



AMPERON

Technologies

AI-powered FactoryOps for
Autonomous Manufacturing



Amperon Technologies

HENN connector group

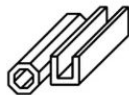
A deeptech startup founded in 2024 with a simple vision: Empower every factory with affordable **digital tools** to reach sustainable **manufacturing excellence**.



Food and Beverage



Packaging



Metalworking



Machining



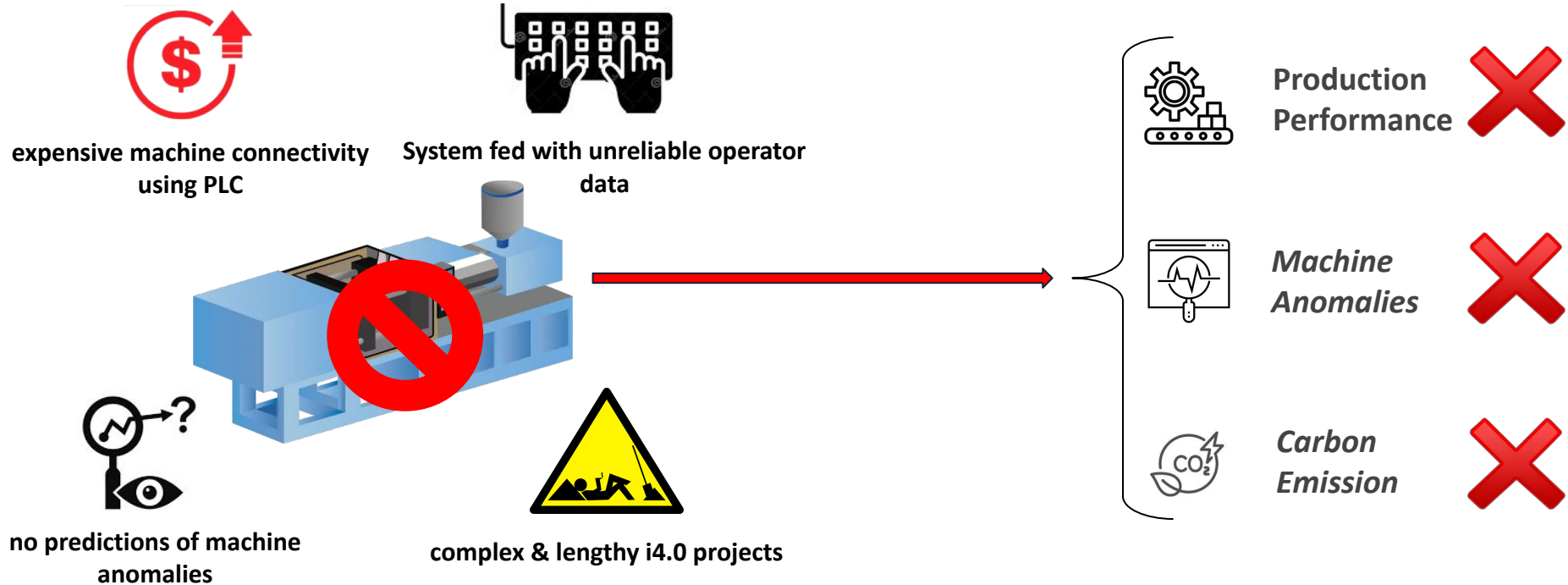
Automotive Parts



Other industries

The Challenge

No access to Real-time machine insights = losses





The Solution

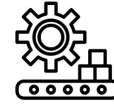
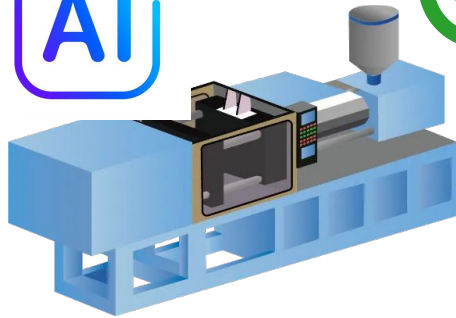
Amperon enables affordable and quick access to ANY machine Real-Time insights



