



# Performance Intelligence + Reliability from GE Digital

Two apps. One view. More value.

## Enhanced data visibility for stronger decision-making

Having a clear picture of thermal performance and equipment reliability & availability at a plant level is essential to implement the right strategies at the right time. With Performance Intelligence + Reliability from GE Digital, you can give your operation a near 360-degree view of the priorities that matter most.

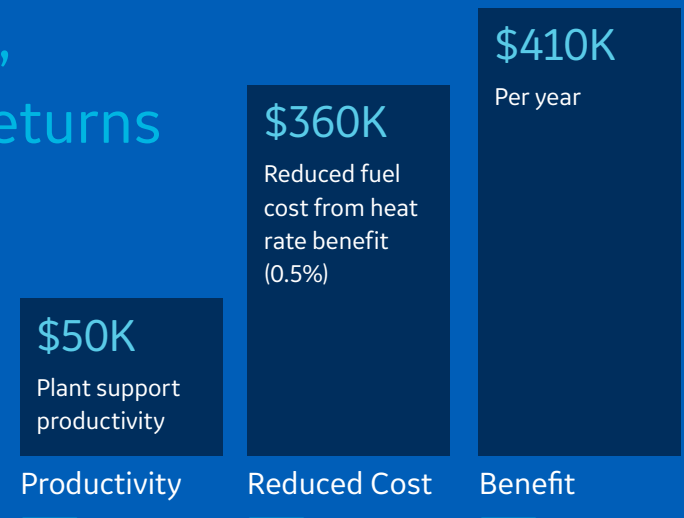
Manage heat rates and avoid unplanned downtime with advanced software to unlock improved operational efficiency.

### Key features

- **New** Carbon Analytics and Sensor Health
- Real-time visibility to thermal performance
- Diagnostic analysis for actionable insights that expedite remediation
- Optimize plant economics with quantified performance and financial impacts
- Aligns to your CapEx or OpEx budget
- Available on-prem or in the cloud

## Drive productivity, fuel savings and returns

### 600 MW Plant Potential Annual Benefit



## Performance Intelligence

### Improve and maintain equipment performance and overall plant heat rate

- Monitor system-wide equipment performance across the operating range to reveal developing trends and efficiency losses
- Identify and diagnose performance shortfalls driving increased fuel costs
- Reveal hidden equipment issues with actionable data insights

### Improve startup performance and fuel costs

- Visualize start performance vs. expected and normal
- Understand start variation and deviations from expected
- Improve startup performance through data-driven insights

### Maintain capacity for peak seasons

- Monitor the full load range to reveal developing trends and potential derates
- Visualize performance trends throughout all seasons and operating conditions
- Analyze equipment performance trends that impact plant peak capacity

### Manage minimum load performance

- Provides visibility to gas turbine turndown and combined cycle minimum load operations
- Visualize best and worst performers
- Understand drivers for minimum load variation

## Reliability

### Digital Twin Blueprints

- Prebuilt blueprints for GE & non-GE Equipment types
- Over 340 blueprints available and growing, addressing standard power generation equipment and renewables
- Increases time-to-value of your software solutions with out-of-the-box expertise
- Built by, and for, power generation operations looking to maximize efficiency and decrease risk

### Predictive Diagnostics

- Easily built customer models to meet your operations identified goals
- Simple model adjustment to keep up with the ever-changing demand of the plant
- Automatic tuning and recalibration to ensure you get the most of your models
- High accuracy alerting to help avoid downtime & critical events

### Standard requirements\*:

- One On-Site Monitor ("OSM") or other Edge option, acceptable to GE, including CPU, monitor and keyboard. If required, GE can provide a quotation for an OSM (additional cost/price). One network connection per computer system to provide remote access.
- The required interconnection devices, such as short-haul modem pairs, cabling, switches, etc.
- Data system interface to OSM/Edge (DCS or Historian via OPC or other data exchange protocol)
- Cyber security devices (e.g., firewall)

### To view application the following are required:

- Chrome version 55.X or higher
- Laptop/Desktop
- Connectivity to cloud or web-interface to on-premise system network

\*GE Digital also provides on-premise solutions. Requirements for these deployments vary plant to plant. Reach out to one of our experts to learn if our on-premise solution is for you.

