Zerynth

Zerynth Industrial IoT APP
Machine Monitoring

Monitoring states and alarms on any machinery

Monitoring and analysis of machinery and department or factory consumption

Management and planning of maintenance for your assets

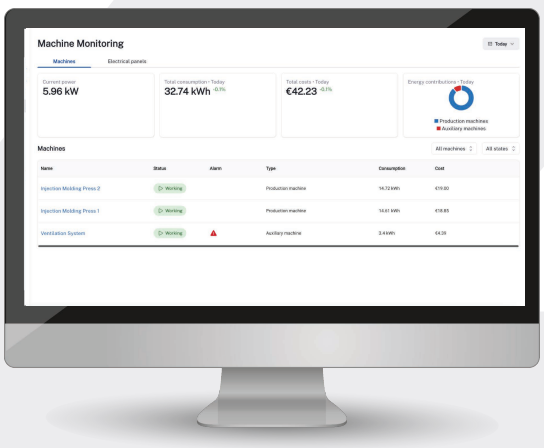
What can you get?

Data on single machinery
and aggregated plant data for performance optimization

Up to 40%
energy costs and consumption optimization

Up to 70%
reduction in downtime through maintenance 4.0 practices

How do we do it?



- Monitoring of machinery operating states
- Monitoring and **analysis of energy consumption** at both single machinery/asset level and line/department/factory level.
- Monitoring and analysis of **electrical panel consumption and phase imbalances**
- Real-time data visualization via webapp
- **Alarms and notifications** on exceeding settable thresholds with email notifications in case of specific configured operating conditions
- KPIs with analysis of data over time, trends and statistics
- Periodic reporting
- **No-Code Configuration** for the guided configuration of the APP

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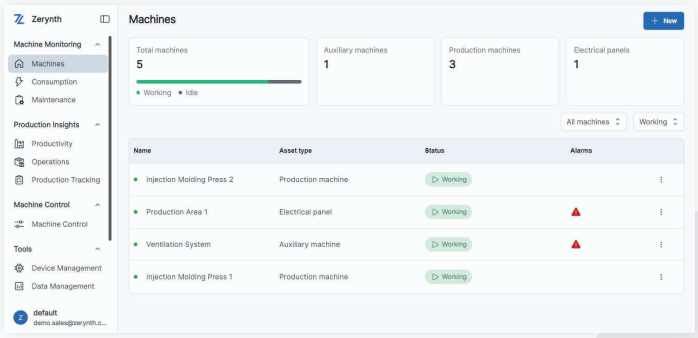
Monitoring states and operation of any industrial asset



Real-time monitoring of data

The Zerynth Industrial IoT & AI Platform enables data extraction, processing on Edge Devices, and visualization on Dashboards, offering individual machinery data views as well as aggregated plant data.

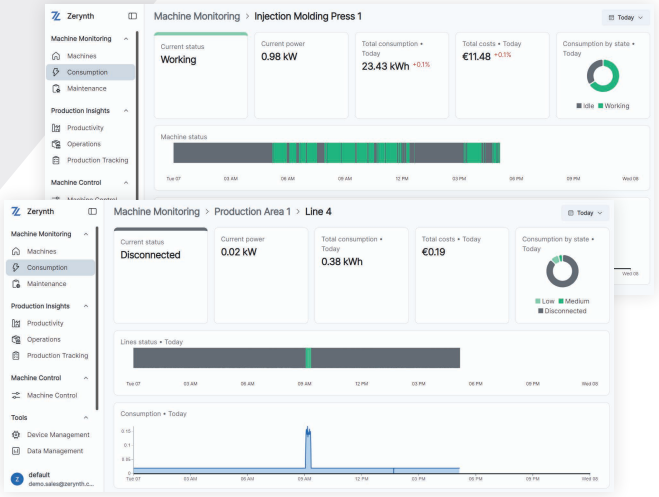
The Machine Monitoring APP allows for **monitoring costs** and **energy consumption** of machinery and electrical panels, **tracking machine states**, **managing maintenance**, and generating reports.

Real-time monitoring of machine states and alarms across an entire production line, department, or factory, all from a single point

Monitoring of electrical panels with an overview of total **states and alarms**, **phase imbalances**, and **individual electrical line statuses**.

