



HONEYWELL FORGE PERFORMANCE+ **FOR INDUSTRIALS | PRODUCTION INTELLIGENCE**

Drive Performance with
Advanced Analytics

Connected Industrials

Honeywell

THE FUTURE OF ANALYTICS REQUIRES A NEW APPROACH

Operations leaders face several time-consuming challenges that result in production stalls and process inefficiencies across industrial operations. There is a strong need for a single source of truth to monitor process conditions as manual data gathering detracts from time that could be spent optimizing production. Identifying process issues is consistent, but preventing the same issues from reoccurring isn't. Plus, tracking issues back to the source of the problem is hard. Diagnosing the root cause of problems needs a faster all-encompassing solution to enhance efficiency.



ADVANCED ANALYTICS HELP OVERCOME INDUSTRIAL DATA CHALLENGES THAT PREVENT PRODUCTION MAXIMIZATION

- Near real-time cross-application process KPIs from unit to site to enterprise
- Contextualized cross-application data relationships
- Process deviation tracking to operating limits for correlating elusive data
- Knowledge capture and guided analytics designed to capture over 50% of stranded data
- Scalable, enterprise-wide integration to core processes

The future of industrial operations is dependent on harnessing the power of data to solve the current challenges in facilities. Enterprises need a decision support tool that sees full pictures and optimizes across one dimension. Leveraging our history of driving process automation and control innovation, the new Honeywell Forge Performance⁺ solutions are designed to contain the next-level production insights needed to help customers maximize efficiency across industrial organizations.

GET ENTERPRISE-WIDE PRODUCTION INSIGHTS

Honeywell Forge Performance+ for Industrials | Production Intelligence is a cloud-based subscription offering designed to collect cross-functional, multidimensional data from process control, assets, alarms, and operations to help enable operational performance optimization.

Through outcome-based insights and persona-driven dashboards, industrial users are able to spend less time sorting through operational data and more time optimizing performance across the board.

HOW DOES IT WORK?

This near real-time operational monitoring application unifies OT and IT data designed to deliver actionable insights at the enterprise level down to the individual process unit.

Our solution is capable of enhancing production performance and reducing the cost of operations associated with unplanned downtimes and inefficient energy use.

For industrial end users, we can provide insights for process engineers using process data and analytics solutions designed to visualize, analyze, predict, and maintain production processes to help enable maximum performance and long-term growth.



- Customers can leverage their investments across multiple personas and their enterprise from engineers up to C-level executives
- An advanced dashboard capable of contextualizing data across multiple systems to drive actionable insights and analytics-driven recommendations

Harnessing the Power of Data To Enable Enterprises to Maximize Production Operations



Near Real-time
Performance
Management



Guided Diagnostics
with Root Cause
Analysis



Limits and
Deviations
Optimization



Predictive
Analytics for
Process Deviations



Intelligent Search
and Exploratory
Analysis

HONEYWELL FORGE PERFORMANCE+ FOR INDUSTRIALS | PRODUCTION INTELLIGENCE IS DESIGNED TO HELP PROVIDE:

Improved Plant Throughput

Near real-time performance and guided orientation to problem areas

Increased Utilization and Availability

By early anomaly detection & predicting abnormal situations

Reduction in Integrity Operating Window Deviations

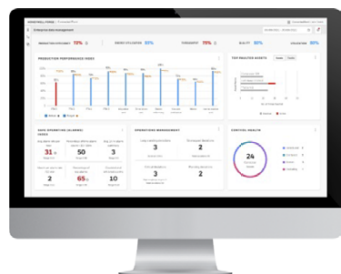
By optimizing operating limits and predicting bad actors

Improved Worker Productivity

Through intelligent search and exploratory analysis, improving knowledge and retention

INTRODUCING THE MODULES

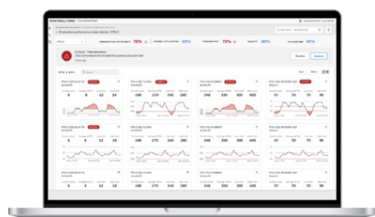
Honeywell Forge Performance⁺ for Industrials | Production Intelligence delivers curated, unified data and actionable insights for a more coherent view into production maximization. It features a modular approach that is designed to allow organizations to gradually scale their application according to their needs through a variation of 3 versions.



CORE

Analytical data that answers the fundamental question:
WHAT HAPPENED?

The **Core** module provides users with near real-time operational monitoring capabilities through an extensive catalog of standardized connectors, built-in persona-driven dashboards, and operational insights.



DIAGNOSE

Process tools that allow users to discover:
WHEN DID IT HAPPEN?

