UNIFORMANCE® ASSET SENTINEL
A Real-time Sentinel for Continuous Process Performance Monitoring and Equipment Health Surveillance
What is Uniformance Asset Sentinel?

Asset Sentinel is a critical element of the Uniformance Suite that delivers real-time asset-centric analytics, event detection and work-flow for engineering, maintenance and operations to easily identify and solve process and equipment problems.

This solution provides a sentinel to continuously monitor equipment and process health, enabling industrial facilities to predict and prevent asset failures and poor operational performance.

Uniformance Asset Sentinel is a unique solution in the process industry because it provides a unified platform to monitor both process and equipment performance by creating a “digital twin” to continuously compare actual performance vs. expected performance and is able to deliver actionable alerts while supporting a workflow to quickly investigate and address these alerts in order to minimize frequency and impact of deteriorating performance.

Challenges for Industrial Plants

Equipment failure and almost imperceptible reductions in process efficiency are constant threats to Overall Equipment Effectiveness (OEE). As a result, organizations are spending more on equipment maintenance and losing potential revenue. Factors such as availability of skilled workers and increasingly complex production processes are impacting the ability to predict and detect deteriorating asset health and process performance.

Importance of Digital Intelligence

Today, companies require “digital intelligence” to manage hundreds or even thousands of assets from a single site or across an enterprise to address crucial operating demands. Digital intelligence transforms process data into real-time knowledge regarding process performance, equipment health and energy consumption.

Plant operators also need continuous surveillance and notifications to take the right proactive actions, which minimize degradation, poor performance and secondary damage to equipment to ensure lower costs, increased throughput and higher profits.
Make Problems Visible

In order to minimize losses or damage, businesses must be equipped with systems to make problems visible. Continuous surveillance of key operating and equipment conditions with Uniformance Asset Sentinel allows the earliest possible indication of performance degradation and the appropriate prioritization to address the situation.

Solutions Across Industries and Assets

Designed to meet the needs of Honeywell customers worldwide, Uniformance Asset Sentinel works across industries—on a varied set of monitoring applications—and across a broad set of asset types.

Data Access—Uniformance Asset Sentinel supports a variety of data interfaces required for a complete view of your asset health or performance. This includes real-time and historical data (via OPC-DA and OPC-HDA), event data (via OPC-A&E), relational data and file-based data. It also offers a flexible “plug-in” architecture to access information from a variety of sources, which could include lab sample data, work order data, oil analysis results, etc.

Powerful Calculation Engine—Asset Sentinel supports an easy to use, fourth generation scripting language to perform simple to complex statistical calculations and data manipulation. Programming experience is not required and the environment is designed for engineering users. Calculations can be run in either real-time (on data change) or on a scheduled basis. Deploying these calculations within Asset Sentinel provides a managed platform to continuously calculate and make visible key calculation results across the organization rather than using numerous uncontrolled, isolated and duplicate spreadsheet based calculations.

Event Detection & Notification—For situations requiring the earliest possible attention and follow-up, Uniformance Asset Sentinel’s event detection environment make it possible to identify user-defined rules and checks to trigger alerts and warnings. Event information can include recommended response to the condition and is a mechanism for knowledge capture. When events are triggered, they can generate e-mail notifications, initiate workflows, or even prompt maintenance work order requests to a maintenance management system.

Depth & Breadth of Capabilities

Industry

- Oil & Gas
- Refining & Chemicals
- Mining
- Pipelines
- Power

Monitoring Applications

- Process
- Health
- Efficiency
- Safety
- Energy

Type of Equipment/Complexity

- Software
- Instrument
- Valve
- Pump
- Heat Exchanger
- Compressor
- Turbine
- Haul Truck
- Unit

Customer Value

- Increase Asset Utilization up to 10%
- Reduce Maintenance Costs up to 10%
- Increase Operating Efficiency up to 10%
- Increase Safety

• Reduce unplanned downtime by predicting failures and providing proactive response
• Minimize rate and efficiency losses
• Pro-active response to minimize equipment damage and emergencies
• Optimize maintenance based on real asset conditions
• Improve reliability and extend equipment life
• Monitor energy usage to achieve up to 10% reduction in costs
• Improve engineering effectiveness with continuous monitoring, remote collaboration, and ready access to required information
• Increase engineering efficiency with an integrated decision support environment
• Minimize risks by ensuring normal and stable operations
• Eliminate production stoppage for safety system verification
**Designed to Enable Smart Operations**

Honeywell’s UniSim Suite is the backbone for real-time digital intelligence through unified data, analytics and visualization. Digital intelligence enables smart operations by tuning asset and process data into actionable information. This capability is the answer to improved business results.

The UniSim Suite includes the following solutions:
- **UniSim™ Runtime**
  - Design models from UniSim can be run from Asset Sentinel in real-time for other dynamic applications, such as distillation, reaction, heat transfer, rotating equipment, and other records so reliability analytics can be employed over time to improve the overall reliability of instrumentation.
  - In addition, Honeywell UOP’s Connected Performance Services (CPS), powered by UniSim™, offers advanced monitoring and diagnostics that look beyond the instrument and assess control loop performance to detect oscillation, bias, drift, stiction, frozen sensors, etc.

**UniSim™ Runtime**

**UniSim Insight**—Detect and predict risks and opportunities with asset-centric analytics

**UniSim Asset Sentinel**—Connect process intelligence to business decision-making and actions

**UniSim Asset Sentinel** has various packaged modules to meet specific user requirements. It is offered as a basic package providing the plant reference or asset model, calculation and rules model. Additionally, application specific packages are available. These include:

- **Asset Sentinel for Process & Equipment Monitoring**
  - Adds embedded content to the base package, including:
  - **Advanced Performance Library**
    - First-principles models for pumps, compressors, gas turbines, steam turbines and heat exchangers to compare current performance against predicted performance and highlight deviations as the earliest notification of equipment health problems—detecting valve wear, fuel nozzle issues, sensor problems, and turbine erosion.
  - **Standard Performance Library**
    - Pre-defined set of performance equations and fault models that can be customized and enhanced for vital assets such as furnaces, blowers, motors, etc.

**UniSim Insight**—Visualize and explore information anytime, anywhere, to gain valuable insights

**UniSim Asset Sentinel**—Connects to Honeywell Experion® PKS to add advanced monitoring and diagnostics.

**UniSim Asset Sentinel** maintains fault history, bad actor and other records so reliability analytics can be employed over time to improve the overall reliability of instrumentation.

**With 1,500 experts in over 80 countries around the world, Honeywell understands your business and can speak your language. Our consultants provide onsite and remote support for Overall Process Effectiveness (OPE) and Overall Equipment Effectiveness (OEE).** We deliver a unique set of advanced software applications for better safety, reliability, efficiency and sustainability.

Honeywell’s Advanced Solutions software and expertise help customers make sense of all the data in their plant, allowing them to extract the right information for faster and smarter decisions that can improve safety, reliability, efficiency and sustainability—resulting in improved process and business performance.

In addition, Honeywell UOP’s Connected Performance Services (CPS), powered by UniSim™, offers advanced monitoring and diagnostics that look beyond the instrument and assess control loop performance to detect oscillation, bias, drift, stiction, frozen sensors, etc.

**Why Honeywell?**

Don’t compromise on your operational and business performance—choose an automation supplier committed 100% to your success. At Honeywell Process Solutions, we have decades of experience providing asset management technology to the process industries.
For more information
To learn more about Honeywell’s Uniformance Asset Sentinel, visit www.uniformance.com or contact your Honeywell account manager.

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