Monitored KPIs:

- Real-time machine state;
- Electrical line statuses;
- Phase imbalances;
- Distribution of line states over time;
- Distribution of machine states, alarms, costs, and consumption for each type of machinery



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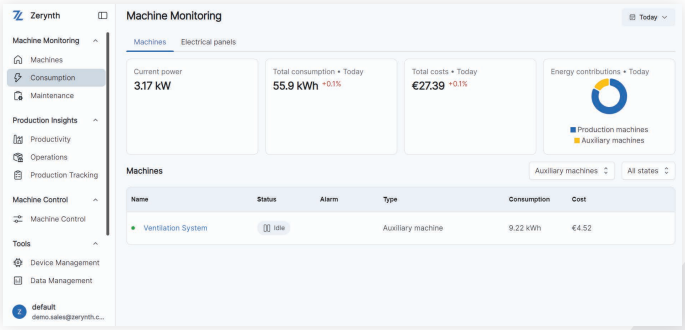
Monitoring and analysis of machinery and department or factory consumption



Real-time monitoring of energy consumption

Monitoring of production and service machinery with an overview of costs and energy consumption.

Monitored KPIs:

- Instantaneous consumption;
- Energy consumption and total cost with variation compared to the previous period;
- Distribution of consumption across different types of machinery;
- Distribution of costs across different types of machinery.

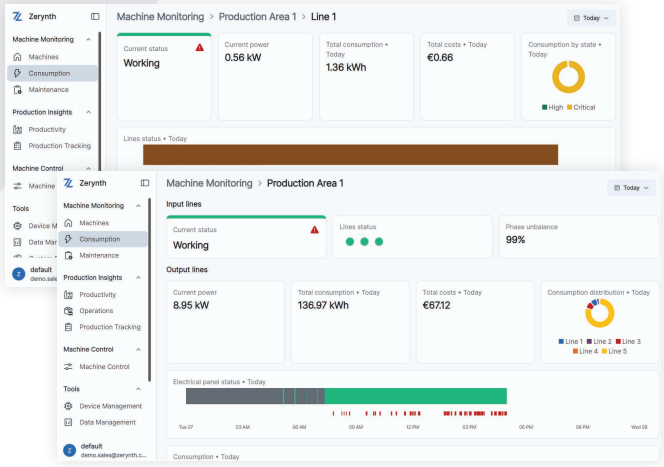
Real-time monitoring of energy consumption for an entire production line, department, or the entire factory from a single point

Monitoring of electrical panels with an overview of total costs and consumption.

Monitored KPIs:

- Current power;
- Total consumption and costs;
- Time distribution of consumption for each production line.

The integration of a **network analyzer** enables the monitoring of key electrical parameters of the network and provides specific analysis of anomalies and malfunctions.



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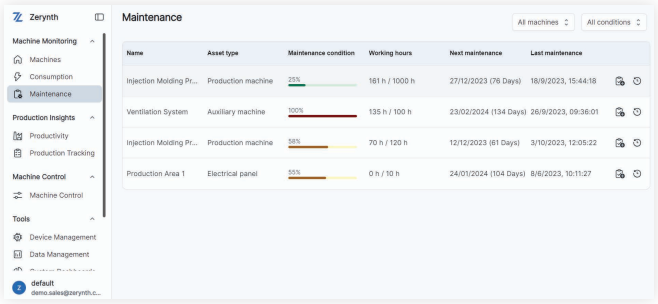
Managing and planning maintenance for your assets



Maintenance management to minimize machine downtime

Diagnostic and maintenance management allow to easily and proactively identify **inefficiencies and potential failures** in industrial machinery.