Non-Intrusive Current Sensor in Machine Electrical Panel



Plug & Play



Production Performance



Machine Anomalies



Carbon Emission



+40%

Amperon increases your **profit margins**

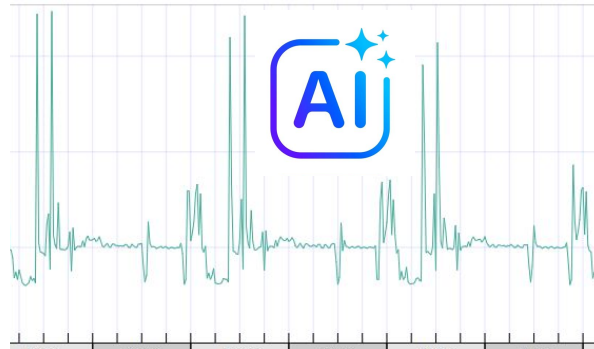
3 steps to reach **sustainable peak performance**

Clip



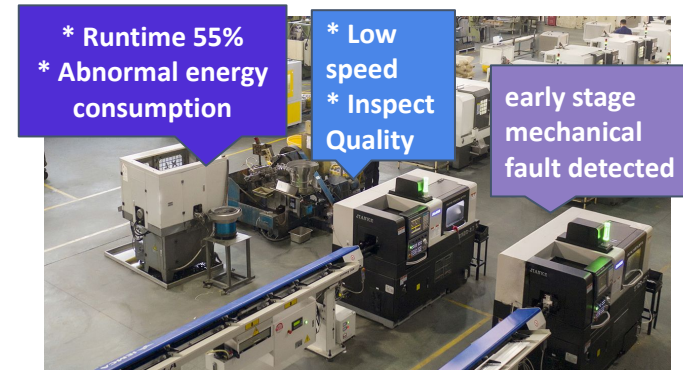
Clip on any machine in few seconds

Connect



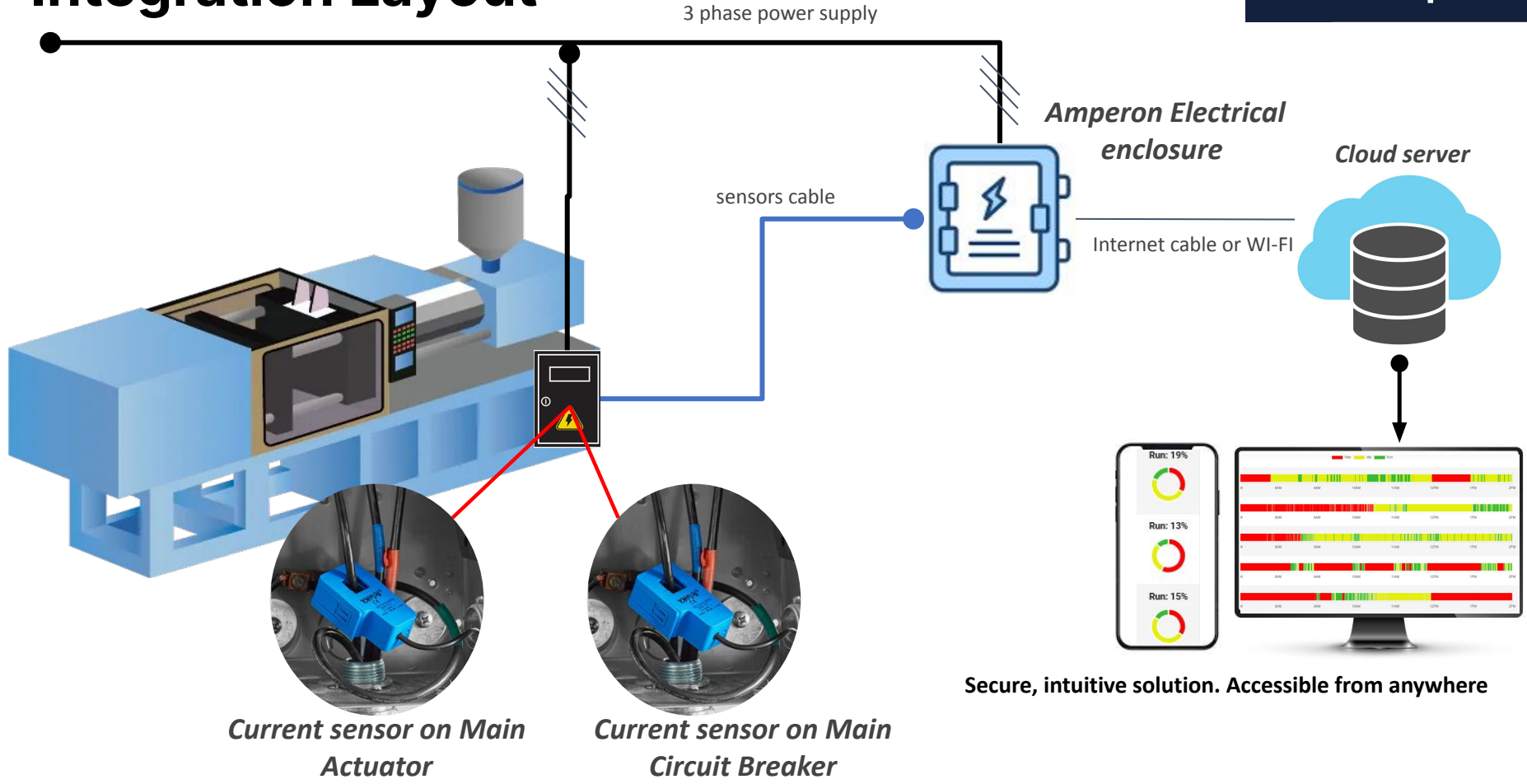
AI processes electricity and learns patterns in few days

