Trusted partner for your digital journey

**Trusted Experts**
Global expertise supplements the customer’s knowledge

**Journey Partner**
Continuous initiative inspires the customer’s transformation

**Technology Adoption**
Dedicated personnel advance the customer’s unique solution
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About GE Digital Industrial Managed Services

GE Digital Industrial Managed Services (IMS) is a global team of industry experts dedicated to providing value through a holistic APM platform and work processes, enabling condition monitoring with advanced analytics and partnering with asset intensive industry customers to make the industrial world safer, more efficient, and more effective.

What are Industrial Managed Services?

Industrial Managed Services are expertise based, ongoing consulting services provided in a service subscription format to ensure customers get their expected return on investment. Industrial Managed Services engage after connection or project deployment and:

• Uses the product on behalf of the customer
• Uses the product with the customer
• Provides periodic guidance and content to the customer
• Helps transition the customer to full self-sufficiency if desired

Industrial Managed Services ensures customers develop the people and processes necessary to take full value of GE Digital solutions.

Why choose GE Digital Industrial Managed Services?

GE Digital IMS has been in operation for over 10 years working in industries ranging from power generation and oil and gas to manufacturing and aviation. There are over 130 reliability engineers with 1,100+ combined years of experience ready to serve. IMS has experience managing GE, non-GE, rotating, reciprocating, stationary and mobile equipment. With experience in over 250 equipment types, GE Digital Industrial Managed Services provides a single source for your equipment needs.

The IMS team is focused on being your journey partner as you transform your organization. GE Digital Industrial Managed Services delivers support with annual service subscriptions. We provide dedicated teams to create a deep partnership with your personnel and build momentum in your digital transformation.
Overview of On-Line Subscription Service Levels

GE Digital Global Services provides subscription options for all APM Module capabilities with different subscription levels to meet your unique solution requirements. Continuous updates, changes and improvements are delivered during the selected subscription period. The services provided will always comply with the Tiers and deliverables documented in the most recently published Industrial Managed Services Guide. GE Digital Industrial Managed Services provides flexible levels of service to ensure we are meeting the **Customer’s Path, Customer’s Pace, and Customer’s Choice** of service needs.

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**Results Service (Tier 1)**

GE Digital Industrial Managed Services offers to deliver the full value of GE Digital solutions by using the solution on behalf of the customer. By providing this service, IMS will be able to help the customer focus on the incorporation of GE Digital solutions into their core business processes and to maximize the customer’s value.

**Enablement Service (Tier 2)**

GE Digital Industrial Managed Services offers to support in the usage of GE Digital solutions. This focused service level is for customers who have adequate internal staffing and expertise and who want their staff focused on operational issues.

**Guidance Service (Tier 3)**

GE Digital Industrial Managed Services offers to help the customer transform the way they use their domain knowledge. This targeted service level is for customers who have both adequate staffing and expertise with GE Digital solutions and want to be more autonomous.

*Starter Kits, Facilitation, and Pre-Sales Services are described after subscription elements.*
Annual Kickoff Forum

*Tiers 1, 2 & 3*

**Goals**
Customers will get an annual, onsite workshop, with assigned industry subject matter experts to review and benchmark their configuration and usage of the solution. The GE Digital Industrial Managed Services staff will make recommendations and engage in collaborative planning to maximize the customer’s value in the upcoming year.

**Requirements**
An ongoing subscription of any Tier for one full year. Appropriate system access and permissions. Access to and meeting attendance by key personnel. Up to date software and service agreements.

**Deliverables**
- Discussion Agenda: Strategic review and documentation of APM program goals
- Workshop Materials: Detailed analysis, discussion and specific recommendations for improving system use and value will be based on usage during prior year. Documentation to be used for review is detailed in the Goals and Value Report section
- Resource and Budget Planning: Agreed staffing, implementation steps, milestones, support services and value tracking for enhanced APM program will be jointly created

**Consultation**
Advanced delivery of Goals and Value Report to prepare for the workshop. Length and format of consultation depends on the scale of the APM program. This workshop is generally a one to three day visit onsite, with sessions including key reliability personnel, plant managers and a vice president of operations. Starter scopes may be reviewed with a half-day remote session.

