

Creating Business Value from Manufacturing Data

MECSPE BARI 2023

smart**FAB**

The Problem

Extracting valuable insights from vast data volumes is complex, demanding robust infrastructure and tailored solutions.



Challenges



Waste

20% of every euro spent in manufacturing goes wasted



Data Silos

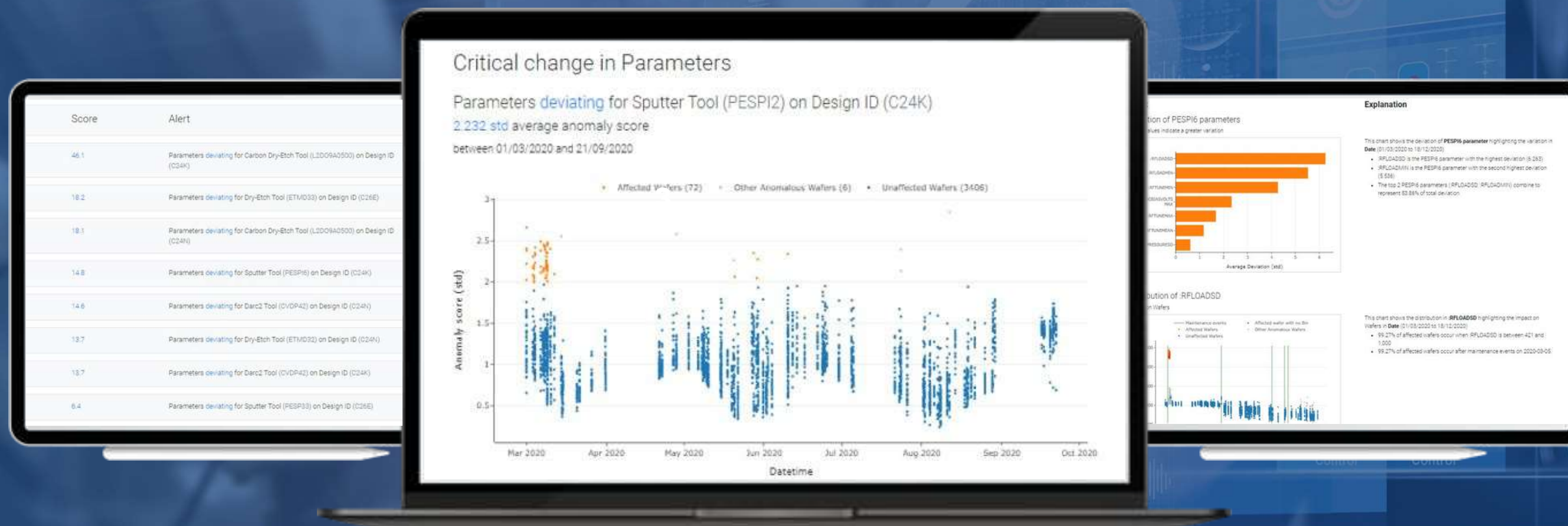
Manufacturing data is stored in traditionally disjoint silos



Digital Skills

Manufacturers may lack the necessary skills to harness AI's full potential.

Industrial Analytics Platform



Value oriented

Matching the manufacturer's data and analytics maturity.

Multi sectorial

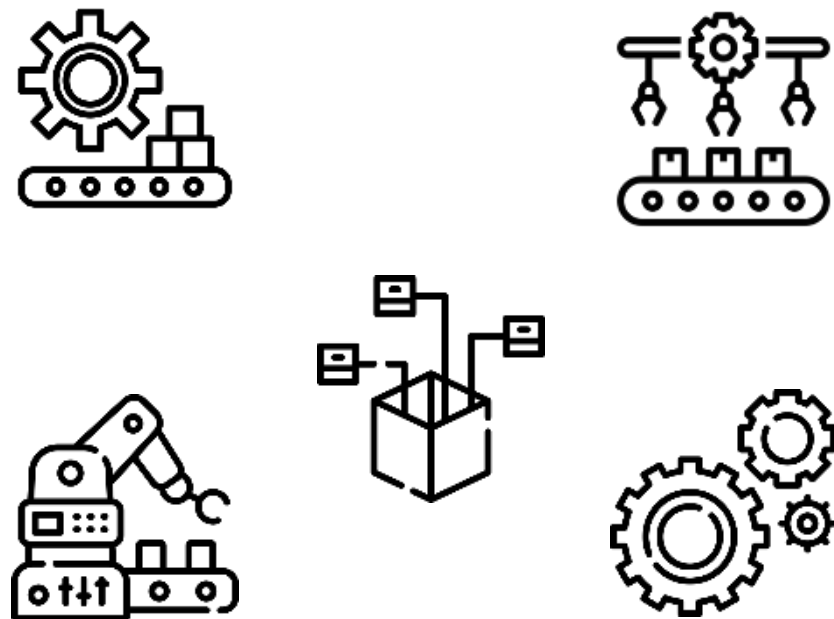
The same platform can solve manufacturing problems across different sectors.

