PREDICTIVE MAINTENANCE IOT SOLUTION

About WATTECO

36
Employees
19 engeneers
12 in production

5M€
Turnover 2025
5 consecutive years of Sales Growth

+40
Certified products
LoRaWAN®

+4k
Products in stock
Quick response time for partners & integrators

+350k
Deployed Devices
Accros EU, North America Middle East servicing energy & operational efficiency

FABRIQUÉ EN FRANCE

French & EU leader in the design of high-quality LoRaWAN® sensors

References

dalkia GROUPE EDF · SNCF · ENGIE Solutions · VEOLIA · MICHELIN

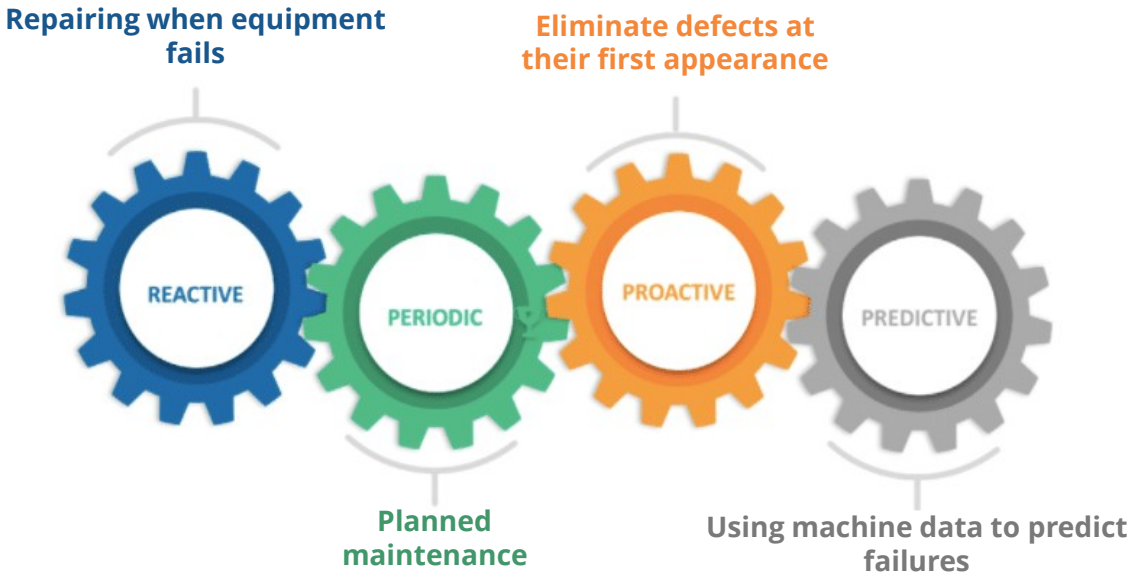
Asgard group — Subsidary of Asgard Group

Corporate Social Responsibility CSR — Engaged CSR Policy
environmentally conscious sensor design