Control



Get RT visibility and predictive alerts from Week 1 and enjoy full production control

Integration Layout



Global Pricing



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Taste

6 months pilot

Machine Visibility
€139,99 per M/m

Add-ons per M/m

Predictive Maintenance: €99,99
Predictive Quality : €99,99
Production Monitoring: €79,99
Energy Efficiency: €79,99

Eat

12 months / 1 free

Machine Visibility
€119,99 per M/m

Add-ons per M/m

Predictive Maintenance: €89,99
Predictive Quality : €89,99
Production Monitoring: €69,99
Energy Efficiency: €69,99

Enjoy

24 months / 2 free

Machine Visibility
€99,99 per M/m

Add-ons per M/m



Predictive Maintenance: €79,99
Predictive Quality : €79,99
Production Monitoring: €59,99
Energy Efficiency: €59,99

M/m : Month / machine

* Every Add-on requires Basic package

Machine Visibility

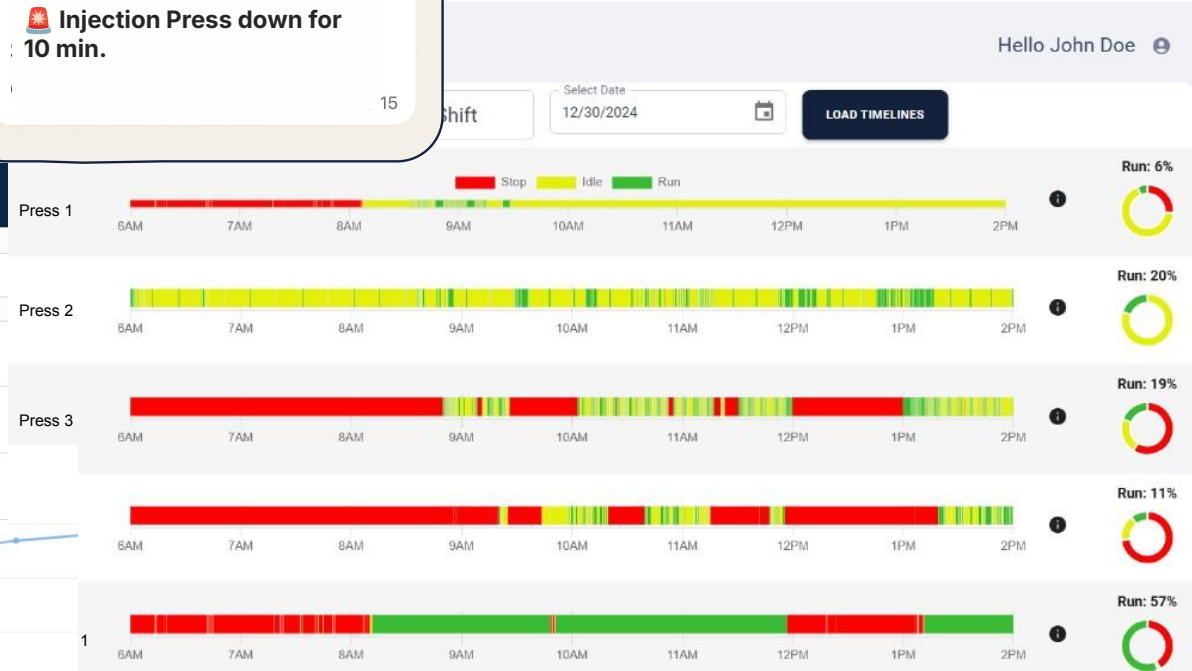
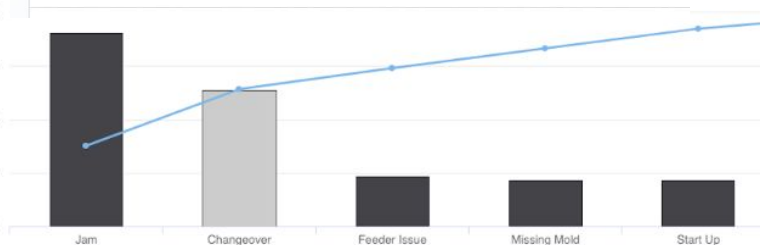
- Real-time machine status
- Real-time alerts on machine downtime
- Real-time alerts on Production anomalies
- Issues tracking
- Downtime cause analysis

