Zerynth

Zerynth Industrial IoT APP
Production Insights

Productivity monitoring and analysis

Overall Equipment Effectiveness (OEE) calculation

Comprehensive visibility into shop floor and production

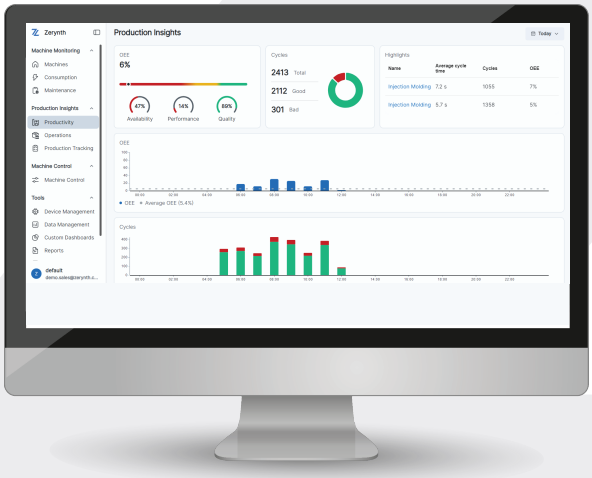
What can you get?

Maximization of quality and optimization of machinery utilization times

Increase in productivity and efficiency of processes

Minimization of production costs

How do we do it?



Functionalities

- Analysis of productivity for single machines
- Monitoring efficiency for operations
- Real-time support for process management

*in addition to all the functionalities already provided by the Machine Monitoring App

- Advanced **monitoring of production parameters** and analysis of related production cycle times
- **Productivity monitoring** and analysis
- Usage machinery and production costs real-time monitoring
- Production Pieces and cycles monitoirng and scaps detection
- Single operations efficiency monitoring and analysis
- **Calculation of the OEE** (with detail on Availability, Quality and Performance)
- Standard and customized Dashboarding
- Advanced reporting on historical data
- Alarms and notifications based on configurable rules
- KPI with analysis of trends over time, trends, and statistics
- **No-Code Configurator** for guided configuration of the platform

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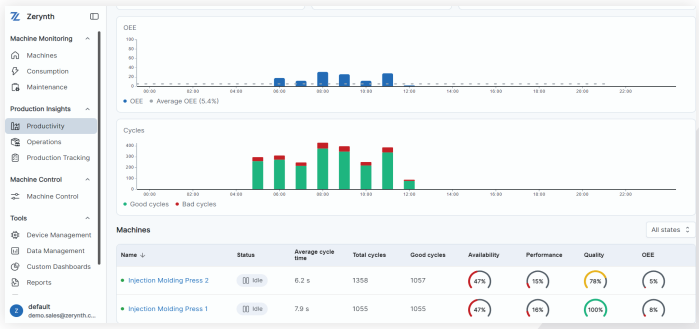
Achieve maximum efficiency from your production machinery



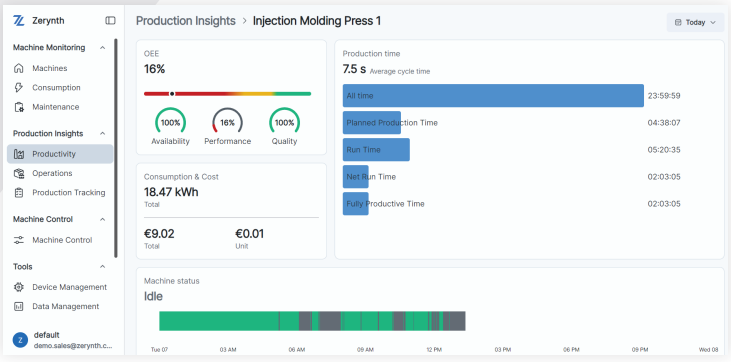
Monitoring and analysis of productivity and calculation of OEE

Zerynth Industrial IoT & AI Platform enables the **extraction of collected data**, their processing on Edge Devices, and visualization on Dashboards, both as a data view for individual machines and as **aggregated views** for the entire plant.

The Production Insights app allows for the **improvement of efficiency** in the use of industrial machinery involved in discrete production processes, providing details on **Quality, Performance, and Availability** of the machinery. It also enables real-time and retrospective **monitoring of OEE**.

KPI for Individual Machine

- Usage and energy costs of production
- Analysis of cycle times
- Impact of failures on process efficiency
- Produced and defective pieces
- Quality (good/defective cycles), Performance (cycle time), and Availability (utilization time)
- Calculation of OEE (Overall Equipment Efficiency) at the machine level
- Analysis of energy costs for each cycle



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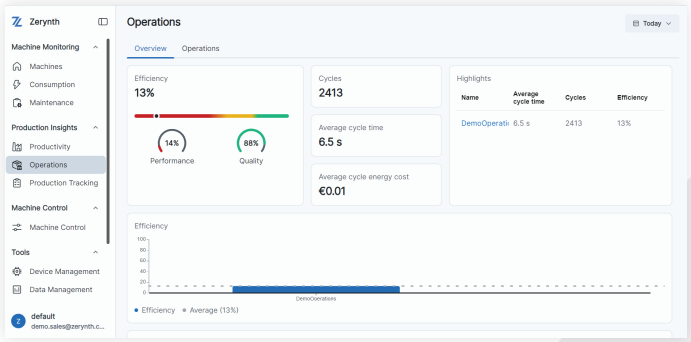
Gain visibility and efficiency on the operations of your production cycles