The **Diagnose** module builds on the capabilities of Core to provide users with robust process visualization and industry-driven analytics to help understand likely causes and deviation resolution.



PREDICT

AI/ML analysis to uncover the elusive question of:
WHAT'S LIKELY TO HAPPEN?

The **Predict** module expands on the capabilities of the previous modules by providing users with enhanced predictive capabilities designed to better identify, address and prevent future production issues.

OUT-OF-THE-BOX CAPABILITIES

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> • Catalog of standard connectors • Persona dashboards • Customizable KPIs plus widget library • Data contextualization • Alerts and notifications | <ul style="list-style-type: none"> • Automated resolution tools • Bi-process blend analysis • Multiple levels of smart search • Data lineage exploration • Collaboration | <ul style="list-style-type: none"> • Root cause analysis and insights • RCA with recommendations • Customizable AI/ML models • Predictive knowledge graph |
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OUTCOME-ORIENTED SMART SOFTWARE

Solutions across industries and assets:

SENSOR DEVIATION PREDICTION

- Helps to predict sensor issues, for example, drift, to enable faster calibration and resolution
- Contains the optimal parameters designed for specific prediction models including model training and model testing
- Identifies multiple events to help determine changes needed to bring a sensor back within the optimal range

PERSONA-BASED DASHBOARDS

- Standardized KPI library and calculations across industry verticals and linked to functional groups
- Dashboard persona options across maintenance, operations, supply chain, process engineering, control, and others

ACCELERATED ROOT CAUSE ANALYSIS

- Uses knowledge graphs and data contextualization to determine relationships of asset performance to identify triggers to process deviations and failures
- Ranks probable causes and guides the customer on a path to the source

ENVELOPE OPTIMIZATION

- Recommends tuned operating envelopes that remove risk or slack
- Provides boundary management and integrity operating windows
- Allows more sensitive limits to help monitor production operations
- Brings the current operating condition into play for dynamic operating limits

INTELLIGENT SEARCH & EXPLORATORY ANALYSIS

- Recognizes objects and context of interest and details with the OT system landscape for analysis purposes
- Searches for objects such as points or assets by name, description, or other fields
- Helps visualize object relationships including assets, events, and other data automatically
- Analyzes the upstream and downstream connections of an object by following calculations, data sources and other relationships

QUALITY DEVIATION PREDICTION

- Predicts intermediate and final product quality variations for near real-time control
- Allows users to schedule the interval of prediction reports and alerts
- Provides lead time to help resolve issues

ABNORMAL SITUATION PREDICTION

- Uses historical data to connect unit performance to alarm triggers that have occurred
- Identifies complex abnormal situations and helps provide guidance to fix before a deviation occurs
- Updates model to comply with new hardware specifications when an asset is upgraded or added to the process

ACCELERATING INSIGHTS FOR PRODUCTION OPERATIONS TEAMS

Production engineers are responsible for monitoring, troubleshooting, and optimizing process unit performance that are designed to verify that production plans are met under constantly changing conditions, all while helping to ensure compliance to safety and environmental requirements.

“HOW CAN I SPEND LESS TIME GATHERING, PREPARING AND ANALYZING MY DATA, AND MORE TIME OPTIMIZING MY PROCESS?”

- PROCESS ENGINEER



Day in the Life of a Process Engineer

OUR SOLUTION

Honeywell Forge Performance* for Industrials | Production Intelligence is designed to support engineering, operations, and business management functions across the organization to allow product engineers to realize material time savings.

- Directly alert team members when issues arise.
- Automatically collect OT application data and insights to prepare for validation in advance
- Curated datasets and insights help perform a fast, guided investigation with an increased likelihood of detecting potential root causes
- Actionable insights enable the right team to solve the problem with the right data before production is impacted
- Captured learnings on each potential performance issue prevent the same problem from happening in the future

HOW HONEYWELL CAN HELP

Honeywell Forge Performance⁺ for Industrials | Production Intelligence provides actionable insights by leveraging HON domain knowledge through extensive process analytics designed to improve user productivity, increase sustainability, reduce operational costs, and enhance safety optimization through the delivery of scalable, enterprise-ready SaaS subscription application. Executives, site managers and process engineers can view the health of their operations through a lens of end-to-end visibility.



**Purpose-Built for
Process Engineers**



**Packaged with Pre-Built Models
and Scalable Analytics**



**Insights Do Not Require
Data Science Expertise**



**Built with Honeywell's Industrial
Heritage in Our Own Facilities**



**Pre-Built with OT Specific Data
Connectors for Multiple Applications**



**Vendor Agnostic,
Open, Interoperable**



For More Information

To learn more about Honeywell Forge
Production Insights or contact your
Honeywell account manager.

Honeywell Connected Enterprise

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