



# AVEVAWORLD

ACCELERATE INDUSTRIAL INTELLIGENCE

# Lesaffre's PI journey Next Chapter

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# LESAFFRE IN 2025



**11,000**  
employees

**100**  
nationalities

**1,200**  
employees  
who took part in  
a charity projects  
via ECHO

**700** RD&I  
experts

**52** Baking  
Center™

**65** applied  
science  
centers

**10** sensory  
analysis  
labs

**180** our solutions are  
distributed in more  
than 180 countries

**3** billion  
euros turnover

**95** commercial  
subsidiaries

**100** international  
partnerships

**89%**  
share of turnover from  
products sold having  
been manufactured by  
a GFSI\* certified site

**80**  
production sites  
in more than

**55**  
countries

# OUR ACTIVITIES

The infinite potential of microorganisms (yeasts, bacteria...) enables us to position ourselves in the bread making, food taste and pleasure, healthcare and industrial biotechnology markets.

In each of these domains, Lesaffre's ambition is to be one of the active leaders in the fermentation of microorganisms to better nourish and protect the planet.

 **Agrauxine**  
by Lesaffre

 **Phileo**  
by Lesaffre

 **Gnosis**  
by Lesaffre

 **Procelys**  
by Lesaffre

 **LIS**  
by Lesaffre

 **Leaf**  
by Lesaffre

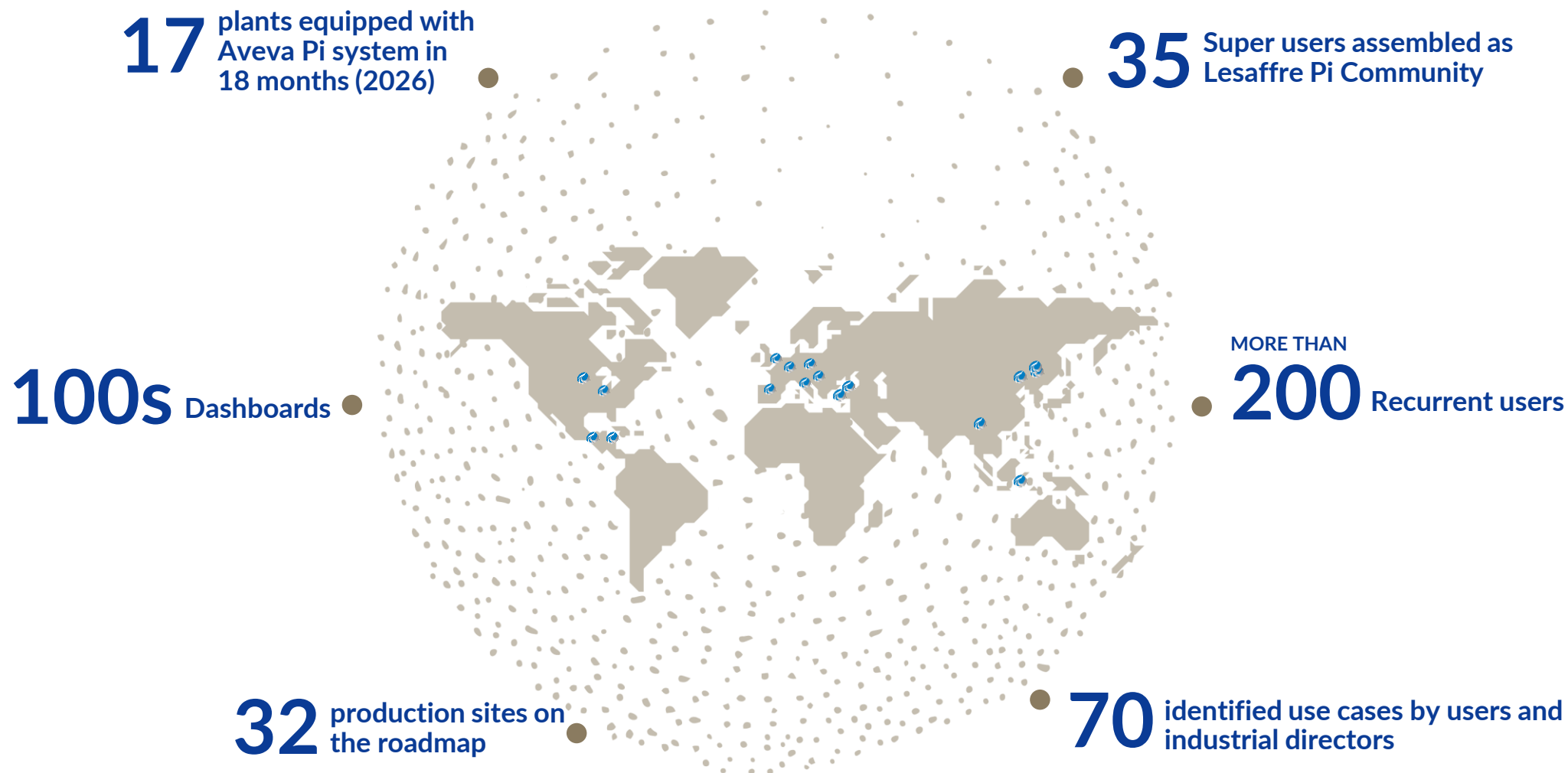
 **Biospringer**  
by Lesaffre

 **Ennolys**  
by Lesaffre

 **Fermentis**  
by Lesaffre



# ALREADY 75,000 PI TAGS **AND COUNTING**



# LESAFFRE' S PI JOURNEY

Where do we stand after 2 years?

## 32 plants on the roadmap

- The half of them have a usable Pi.

## 2 main event per year in Lille

- Pi Days are a time for sharing among Pi key users

## More than 10 UC deployed since then

- Delivering time savings, cost avoidance, and faster data to information access
- Saving plan/achievements aligned with HR/FO

## One central team to manage all

- Coordination, collaboration and organization are the key



# LESAFFRE' S PI JOURNEY

## What does PI bring to our industrial performance ?

### Operational excellence at scale

- one standard, every site, zero compromise on consistency
- Real-time data, real decisions. No more gut feeling with live process intelligence across all deployments

### Sustainability built-in

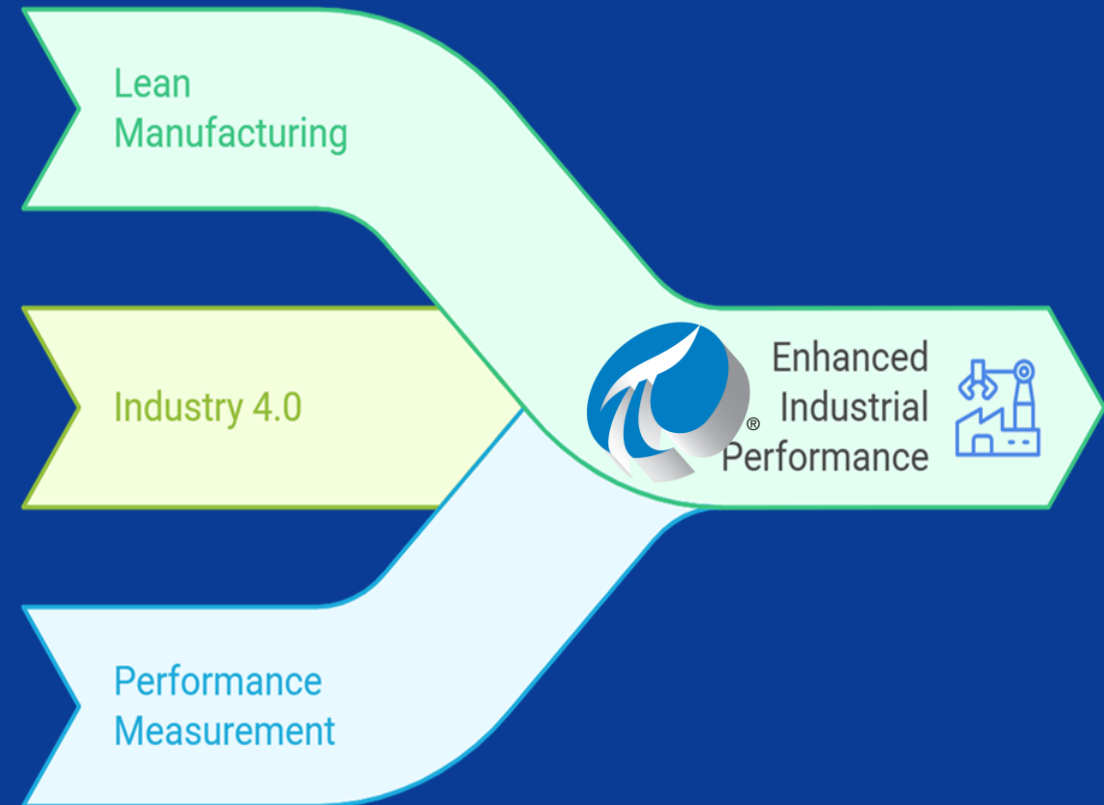
- every use case must reduce waste, water, or chemical consumption

