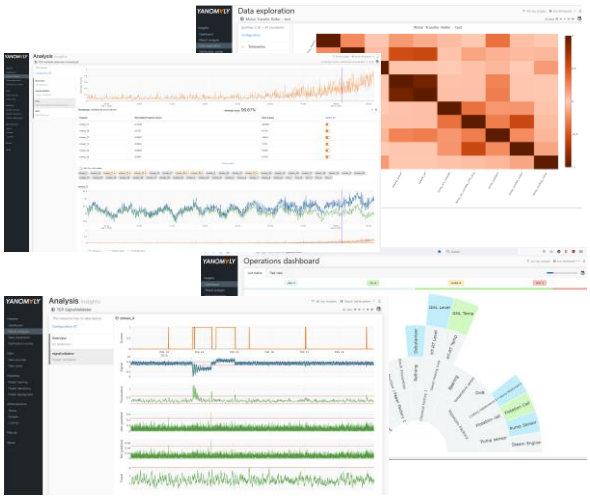
YANOMALY

Universal Condition Monitoring for Industries

Machines, assembly lines, packaging lines and continuous or batch production processes generate more and more data that is full of hard to extract but valuable information.

YANOMALY™ is a software solution that enables you to use that data for real-time monitoring of the condition of your assets through AI-powered anomaly detection, and to build predictive or prognostic models using high performance proprietary machine learning algorithms specifically developed for industrial data.

With its highly scalable architecture, its data connectors to integrate with typical IT/OT systems in industry, and with its flexible licensing, YANOMALY can be easily added to any existing production or machine monitoring platform, in the cloud or on premise.



Ease of Use: Yanomaly includes web-based GUI to enable non data scientists to select data, train the computer models, and to validate, deploy, and monitor and maintain those models. Users can configure alarms and/or see the status overview dashboard and can do a drill down to further analyze the causes of process issues or figure out how to improve quality.

AI-powered Functionalities

Anomaly Detection

80 percent of downtime is caused by never-seen-before technical or process issues. YANOMALY doesn't need an issue to have already occurred in the past to detect it.

It detects unusual combinations of values, patterns and behaviour of sensor signals, and can also pick-up abnormal execution of control software.

Our proprietary unsupervised machine learning algorithms can sense any deviation from normal operations and will also indicate what exactly is abnormal about the machine or process.

YANOMALY informs you about the condition of your assets and creates value by speeding up the root-cause finding and fixing of technical issues.

Asset Monitoring

YANOMALY includes dedicated modules to monitor often occurring equipment like sensors, motors, pumps, compressors, heat exchangers and control loops.

These modules include the best of both words: built-in human expertise about how to detect issues with pumps, motors and control loops, combined with AI algorithms that learn for each equipment individually how they normally behave and will raise an alert if they become worse.

Yanomaly will also detect if sensors or quality metrics need recalibration or replacement or are drifting away.

Customers in different industries are using Yanomaly every day to monitor hundreds of sensors, motors, control loops and pumps. Earn-back times are typically less than two years.

Predictive Models

Predictive modelling allows you to build machine-learning models that predict failures (predictive maintenance) or product quality issues (virtual sensors) and deploy them in production.

With self-service tools, YANOMALY allows domain experts to build models that anticipate unwanted events such as technical issues, used for predictive maintenance, or quality problems. Typical examples of the latter are virtual sensors that predict the result of lab measurements of product quality characteristics. In this way, quality information about the produced product is available to the operators continuously instead of waiting for lab result.

Data pre-processors, predictive models and graphical user interfaces developed specifically for industrial applications are available at your fingertips.




Connect your data, add new capabilities to your existing platform

Built to be interfaced or integrated with existing data monitoring or IoT platforms, YANOMALY can process all types of data from sensor signals and digital I/O's and considers the operating condition as indicated by ERP, MES or other data sources.

Thanks to an always expending collection of data connectors, you can easily import information from local process data historians or IIoT cloud platforms and integrate the results from the monitoring and analytics modules into other systems.

OSIsoft. aws Azure influxdb CUMULOCITY IoT OPC SQL *and more…*

More industry-grade features and specs

Less False-alarms thanks to post-processing algorithms, learning through operator feedback and extensive reporting functions that summarize status over longer periods of time.

Simple to use but powerful signal monitoring Distinguish sensors issues from system issues with the signal validator and drift detectors. Detect unexpected changes in system settings.

Multi-target real-time optimization and process control: maximize results under economical and operational constrains by leveraging Yazzoom's expertise in optimization algorithms and advanced process control.

Customer case studies

Customers of YANOMALY include process and manufacturing production companies, machine builders and IoT platform developers.

YANOMALY has a proven track record on a variety of machine and data types: industrial production lines (continuous and batch processes, robot-powered discrete manufacturing), medical imaging equipment, IoT-enabled utilities networks,…

AI-powered Anomaly Detection for Combined Heat and Power plants

For its real-time cloud-based data monitoring platform OneBoard, which is also used by its customers, Engie Laborelec wanted to integrate an advanced anomaly detection technology. It had to be self-learning, flexible to configure and simple and efficient enough to be used by its power generation experts without a regular support from data scientists.

Yazzoom's solution, Yanomaly, was chosen by Engie Laborelec after benchmarking the reliability of the detection of anomalies against competitor solutions. The flexibility of integrating YANOMALY into their existing architecture without the need to switch to another data monitoring platform was another deciding factor.

Improved OEE of automated assembly lines through micro-stop detection

Tenneco produces car components on advanced automated assembly lines. Yazzoom's software tool YANOMALY is used to detect and diagnose technical deficiencies and throughput bottlenecks in these complex machines that feature multiple-step processes.

By analysing the digital I/Os, the tools help Tenneco detect early signs of issues causing low throughput or future failures and to faster diagnose the root cause of performance issues affecting throughput.

With better, more detailed, analytics and reporting of the line functioning, data-driven decision-making improves the operations and maintenance of the equipment. This way, Tenneco can ensure higher equipment availability and more consistent asset performance.

Asset Health Monitoring of machines and production processes

To detect asset health issues in sensors, motors and process control loops, the Stora Enso paper plant in Langerbrugge uses Yanomaly since 2021.

As an additional layer of security, on top of human-written rules and alarm systems, they decided to leverage the latest advances in Artificial Intelligence by adding YANOMALY to the Aveva (Osisoft) PI process data historian.

YANOMALY monitors close to 30,000 sensor signals and settings every second, with about 600 different anomaly detectors, thus giving early warnings about production issues. Yanomaly indicates in dashboards and reports which sensors, control loops or equipment in the paper machine and stock preparation behave abnormal and shows in the graphical user interface what precisely is abnormal about them, thus enabling predictive maintenance.

Since 2011, Yazzoom applies multi-disciplinary engineering knowledge, artificial intelligence and process control know-how to solve the challenges of industrial companies.
Use cases include optimizing industrial production processes, increasing stability and safety, solving quality issues, increasing throughput, reducing energy and material use, predictive maintenance or automatically detecting early signs of technical issues.

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