



www.golana.fr



Golana Computing

A new AI solution for Asset Diagnostic in Industrial Environment

Our innovation provides a **comprehensive system to monitor the “equipment health”** designed for **all types of industrial equipment and infrastructures**.

This **all-integrated system** ensures an optimal performance in term of:



Maintenance by **implementing preventive actions** through **a full understanding of the machine**



Calibration of industrial processes by **optimization in real-time**



Production quality by apprehending the **synergy between machine-health and production process**

European
Innovation
Council

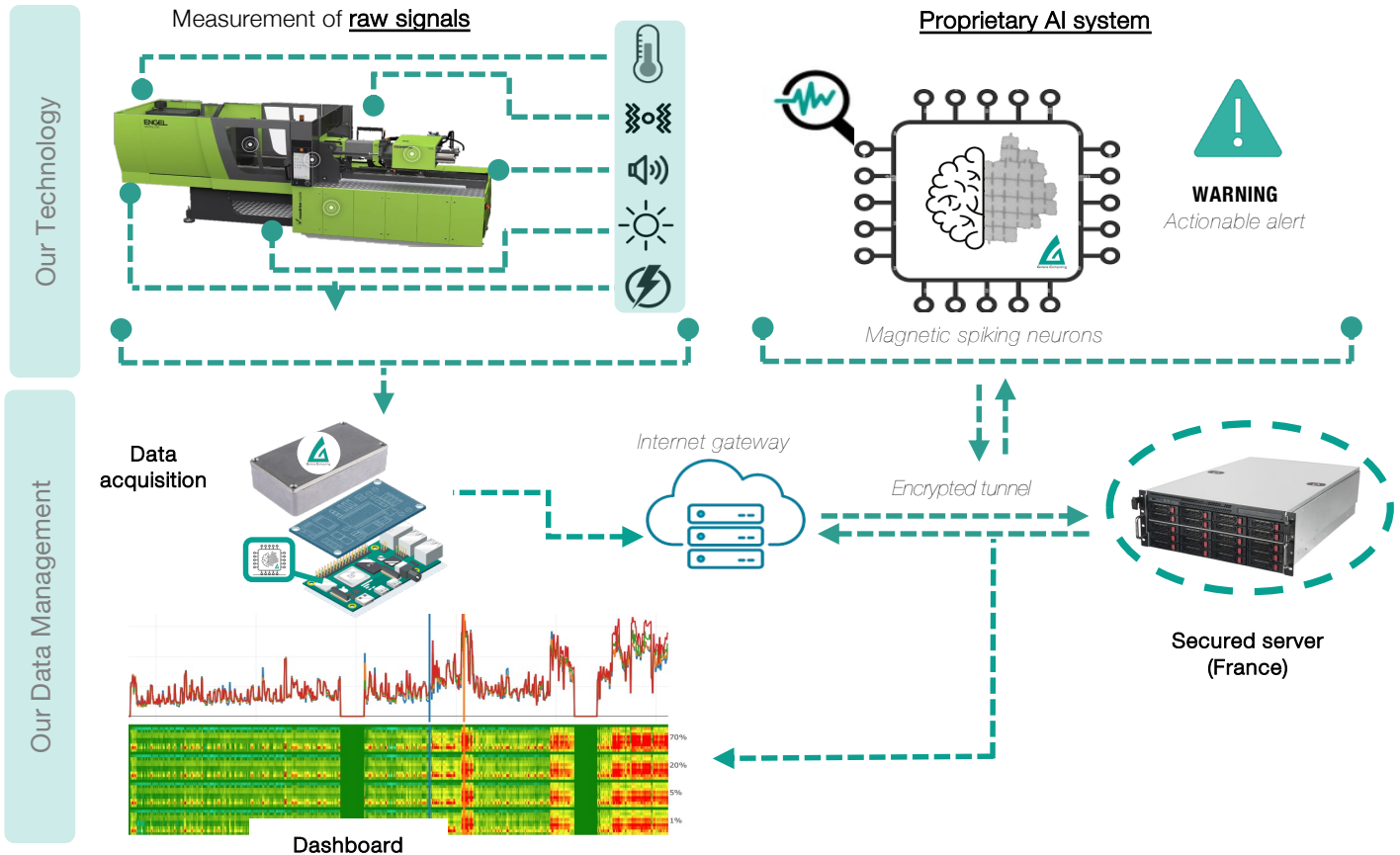


Funded by
the European Union

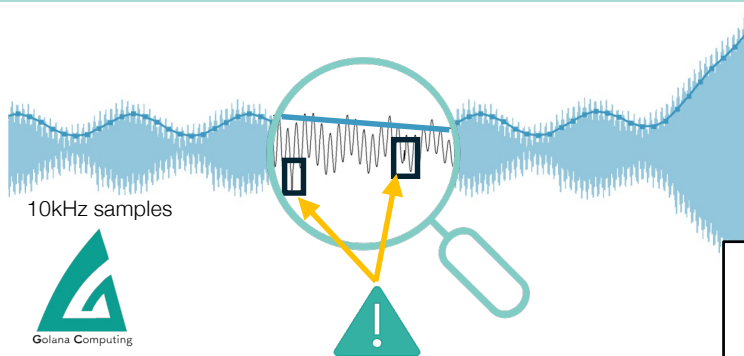
From Physical measurement to Asset Diagnostic

Our complete **asset diagnostic solution** uses an **AI module** - based on a **physical neural network** - to analyse the signals and display the "machine condition" via an **intuitive dashboard**.