### People at the center

- the technology adopted and adapted by operators, not imposed on them

### One Pi ecosystem, fully connected to other systems

- LIMS, ERP, and augmented data layers



# --- Innovative tools for PI



# INNOVATIVE TOOLS FOR PI

How do we make PI as standard at Lesaffre ?

## **Universal asset framework (AF) model**

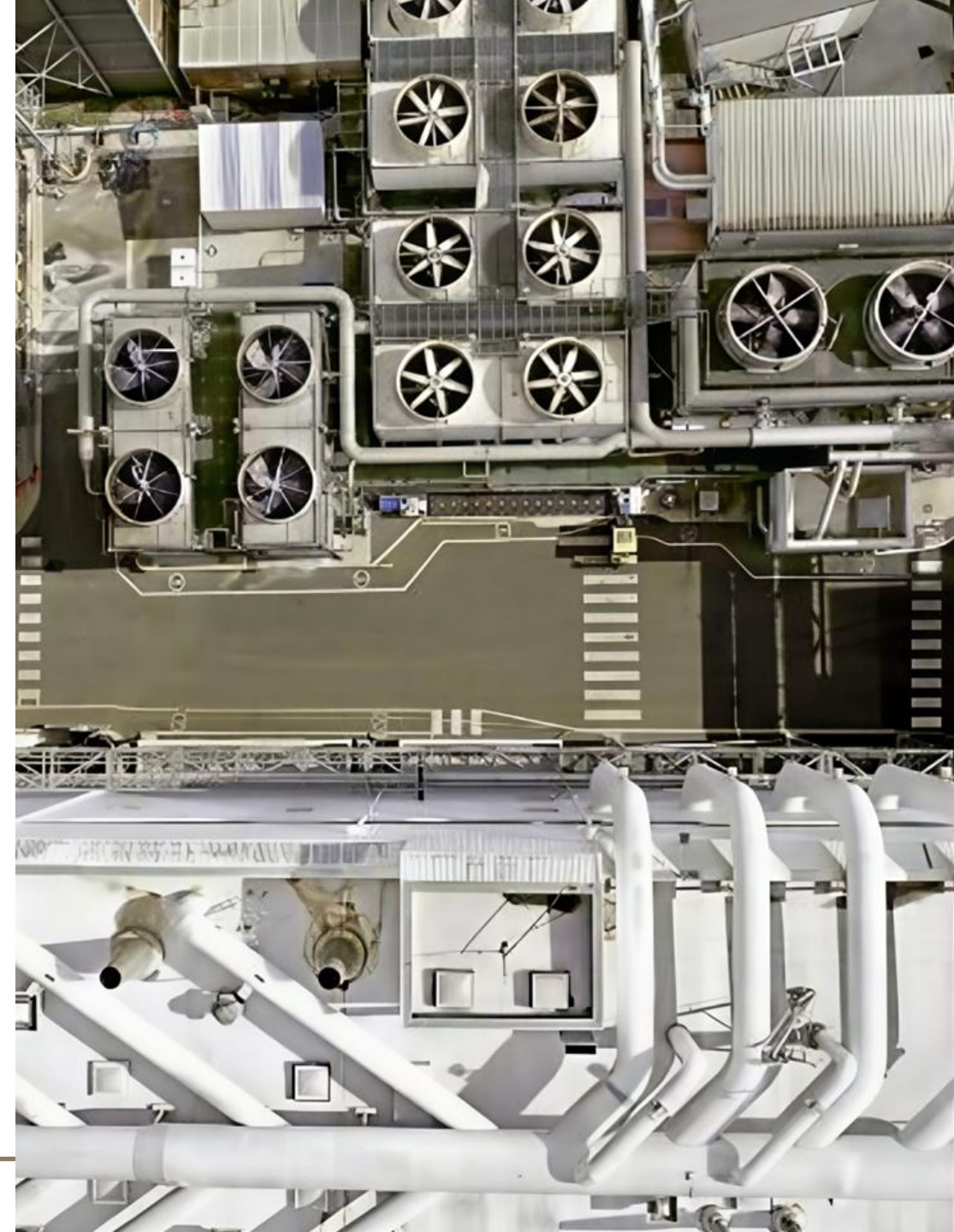
- A standardized and scalable AF model that adapts to any factory, equipment, or process, ensuring consistency and flexibility across all Lesaffre sites.
- Automated Deviation Monitoring:

## **A smart monitoring system tracks deviations within the AF in real time**

- seamless alignment
- easy adoption of best practices once the PI System is fully operational.

## **Robust change management program**

- Comprehensive change management approach with smooth transition for teams
- helping them embrace new digital tools and extract maximum value.



# INNOVATIVE TOOLS FOR PI

## Monitor PI adoption

### Building a solid the adoption plan

*adoption plan typically covers 5 pillars  
(from LAS Learning Age Solutions Ltd)*

- **Governance** : Who leads, who deploys, follow-up frequency
- **Communication** : Messages by role, schedule, channels
- **Champions** : Who, missions, time allocated
- **Training** : Modules, timing (3 months), sandbox
- **Support & Measurement** : SharePoint, ticketing, quarterly follow-up survey



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# Increase our Performance

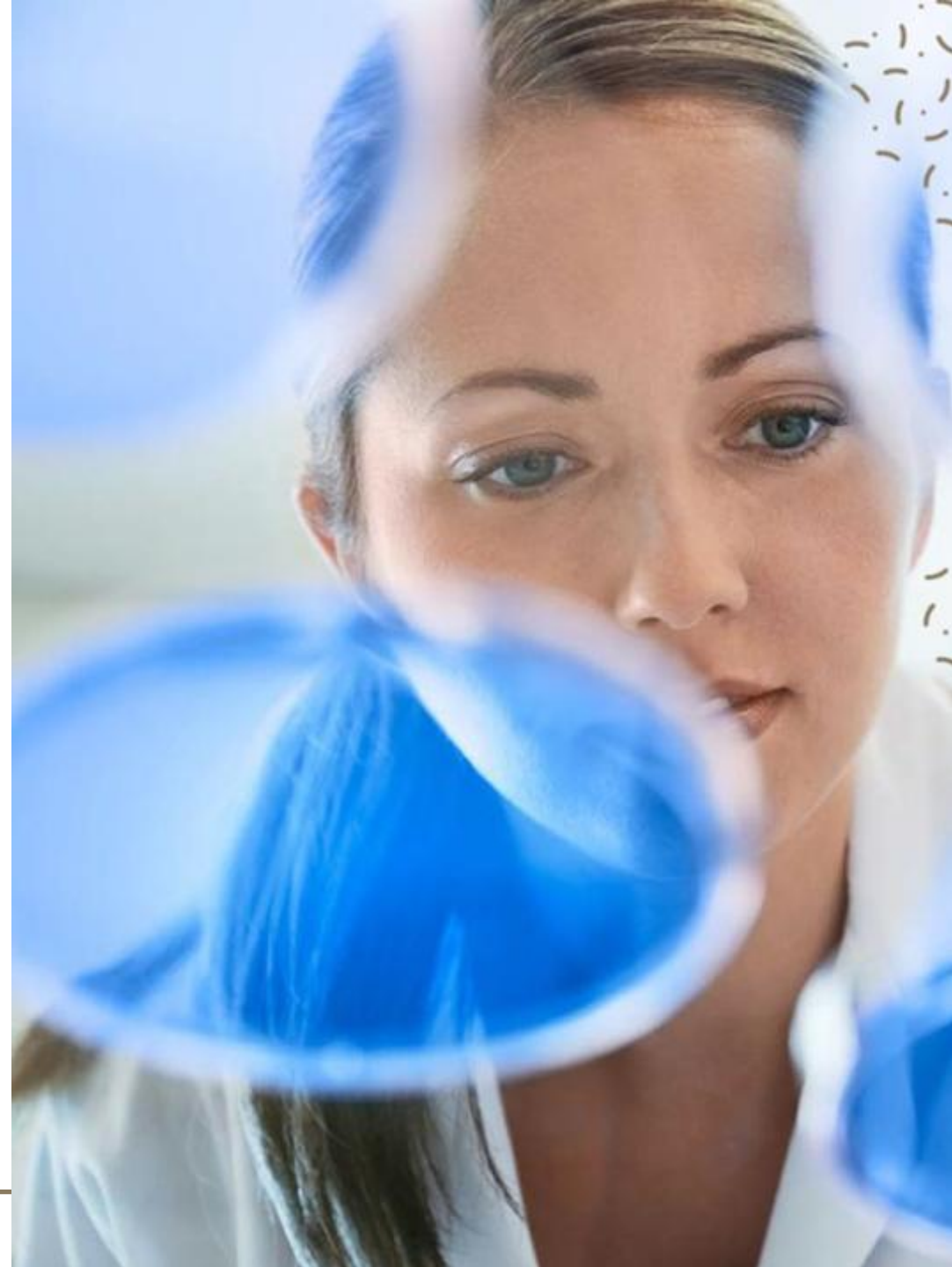


# INCREASE OUR PERFORMANCE

Proven use cases with real value delivered across sites

**The early deployments of the PI System have already demonstrated promising results and improvements opportunities:**

- Streamlined manual data entry
- Digital Twin with Pi System
- Performance monitoring
- Multiple systems orchestration
- Fermentation with AI



# INCREASE OUR PERFORMANCE

## Manual data entry in PI Vision

### Streamlined Data Entry (CS) in Turkey (Ege Ceyhan, 4.0 MEA)

- One custom symbol in PI Vision
- 10s dashboards already allowed to fill data in Pi Vision directly
- Replaced over 100 Excel files (~ 10,000s columns)
- Improving features :
  - UX for operators
  - Data quality
  - Traceability
  - Auditability.

