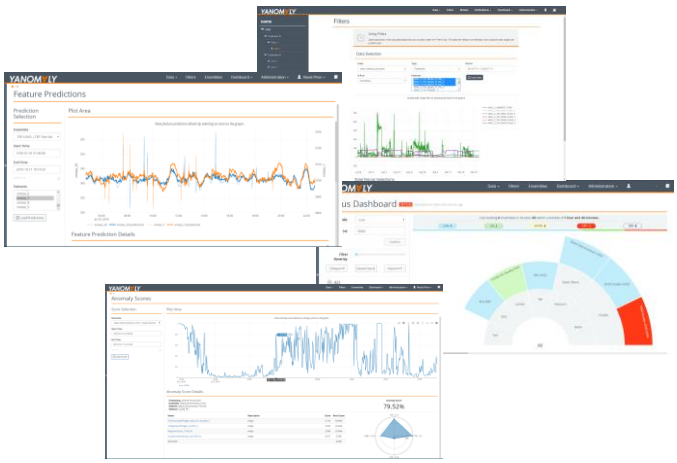
YANOMALY

AI-Powered Analytics for Industrial Data Platforms

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, to troubleshoot technical faults or production issues thanks to advanced diagnostic analytics, and to build predictive or prognostic models using high performance proprietary machine learning algorithms specifically developed for industrial data.

With its modular highly scalable architecture and flexible licensing, YANOMALY can be easily integrated into existing monitoring platforms, 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.

Diagnostic Analytics

YANOMALY's diagnostic analytics module allows you to identify the main factors that influence key performance indicators and metrics.

The targeted metrics such as KPI can be anything that matters to you and for which the machine learning algorithms can discover the relation between the available data and the KPI. For example: OEE, process performance, product quality characteristics etc.

Thanks to its convenient user interface domain experts that are not data scientists nor programmers can perform what-if analysis and estimate how a KPI will be improved by adjusting the values of influencing factors, identifying and quantifying process or machine improvements.

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 other time-series data to event logs of machines, categorical data coming from ERP and MES systems and more.

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

OSIsoft. aws Azure MQTT MindSphere 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 realtime 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 automotive components production lines with ML-based data analytics tools

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 PLC signals, 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.

Batch Chemistry Process Monitoring powered by AI

To guarantee perfect quality and process safety, Agfa Specialty Products uses monitoring systems for their production units.

As an additional layer of security, on top of human-written rules and alarm systems, they decided to leverage the latest advances in Machine Learning and Artificial Intelligence for anomaly detection by integrating YANOMALY into their monitoring system.

YANOMALY was selected after proving it could generate early warning of process issues several weeks in advance compared to the current tools, thus also enabling predictive maintenance.

Since 2011, Yazzoom applies multi-disciplinary engineering knowledge, artificial intelligence, process control know-how and data mining 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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