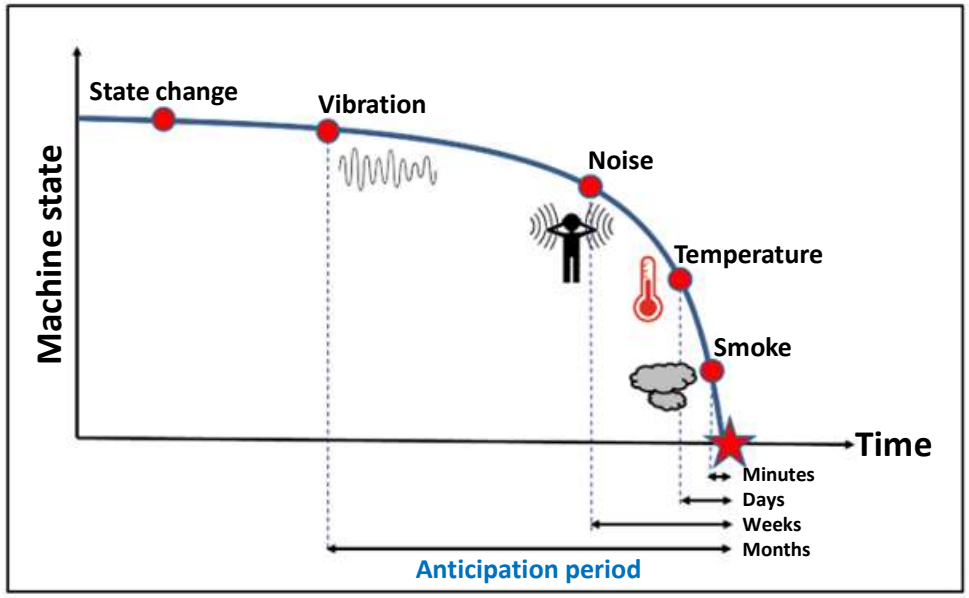
Ex

WATTECO

Why monitor vibrations and their drift?



When a rotating machine changes state, vibration drift is the first measurable symptom:



An IoT device with embedded AI

WATTECO

Hardware development

Software development

Industrialization

Marketing

After-sales services

life.augmented

Artificial intelligence IP

Level 3 support

BoB is **full of qualities**

Watch

BoB is intimately linked to the equipment to be observed, it only captures vital data that reveal its state of health.

Intelligent

It applies its analysis algorithms to transform this data into accurate information to keep your equipment running.

Alarm

In the event of a drift or unexpected problem, it alerts you, allowing you to take action and reduce downtime.

Simple

BoB is simple to install, just place it on your machine: no wiring or configuration required.

BoB is full of qualities

Autonomous

BOB works for several months without recharging (battery included)

Connected

BoB communicates using the standard LoRaWAN® protocol: perfectly suited for IoT, long-distance communication and very low power consumption.

Secure by design

Because you don't want your production data to circulate anywhere in the cloud, BoB stores this data and sends only encrypted reports, the results of its analysis.

