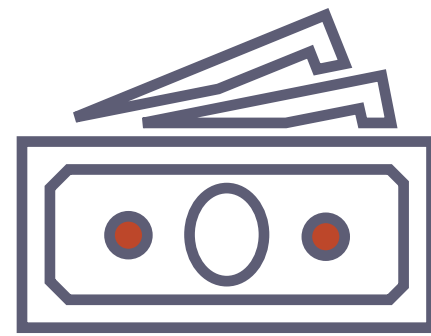data
lobster

Plug&Play Industry 4.0
for small and medium-sized enterprises

Why Industry 4.0 is challenging for SMBs?

Small and Medium Businesses (SMBs) can't afford to wait for **12+ months only to start collecting data**, let alone use it.

Connecting to each equipment is costly and time-consuming

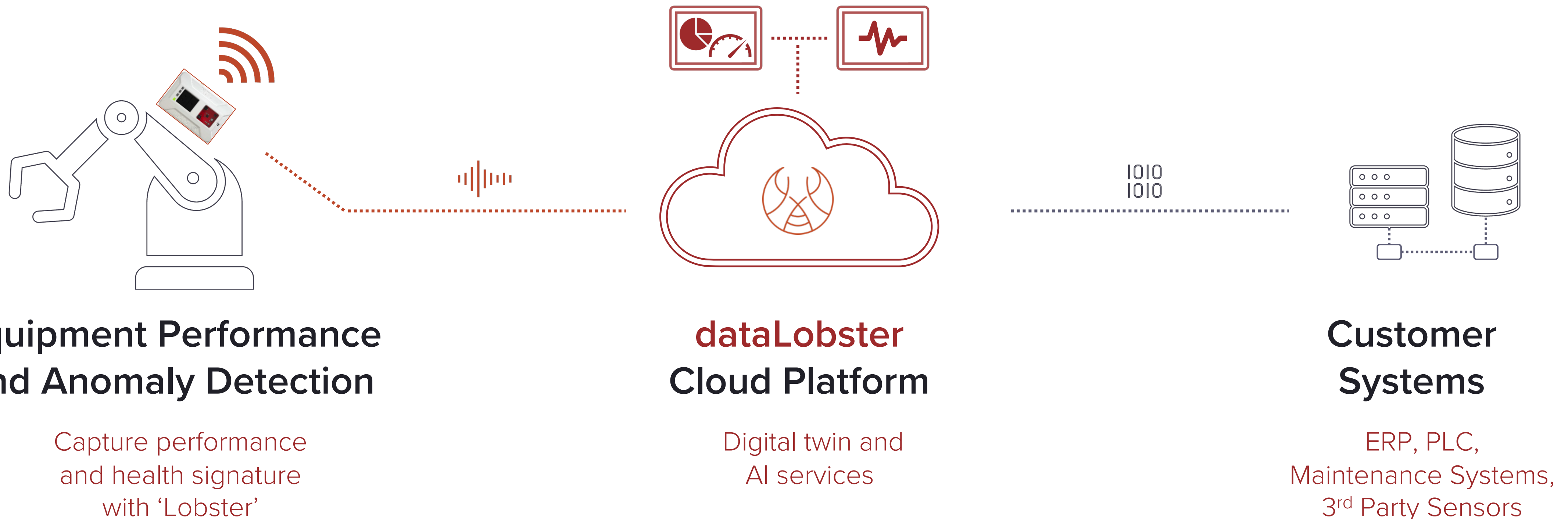**Assets with unreliable data or OEM-locked**

No infrastructure to manage big data

dataLobster "IoT+AI" Solution

We monitor industrial equipment with our 'Lobsters', **non-intrusive IoT devices**. We leverage **AI** to generate performance and predictive maintenance insights.

Equipment Performance and Anomaly Detection

Capture performance and health signature with 'Lobster'