Manual entry — Fermenter 2 · Feeding

#### PROCESS MEASUREMENTS

PH

5.6

Range: 4.5 – 5.2

DISSOLVED O<sub>2</sub> (%)

18

Range: 20 – 60

AGITATION (RPM)

250

TEMPERATURE (°C)

30.8

Range: 29 – 32

BRIX (°BX)

4.2

Range: 4 – 10

AIR FLOW (VVM)

0.5

#### ADDITIONS

TYPE

Ammonium sulfate



QUANTITY + UNIT

e.g. 12.5 L or 0.8 kg

BATCH / LOT REF.

e.g. MOL-2026-0331

ADDITION TIME

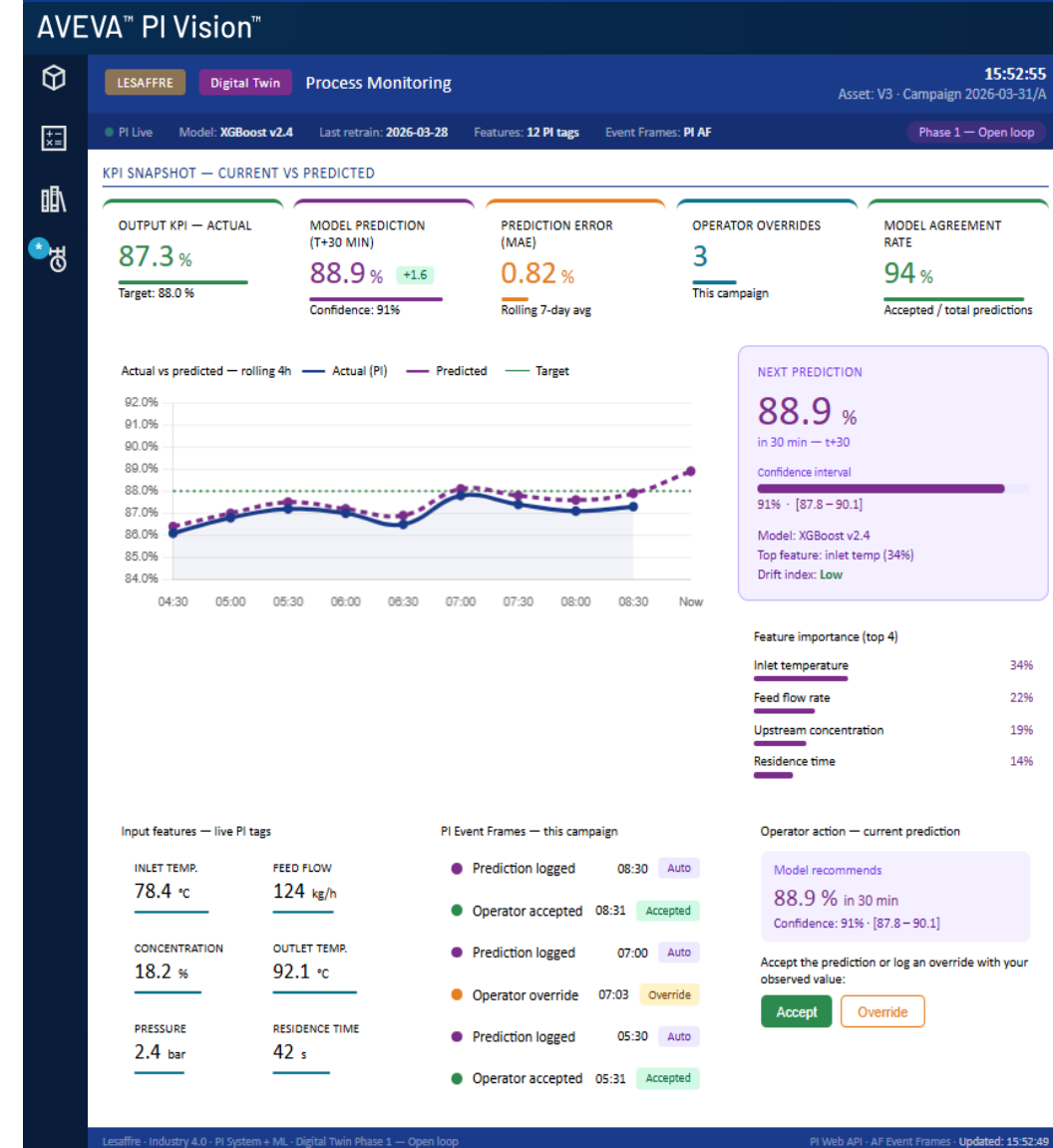
15:22