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 Injection Press down for
: 10 min.
15


Issues

Date Shift Machine Status Type

Status	Duration	Time of alert creation	Machine	Name
Open ●	15min	11:25 AM	CNC-2	Downtime
Closed	151min	9:30 AM	Press 4	Downtime



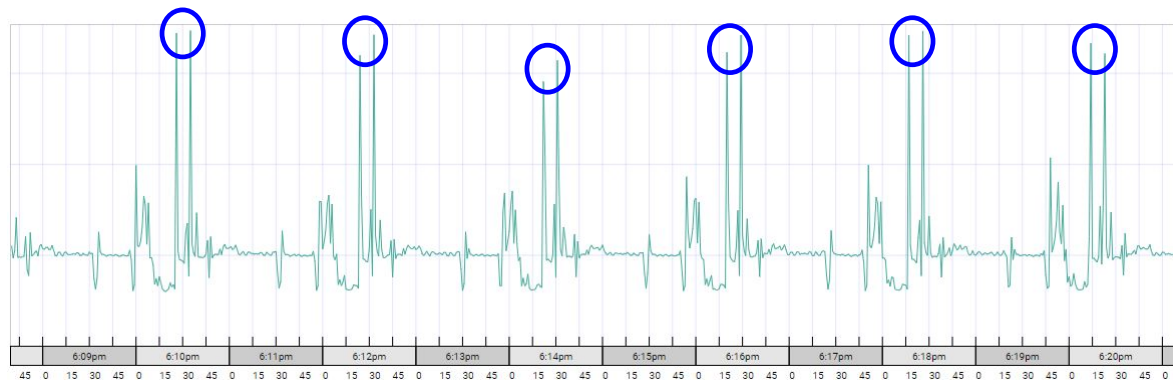
Hello John Doe 

Select Date
12/30/2024 

LOAD TIMELINES

Production Monitoring

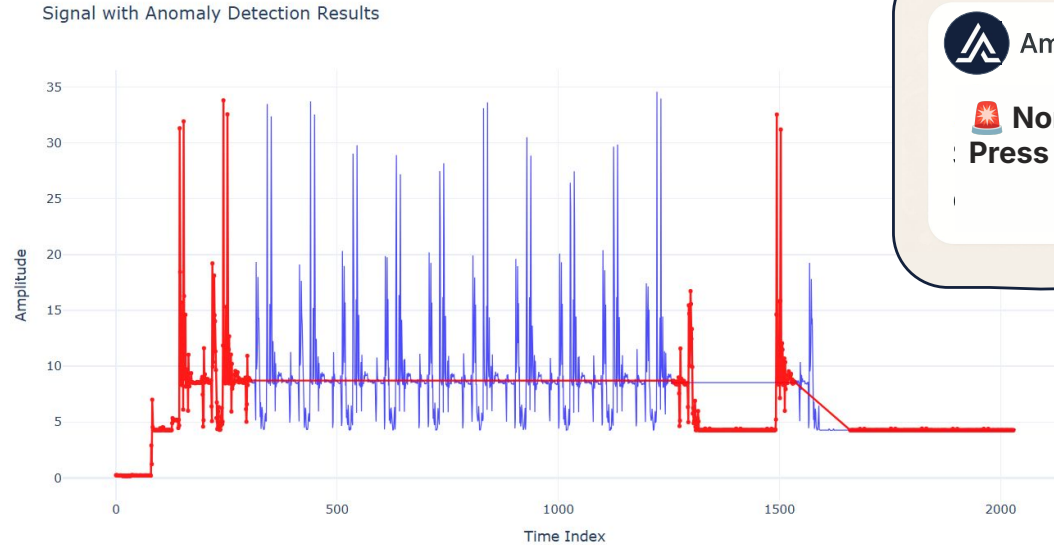
- Automatic Production cycle tracking
- Work orders tracking
- RT Production performance tracking and comparison with pre-calculations