dataLobster Cloud Platform

Digital twin and AI services

Customer Systems

ERP, PLC, Maintenance Systems, 3rd Party Sensors

Our First Lobster – Lobster Multi-Sensor

Our first device can cover mechanical, magnetic and environmental monitoring requirements.
With 8 sensors and Wi-Fi gateway, no need for any additional hardware to create the digital twin.
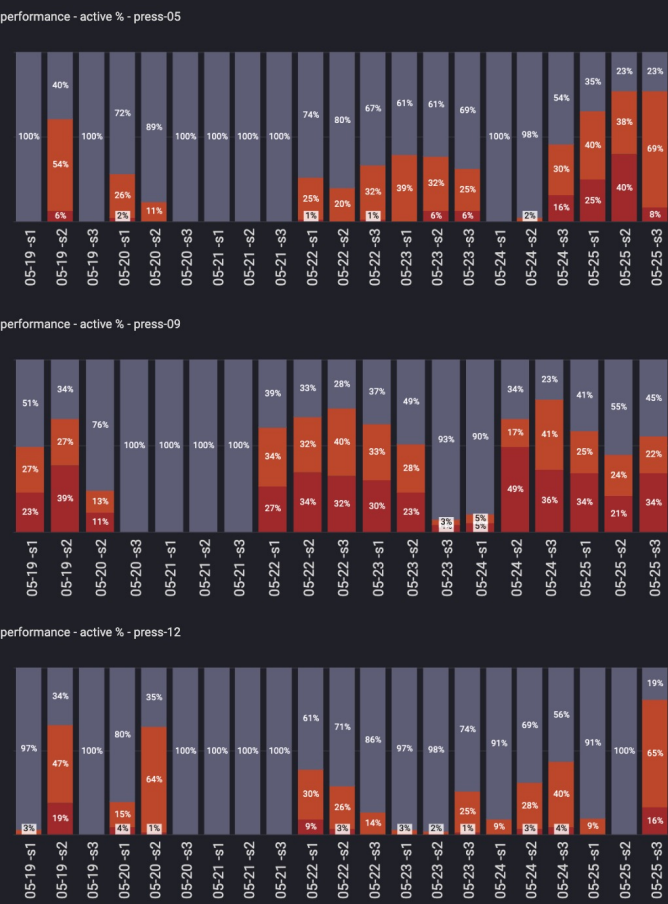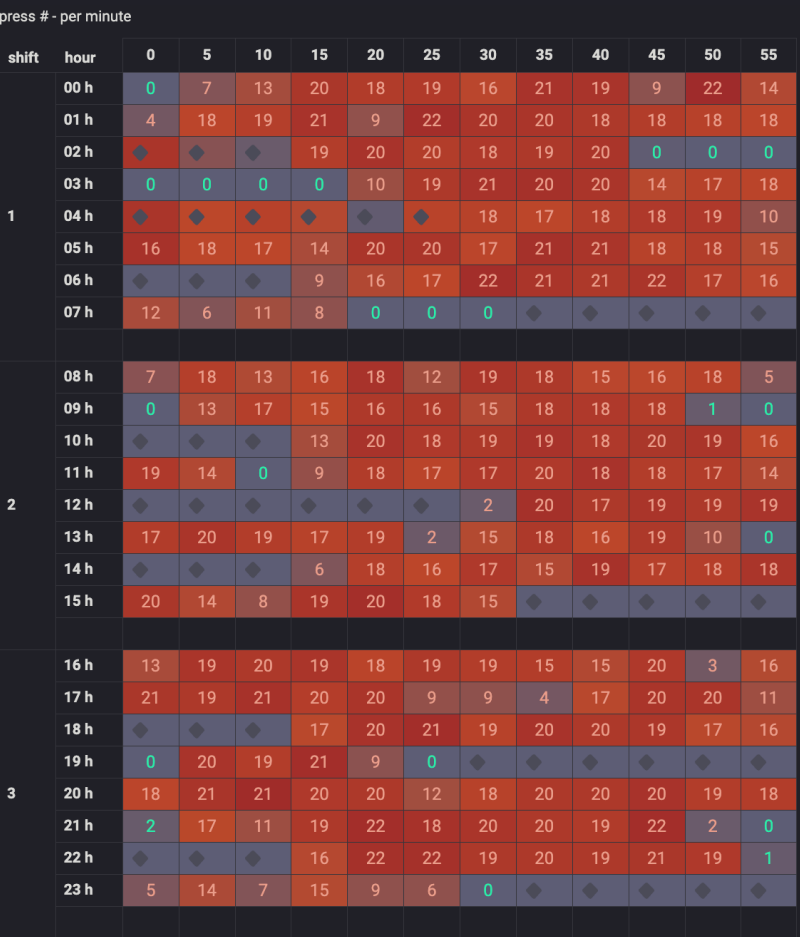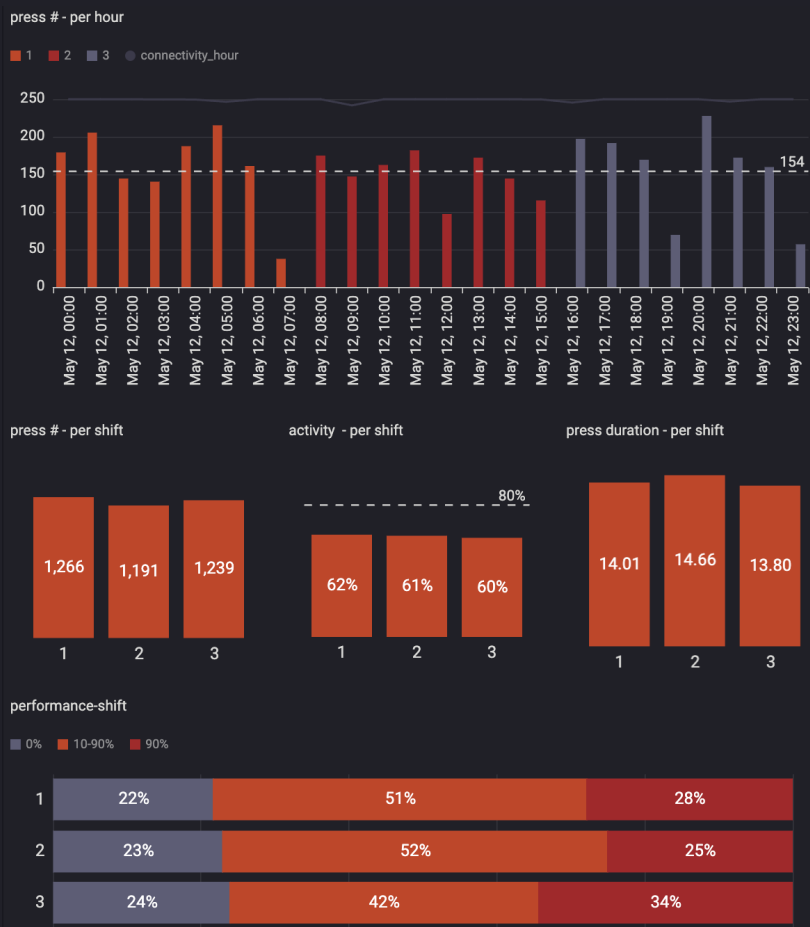

what's in the lobster?