**Follow-Up**
Written report detailing meeting discussions and agreed plan, containing both GE and customer actions. If needed, proposed contract modifications.
Annual Goals and Value Report

_Tiers 1, 2 & 3_

**Goals**
GE Industrial Managed Services assigned SME and staff will compile an annual report that highlights the value and effectiveness delivered by the customer’s APM program.

**Requirements**
An ongoing subscription of any Tier for one full year. Appropriate system access and permissions. Up to date software and service agreements.

**Deliverables**
The Yearly Goal and Value Report will include:
- Executive summary
- APM program goals
- Coverage scope
- Actionable recommendations summary
- Value summary
- Key examples
- Case listing
- Value methodology

**Consultation**
The report will be reviewed and discussed during the Annual Onsite Workshop. If an annual workshop is declined, IMS personnel will be available for a leadership call after report delivery.

**Follow-Up**
Answer questions and provide detail as requested.
Aggregated Content Access

_Tiers 1, 2 & 3_

**Goals**
Provide access to and use of best-in-class, industry validated knowledge templates for updating and/or application within the customer’s APM program. This provides customers the ability to benefit from continually refreshed, aggregated expertise across a wide industrial use base.

**Requirements**
An ongoing subscription of any Tier. Appropriate system access and permissions. Use of GE recommended taxonomy within customer’s APM solution. Up to date software and service agreements.

**Deliverables**
Varying according to selected module and asset coverage, and may include:
- Dashboards
- Rounds Templates
- Calibration Templates
- Example Policies
- Trending Analytics
- Predictive Blueprints
- Root Cause Templates
- Strategy Templates
- Inspection Methods
- Risk Analyses

**Consultation**
If Tier 2 is selected, named subject matter expert available for template Q&A.
If Tier 1 is selected, GE will apply selected templates within the customer’s APM solution.
Support is intended for hands-on APM users.

**Follow-Up**
If Tier 1 is selected, GE will tune and optimize the selected templates overtime.
Quarterly Program Update  
*Tiers 1, 2 & 3*

**Goals**
GE Industrial Managed Services will deliver a standardized APM program update aligned to customer desired outcomes and progress towards achieving performance targets. GE staff will make recommendations for optimal program management.

**Requirements**
An ongoing subscription of any Tier for one full year. Appropriate system access and permissions. Availability of key personnel. Up to date software and service agreements.

**Deliverables**
- Review of APM program goals
- Detailed usage and value metrics with discussion
- Specific recommendations for improving system use and value
- Resource plan, implementation milestones and value tracking

**Consultation**
Advanced delivery of quarterly report to prepare for the conference call. GE analysts will lead the call with expert attendance as needed to the support customer in managing their APM program.

**Follow-Up**
Written report detailing meeting discussions and agreed plan, containing both GE and customer actions. If needed, proposed contract modifications.
Data Connectivity Support

*Tiers 1, 2 & 3*

**Goals**
GE Digital Managed Services will monitor data connectivity, data quality and for GE APM applications. Reliable connectivity increases confidence in key performance indicators and analytics output accuracy and validity.

**Requirements**
- Subscription including use of IMS hosted APM tenant or Tier 1 services
- Supported Connectivity Methods
  - GE Historian and associated collectors
  - OSI Pi
  - OPC UA
  - OPC DA
  - Predix Edge 2.0 (Containers that are part of standard GE library or have L1, L2, Product Support from partners for duration of IMS Contract)
  - APM Connect
- Remote access to infrastructure running collector for troubleshooting and configuration
- Up to date software and service agreements

**Deliverables**
Regular Monitoring and Review of Data Connectivity including:
- Monitoring of data flowing into GE Digital APM applications
- Exception reporting on data connectivity issues
- Identification and Level 0 troubleshooting of breaks in connectivity stream
  - System resource availability
  - Services/Dameon Operation
  - Inbound/Outbound connectivity
  - Documentation of steps taken to try to resolve issue for L1 support teams
- Engagement of appropriate GE or Customer IT teams to resolve issues above Level 0
- Regular Report of Data Quality and Health
- Regular Predictive Analytic Sensor Health Reporting
  - Missing values based on specified poll rate
  - Flatlined data
  - Out of Range Value

**Consultation**
As needed communication to customer IT/OT resources. Regular reporting delivered through operations review calls and/or high priority communications.