Industrial

BoB is rugged (IP68) and designed for industrial use cases

BoB **assists you**

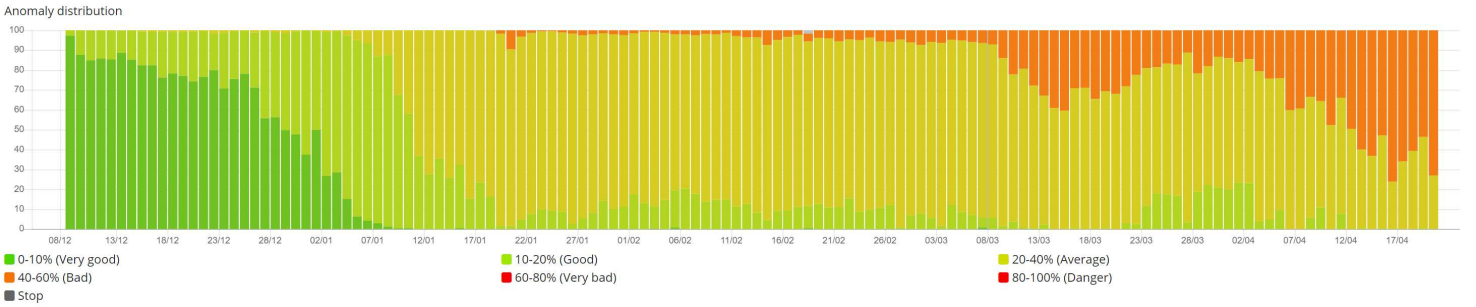
Track machine uptime

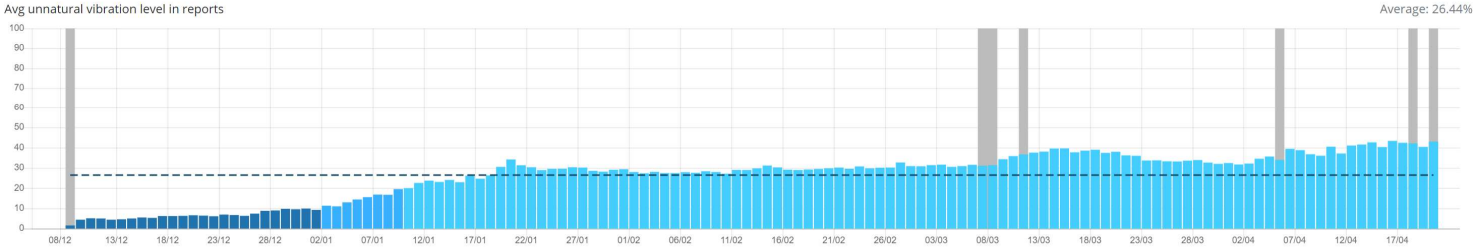
Reduce downtime process

Adjust your maintenance schedules thanks to Artificial Intelligence.

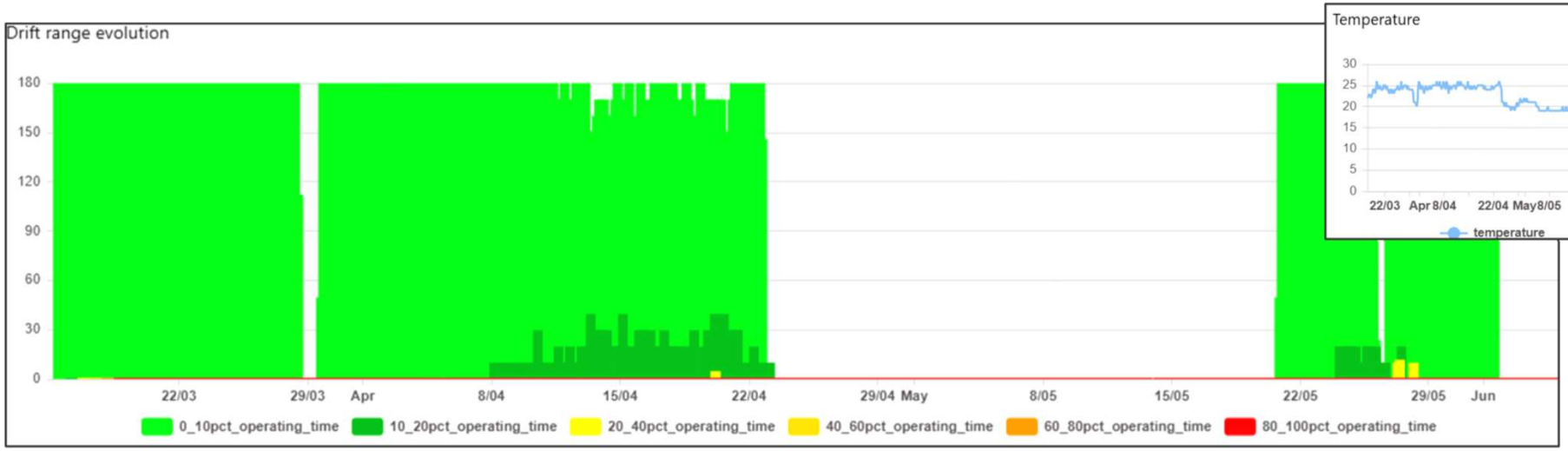
Be alerted of a breakdown in real time so that you can intervene as quickly as possible.

