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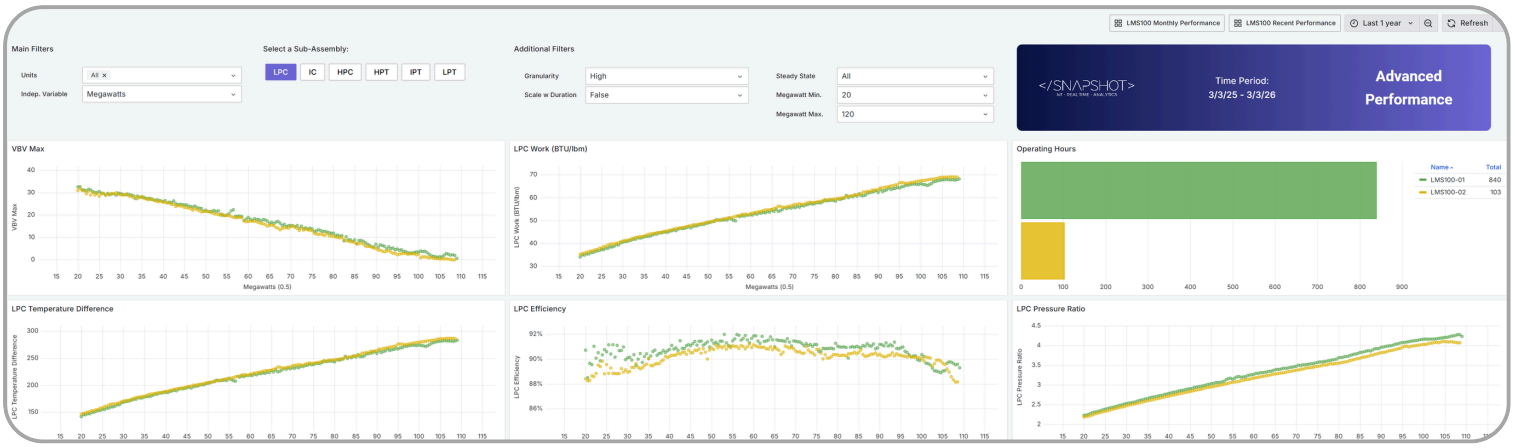
IoT - REAL TIME - ANALYTICS

Performance Pillar

Actionable Performance Diagnostics Across the Gas Turbine

The Performance Pillar within SnapShot delivers load-based performance calculations and analytics across the gas turbine, individual turbine components, and key package equipment. By analyzing performance relationships across multiple time horizons, the Performance Pillar enables users to quickly identify abnormal behavior, isolate the source of efficiency losses, and diagnose root-cause performance issues.

Performance data is presented across Monthly, Recent, and Advanced views, allowing users to move seamlessly from high-level trending to detailed component-level analysis as needed.



Monthly Performance

Long-term trending to identify efficiency changes and unit behavior over time.

Recent Performance

Short-term view of the last 30 days used to validate operational changes and detect anomalies.

Advanced Performance

Load-normalized component diagnostics used for deeper engineering analysis.

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Performance Analysis Views

Monthly Performance

- Displays three months of run data by turbine unit
- Identifies gradual efficiency degradation or improvement
- Supports performance reviews and operational planning
- Highlights operational mode and regulator impacts

Recent Performance

- Focuses on the most recent 30 days of run data
- Validates the impact of control or operational changes
- Confirms effectiveness of maintenance actions
- Detects emerging performance anomalies

Advanced Performance

- Load-normalized view of turbine performance across major components
- Configurable by turbine unit, operating range, and data granularity
- Filters for steady-state conditions to ensure meaningful comparisons
- Reveals component-level degradation trends across operating profiles

Component Performance Coverage

Advanced Performance Analytics include key diagnostics for:

Low Pressure Compressor (LPC)
Evaluates airflow management, compressor work, efficiency, pressure ratio, and temperature rise to identify fouling, blade wear, or control deviations.

Intercooler
Assesses cooling effectiveness and thermal performance to detect inefficiencies in the intercooler or upstream system behavior.

High Pressure Compressor (HPC)
Monitors vane positioning, work input, efficiency, and pressure ratio to diagnose compressor health and airflow performance.

High Pressure Turbine (HPT)
Analyzes expansion efficiency, pressure ratios, spool speed, and temperature relationships to evaluate turbine health and combustion performance.

Intermediate Pressure Turbine (IPT)
Provides early detection of downstream turbine degradation through temperature, pressure, and efficiency trends.

Low Pressure Turbine (LPT)
Evaluates exhaust-end performance, emissions control behavior, and turbine efficiency across the operating range.

Component coverage may vary depending on turbine configuration

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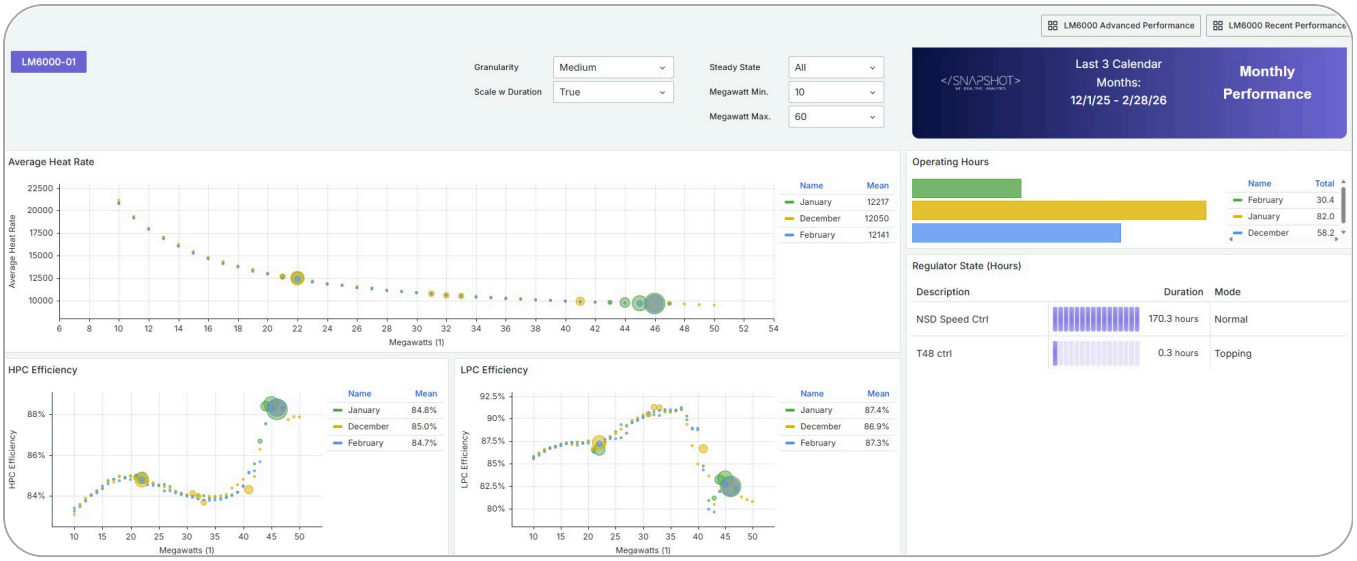
Why This Matters

- Identify recoverable MW and efficiency losses
- Support proactive maintenance planning
- Reduce the risk of forced outages



From Trending to Root Cause

The SnapShot Performance Pillar enables users to move beyond high-level KPIs by combining trending, short-term validation, and deep component analysis within a single workflow. This approach allows performance issues to be detected earlier, diagnosed faster, and resolved with greater confidence.