**Follow-Up**
Technical support and issue resolution as needed.
Monthly Activity Review
*Tiers 1 & 2*

**Goals**
The GE Digital Industrial Managed Services team will do a leadership review including activity summaries, long term issues, configurations in progress and opportunities to better serve the customer.

**Requirements**
An ongoing subscription of Tier 1 or Tier 2 for a selected scope. Appropriate system access and permissions. Attendance by customer functional leaders. Up to date software and service agreements.

**Deliverables**
Management review of:
- APM solution activity
- Issues requiring leadership follow-up
- Continuous improvement efforts
- Activity value estimates

**Consultation**
Regularly scheduled monthly video conference call, discussing scope of subscription coverage. GE service managers will lead the call with expert attendance as needed to support customer leadership in managing their APM program.

**Follow-Up**
As needed and as discussed, possibly including:
- Additional solution tracking
- Details of follow-up actions
- Additional improvement efforts
- Refinement of value estimates
Named Industry Expert
*Tiers 1 & 2*

**Goals**
Customers will get a named industry expert continually assigned to their account. They will supervise and provide guidance on the customer’s APM program, overall and for detailed issues that arise. The named resource will bring significant and applicable industry knowledge to maximize program effectiveness and related business outcomes.

**Requirements**
An ongoing subscription of Tier 1 or Tier 2. Appropriate system access and permissions. Up to date software and service agreements.

**Deliverables**
An on call, remote subject matter expert available for issue review and consultation as needed to support APM activity.

**Consultation**
Attendance at monthly and quarterly calls and leads the annual workshop. Attendance at operations call when indicated by a complex issue.

**Follow-Up**
Answer questions and provide detail as requested:
- Additional diagnostic review
- Modification of knowledge templates
- Refinement of APM policies
- Program coaching and guidance
High Priority Response

Tiers 1 & 2

Goals
GE Digital Managed Services offers a service to monitor and review all high priority alerts from the APM solution with dedicated communication and support to assure timely customer awareness of emerging critical issues.

Requirements
Operating conditions and failure modes for review must have been previously set up within the APM solution. Assets that can generate High Priority Alerts are only those with Predictive Analytics or specific priority Policies implemented. Customer must also set up a dedicated recipient for high priority notifications. An ongoing subscription of Tier 1 or Tier 2 is required with appropriate access and permissions to customer systems. Up to date software and service agreements.

Deliverables
- A reliability engineer hotline to engage IMS staff outside of communication rhythm.
- An experienced reliability engineer reviews all high priority alerts that have fired in the last 24 hours and triggers the IMS incident management workflow
- Emerging concerns are reported to customer via email as part of the incident management workflow (maximum time 36 hours)

Consultation
24x7 hotline
AMERICAS: +1-630-796-7369
EUROPE: +420-296-181-510
APAC: +65-315-79698

Follow-Up
Additional diagnosis and recommendation support as needed.
Configuration Optimization

*Tiers 1 & 2*

**Goals**
Spread throughout the subscription duration, GE will provide ongoing configuration refinement within the APM solution. This service assures the customer’s APM solution achieves and stays up to date at best-in-class level.

**Requirements**
An ongoing subscription of Tier 1 or Tier 2. Customer accepts IMS best practice templates as the starting point for their installation with continuous improvement and refinement to be delivered over time. Customer will provide references as needed (FMEAs, criticality analyses, workflows, data histories, P&IDs, DCS screenshots, specification sheets, alarm setpoints, taglist, etc.) for APM solution optimization in selected modules on selected assets. Up to date software and service agreements.