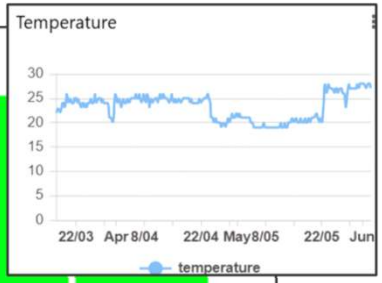
Optimise your maintenance process
Extend machine life

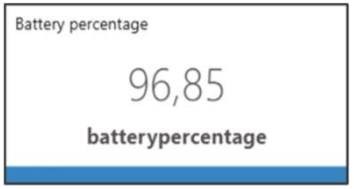


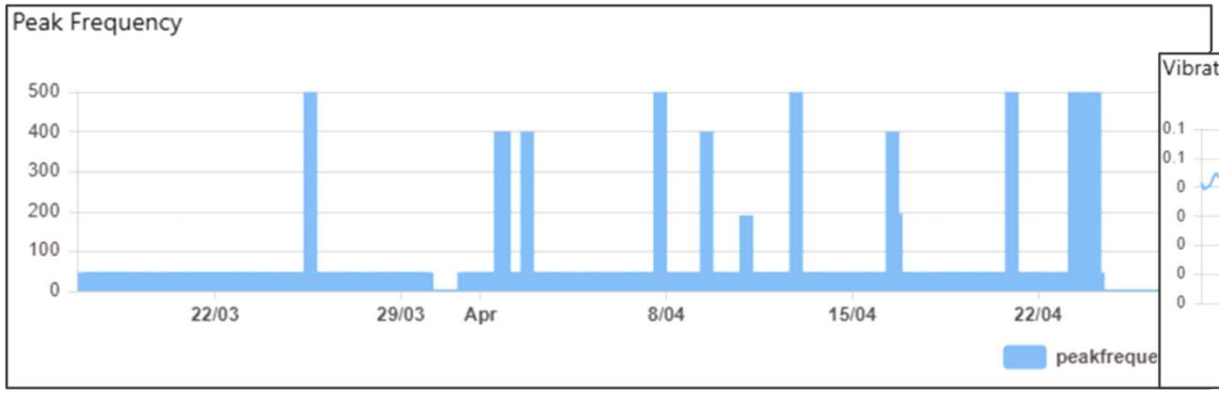


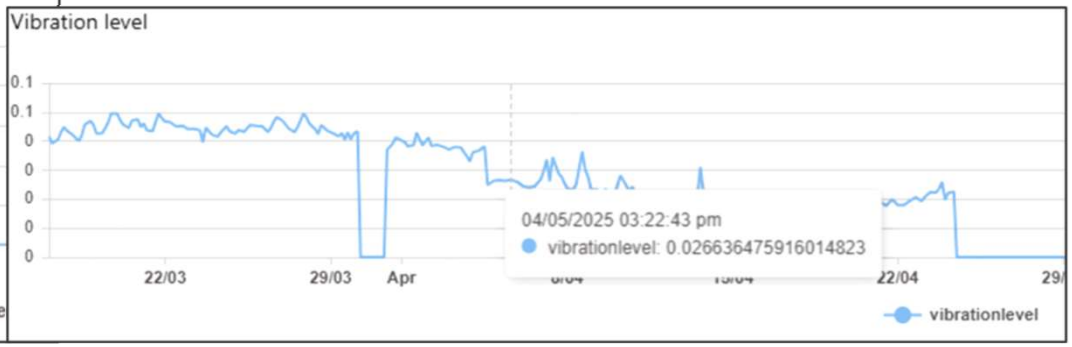
Data Monitoring











BoB **assists** you

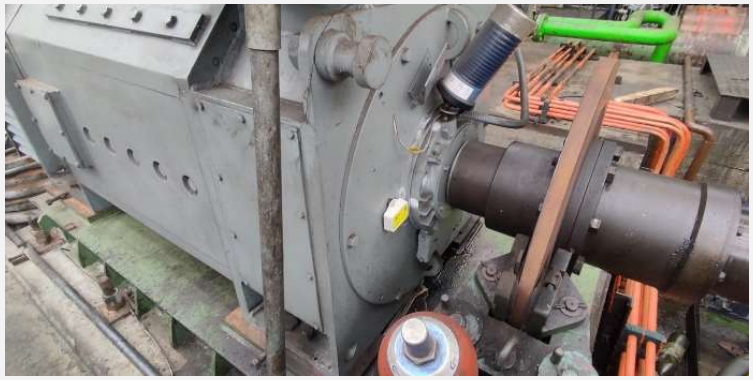
WHAT BOB DOES	WHAT BOB DOES NOT DO
• Measuring operating time • Detecting vibration drifts in relation to a **reference** • Predicting the levels of drift in the more or less long term • Sending alarms	• Diagnosing the cause of a failure (bearing, belt, etc.) • Send raw vibration data • Store raw data • Repairing the fault

Examples of **machineries**

Air compressor

Engine

Vacuum & HVAC



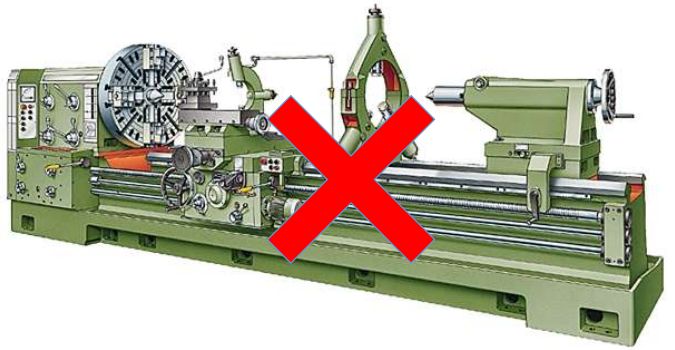
Gearbox

Conveyor

Pumps

Some restrictions...

- **Ineligible equipment**
  - Rolling machines: movements "drown" the vibration at the accelerometer level.