# INCREASE OUR PERFORMANCE

## Digital Twin with PI System:

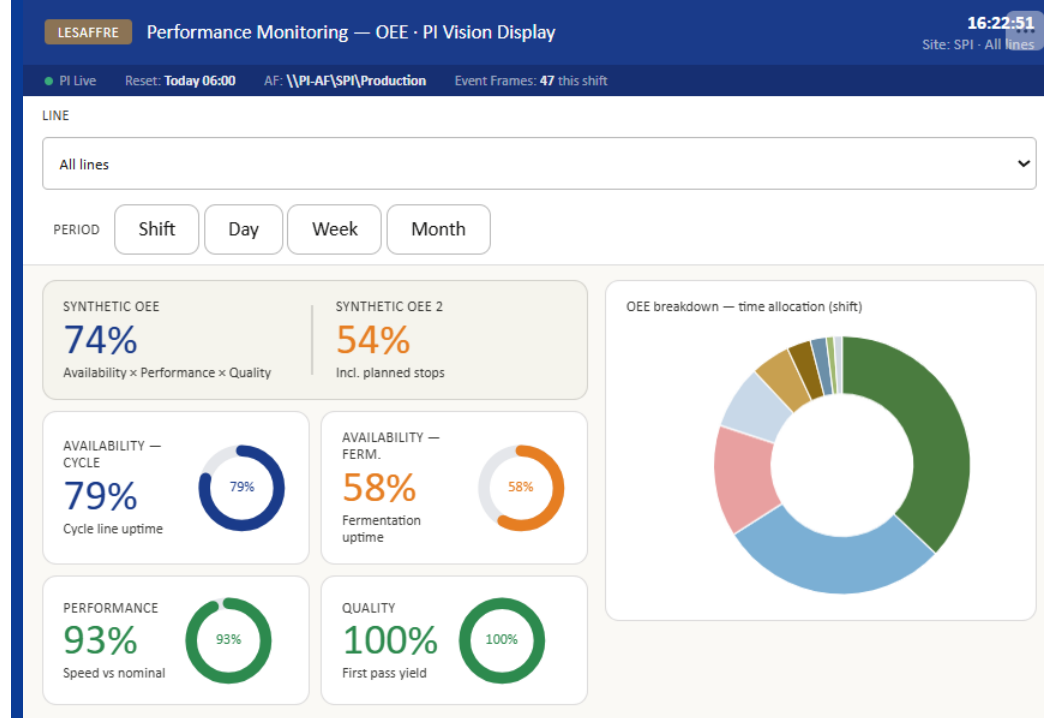
- PI tags -> feature extraction -> ML model -> KPI prediction
- Open-loop: model recommends, operator decides and logs override in the entry form in Pi
- PI AF structures the asset context
- Event Frames capture each prediction + decision as a traceable record
- Snowflake as cross-site consolidation layer when scaling beyond one site
- No physics model -> trained on real historian data, retrained on new batches automatically



