

WATCHMAN 360

Accelerating Autonomy for every Plant in the World

Programs include:

- Automated Expert Diagnostic System (EADS), 6000+ trained diagnostic templates
- High-resolution wireless, advanced wired and high-quality portable data acquisition devices
- Hardware agnostic EADS adapter for 3rd party hardware integration
- Volumetric analysis, automated prioritized screening and repair actions
- Vibration AI automation for component definitions and baseline thresholds
- Data 360 integration of 67 trillion data points
- Automated data quality screening and validation
- Impact Demod™ and early fault detection for repair planning
- Slow-speed analysis down to 5 RPM shaft rotational rate
- Centralized program management, end-to-end communication, business-level metrics
- Flexible service options available

The challenges

Maintaining a PdM or vibration program sounds simple. However, staying compliant with data collection and analysis is increasingly difficult. Finding skilled and experienced resources to turn vibration data into equipment insights is even more challenging.

The answer

WATCHMAN 360™ provides vital machinery health information and vibration diagnostic data. WATCHMAN 360 rapidly screens vibration measurements and applies 6,000+ unique rules to identify more than 1,200 individual, component-level faults in a wide variety of machine types.

As a proven automated machinery condition assessment system, WATCHMAN 360 can quickly process hundreds of vibration measurements, providing you with a fault diagnosis, fault severity, repair priority, and recommended action. Instead of overwhelming you with data that is difficult to interpret, WATCHMAN 360 provides prioritized, actionable repair recommendations with advanced AI logic to ensure confidence with a high degree of accuracy. The result is plain-language insights into machinery health with advance notice so you can plan work and avoid interruptions.

How it works

WATCHMAN 360's sophisticated rule-based methodology extends beyond simple monitoring of alarms on peaks or spectral bands. The test-point variation feature captures and compares complex patterns detected from the entire set of locations on your machine. By using this machine-specific baseline data, WATCHMAN 360 becomes a highly accurate, automated diagnostic system.

Data is collected from machines by wireless devices, walk-around portable data collectors, or by online systems. This data is passed to the secure SymphonyAI Industrial cloud, where the ExpertALERT™ diagnostic engine analyses it. Results are shared through the WATCHMAN Predictability Portal™, providing clear insights into which machines have faults, their severity, and recommended actions to address them.

With clear visibility using a cloud infrastructure, more people can be involved in a PdM program. Analysis can communicate with the field to obtain visual feedback or other conditions, providing valuable first-hand insight on machine states. Analysts can communicate with all decision-makers, providing more value to repair decisions. Actual findings, root cause, and time-stamped events help improve PdM program accuracy and quantify the program's success.

Solution highlights

Expert automated diagnostic system

The Expert Automated Diagnostic System (EADS) enables the most efficient analysts. Vibration data is automatically screened against 6,000+ unique diagnostic rules, which can identify more than 1,200 fault conditions for a wide variety of common machine types. EADS reports the onset of developing faults, allowing for adequate planning for repairs, ranks each diagnostic fault by severity, and provides trending. EADS prioritizes repair recommendations, providing the level of urgency and attention necessary for the analyst. EADS is highly accurate, allowing analysts to prioritize their workload and focus only on the most important issues.



Synchronized data acquisition

Machine vibration and other data inputs can arrive from a variety of sources, ranging from intuitive portable data collectors used by technicians and operators, sophisticated field analyzers for advanced measurements and troubleshooting, permanent wired or wireless sensors, or third-party providers via EADS adapters and APIs. TRIO® is a modular, Bluetooth-based acquisition device with an easily upgradable tablet controller. Watchman Online acquisition hardware eliminate human collection by using advanced connectivity to send vibration and process data to EADS. Watchman AIR, high-resolution wireless devices provide a cost-effective way to reduce data collector labor in plants with a simple-to-use solution.

WATCHMAN PredictivePortal

This web portal provides an enterprise view of the entire vibration program across multiple plants or business units, with deep-dive understanding of asset trends and repair actions. Early detection of faults and clear, actionable advice mean maintenance teams can receive alerts and notification-based on user roles, assign actions as necessary to validate machine conditions, and order parts and plan for the corrective action with minimal production downtimes. Maintenance events and machine health are tracked over time, and users can upload relevant materials, for easy, centralized access including fault resolutions, corrective actions, root cause analysis, and diagnostic feedback accuracy. Business-level metrics provide management with an understanding of risks to production and program performance.



WATCHMAN Technology-enabled Services

Plants today are overwhelmed with large amounts of data yet see negligible results. WATCHMAN 360's Reliability Services deliver true meaning to your PdM program. As the experts in vibration analysis, SymphonyAI Industrial offers a deep bench of domain expertise to help ensure your assets have the coverage you need, and the insights management requires. SymphonyAI Industrial offers diagnostic services that are flexible and scalable, including support in multiple technologies.



Annual assessment reports

A detailed annual program assessment ensures your PdM investment is justified, plant availability is on target, and critical assets are properly monitored using best practices.