Wi-Fi gateway
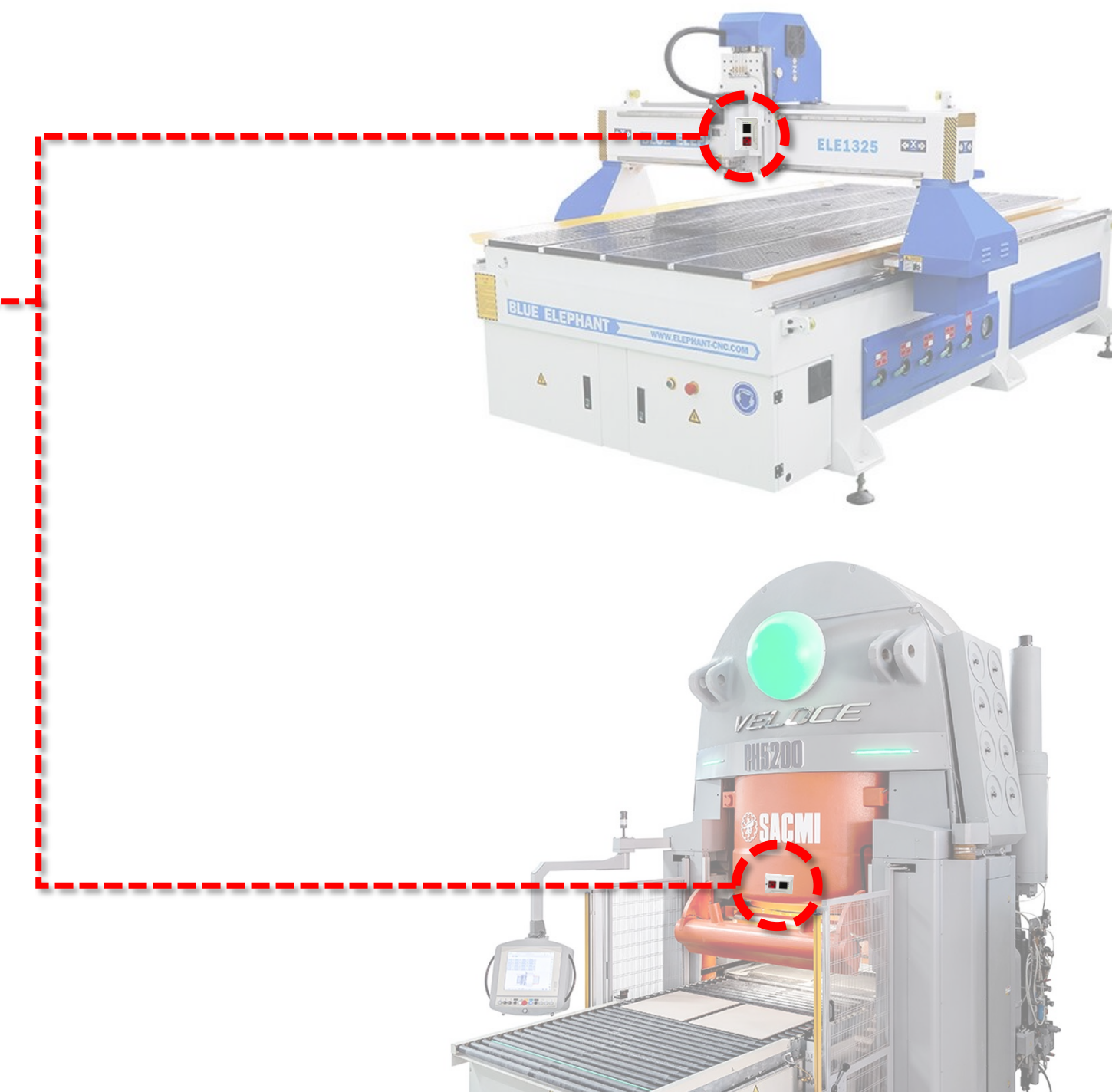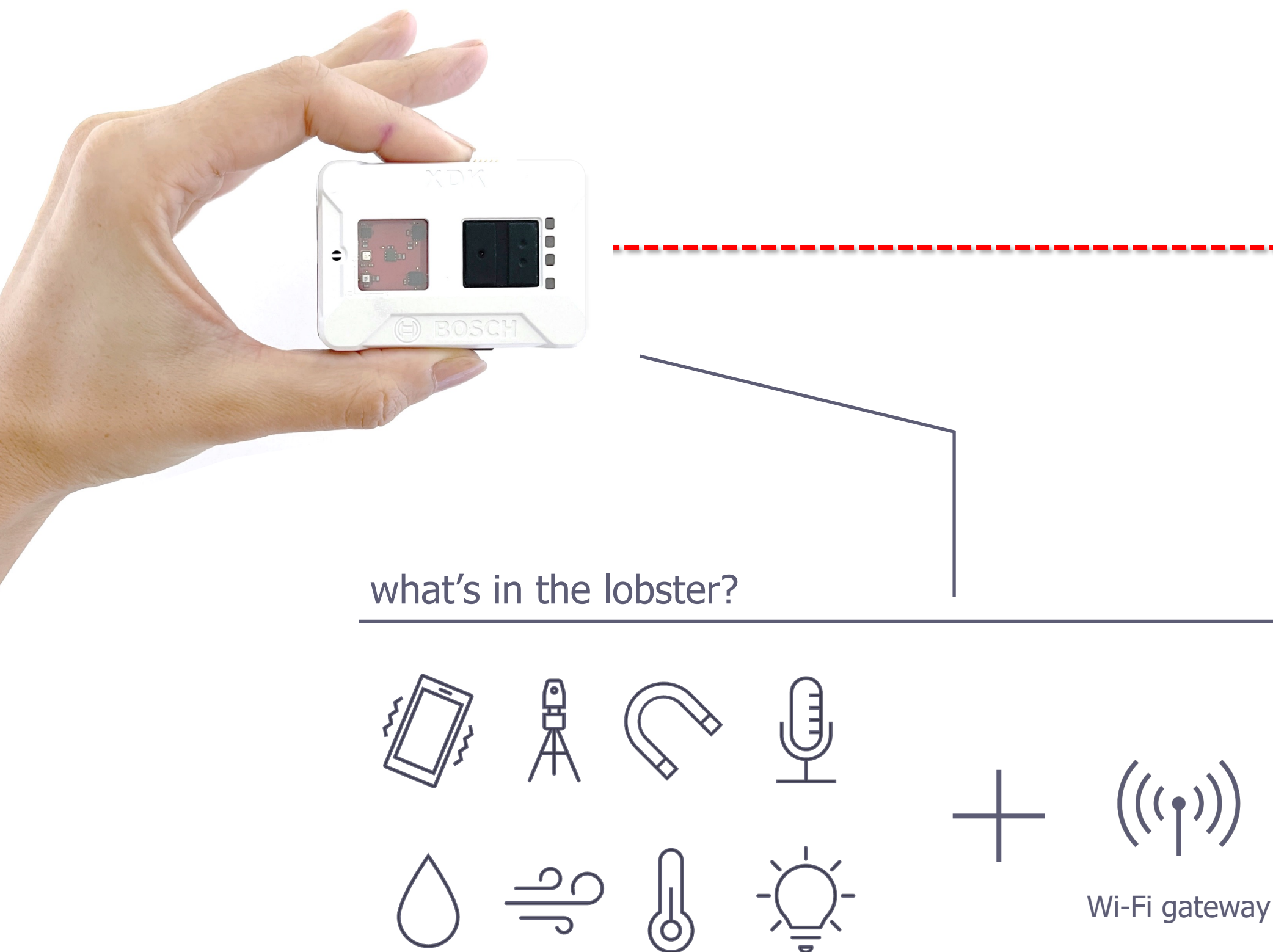
Included Sensors: Accelerometer, Gyroscope, Magnetic Field, Acoustic, Pressure, Humidity, Temperature, Luminosity