Human centric

We empower operators to take fact-based decisions at speed.

How it works

CONNECT & AUTOMATE



Machine learning to **connect, prepare, and investigate data**

ANALYZE

Machine learning to **identify critical changes in operations and evaluate outcomes**



SHARE & ACT

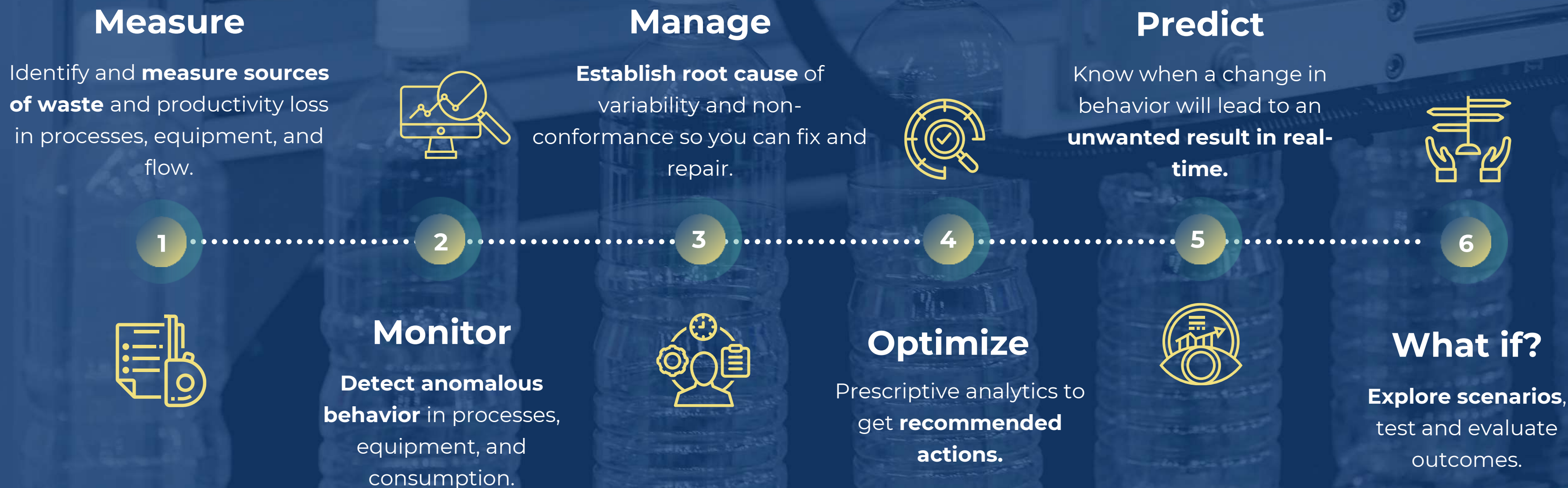


Human-in-the-Loop
AI to **combine domain knowledge and machine intelligence**

Machine learning to **generate contextual insights and rank insights based on impact**



Transformational value at each stage



Customer Benefits

smartFAB's solution allows producers to **secure a competitive edge while striving for sustainability by detecting sources of waste and inefficiencies.**

+10%

Output

-20%

Costs

Source: McKinsey & Company

-80%

Time and
cost to
insights

-80%

Waste

+30%

Efficiency

What we have achieved



Customer Success

How a multinational food and drink processing company used **anomaly detection to reduce production losses.**