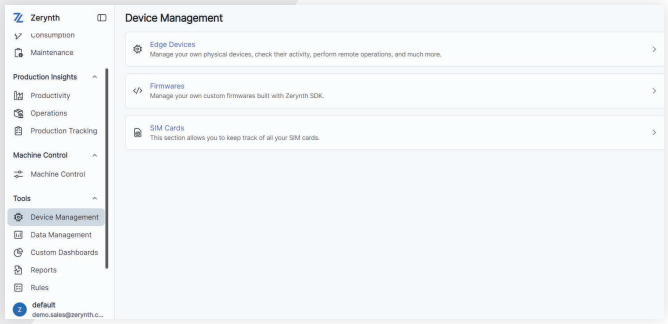
Monitored KPIs:

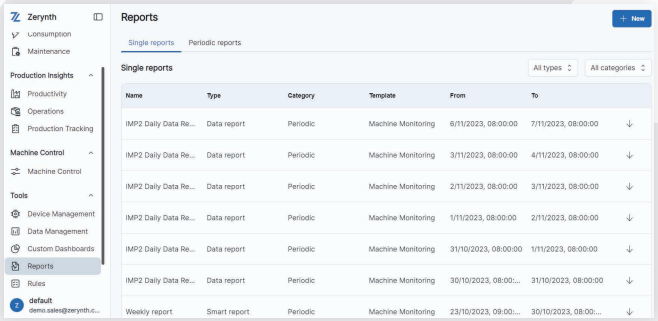
- Condition-based maintenance compared to actual operating hours;
- Alerts for upcoming maintenance tasks;
- Mapping and tracking of operators responsible for maintenance;
- Engine for creating schemes and rules for condition-based maintenance.

Remote management of devices, data, and integrations

The Cloud Management features enable:

- Remote management of devices and real-time monitoring of operator activities;
- Management of extracted data and periodic exporting;
- Data transmission to management systems, allowing seamless integration of the Zerynth Industrial IoT & AI Platform with existing MES (Manufacturing Execution Systems) and ERP (Enterprise Resource Planning) systems in the company





Visualization and download of reports

Efficient **management** and **storage of data** extracted from machinery and comprehensive reporting, with the ability to download them locally in **different formats**.

Reporting Engine with preconfigured templates for:

- Energy consumption calculation;
- Machine usage and alarms;
- Maintenance.

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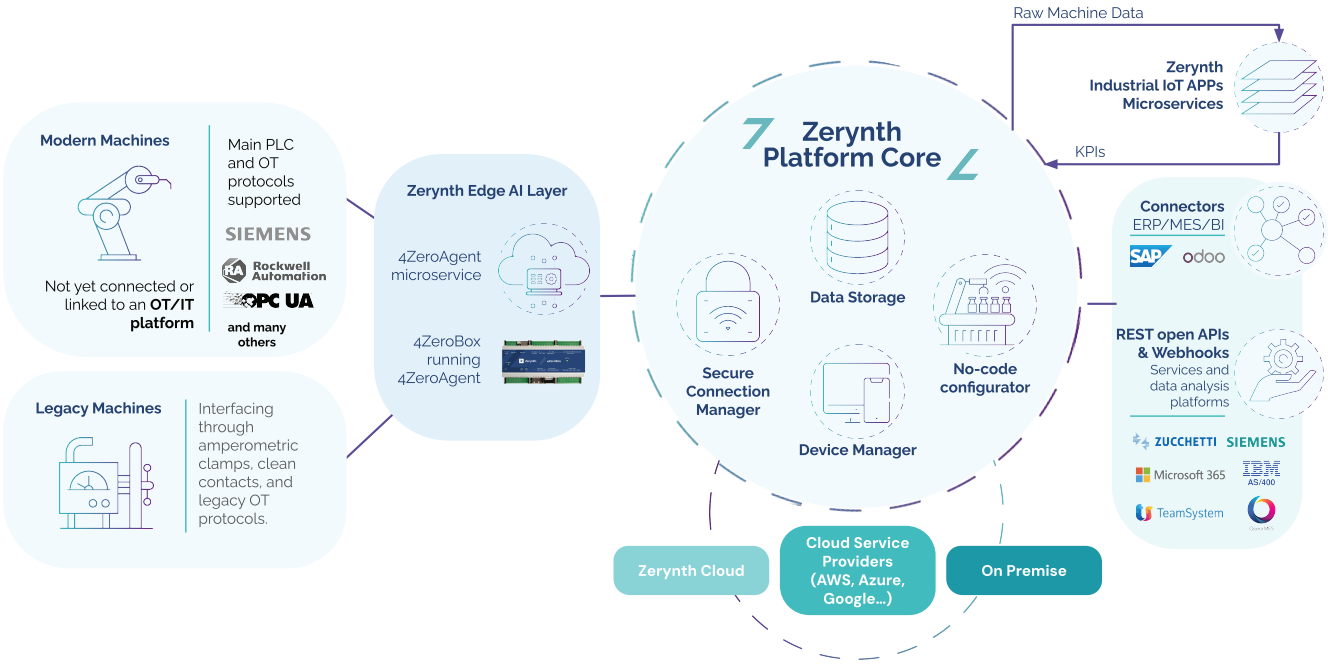
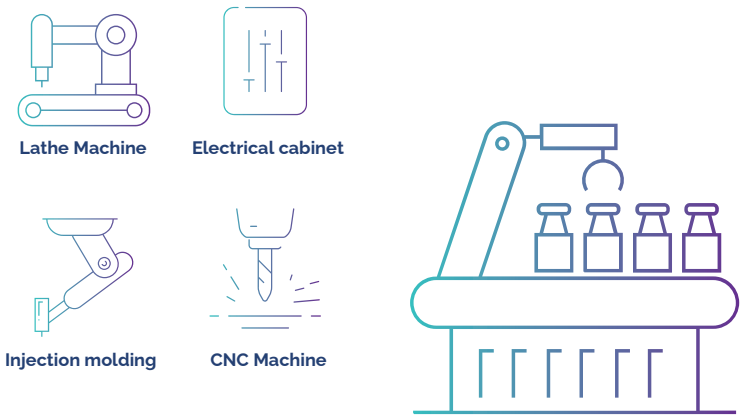
Machine Monitoring is part of the Zerynth IoT & AI Platform