The raw data are collected by **analog sensors** placed at critical points on the equipment and transmitted through our **proprietary data acquisition system**.



Accuracy & Performance



Our system provides **early alerts** and a **complete understanding** on the physical phenomenon involved, by comparing **the entire analog signals** to a period of time assumed to be representative of normal conditions (adjusted over time).

By **exploiting the full raw signals** and using a wide range of sensors, we offer a **universal solution** that can address **any type of equipment** across **any industrial sector**.

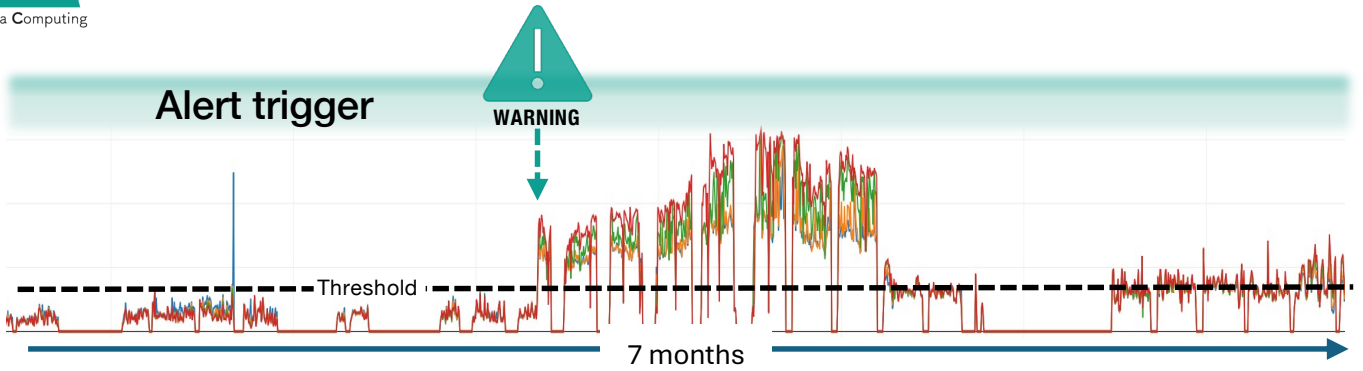
VS

Other methods for anomaly detection, based on standard machine learning, commonly use partial data (less than 100Hz) or global values (e.g. RMS).

By **not taking advantage of the full raw signals analysis**, they're limited to simple problems such as **bearings / simple rotating machines**.