# INCREASE OUR PERFORMANCE

## Performance monitoring

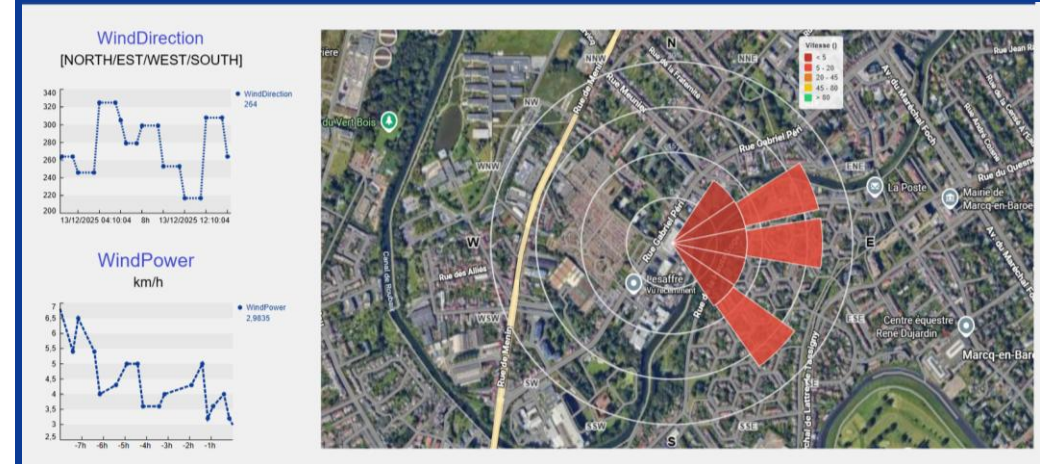
- **PI tags feed real-time availability, performance and quality metrics into a unified OEE calculation ; no manual aggregation**
- **Asset Framework structures the hierarchy:** site -> line -> equipment, enabling drill-down from plant OEE to individual machine loss
- **Event Frames capture every stoppage, changeover and micro-stop with timestamp, duration and cause code :** the foundation for Pareto analysis
- **Waterfall decomposition** (planned time -> change over -> technical stops -> operator stops -> net production) **maps directly to the GPS loss structure**
- **Cross-site benchmarking via Snowflake:** same AF template deployed on 30 sites, OEE compared on a common referential
- **PI Vision displays surface live KPIs to operators on the shopfloor;** aggregated dashboards feed weekly performance reviews



# INCREASE OUR PERFORMANCE

## Seamless localized systems integration

- **Local orchestration layer between PI System and local business systems (SAP, LIMS, MES) to push data to PI**
- **PI Web API webhooks trigger flows via process events: batch end, threshold breach, quality hold - data pushed automatically**
- **Bidirectional: PI pulls production orders and recipes from SAP; LIMS pushes lab results back into PI AF attributes for inline quality tracking**
- **Event Frames in PI AF become the single source of truth - workflows attach SAP batch numbers, LIMS sample IDs, and MES timestamps to each frame**



# INCREASE OUR PERFORMANCE

## Seamless AI integration



AI products for higher performance (Fermentation Optimization, Drying improvement...) based on PI Data



A long-term vision: laying the foundations for a product that recommends recipe changes



An evolving architecture to support the product's future developments (Modularization)

*Our goal : bring data science to our key processes with dedicated models*



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**One vision, one team,  
one future**





With Industry 4.0  
program  
Lesaffre digitizes  
global manufacturing  
performance  
across  
30+ sites with  
PI System

Lesaffre Pi program  
70+ Use Cases · ~32 Sites

## CHALLENGE

- No unified real-time visibility across 30 global manufacturing sites - operators rely on lagging indicators and manual reporting
- Batch losses, energy waste and anomalies undetectable before impact, leading to unplanned downtime and product quality drift
- No tracking of the full process
- No AI/ML applicable to data, no SSOT globally

## SOLUTION

- Group-wide PI System deployment - 79 structured use cases mapped across Safety, Quality, Cost, Delivery
- ML applied to fermentation data with active recommendations for process
- Full tracking made possible in Pi (SSOT) with orchestration of data sources pushed in Pi

## ACHIEVED RESULTS

17+(/32)

Sites on standardized  
PI infrastructure

↑ Visibility

~10%

Expected OEE/TRS  
gain per site

↑ Performance

Prod AI

Fermentation with AI  
thanks to Pi Data

↑ Yield

Early

Anomaly detection  
& energy alerting

↓ Downtime

# THANK YOU

## CONTACTS

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