**Deliverables**
- **In the case of new Tier 1 assets:** Implementation will be advanced from a basic configuration to an optimized state at the rate of 1/12th of new scope per month, so that customer’s APM program is best-in-class at the end of the first subscription year
- **In the case of running Tier 1 or Tier 2 assets:** Configuration and content will be continuously reviewed and optimized as needed to assure the customer’s APM program stays up to date with the latest industry knowledge and best practices. Solution upkeep will include items such as policy modifications, strategy refinements, rounds improvements, alerting limits, model data additions, tag management, and other APM maintenance using a continuous improvement model. Customization beyond best practice will be charged as a separate project

**Consultation**
GE staff will include configuration topics in weekly or monthly calls as appropriate and request customer technical staff to attend as needed.

**Follow-Up**
The need for further optimization will be guided by APM solution results and the availability of new knowledge templates.
Transition Coaching (if desired)

**Tier 1**

**Goals**
As an option, IMS offers to help the customer transition to self-sufficiency while still getting full value from the selected APM solution and services. This Transition Service addition to Tier 1 takes the customer through each service activity in detail as Managed Services trains and assists in their adoption of GE Digital solutions.

**Requirements**
An ongoing subscription at Tier 1 for a selected scope. Appropriate system access and permissions. Attendance by customer technicians and engineers. Transition timeline will start after customer personnel training and on each required activity and after six months of successfully applying Tier 1 Results into their business. Up to date software and service agreements.

**Deliverables**
- Transition activities will be added to Operations Review calls per mutual availability
- This on-the-job coaching will deliver job guides and additional materials for assigned personnel to prepare for successful turnover by the end of the service period

**Consultation**
GE staff will include transition topics in weekly or monthly calls as appropriate and request customer technical staff to transition tasks in between calls.

**Follow-Up**
The need for additional training will be guided by APM transition progress according to agreed timelines.
Weekly Detailed Operations Review

**Tier 1**

**Goals**
The GE Digital Industrial Managed Services team will provide Customer personnel with a review of current results provided by the APM solution. The team will also review outstanding asset issues, any configurations in progress and related plans.

**Requirements**
An ongoing subscription at Tier 1 for a selected scope. Appropriate system access and permissions. Attendance by customer technicians and engineers. Up to date software and service agreements.

**Deliverables**
A regularly scheduled collaborative will drive customer outcomes and respond to needs for re-configuration or updates to the existing templates. The call will include technical review of:

- New issues since last call
- Follow-up on short-term issues
- Review of priorities and recommendations

**Consultation**
Regularly scheduled Weekly or Bi-monthly video conference calls, depending on scope of subscription coverage. GE analysts will lead the call with expert attendance as needed to support customer technical and operations staff.

**Follow-Up**
As needed and as discussed, possibly including:

- Additional diagnostic information
- Setting of modified limits for monitoring
- Modification of APM policies
- Kick-off of analyses
Proactive Results Assessments

Tier 1

Goals
GED Industrial Managed Services team will do a proactive review APM alerts, health indicators, policy outputs, work status, reliability trigger and other notifications. Review frequencies are driven by system determined priority and will be daily if indicated. This activity assures timely awareness and action of system visible conditions.

Requirements
An ongoing subscription of Tier 1. Operating conditions and failure modes for review must have been previously set up within the APM solution. Up to date software and service agreements.

Deliverables
- Team will review and disposition APM alerts
- Create cases for action including technical description and initial diagnosis
- Associated work recommendation and implementation notes

Consultation
Cases and alerts will be compiled into a weekly report for use during operations review calls. High priority cases will be immediately referred to the appropriate team for action.

Follow-Up
Support operations review and priority team as needed.
Advisory Engagement Services

Advisory Service Engagements from Global Services are designed for both new and experienced APM customers who are either venturing into APM methodology or deepening their engagement. These engagements help drive quicker time to value. Global Services experts will deliver an initial consultation and develop a time boxed program plan for remote and/or on-site execution on either a GE hosted instance or and existing Customer instance of the APM solution. New customers can leverage your own data before investing in permanent connectivity infrastructure, the Global Services experts will concretely demonstrate the value of APM. Current APM users can benefit from the domain expertise of GE Digital’s staff. At the end of the engagement, Global Services experts deliver additional recommendations for the customer to continue their APM journey.