Our Services

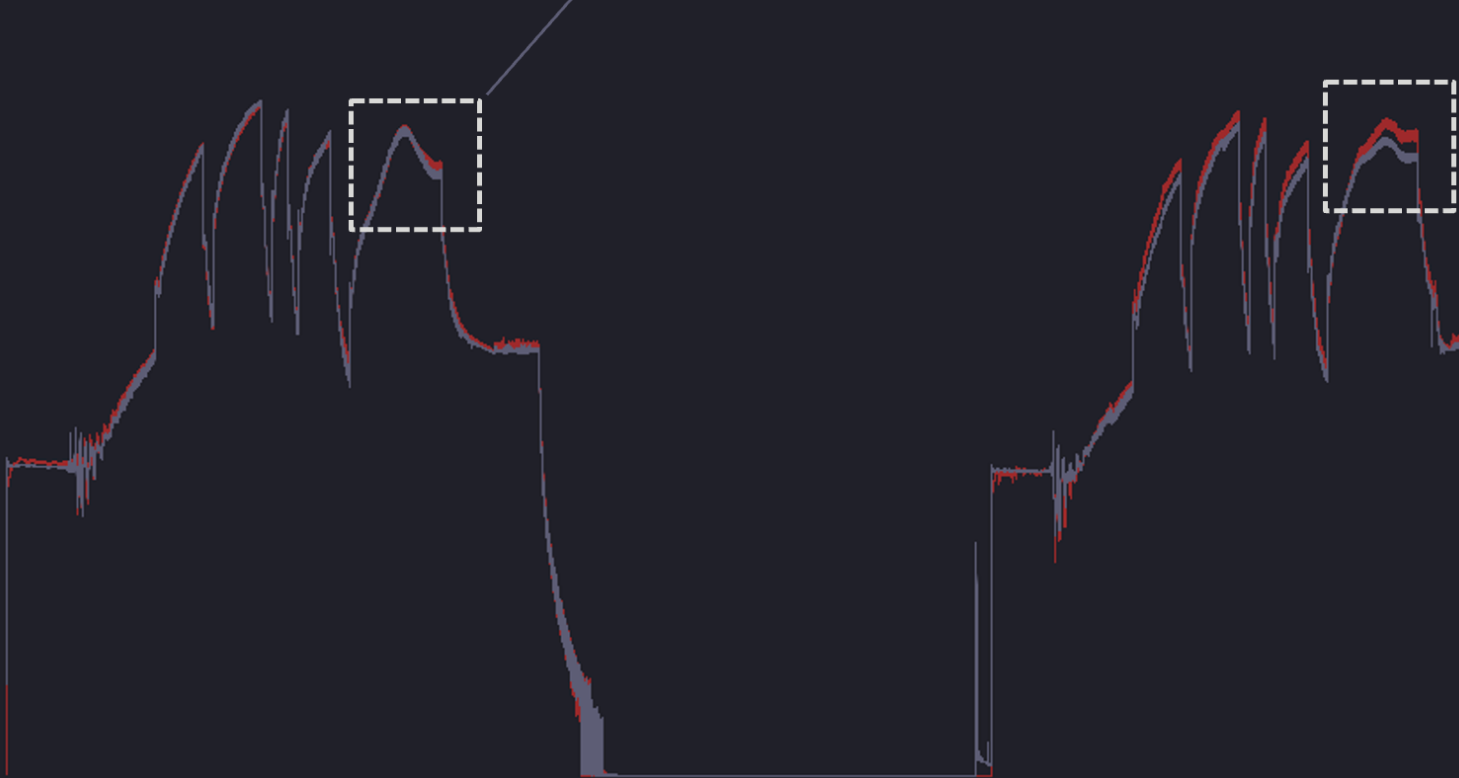## Error-proof Performance Monitoring

Equipment uptime and downtime
Process cycle time
Root-cause analysis

Next Generation Anomaly Detection

Equipment health
Process parameters
Output quality

live signal and reconstructed signal
are almost identical, so no anomaly

difference between live signal and
reconstructed signal shows anomaly
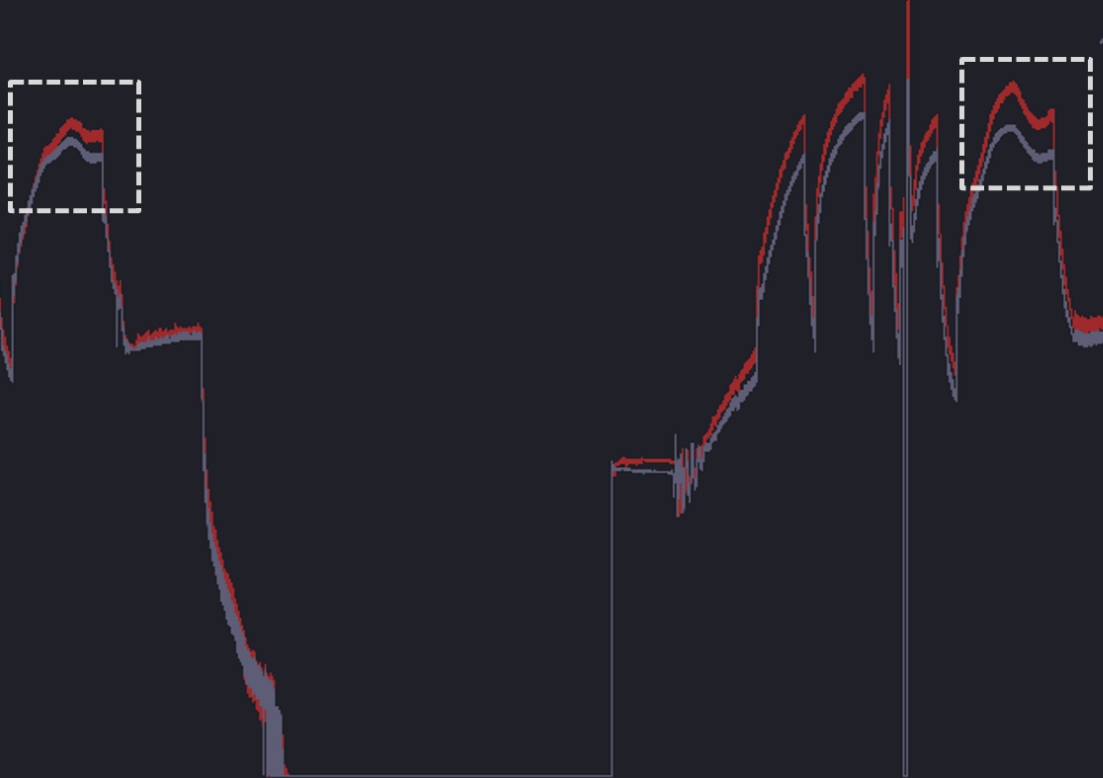
Opportunity

It only takes a few days to identify opportunity and provide insights to improve operations. We target minimum 10x ROI.

2 days

Implementation to Opportunity

20% - 40%

Capacity Increase

10x - 20x

Return On Investment

* based on actual project results with our clients

Future Capabilities

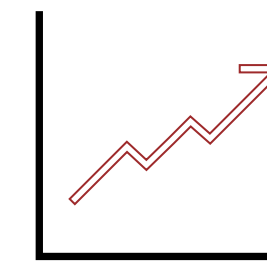Our first Lobster (Lobster Multi-Sensor) solves most critical monitoring challenges but our customers and our market analysis shows clean need for additional solutions.

Lobster RFID (2023-Q4)

RFID Reader Integration to capture check-in/check-out data for:

- operators,
- supervisors,
- maintenance technicians

Lobster UI (2023-Q4)

Web Application for operators and supervisors to log:

- downtime root causes,
- maintenance needs,
- quality issues

Lobster Eye (2024)