Status	WO	Machine	Product	Start Planned	End Planned	Production Progress	Waste Qty.	Projected End	OEE	Actions
Completed	2000	Grenailleuse	PROD-003	06/01/2026 08:00	07/01/2026 12:00	340 / 100	1	-	111%	📄 🗑️ ⌵
Completed	7189	CNC Voortman	Connector X5	06/01/2026 08:00	06/01/2026 12:00	100 / 100	2	-	42%	📄 🗑️ ⌵
WIP	1009	Grenailleuse	PROD-003	05/01/2026 08:00	05/01/2026 12:00	0 / 100	20	-	0%	📄 🗑️ ⌵
WIP	1050	Grenailleuse	PROD-001	05/01/2026 08:00	05/01/2026 17:00	160 / 100	0	03/02/2026 15:22	15%	📄 🗑️ ⌵

DURATION 9h 0m	RUN-TIME 2h 11m Target: 2h 11m Remaining: 0h 1m	CYCLE 9.0 s/cyc Target: 10 s/cyc Best: -	WASTE 0 Target: 10 Best: -	OEE (DETAILED) 14.6% Target: 80.0% Best: - A: 24.3% P: 60.0% Q: 100.0%	EI (ENERGY INTENSITY) 0.21 kWh/Pieces Target: 0.41 Best: -
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RT production anomalies



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Non-cyclic pattern in the
: Press 12 detected .

- Anomalies in production (non-cyclic production, scattered production, malfunction of an actuator) are reflected into the **power profiles** during operations. Operators / Managers can detect in time such issues thanks to our **AI powered Anomaly detection algorithms**.

Predictive Maintenance

Report: Machine: Grenailleuse - Moto-Blower 2|Status: **POK**

Supply

- Frequency: 50 Hz DOL

Transmission

- Belt ref: 1075/13
- Pulley Mot Diam: 224 mm
- Pulley Load Diam: 108 mm

Current Status

Supply	Frequency	OK
Motor	Rotor	OK
	Stator	OK

Motor

- Power: 7.5 kW
- Pole number: 4
- Full Load Amperage: 14.6 A
- Full Load Speed: 1460 rpm
- Bearing (DE/NDE): 6803 ZZ

Load

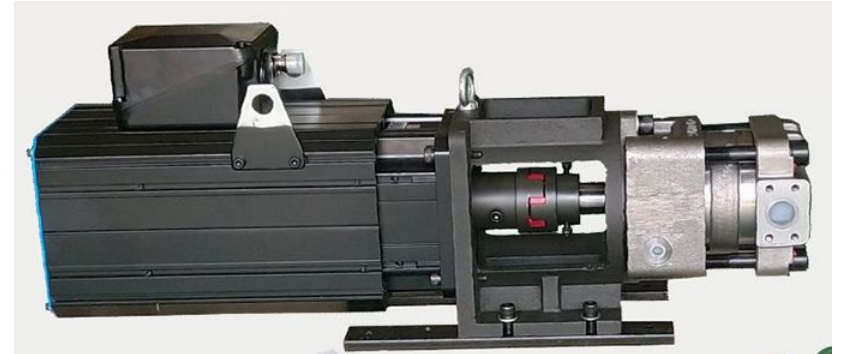
- Fan number: 8
- Bearing: 6308

Events Log

- Date: 23/09/2025 | Details: * Small belt looseness * Probability of Bearing cage issue in motor (to be checked after few repetitive measurements)
- Date: 24/09/2025 | Details: Belt Wear/ loose / taut / misaligned