Advisory Engagements are designed for both new and existing customers. These services include pre-deployment activities and short-term engagements. Pre-deployment activities include a tour a GE facility and services value discussion with our industry experts. Short-term engagements provide our customers the ability to explore or extend APM value through focused effort with our subject matter experts.
Pre-Deployment Exploration Visits

To understand how GE is leveraging applications to transform industries, we invite you to visit one of our global centers. GE Digital Global Services team is strategically located all around the globe with centers in:

- Chicago
- São Paulo
- Paris
- Dubai
- Johannesburg
- Shanghai

During your time at our center, you will:

- Learn about the APM platform and how it enables digital transformations
- Learn about GE Digital applications and how they provide value to your business
- Learn about education services, professional services, and adoption services that enable your adoption of GE Digital solutions
- Learn about GE Digital Global Services and how it can drive additional value into your business processes
- Experience and see real reliability engineers and experts using GE Digital solutions
- See concrete examples of customer value generated with GE Digital solutions

Pre-Deployment Value Discussions

To better understand how digital outcomes can transform your business, you can engage one of our subject matter experts in a remote meeting to walk through a previous customer value case and understand how customers derive value from GE Digital Global Services. GE Digital Global Services team has more than 1100+ years of Asset Performance Management expertise across many industries and located in centers around the globe.
APM Facilitation Engagement

Goals
These engagements combine on-site and remote support with subject matter experts (SMEs) who can help customers drive their APM initiatives.

Requirements
Post-implementation service. Relevant modules should be installed, and customer personnel should have taken initial training. Services may be purchased in blocks of three weeks of expert time to be scheduled by mutual agreement within a six-month window. Blocks of less than three weeks are not offered. May be part of a recurring subscription or a one-time event.

Deliverables
Maximize value and optimize work practices for the APM solution including On-the-Job Training to customer resources. Our SMEs/consultants provide asset performance approaches and strategies for effective reliability improvements in areas such as:

- Business/APM Work Processes
- Asset Criticality Analysis
- Asset Strategy
- Reliability Centered Maintenance
- Reliability Analysis
- Risk Based Inspection
- Mechanical Integrity
- Root Cause Analysis
- APM Health and Policy Designer
- Metrics/Scorecards
- HAZOP / LOPA / SIL Assessment

Consultation
Workshop preparation and follow-up to be remote along with selected topics. On site delivery during one or two visits to be scheduled by mutual agreement based on need and availability over the six months following order issuance. Travel expenses to be billed in addition to labor time. Travel time counted towards total expert hours. Remote meetings also to be scheduled by mutual agreement.

Follow-Up
Subject matter support on issues identified during onsite visits.
Health Management Engagement

Goals
The Global Services experts will effectively demonstrate over a 3-month period how to enable APM Health with in-depth analysis to understand an asset's operating and maintenance history and correctly interpret asset health trends. The Health Manager capability puts asset performance in context, monitoring known asset failure modes, alerting users, checking maintenance strategy effectiveness, and business metrics.

Requirements
Appropriate system access and permissions. Attendance by customer technicians and engineers. It may be necessary to purchase additional Advisory Engagements depending on the specific performance metrics desired.

Deliverables
- Reports: Initial evaluation that will address current customer data quality, Summary report to consolidate KPIs
- Health KPIs: Health Indicator Status by Asset, Recommendations Status, Alert Acknowledgment
- APM KPIs: Top 10 Bad Actors by Total Cost - Last 2 Years (Chart), Top 10 Bad Actors by Failure Count - Last 2 Years (Chart)

Consultation
Three-day onsite workshop includes:
- Data source identification
- Identification of 5 assets and their work process priorities
- Identify selected asset’s health data and other relevant asset health information
- Workshop and goal review, next steps and timeline of events
Regularly scheduled Bi-monthly video conference calls includes:
- Asset data collecting from operational technology (OT) and information technology (IT), systems, alarms, and events to give a contextualized view of asset performance
- Analysis of 5 assets with specific condition data (up to 3-6 months of historians and up to 2 years of works history)
- Define, develop, and execute Rounds
- Automatic policy to monitor conditions and initiate follow-up actions

Follow-Up
At the end of the engagement, Global Services experts deliver additional APM visualization and recommendations for the customer to continue the APM Journey. Think of it as an introduction to APM Health that enables visualization of asset performance and KPI’s.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Reliability Analytics Engagement

Goals
Global Services experts will effectively showcase the value of key reliability metrics on one asset system type with 25-50 individual examples, for both short-term tactical and long-term strategic activities over a 3-month period.