Reduced waste by 80%

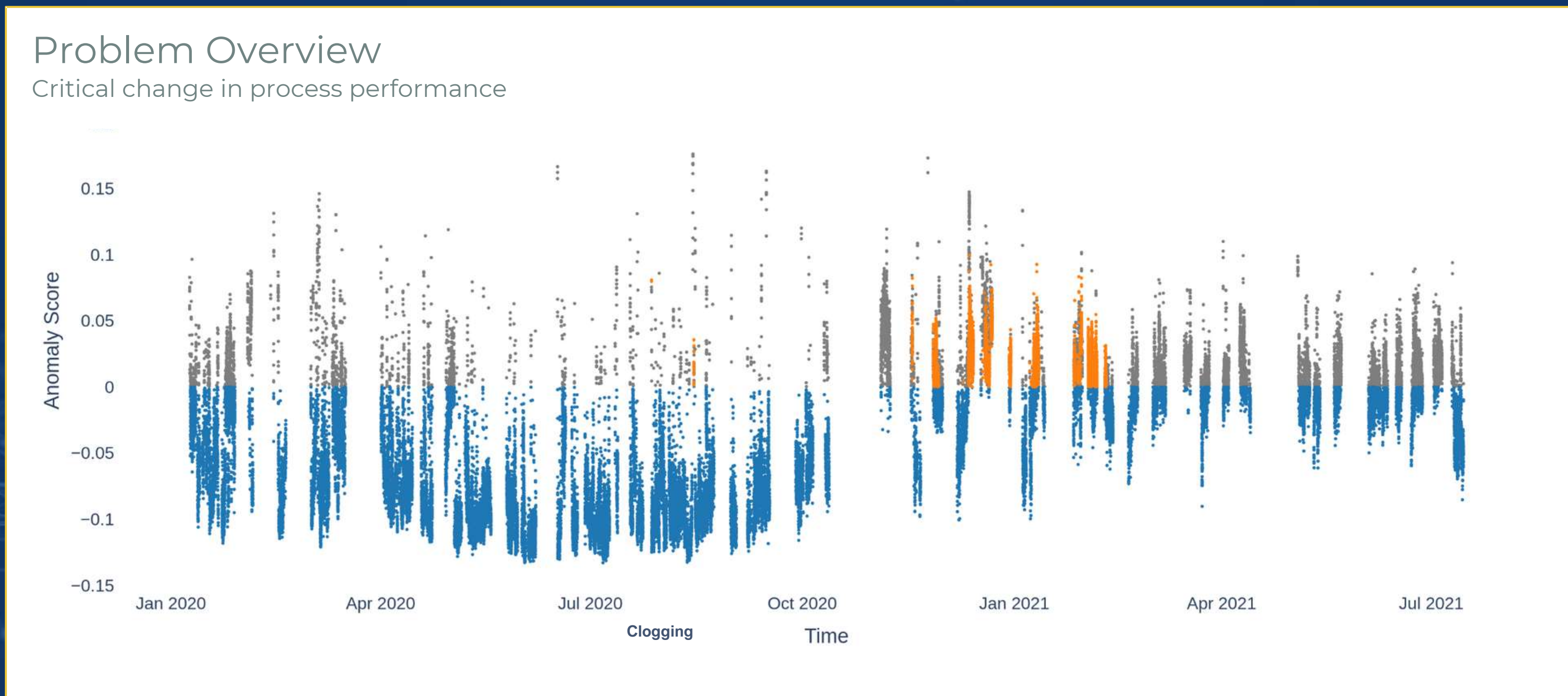
Detect anomalies in process variables that lead to 'stickiness'.

Establish the **optimal operating range** to avoid recurrence.

Predict the onset of clogging 8-12 hours before previous solutions.