Recommendations

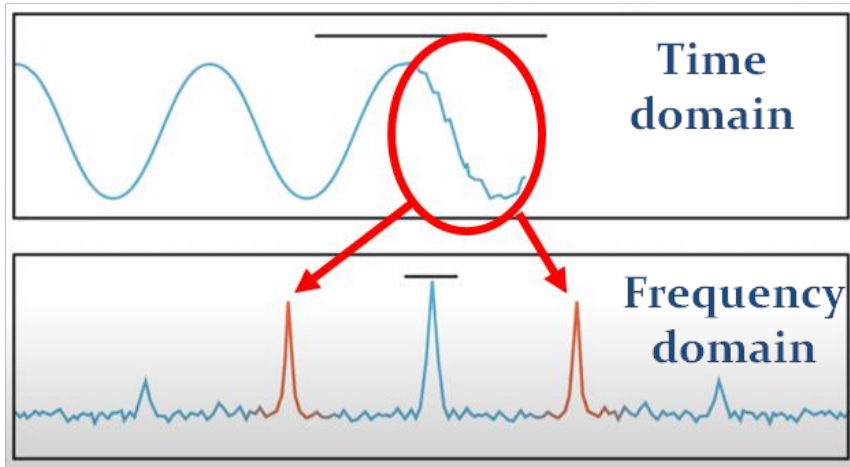
* Look for any sign of vibrations in Blower



- **Power profiles** reflects anomalies in the **Electric motor Health** . Our **Artificial Intelligence** detects **early signs of issues** linked to a **specific sub-system** (**motors, Gear Train, Bearings, pump, fan, ...**).

Predictive Maintenance

Fault appearance



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Early stage anomaly of Belt detected in Moto-Blower 2. Check anomaly report.

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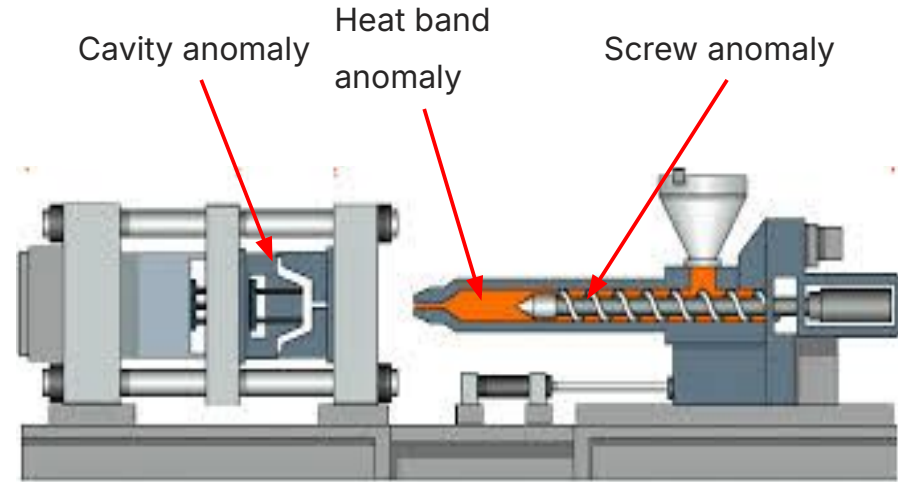
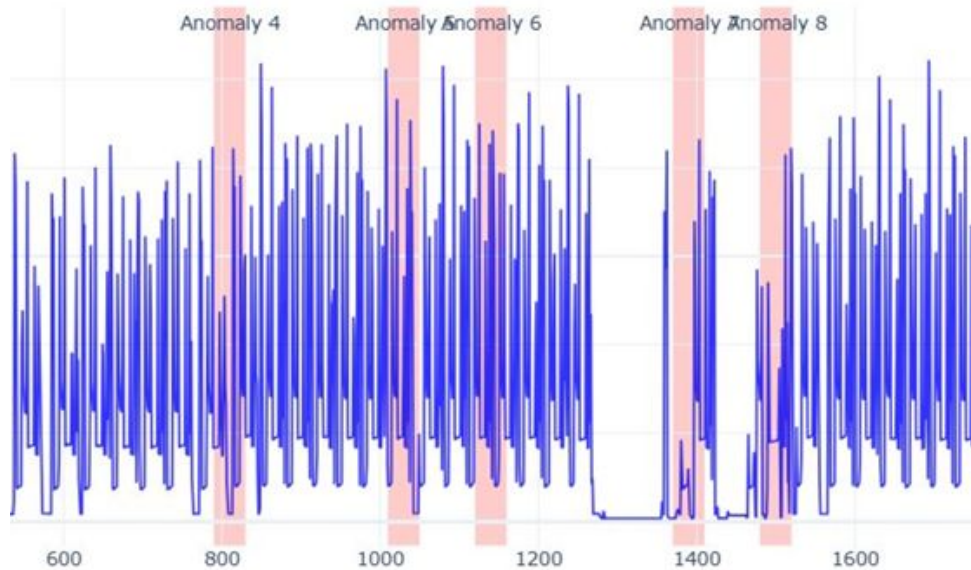
- Identify **early signs of fault** within Mechanical / Electrical systems of a machine **from motor to load**.