Webcam oriented to detect anomalies in:

- operator safety
- process conformity
- indoor traffic

Industrial Manufacturing Market

Our core industries consist of machinery, metal and plastic manufacturing. We are focused on **SMEs in discrete manufacturing** where we have clear competitive advantage.

all numbers in billion EUR

Market	Total Market	Core Industries	Target Market
	industrial manufacturing	machinery, electrical equipment, fabricated metals, rubber, plastic	micro, small and medium-sized enterprises
France	7 B	2 B	**0.5 B**
Europe	46 B	14 B	**3 B**
Global	225 B	66 B	**16 B**

Market Segmentation and Value Proposition

With our **IoT+AI** solution, we have a unique proposal for micro, small and medium enterprises; with **no investment**, **low-cost** and **1-day implementation**.

Target Market Share [1]		
2%	20%	78%
Micro	Small and Medium	Large

Equipment Type

	Micro	Small and Medium	Large
Connected (10% [2])	●	●	●
Smart (90%)	●	●	●
Legacy	●	●	●

Value Proposition

Unique	performance monitoring + root-cause analysis
Strong	root-cause analysis [3] + big data + predictive maintenance
Competitive	root-cause analysis + predictive maintenance + custom AI

○ ○ ◯ number of equipment

15

data
lobster

Start your Industry 4.0 transformation today!