  - Machine tools: vibrations unstable and subject to cycles and materials
  - Very short cycles (< 1 minute)



References

MICHELIN

VEOLIA

SIG

eau de genève

Datasheet

Tests and Certifications :

CE, FCC, RoHS
Storage Class 1.2 ETSI EN 300 019 Part 1.1
Transport Class 2.3 ETSI EN 300 019 Part 1.2
Use Class 5.2 ETSI EN 300 019 Part 1.5

Radio :

LoRaWAN® 1.0.2 Class A – EU868 & US915
Transmit power: +14dBm
Sensitivity: -137 dBm

Temperature ranges :

Storage: 0°C to +30°C
Operating: -20°C to +70°C

Enclosure :

IP68 Polyamide
Dimensions: 76 x 79 x 23 mm (incl. fixing lugs)
Weight: 75 grams
Supplied with 2 magnets

Sensor :

Accelerometer and 6-axis gyroscope
Embedded temperature sensor
Sampling frequencies: 800Hz and 25 600Hz
Vibration measurement from 0Hz to 12400 Hz

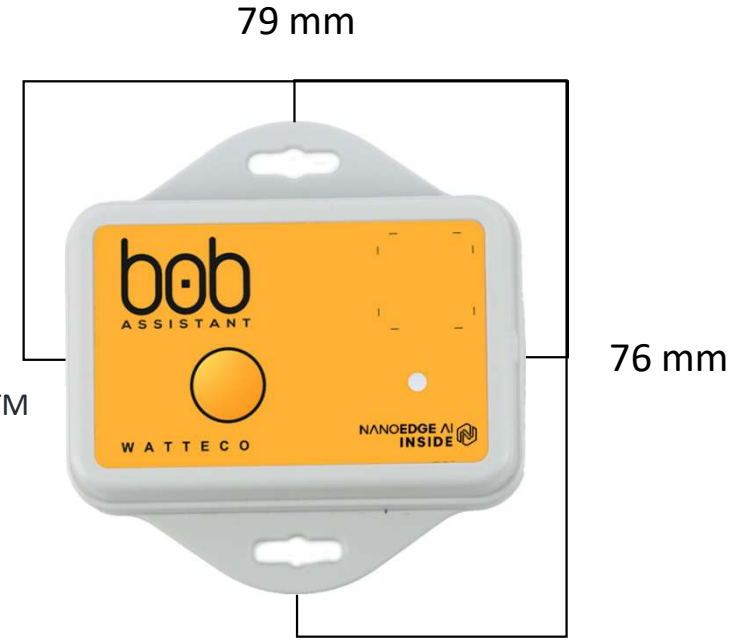
Firmware :

