



ASSET MANAGEMENT PERFORMANCE & RELIABILITY OPTIMIZATION

REAL-TIME ASSET CONDITION MONITORING SOLUTION FOR INDUSTRIAL ROTATING EQUIPMENT

Introducing a new way to predict failures months before they happen and optimize the performance of your asset

SAM PRO (Smart Asset Management Performance And Reliability Optimization) is a real-time condition monitoring solution for industrial rotating equipment. It combines measurements of voltage and current from electric-motor power lines with important parameters, like pressure and temperature, to create actionable insights. Enabled by an algorithm that can detect discrepancies long before they could be flagged by operators or performance indicators, this intelligent software even pinpoints the exact location and element driving the alerts, allowing you to make crucial decisions – earlier.

What does SAM PRO do for you?



Predictive Diagnostics

Calculate machine KPIs based on high-frequency measurements of electric parameters and correlate them with key process parameters.

Pinpoint electrical and mechanical discrepancies months before they lead to system failures.



Real-Time Monitoring

Digitally monitor the performance of machines in real time through integrated hardware and software.

Package IoT-sensors, ML algorithms and online dashboards to deliver an intuitive and seamless user experience.



Optimization

Provide immediate information and smart alerts for predictive maintenance through automated machine diagnostics.

Improve operations and energy efficiency.

How it works

1

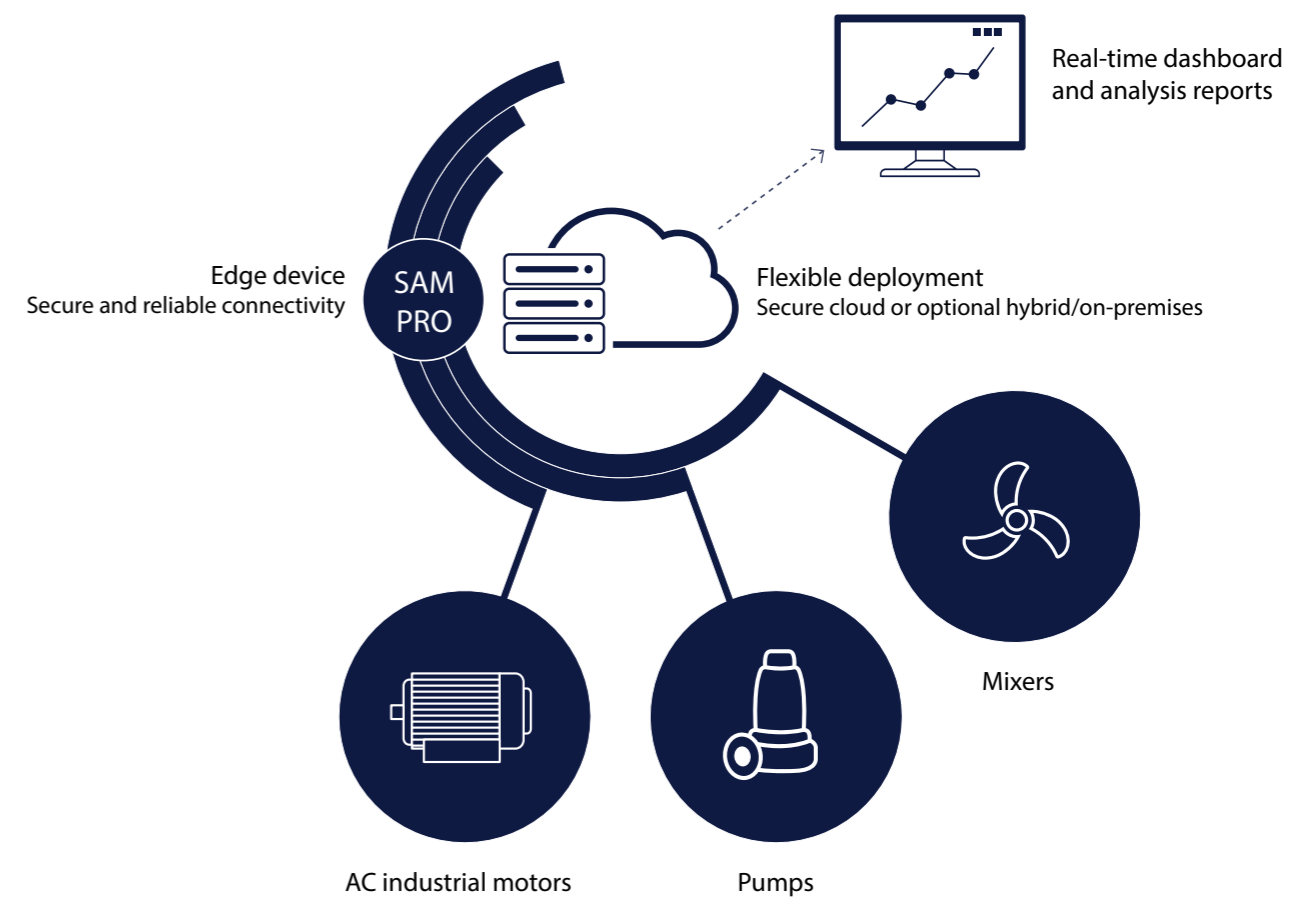
Edge devices* capture and process data, such as temperature, pressure and electric parameters of the machine.