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contact@datalobster.io

# Case Studies

Use Case: Defense Industry

80% capacity increase – identified in 2 days, implemented in 8 weeks

Business Context

- Industrial press to fabricate ceramic tiles used in body armors
- Very high demand and customer wanted to ensure highest uptime

Results

- In 2 days, identified actual performance @ 39% (compared to customer's assumption of 85%)
- In 8 weeks, capacity was increased by 80%
- 20x ROI

71%

53%

49%

47%

48%

44%

42%

39%

Week 1   Week 8

34
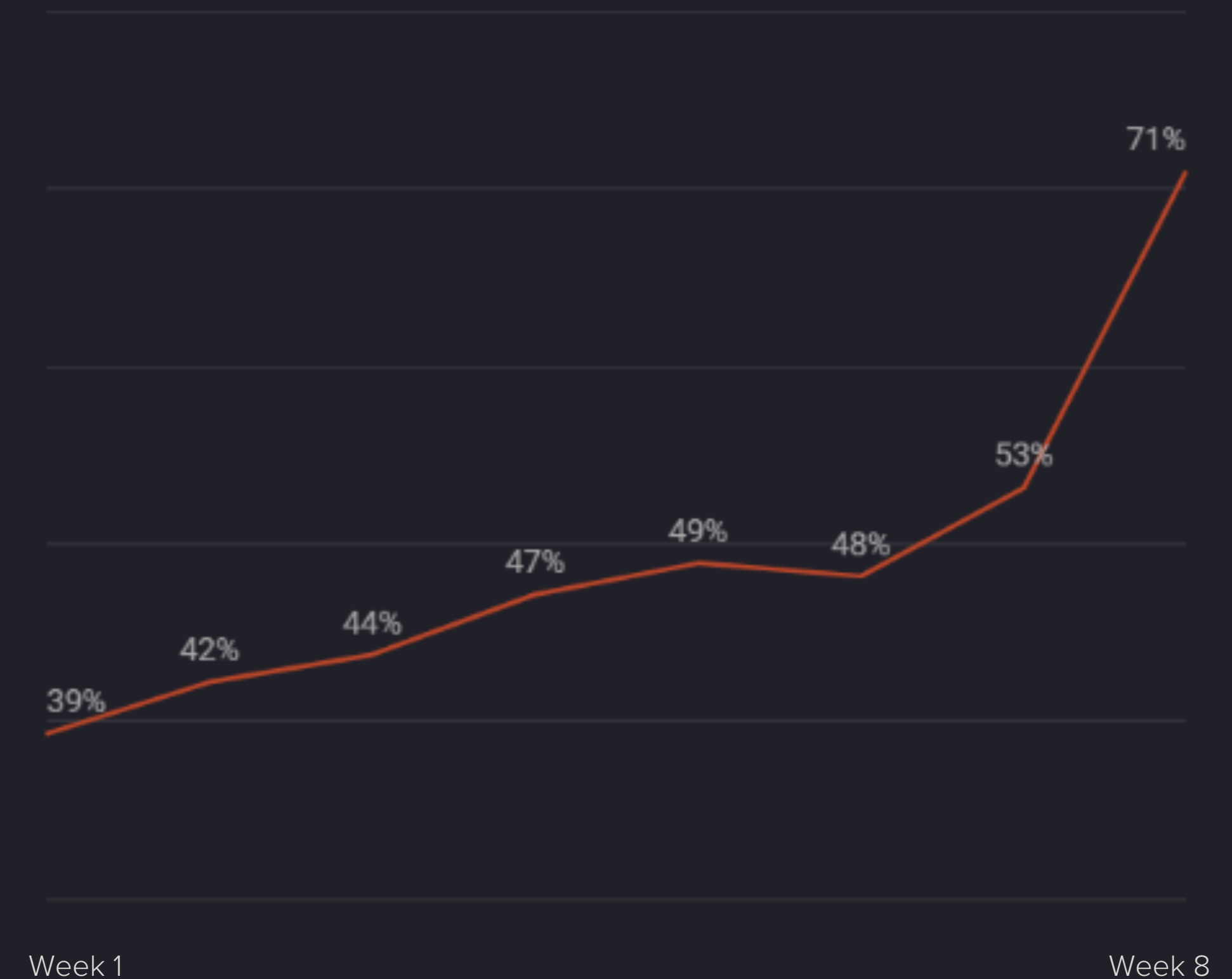
Use Case: Metalworking Industry

3x productivity increase – implemented in 3 weeks

Business Context

- Eccentric press to drill holes in metal frames
- Very fast cycle time requiring sub-second granularity