Single metric for process performance

Multivariate analysis to identify when and how far the process deviating from its optimal range

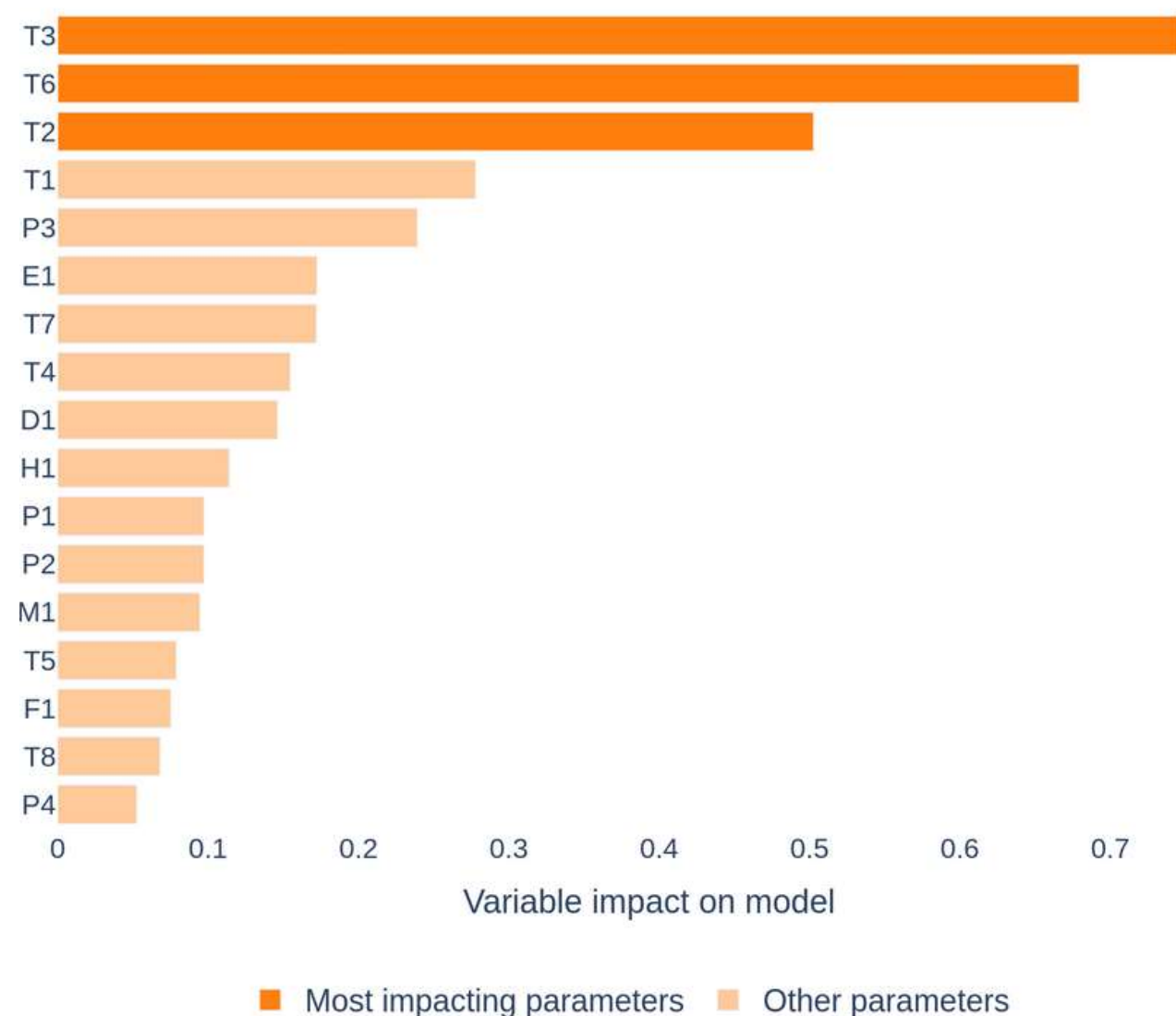


Root cause analysis

Identify process parameters that lead to process-driven problems

Explanation

Process variables ranked by impact



This chart shows the process parameters with the greatest impact on Clogging.