### Other Requirements:

- The required interconnection devices, such as short-haul modem pairs, cabling, switches, etc.
- Cyber security devices (e.g., firewall)

### For Cloud Implementations:

- One On-Site Monitor ("OSM") or other Edge option, acceptable to GE, including CPU, monitor and keyboard. If required, GE can provide a quotation for an OSM (additional cost/price). One network connection per computer system to provide remote access.
- Data system interface to OSM/Edge (DCS or Historian via OPC or other data exchange protocol)

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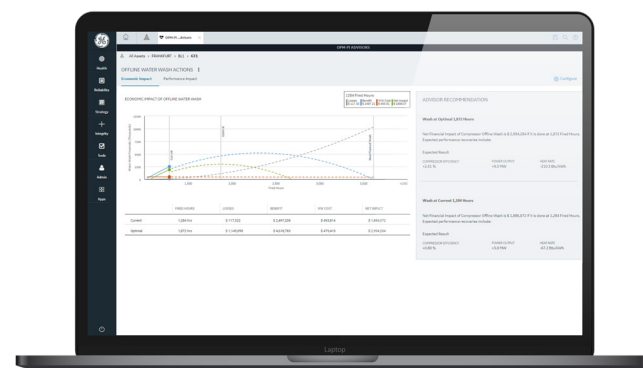


# Safely explore your plant operating limits and simplify your processes



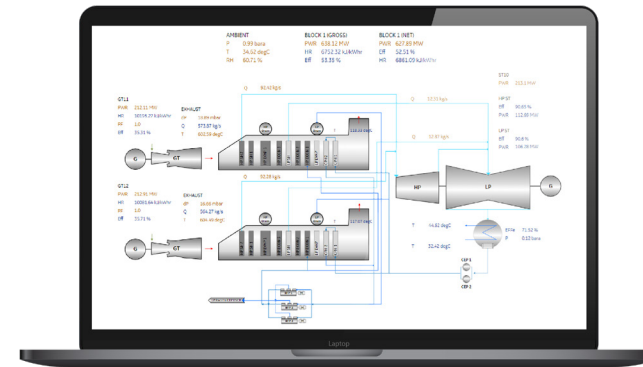
## Consolidated Data and Diagnostics

- Diagnostics provide automated alerts of performance shortfalls
- Real time alerts with diagnostic insights and impact on plant capability provides data-based decision support
- Consolidated dashboard views on one easy to use platform



## What-If Tools and Economic Tradeoff Advisors

- Empower employees to make decisions that improve plant performance
- Improve waterwash operations, performance recoveries and decision making
- Evaluate inlet filter house performance and maintenance options
- Understand the impact of equipment derates on plant capacity and heat rate



## Thermal Performance

- Uses models deployed by GE that generate data reports that empower plant engineers and operators to improve plant performance
- Digital Twin Models Customized to plant and equipment designs and plant dispatch profile
- Performance analytics provides visibility, trends and insights
- Operating mode analytics provide performance data relative to the various plant operating configurations across the load range and operational conditions
- Software user interface provides easy access



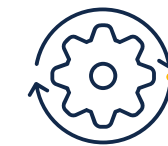
## Flexibility Performance Monitoring

- Improves plant flexibility and operational performance
- Critical insights provided for start fuel, start time, ramp rate and minimum load
- Gas turbine turndown performance relative to expected min load fuel savings and operational benefits

# How Performance Intelligence + Reliability works



Digital Twin Models customized to your plant's equipment, system design and dispatch profile



Performance analytics are deployed, providing visibility to performance data, trends, and insights, across the entire range of operating modes and loads



Easy-to-access software user interface that provides operational data summaries and performance analysis

- ✓ Improved Operating Capacity
- ✓ Avoided Costs
- ✓ Fuel Savings
- =
- ✓ Productivity
- ✓ Reduced Emissions
- ✓ Risk Reduction
- ✓ Improved Availability and Reliability

## Performance insights from a simple dashboard

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

## Real fuel savings

Manage your top operating cost and improve performance across the entire operational load range.



Benefit from GE Digital's domain expertise as you streamline processes for maximized performance and reduced fuel loss.

[BOOK A CALL](#)