Results

- Equipment not in use during whole shift, measuring availability and performance very difficult
- Initially averaging 5 press per minute
- In 3 weeks, improved to 17+ press per minute
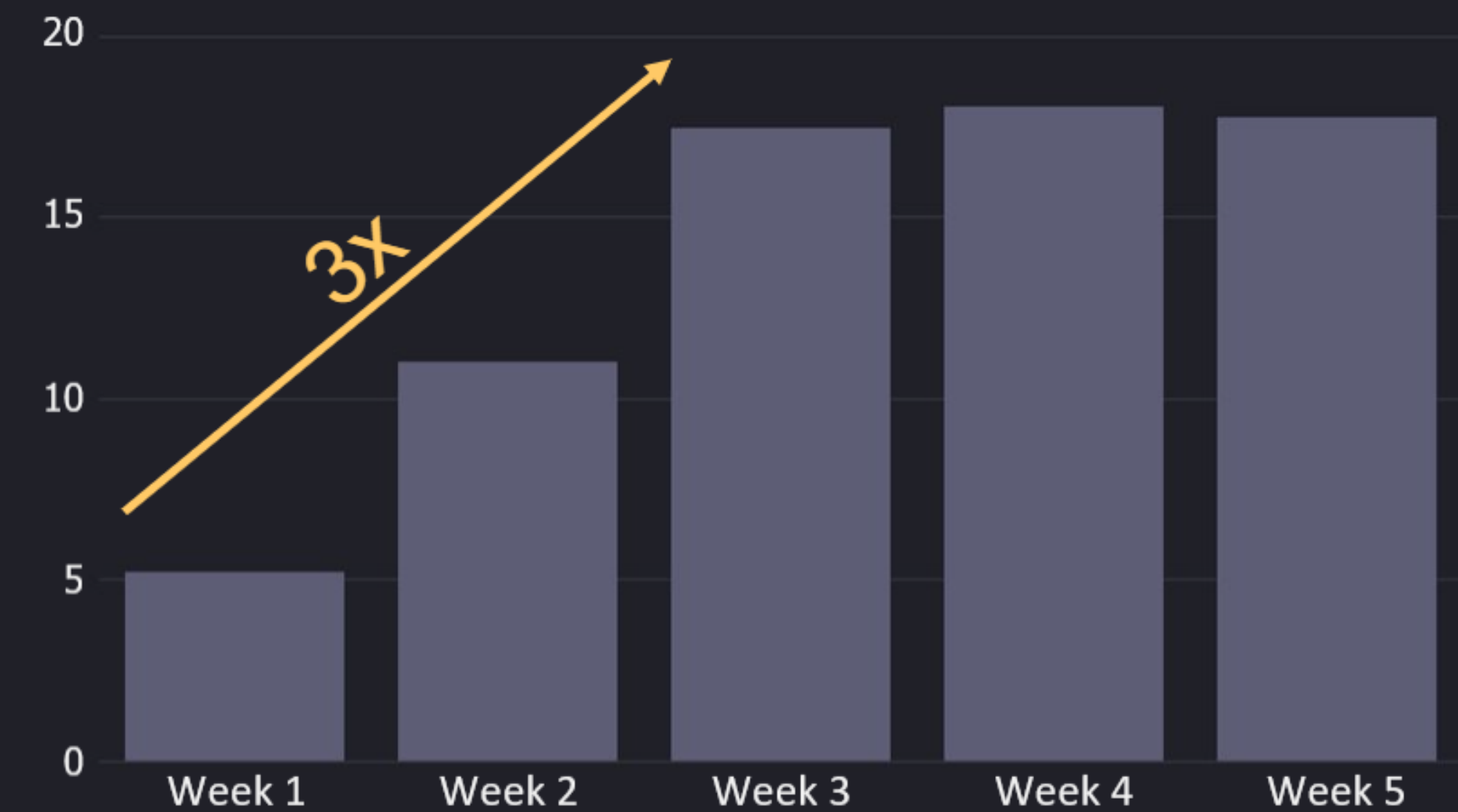
Use Case: Ceramic Industry

Automated downtime root-cause detection with 96% success rate

Business Context

- Complete ceramic tile monitored with 3 Lobsters at critical points
- Complex time-dependent business logic needed to understand down-time root causes

Results

- Identified major downtime root-causes at 96% success rate
- Makes manual and unreliable time tracking process redundant
- Implemented in 2 weeks