Automatic learning with NanoEdge AI Studio by STM
Alarm Threshold on vibration anomaly
Peak frequency and FTT reports
Restart or complete learning
Setup reporting period

Power supply :

AA 2000mAh battery (replaceable)

Nominal autonomy : > 4 years
(2 samples every 5 minutes and 8 transmissions per day)



BoB Assistant® ATEX zone 1 EU868

Working cycle

- LoRaWAN® network presence check
- Checking the vibration level
- Sending a "Sensor ON" start message

Learning and reporting
7 days

- Learning each new operating mode
- Sending of learning progress frames (0 to 100%)
- Sending periodic reports on the condition of the machine (drift percentage, running time, prediction of abnormality)
- Sending machine states (on/off)
- Receiving configuration downlink frames

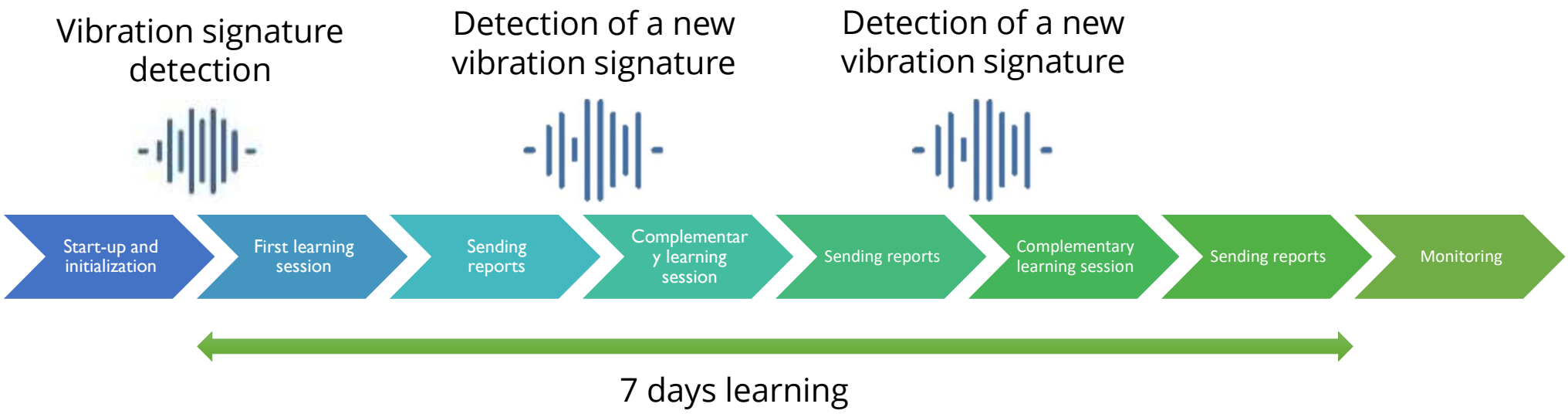
Monitoring

- Send alarms as soon as the drift level exceeds the configured level (25% by default).
- Sending periodic reports on the condition of the machine (drift percentage, running time, prediction of abnormality)
- Sending machine states (on/off)
- Receiving configuration downlink frames

Switch off / end of life

- Switch-off mode on long button press (10 to 15s)
- If end of life => sensor recycling or battery change

Learning cycle



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