Requirements
Data to be provided via discrete ASCII files via Email/FTP only. Access to and meeting attendance by customer technicians and engineers. Only available for assets systems with established template. New template development available in a separate Advisory Engagement.

Deliverables
- Reports: Initial data quality evaluation that will address current customer data quality, Summary report to consolidate KPI and recommendations delivered by SME, Reliability Growth Analysis, Preliminary Root Cause Analysis
- KPIs: Track Results by recommendation for implementation year, MTBF Bad Actors, Recommendation Summary, Apparent Cause Summary

Consultation
Three-day onsite workshop includes:
- Standard Practice Workflow for Component Reliability
- Reliability concepts
- Workshop and goal review, next steps and timeline of events

Regularly scheduled Bi-monthly video conference calls includes:
- Collecting asset data to establish historical trends (up to 2 years of historical data) for the top asset (Limited to one (1) Asset system type)
- Identifying opportunities from bad actor analysis
- Define, develop and execute Analysis
  - Perform an overview of fleet deployment methodology
  - Perform a Preliminary Root Cause Analysis on one (1) critical asset for root causes of failures and develop meaningful recommendations to eliminate or reduce risk and impact.
  - Perform statistical analysis on methods to quantify changes in performance
- Review the GE APM Industry Expert recommendations and gauge performance insights gained during the 3-month period

Follow-Up
At the end of the engagement, Global Services experts deliver additional recommendations for the customer to continue their APM Journey. Think of it as an introduction to APM Reliability Analytics which focuses upon adding reliability tracking into customer’s work processes.
• Tour of GE Digital Global Services center
• Proposal development according to customer wishes
Asset Vigilance Engagement (also known as Asset Protection)

**Goals**
Global Services analysts and experts will effectively showcase the value of condition-based maintenance via predictive monitoring. This Engagement creates a 90-day experience on one driver + driven machine train for immediate benefit from asset oversight using the APM processes, personnel and technology including Predictive Analytic modeling.

**Requirements**
Data to be provided via discrete ASCII files via Email/FTP only. Access to and meeting attendance by customer technicians and engineers. Only available for assets systems with an established template. New template development available in a separate Engagement.

**Deliverables**
Technical calls will assure appropriate application of existing asset system templates. The client will then benefit both from asset monitoring and learning about related processes.
- Automated data connection to GE hosted solution with view access logins
- Asset setup for limit monitoring and transition to predictive models as data builds
- Weekly Predictive Reports and Calls, High Priority Service as needed, Monthly Reviews
- Access to and recommendations from Industry Domain Experts

**Consultation**
- Kick off call to establish Engagement goals and next steps
- Historian script collaboration to assure regular and reliable data feed
- Analysis of P&IDs, Tag List, Alarm Limits, DCS Screenshots, & Datasheets
- Review of system setup parameters & launch of regular communication rhythms

**Follow-Up**
At the end of the engagement, Global Services experts deliver additional recommendations for the customer to continue the APM Journey. Think of it as an introduction to APM Predictive Analytics that enables the introduction of condition-based maintenance into the customer’s work processes.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Predictive Study Engagement (also known as Early Warning Case Study)

**Goals**
Global Services experts will effectively showcase the value of condition-based maintenance via predictive monitoring. The Predictive Study Engagement executes an historical early warning case study on one asset or train executed over 30 to 90 days after data is delivered in the requested format.

**Requirements**
Data to be provided via discrete ASCII files via Email/FTP only. Access to and meeting attendance by customer technicians and engineers. Only available for assets systems with established template. New template development available in a separate Engagement.