active, 75%

Other, 25%

press error, 9%

printer error, 8%

printer cleaning, 4%

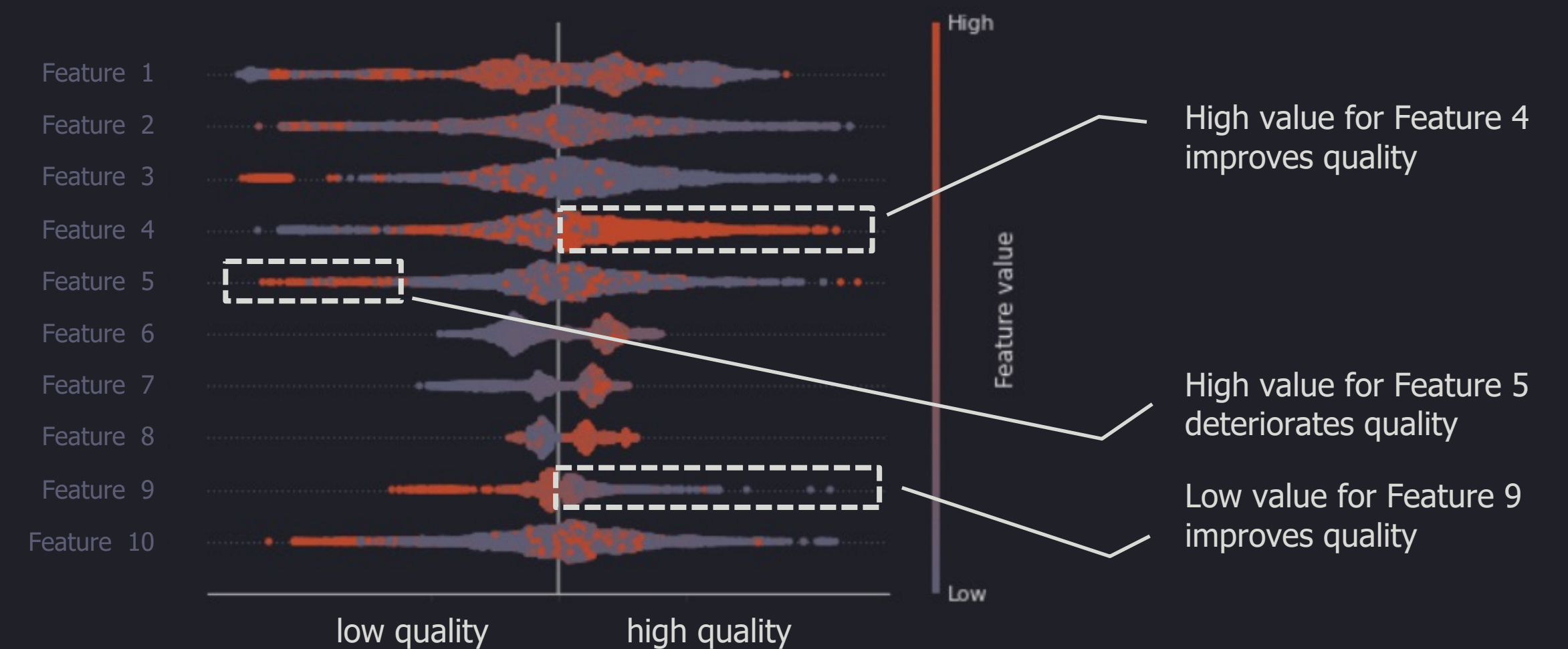unknown, 4%
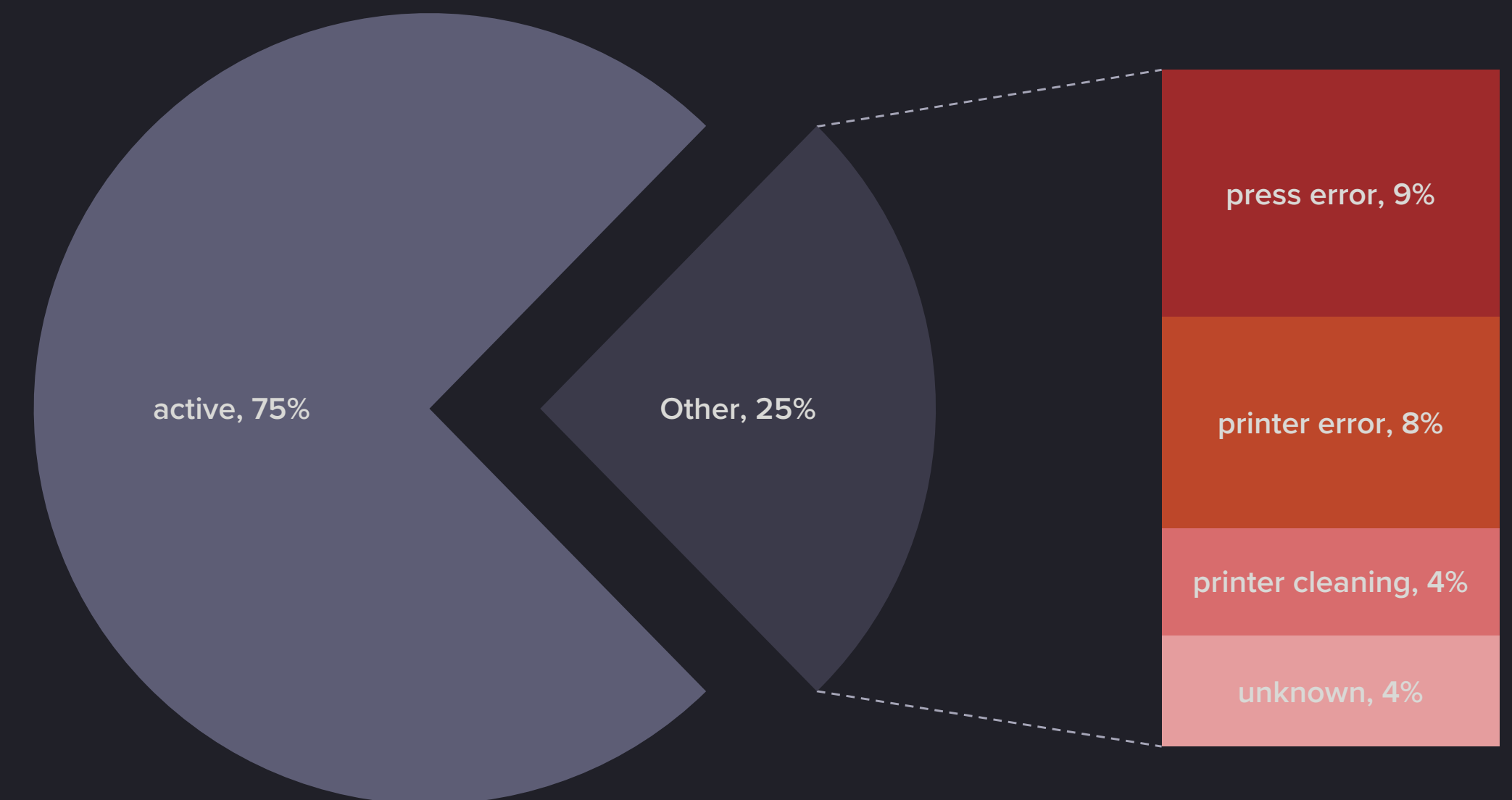
Use Case: Defense Industry

Identified top 10 features that have an impact on quality and their correlation with the quality results.

Business Context

- Very delicate and complex vacuum furnace process
- Extremely high number of variables for each manufacturing recipe making it very difficult to identify root-causes

Results

- Combined and sanitized of GBs of data across 3 years
- Applied highly explainable machine learning models that describe impact and correlation of every variable/feature
- Identified key variables and their impact on quality output

Feature 1
Feature 2
Feature 3
Feature 4
Feature 5
Feature 6
Feature 7
Feature 8
Feature 9
Feature 10

High

Low

Feature value

low quality   high quality

High value for Feature 4 improves quality

High value for Feature 5 deteriorates quality

Low value for Feature 9 improves quality

Next Generation Anomaly Detection

Our ML models can **reconstruct signals** based on trained conditions (good, faulty, etc.). By comparing it with **live signals**, we can detect anomalies even in complex signal patterns.

live signal and **reconstructed signal** are almost identical, so no anomaly

difference between **live signal** and **reconstructed signal** shows anomaly