2

The devices then transmit the resulting KPIs to the server** (secure cloud or optional hybrid/on-premises).

3

KPIs enable report generation through our real-time dashboard, or the cloud can direct to customer systems such as supervisory control and data acquisition (SCADA) systems, enterprise asset management (EAM) systems or IoT systems.



*Edge refers to a system that brings computation and data storage closer to the sources of data. Edge devices can gather data in real time and apply analytics to provide faster insights and improved response times.

**Authorized users can gain access to the server via a password-protected login, or SAM PRO can be integrated with other data management systems via industrial automation standard protocols or application programming interface (REST API).

Applications

SAM PRO machine-monitoring modules can be installed directly in the machine-motor control panel. If there is no space available, the modules can also be provided in a commissioned, pre-wired micro panel for rapid site deployment.

Asset performance features	Hydraulic, electrical and mechanical failures
	Designed and actual system curves
	Speed, flow and pressure optimization

It can be used with any existing asset, regardless of make, model or age, monitoring and preventing machine failures such as:

AC industrial motors	Fans/Mixers	Pumps	Compressors	Conveyors
Bearing degradation	Impeller damage	Cavitation	Blocked suction line	Coupling issues
Misalignment	Misalignment	Dry run	Dirty coils	Misalignment fouling
Foot looseness	Mechanical imbalance	Low flow	Bearing degradation	Bearing degradation
Winding problems	Bearing degradation	Clogging		
Mechanical imbalance		Impeller degradation		
Rotor imbalance				
Stator eccentricity				
Stator shorts				



Benefits of predictive insights

Smart condition monitoring with predictive insights prevents unplanned stoppages and allows maintenance to take place at exactly the right time.

This improves your life-cycle cost (LCC) and overall equipment effectiveness (OEE) through:



Reduced energy consumption

- | Minimize energy use with high-value technical and operational condition information.
- | Increase machine efficiency based on power supply disturbance information and patented signature analysis.
- | Improve process efficiency by precisely correlating technical machine condition with the process conditions.



Increased lifetime of assets

- | Improve total productive maintenance (TPM) through benchmarking and diagnostic insights.
- | Limit repair costs and process disruption by diagnosing failures before they happen.
- | Streamline maintenance and inspection processes with reliable data viewable on demand, not requiring constant monitoring.



Enhanced productivity

- | Increase manufacturing productivity with an operational map informed by highly consistent processed data, derived from multiple sources.
- | Reduce downtime through product data management (PDM) and data-driven operations.
- | Avoid quality deterioration with built-in machine-learning algorithms.



SAM PRO at a glance

SAM PRO provides performance insights for both mechanical and electrical systems. This sophisticated software monitors asset operations, allows for perfectly timed maintenance and predicts future failures to eliminate unplanned stoppages and drastically reduce business risks. The system also collects data that can be used to design the most profitable long-term plan for asset usage, giving you optimal machine, energy and process efficiency, and better return on the capital invested.

SAM PRO will work with any make or model of asset. For applications where deploying sensors is difficult or inconvenient, such as high-voltage, high-flow and/or low-pressure submersible pumps, SAM PRO uses current signature and voltage analysis to provide critical insights.

Customizable reports based on over 4,000 calculated parameters for current and voltage data are used to provide real-time asset optimization.

Features include:

- | 24/7 access to an online data and reporting platform
- | Integration with existing SCADA and PLC systems
- | 30-minute installation
- | Ready-to-use machine software

SAM PRO comes with preassembled hardware and easy-to-deploy sensor integration.



The predictive window with Xylem Vue

SAM PRO is an important part of our full suite of digital solutions, Xylem Vue, that combines smart and connected technologies, intelligent systems and services, and 100+ years of problem-solving expertise. Our digital solutions and services make the lives of operators of water and wastewater infrastructure easier by remotely managing assets, optimizing performance and predicting failures.

Discover how Xylem Vue supports asset managers with our service packages:



Asset Visibility

Tracking your asset 24/7, combining remote connectivity and monitoring solutions to provide solid and crucial decision intelligence needed by water and wastewater operators, across their network.



Asset Management

Delivering the second stage of digitization for water and wastewater network, our Asset Management service package is a next-generation remote management and control tool to optimize asset operations and service. Covering a range of solutions, from tailored SCADA systems to pipe network management, leak detection and pipe assessment services.



Asset Predictability

Our most advanced asset management tool combined with AI monitoring delivers reduced asset failure risk across complex water and wastewater networks. The third stage of digitization joins predictive maintenance offerings with Xylem Digital Maintenance. Hence, SAM PRO becomes a natural inclusion in this package.

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Digital transformation starts with Xylem Vue

Digital adoption is no longer an option, it's an urgent reality to meet the increasing pressures you face. Xylem Vue brings together our full portfolio of digital solutions to solve your most pressing water challenges along your digital journey. Let's see what's possible for you.

Discover more at <https://xylem.com/XylemVue>

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- 1) the tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor, and return water to the environment, in public utility, industrial, residential, and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies, and advanced analytics solutions for water, electric, and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers, who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com



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