**Deliverables**
Several technical calls will assure appropriate application of existing asset system templates. Presentation of completed early warning case study will include:
- Explanation of technology applied
- Simulated weekly reports
- Historical progression of failure
- Possible benefits of condition-based maintenance

**Consultation**
- Kick off call to establish Engagement goals and next steps
- Deep dive call on technology and inputs for historical failure analysis
- Presentation call for historical analysis output and value of advance notice
- Management wrap up call with results and engagement summary, Q&A, next steps

**Follow-Up**
At the end of the engagement, Global Services experts deliver additional recommendations for the customer to continue the APM Journey. Think of it as an introduction to APM Predictive Analytics that enables the introduction of condition-based maintenance into the customer’s work processes.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Diagnostic Blueprint Engagement

**Goals**
Global Services experts will effectively showcase the value of condition-based maintenance via predictive monitoring. The Blueprint Engagement creates an engineered, failure mode-based monitoring template for specialized equipment. Templates already exist for most industrial equipment. This Engagement builds a new template for types not already in our library.

**Requirements**
Data to be provided via discrete ASCII files via Email/FTP only. Machine documentation to be provided, such as PID and PFD drawings, technical specifications and documentation related to known failure modes. Access to and meeting attendance by customer technicians and engineers.

**Deliverables**
Several technical calls will support the development of this new asset system template. Presentation of completed template will include:
- Explanation of technology applied
- Explanation of configuration approach
- Demonstration of modeling with data supplied
- Demonstration of sample alerts and diagnostic guidance
- Possible benefits of condition-based maintenance

**Consultation**
Kick off call to establish Engagement goals and next steps
Deep dive on technology and inputs for template development
Presentation of template design and value of predictive analytics
Management wrap up with results and engagement summary, Q&A, next steps

**Follow-Up**
At the end of the engagement, Global Services experts deliver additional recommendations for the customer to continue the APM Journey. Think of it as an introduction to APM Predictive Diagnostics that enables the introduction of condition-based maintenance into the customer’s work processes.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Strategy Management Engagement

Goals
Global Services experts will effectively demonstrate how to manage asset strategies by using a risk-based approach over a 3-month period. By balancing risk, production goals, and resource investment, APM strategy allows asset-intensive organizations to focus costs, increasing availability and reliability, and moving away from reactive maintenance practices to a proactive approach.

Requirements
Appropriate system access and permissions. Attendance by customer technicians and engineers.

Deliverables
- Reports: Initial data quality evaluation, potential data sources and Summary Report
- KPIs: Asset Strategies by State, Active Actions by Source, by type and implementation, Risk Profile, Cost Projection (up to 5 years), Cost Avoidance and projected value of strategy recommendations, APM Usage

Consultation
Three-day onsite workshop includes:
- Understand/identify workshop goals
- Data source identification
- Prioritize 5 assets in scope of one asset type
- Revise the Maintenance Plan Program and identify strategy data
- Goal review, next steps, and timeline of events

Regularly scheduled Bi-monthly video conference calls includes:
- Evaluate Asset Performance and Risk
- Review and Update Strategies
- Manage Action Items
- Review recommendations and gauge performance insights gained during the period

Follow-Up
At the end of the engagement, Global Services experts deliver additional APM strategic and performance recommendations to address current asset condition needs and continue their APM journey. Think of it as an introduction to APM Strategy that will kickstart your APM program.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Mechanical Integrity Engagement

**Goals**
Global Services experts will effectively demonstrate a closed loop mechanical integrity program across your enterprise over a 3-month period. This shows how to reduce risk, lower inspections costs, and manage regulatory compliance.

**Requirements**
Data to be provided via formats compatible with current data loader tools. Access to and meeting attendance by customer technicians and engineers.