Zerynth Industrial IoT & AI Platform - Architecture



How implementation works?

No-code remote configuration of any industrial machinery



- Machine usage analysis and downtime tracking
- Quality and Performance
- Alarms and maintenance
- Energy costs and consumption

NON-INVASIVE CONNECTION OF ANY INDUSTRIAL ASSET

NO-CODE AND REMOTE CONFIGURATION IN LESS THAN 3 HOURS

REAL-TIME DATA EXTRACTION AND AGGREGATION FOR KPIS

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Edge AI Layer

Our patented Edge AI technology allows for easy and immediate installation on any type of machinery

Figure 1. IoT Kit Example

Zerynth Edge Device Solution

The hardware solution enables the **interconnection of any industrial machinery** within your facility. By using a non-invasive current clamp, current sensors, and a no-code configuration, the Zerynth Edge Device extracts data, performs on-the-edge processing, and sends it to the Zerynth Platform Core for dashboard visualization.

Each hardware kit includes:

- 1 x Zerynth Edge Device (Lite or Advanced);
- Current sensor;
- Power supply;
- Device installation diagram.

The physical installation of monitoring setups is carried out by the customer's electrician technicians or their designated personnel, supervised by the Zerynth technical department.

4ZeroAgent Solution

4ZeroAgent is a **powerful AI on-the-edge microservice** that enables **data acquisition** and reading from both modern and legacy machinery. It is natively present on all Zerynth Edge Devices, designed to provide high standards of efficiency, accuracy, and reliability.

Each kit hardware include:

- Software agent based on container technologies compatible with Windows and Linux;
- Most modern OT protocols supported;
- Fully integrated with Zerynth Platform for Over the Air Update and Diagnostics;
- Easy configuration through the Zerynth No-Code Configurator;
- Ready for AI on the edge data processing.

Zerynth®

About Zerynth

Zerynth supports manufacturing companies in streamlining production by increasing the value of interconnected industrial assets. Through the Zerynth Industrial IoT & AI Platform, it connects any industrial machinery in less than 3 hours, using a plug-and-play and non-invasive approach, enabling a complete 4.0 transformation with simplicity, speed and security.

Founded in 2015, Zerynth counts a team of over 40 experienced IoT professionals, strategic partnerships with system integrators and technology providers such as SAP, as well as over 150 customers across diverse industries: discrete manufacturing, food & beverage, logistics, utilities, and machinery manufacturing. Headquartered in Pisa, Italy, Zerynth is actively pursuing an ambitious international expansion project.

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