Machine / Tool maintenance Tracking; Preventive Maintenance

Maintenance Scheduling >		
Designation	Predicted echéance	Status
DC motor Check	1 day, 6 hours	Neutral
Extruder Full maintenance	< 1 days, 17 hours	Safe
DC motor Check	< 1 day	Soon
Extruder Full maintenance	55 days, 20 hours	Safe
V belt check	19 days	

- Ensure that cleaning operations, autonomous maintenance by operators are **done at time**.
- Improve **scheduling of machine / tool maintenance** tasks through the **knowledge of the exact day** based on **automatic cycles count**..

Predictive Quality



- **Power profiles** reflect anomalies in **product quality** during manufacturing. Our **Artificial Intelligence** detects in **Real-Time** the appearance of **anomalies in the power profile of each produced part** which is caused by **tools wear or systems malfunctions**

RT quality anomalies



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Early tool wear detected in Saw 3. Check before quality drops

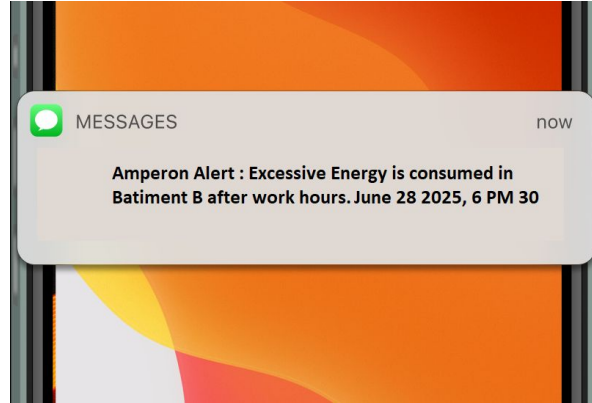
10:15



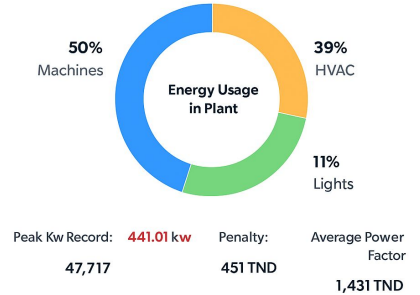
- Several quality issues are also reflected into the **power profiles** during operations. Operators can detect in time such issues related **to a malfunction of the actuator or a wear in the tool.**

Energy Efficiency & Carbon emissions

Batch ID	Product Name	t CO ₂ e
B-2025-01	Plastic Cover A12	8.4
B-2025-02	Aluminum Shaft P30	11.2
B-2025-03	Steel Pipe S9	14.7
B-2025-04	PVC Tube X5	9.1
B-2025-05	Copper Coil L8	12.3
B-2025-06	Machine Frame Z2	16.5



Monthly Energy Bill



Power Factor & Max Demand



- Thanks to the automatic features of calculating both **produced parts and energy consumption**, our solution is able to ensure that **energy consumption is controlled for each part** manufactured.
- Generate dedicated **Report for the overall achieved energy efficiency and the real emitted carbon** per batch/product (importer scope 3 emissions).

Integration example



Success Story : Downtime reduction using machine visibility in Aeronautical sector



**in just 2 months:
+10% OEE
(+1 hour/day/machine)**

- + 2000 € / Machine / month
- ROI = 1 month



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**Join us in building the future
of smart and green
manufacturing**

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