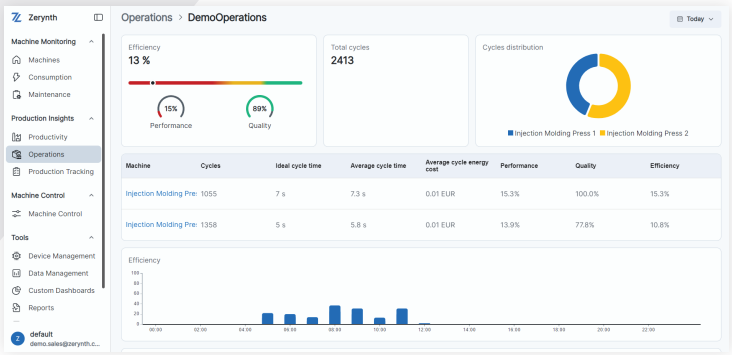
Monitoring of Operations, Quality, and Performance

The app allows **for monitoring and analyzing the efficiency of individual processes** (or operations), providing full customization freedom for both traceability and data visualization.

The solution is designed to enable real-time monitoring of process efficiency at the level of individual operations that are executed across different production machines.

KPI Operations

- **KPIs for Operation Efficiency** for each production operation.
- **Performance and cost** for each operation.
- **Quality** for each good/defective cycle.
- **Cycle time analysis** with details for comparison between different machines performing the same operation.
- **Reports and rules** on the key productivity KPIs for all operations.



TakeAways

- Plug-and-play configuration of operations
- Tracking of operations using barcode readers/RFID or integration with MES/ERP
- Tools for analysis and comparison of individual operations across machines

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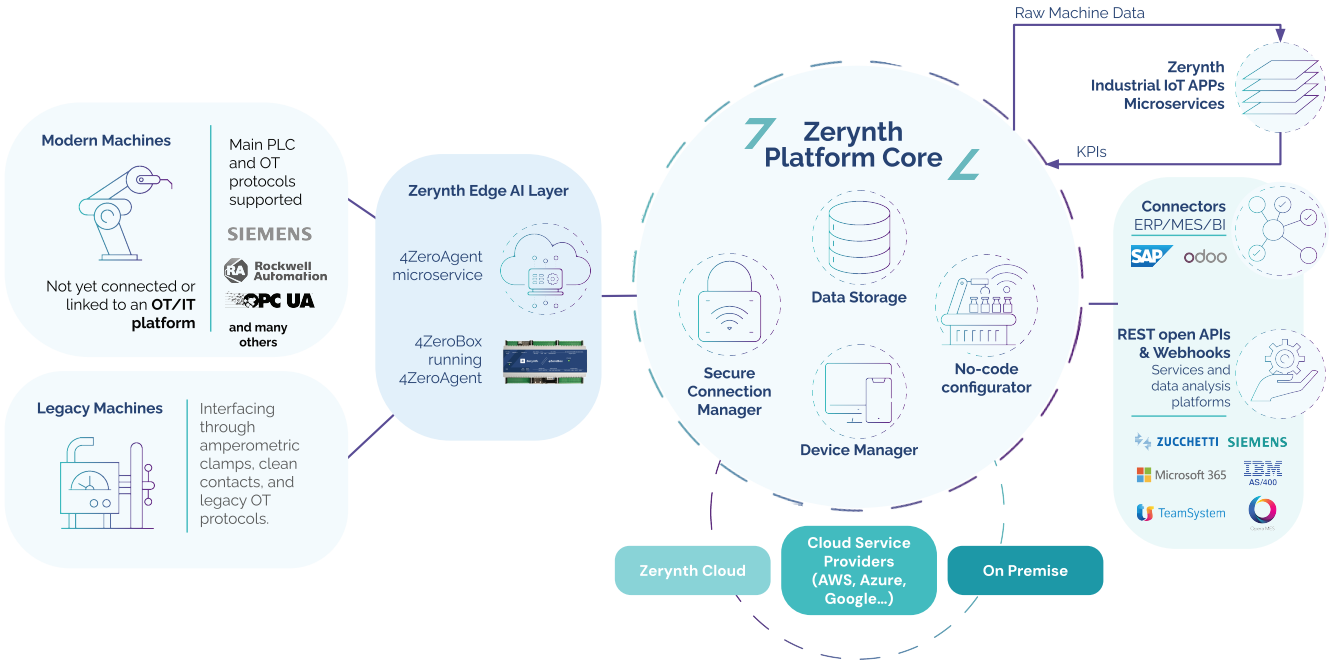
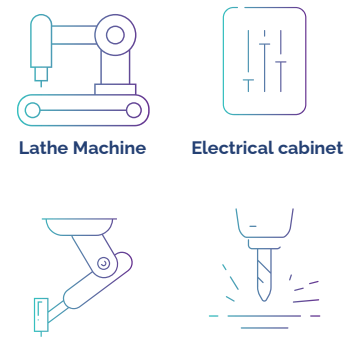
Machine Monitoring is part of the Zerynth IoT & AI Platform

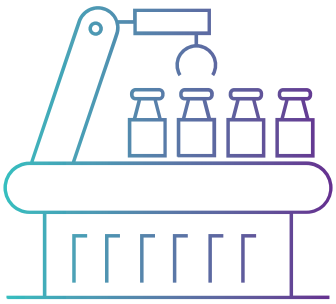
Zerynth Industrial IoT & AI Platform - Architecture



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.

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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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