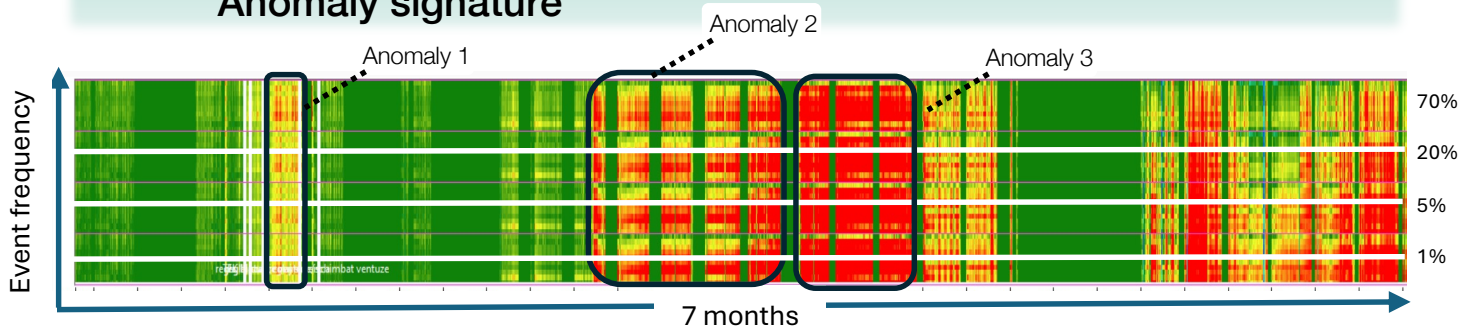
From the Alert to the Raw signal – Our innovative process

Alert trigger

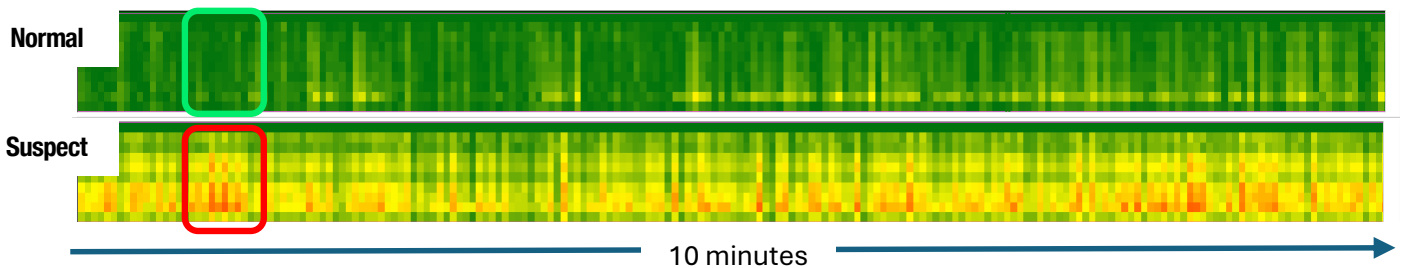


By analysing the full data we compute numeric indicators to **trigger alerts** when the threshold is exceeded.

Anomaly signature

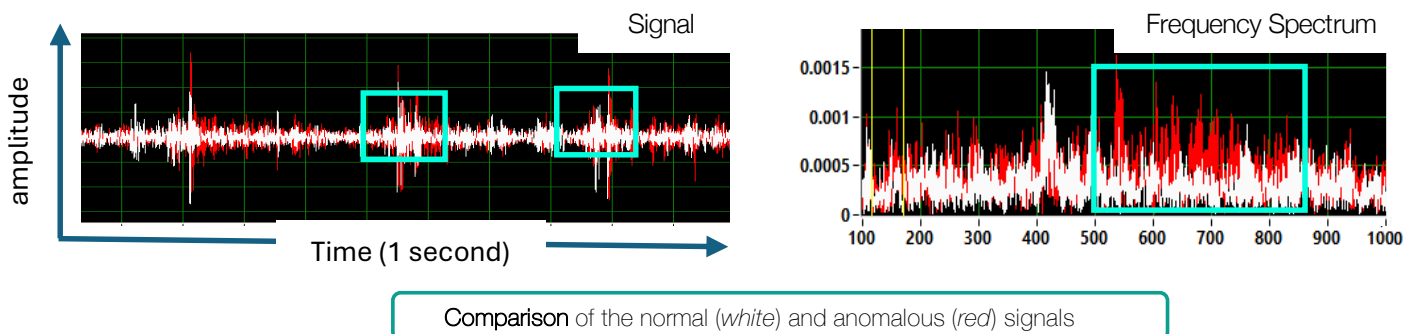


We create a color-coded representation (10-min resolution) to **differentiate anomalies**, track their evolution over time, **classify alerts**, and correlate them with **SCADA**.



