

Asset Health Monitoring

Industrial AI Application



Unplanned downtime remains one of the biggest cost drivers in manufacturing, often striking when least expected and disrupting production targets. Asset Health Monitoring, part of Orise Industrial AI Application, shifts maintenance from reactive firefighting to proactive decision-making. With built-in expert knowledge and ready-to-use models for critical production assets, Asset Health Monitoring delivers early, precise alerts based on real sensor data, without the need for complex data science projects. The result: faster response, fewer breakdowns, and smoother operations you can trust.

Main benefits



Prevent Unplanned Downtime

Detect equipment issues early and stop failures before they disrupt production.



Accurate early warnings

Provide early, precise alerts so teams respond quickly instead of troubleshooting late.



Reduce Maintenance Costs

Shift from fixed schedules to smarter, condition-based maintenance.



Deploy Fast

Use pre-built models that require no manual formulas or data science expertise.



Extend Asset Lifespan

Fix small issues before they escalate, reducing wear and prolonging service life.



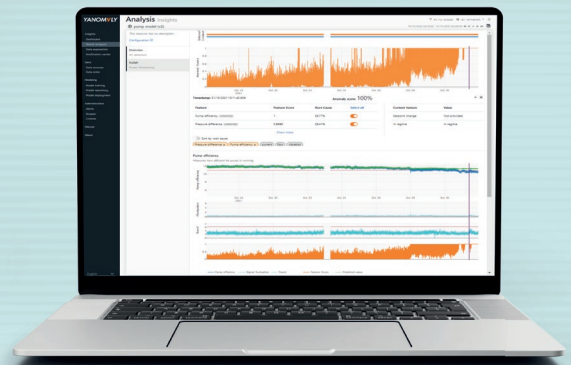
Scale Across All Machines

Monitor both standard and custom assets with reusable models that scale across similar assets.

Our technology

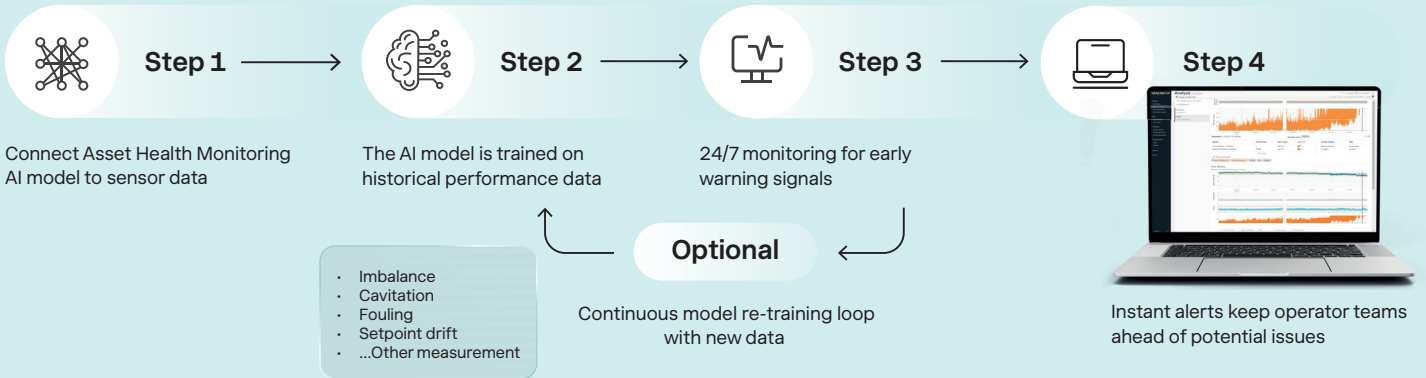
Asset Health Monitoring is an AI plug-in software that identifies early warning signs of equipment failure using live sensor data – before breakdowns disrupt production.

Asset Health Monitoring comes with pre-engineered models for critical assets such as compressors, pumps, motors, controllers, and heat exchangers. For other types of equipment, custom models can be created quickly and reused across similar assets.



Lowering the barrier to AI-assisted decision taking

With no time-consuming modeling or data science required, Asset Health Monitoring enables rapid deployment, empowering your staff with faster response in addressing production issues, predictable maintenance, overall smoother and satisfying operations.



Use cases

Equipment	Key Features	Data needed
Pumps	<ul style="list-style-type: none"> • Cavitation detection and alerts • Wear monitoring • Energy-efficiency diagnostics • Sensor and motor health diagnostics 	<p>Recommended: Electrical power or current(s), flow, input pressure, output pressure</p> <p>Optional: Speed, temperature(s), setpoint flow, vibration features like RMS velocity, delta pressure, feature(s) indicative of density of pumped fluid, electrical voltage(s), power factor (cos phi)</p>
Compressors	<ul style="list-style-type: none"> • Efficiency and energy monitoring • Predictive maintenance; Fault diagnostics • Leakage detection • Fouling detection • Pressure-loss monitoring • Load-imbalance and fatigue diagnostics 	<p>Recommended: Electrical power or current(s), flow, delta pressure or output pressure, delta gas temperature or output temperature</p> <p>Optional: Rotor speed, input temperature, setpoint flow, vibration features like RMS velocity, input pressure, casing temperature(s), electrical voltage(s), power factor (cos phi), compressor efficiency</p>
Heat Exchangers	<ul style="list-style-type: none"> • Fouling detection • Efficiency-drop alerts • Pressure-drop analysis • Corrosion and flow-imbalance diagnostics 	<p>Mandatory: Flows of both fluids (unless they are known to be constant per operating regime), input temperatures of both fluids (or delta input temperature), output temperature of one fluid</p> <p>Recommended: Output temperature of second fluid (or delta output temperature)</p> <p>Optional: Heat capacity of fluid(s), input pressures, output pressures (or delta pressures), casing temperature, casing vibration</p>
Motors & Drives	<ul style="list-style-type: none"> • Electrical and mechanical fault detection • Energy-use monitoring • Bearing-wear analytics • Winding-fault detection • Unbalanced-load detection • VSD behavior diagnostics 	<p>Recommended: Electrical power or current(s), motor speed, temperature(s)</p> <p>Optional: Torque, speed setpoint, vibration features like RMS velocity, electrical voltage(s), phase imbalance, power factor (cos phi)</p>
Control System	<ul style="list-style-type: none"> • Cross-signal anomaly detection • Control-loop performance monitoring; • Abnormal logic-pattern detection • Instability and oscillation detection • Tuning quality assessment • Valve-stiction diagnostics • Sluggish-response detection • Logic-state anomaly and microstop detection 	<p>Mandatory: Setpoint and process variable of the control loop</p> <p>Recommended: Output, mode (auto/manual) and setpoint source (local/remote) of controller</p>

Orise Digital is the digital innovation arm of Orise, built to connect and optimize the entire digital process and system landscape. With deep expertise in automation, system integration, and process optimization, we deliver industry-proven tools that enhance connectivity, streamline operations, and turn data into actionable insights. Orise Digital helps enterprises integrate technologies seamlessly, boost efficiency, and stay compliant. As the final link in the digital chain, we turn digitalization from vision into reality—empowering smarter, faster, and more informed decision-making through structured, visualized data.