



# SmartSignal from GE Digital

## Predictive analytics for prediction, diagnoses, and forecasting

### Expert built models that decrease cost and risk

The market is flooded with Artificial Intelligence (AI) and Machine Learning (ML) offerings. Vendors are aligning generic models to complicated equipment and processes, leaving you short on your expected return on investment. Predictive Analytics, powered by SmartSignal, provide powerful models for your most critical investments and are backed by years of OEM expertise. With SmartSignal, you can feel confident your operation will have no surprises.

#### Key features

- Early anomaly detection via Performance Digital Twins
- Time-to-Action automation that help prioritize strategy
- Available “out of the box” for increased time to value
- Diagnostics that support Predictive Maintenance (PdM)
- Easy to build and maintain models
- Customizable for Power Generation, Oil & Gas, Renewables, Metals & Mining, and Aviation

### 01 Avoid unplanned downtime

- Collect and action relevant data, analyze, and act in near-real time
- Detect anomalies and generate strategies to mitigate risk
- Automate tasks, giving your employees more time to focus on what matters
- SmartSignal analytics plug & play with APM applications

### 02 Move towards predictive maintenance

- Collect and action relevant data, analyze, and act in near-real time
- Detect anomalies and generate strategies to mitigate risk
- Automate tasks, giving your employees more time to focus on what matters
- SmartSignal analytics plug & play with APM applications

### 03 Gain embedded expertise in your software

- Access 340+ Digital Twin Blueprints for GE and non-GE equipment types
- Out-of-the-box workflows, allowing for faster time to value
- Custom models designed with your most critical assets in mind
- Expert support via our Services team

### 04 Prioritize work and maximize operational efficiency

- Gain insights from diagnostics that allow you to prioritize the right work
- Access detailed asset history to proactively modernize your strategies
- Force rank asset criticalities, handling the most important first
- Centralize asset data, making it easier for your employees to be effective



**\$522,700 saved**

With an early notification on higher vibrations on a pulley for a product screening feed conveyor at a Mining site avoiding further damages on the pulley bearings.



**0.5MW performance degradation**

During peak wind conditions on an offshore wind turbine was unintentionally curtailed at 3.1MW instead of 3.6MW.



**\$150,000 saved**

With an early warning of a shift in core parameters on a jet engine including the Exhaust Gas Temperature and fuel flow avoiding operation loss of the engine in flight.



**\$3,200,000 saved**

With early warning detected on increased suction temperature preventing liquid carryover on a centrifugal compressor at an offshore platform.



**\$906,000 saved**

Early warning of increased oil moisture on a transformer allowing plant electrician to hookup processing unit to clarify oil.



**\$1,400,000 saved**

On an HRSG from a drop in LP main steam temperature due to a leak with the HP Economizer allowing for planned maintenance to be scheduled.



## SmartSignal spans APM for integrated predictive analytics



### APM Strategy

- Predictive Analytics provide organizations critical data to optimize strategies
- Analytics-driven strategies
- Operators can see in near real-time how strategy changes impact key performance indicators (KPIs)



### APM Reliability

- Predictive Analytics are most effective when aligned with critical and highly critical assets
- APM Reliability monitors your most important investments, providing valuable insights into performance anomalies
- Action millions of datapoints, from anywhere, to make the right decisions for your operation



### APM Health

- Diagnostics provide automated alerts of performance shortfalls or deviations from the norm
- Real time alerts with economic impact on plant capability provides data-based decision support



### EAM/CMMS/Timeseries

- APM supports bi-directional connection with various data sources, allowing for Predictive Analytics to impact more than just APM workflows

## SmartSignal technical specifications

### SmartSignal includes:

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

### Other requirements:

- Infrastructure to host software either on-site or Virtualized (i.e. AWS, Azure) refer to SmartSignal Infrastructure [section here](#)
- Connection to individual site historians or central historian
- Cyber security (i.e., firewall)

### 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

### To view application the following are required:

- Chrome version 73.X or higher
- Laptop/Desktop

[VIEW ALL SPECS](#)

## 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.

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