the following are required:

- Chrome version 73.X or higher
- Laptop/Desktop
- Connectivity to cloud

Performance insights from a simple dashboard

Collect and normalize operational data and run key performance and degradation calculations.

Real savings

Benefit from GE Digital's domain expertise as you streamline processes for maximized performance and data excellence.

Speak with a GE Digital expert about reliability solutions

BOOK A CALL