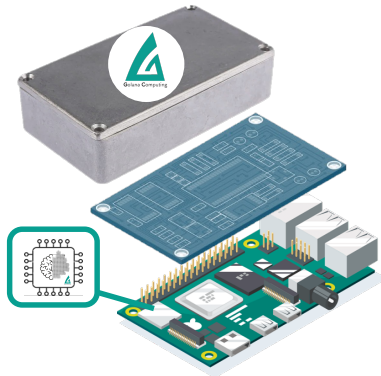
A second detailed color-coded representation (1s resolution) enables precise **event comparison** and a **real-time tracking** of the machine health.

Root cause of the Alert



The raw signal comparison allows to identify the **temporal and frequential signature** of the anomaly. By analysing the **physical phenomenon** linked to suspect machine behaviour, our system can guide **appropriate corrective actions**.

Our Solution



Hardware (fixed price – renting)

- ✓ **Retrofitting existing equipment:** Simplified installation process for fast deployment on the machines (sensors + DAQ)
- ✓ **New equipment :** Seamless integration into equipment during development and fabrication



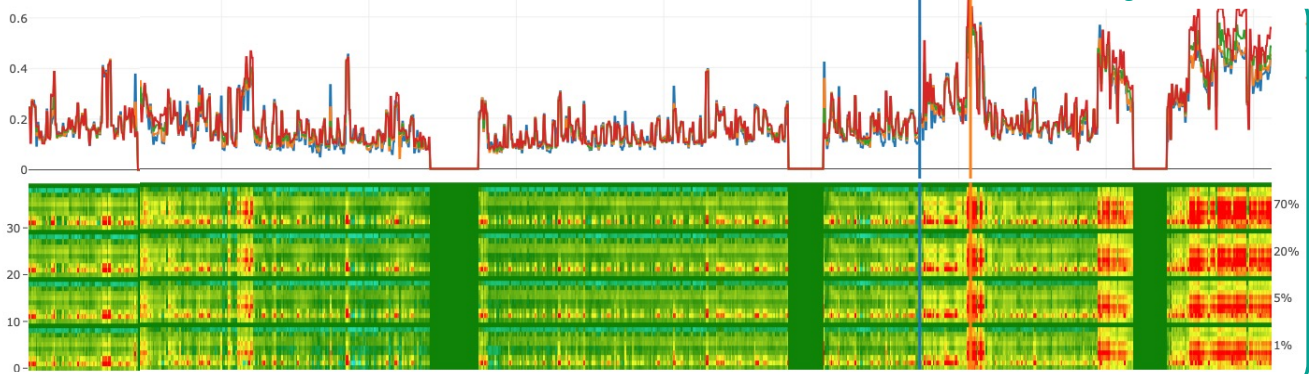
Software (subscription)

Golana Dashboard Augmented Intelligence

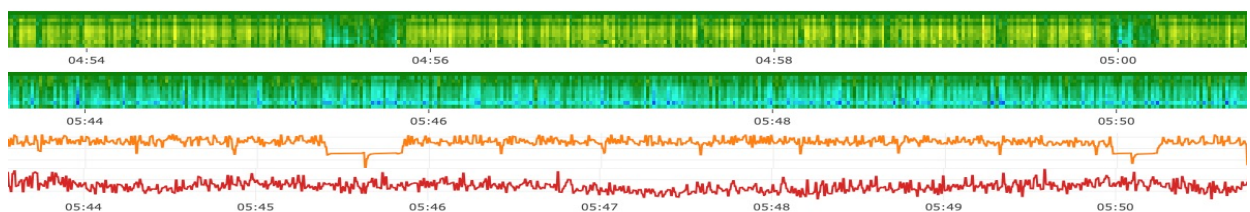
Communication



Long-term overview



Detailed data



- ✓ **Dashboard:** User-friendly interface allowing informative insights on the machine's data (various graphical options depending on the needs)



CMMS and ERP integration for

Management department - Maintenance and Production departments

- ✓ **Analysis - Reports:** Possibility to provide comprehensive data analysis and detailed reports for informed decision-making, audit controls,...



Actionable data analysis for

Process engineers - Maintenance engineers



Golana Computing

contact@golana.fr

06.21.87.23.96 / 06.18.07.61.40

Partners



ROMBAT



THE VALUE OF
PERFECT TEMPERATURE