**Deliverables**
- Reports: Data quality evaluation, Asset Integrity Summary Report, RBI 580 Report
- RBI KPIs by Asset: Current Risks, Past Risks, RBI Risk Matrix by RBI Component
- IM KPIs: Task Types pending for the year, inspections pending approval by Reviewer, Open Inspection Rec’s by Asset, Current Risk by Asset
- TM KPIs by Asset and by Reviewer: Corrosion Rate Risk, Remaining Life Tasks by RBI Component, TM Tasks and Inspections pending, TM vs CCR Open Inspection Rec’s, Task Types due, Corrosions Rate Distribution, Remaining Life and Open Inspection Rec’s, TM Tasks and Corrosion Rate Distribution, TM vs CCR Remaining Life
- Perform Risk Analyses: assess the likelihood and consequences of failure and results in a prioritized list of RBI Components/Assets

**Consultation**
Three-day onsite workshop includes:
- Data source identification
- Prioritize 10 assets in scope in 1 group or class
- Identify mechanical integrity data (RBI, IM, TM)
- Workshop and goal review, next steps and timeline of events

Regularly scheduled bi-monthly video conference calls includes:
- Collect or Update Asset Data: from operational technology (OT) and information technology (IT) systems, alarms, events and asset context; condition data (months of historian data and years of works history. e.g. events, work request, PM/PDM, etc.)
- Identify Potential Degradation Mechanisms: understand process conditions, material specifications and operational boundaries to identify degradation
- Strategy evaluation, implementation, and communication of results

**Follow-Up**
At the end of the engagement, Global Services experts deliver additional APM Integrity and performance recommendations for you to continue the APM Journey. Think of it as an introduction to APM Integrity that will kickstart your Mechanical Integrity APM journey.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Safety Instrumentation Engagement

**Goals**
Global Services experts will deliver an initial onsite consultation workshop and provide the best fitting APM Integrity program plan over a 3-month period.

**Requirements**
Appropriate system access and permissions. Attendance by customer technicians and engineers.

**Deliverables**
- Reports: APM usage statistics summary, Initial data quality evaluation brief with current data quality, SIL Assessment, Verification and validation for the Selected SIFs with the SIS, Final recommendations and possible next steps Review both data source quality and completeness for ability perform the analyses
- Identify specific Hazards within the PHA that aligns with the selected SIFs to analyze
- Perform LOPA to assess the safety SIL requirements for the selected SIFs
- Configure the SIS, perform SIFs modeling and develop strategies with parametric\architectural modification or relevant specific Proof Tests

**Consultation**
Three-day onsite workshop includes:
- Understand/identify workshop goals and prioritize 25 SIFs in scope
- Review of data requirements and data source identification
- Identify Asset Safety data (for HA, LOPA, SIS Management)
- Review and initial validation of Asset Safety data
- APM asset safety work processes to enable defining action Items
- Goal review, next steps, and timeline of events

Regularly scheduled Bi-monthly video conference calls includes:
- Collect or update Asset Safety related data
- Strategy evaluation, implementation, and communication of results

**Follow-Up**
At the end of the engagement, Global Services experts deliver additional APM Integrity and performance recommendations for you to continue the APM Journey. Think of it as an introduction to APM Integrity that will kickstart your Asset Safety APM journey.
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
Value Realization Engagement

Goals
GE’s Digital Value Realization Engagement engages senior business leaders in the changing world of industrial technology to define and accelerate their digital agenda. As a trusted client advisor, GE has engaged many companies and brings that breadth to a focused set of advisory and transformation services. This provides the Customer a specific Value Model for projecting and tracking APM Value, a preliminary Transformation Roadmap tied to business objectives, and decreased Project Execution Risks, all resulting in Improved ROI.

Requirements
Provide adequate access to leadership, staff time & reference information.

Deliverables
Visioning
- Digital Vision Graphic
- Outcome Map
- Program Success Framework

Road Mapping
- Use Case Generation and Value Modeling
- Digital Maturity Assessment
- Industrial Transformation Readiness
- Digital Solution Alignment & Roadmap
- Outcome Realization & Risk Plan

Organizational Transformation Planning
- Communication Approaches
- Change Management
- Operational Model Design

Consultation
Description

Follow-Up
At the end of the engagement, Global Services experts deliver additional APM recommendations for you to continue the APM Journey. Think of it as an introduction to APM that will kickstart your Asset Management journey. Next steps include:
- Tour of GE Digital Global Services center
- Proposal development according to customer wishes
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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