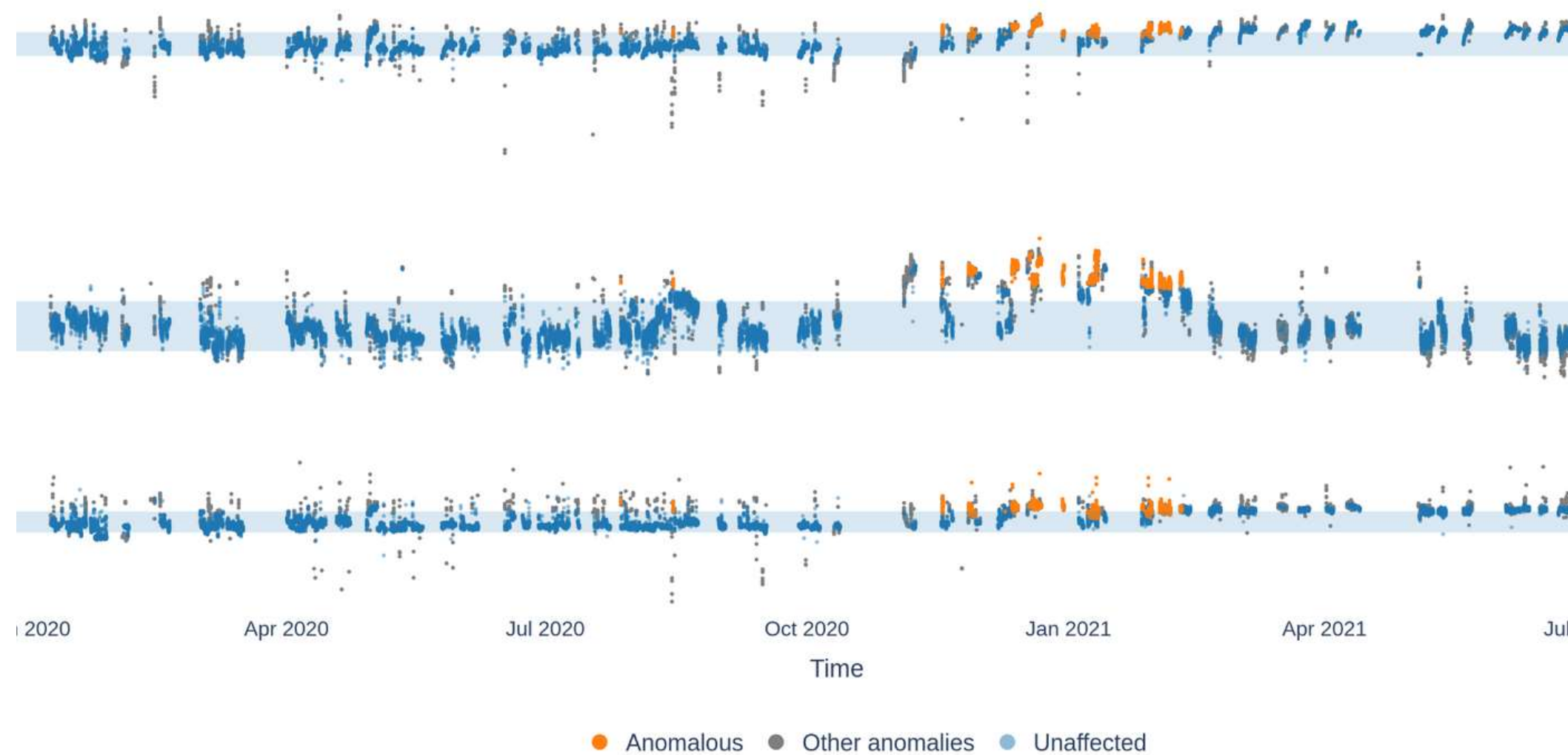
- T1 is the process parameters with the greatest impact (0.73).
- T6 is the process parameter with the second greatest impact (0.69).
- The top 2 parameters (T1, T6) combine to represent 1.42 of total impact.
- The top 3 parameters (T1, T6, T2) combine to represent 1.92 of total impact.

Recommended actions

Decision rules for detecting the onset of stickiness

Optimize

Behaviour of process variables over time



Logging is 80% more likely to occur when:

T3 is greater than 78, T6 is greater than 72 and T2 is greater than 93 for more than 4 out of 5 consecutive data points.

Leadership Team



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