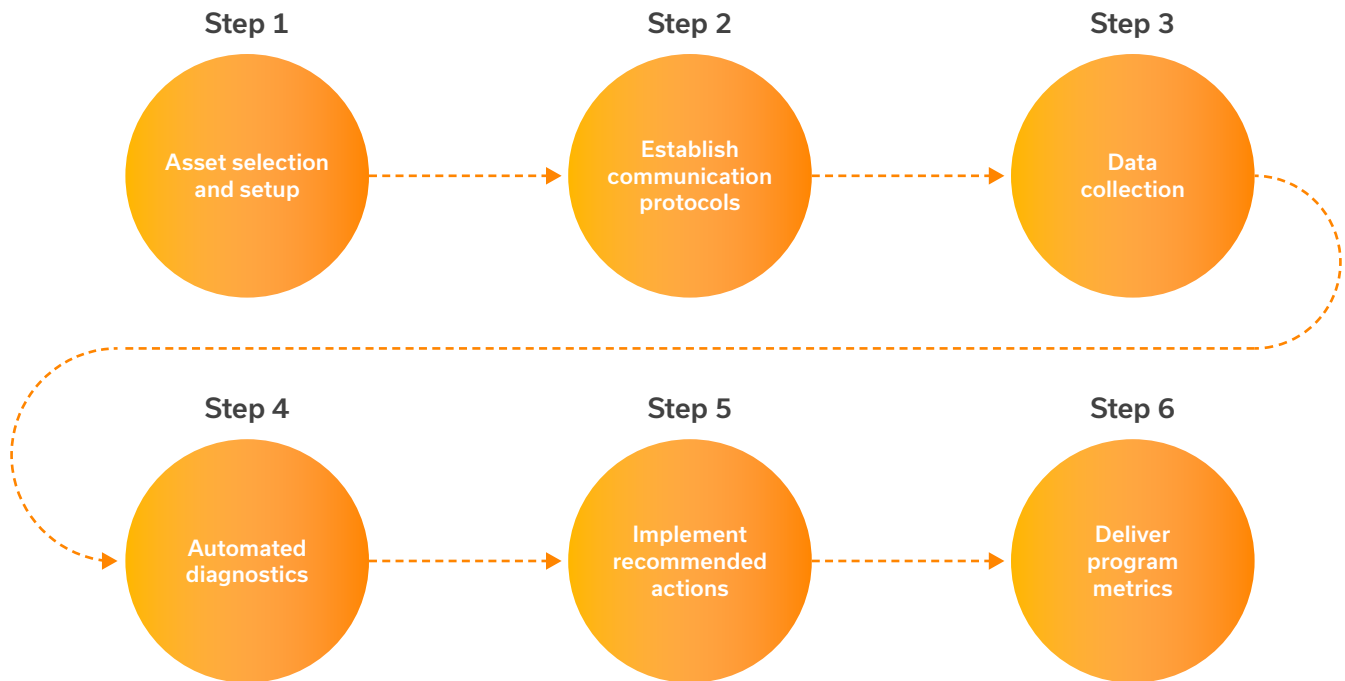
Why choose WATCHMAN 360?

There are several routes to deliver a successful vibration analysis program. A vibration program can be accomplished in-house using your own analytical staff; SymphonyAI Industrial offers hardware and software to support an in-house program. The in-house challenge is staff retention, required skillsets, and ongoing program development expectations. Another option is to outsource to a local contractor. Even with a highly skilled team, getting real-time analysis on assets is nearly impossible as data is typically captured only on select machines available during the contract visit.

WATCHMAN 360 enables you to design a flexible program for your exact needs, and puts data collection into the hands of technicians and operators. Machine data is gathered when equipment is running and available or on demand. SymphonyAI Industrial can offer wireless vibration devices to cover majority of plants assets as well as permanently installed acquisition hardware on critical or hard-to-access machinery that can be analyzed with the balance of plant for full plant insights.

The analysis offered by SymphonyAI Industrial is flexible to meet your program requirements. Using the advanced EADS, you can screen volumes of data, reporting only action items you need. Mature programs can use automation to minimize costs by analyzing only on severity exception. SymphonyAI Industrial has the industry's most efficient analysts, utilizing advanced Vibration AI tools to automated fault models and templates, diagnostic criteria, and workflows.

WATCHMAN 360 how to – step by step



About SymphonyAI Industrial

SymphonyAI Industrial, a SymphonyAI business, is an innovator in industrial insight, accelerating autonomous plant operations. The industry-leading EurekaAI/IoT platform and industrial optimization solutions connect tens of thousands of assets and workflows in manufacturing plants globally and process billions of data points daily, pushing new plateaus in operational intelligence. SymphonyAI Industrial solutions provide high value to users by driving variability out of processes and optimizing operations for throughput, yield, energy efficiency, and sustainability.

sales@symphonyindustrial.ai | symphonyindustrial.ai | ©SymphonyAI Industrial, LLC. All rights reserved.