



Connect for the future

 **Tetra Pak**[®]
PROTECTS WHAT'S GOOD



Agenda

- ◆ Industry 4.0 & beyond
- ◆ Global perspective
- ◆ Tetra Pak data integrated solutions
 - Performance portal
 - Traceability
 - Asset health monitoring
- ◆ Digi intelligence factory
- ◆ Q&A





Industry 4.0 and beyond

2.0

Ind. rev.

Machine

3.0

Ind. rev.

Automation

4.0

Ind. rev.

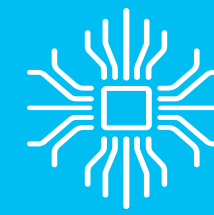
New technologies

Smart
manufacturing

Augmentation



**Automate
the equipment**



**Orchestrate
the factory**



**Analyse
the business**

From reactive to predictive



Global perspective in food & beverage manufacturing



**Total Cost of
Ownership**



**Sustainability
and
Innovation**



**Food Safety
and Quality**



**Transformation
and Modernization**



**Attract
Talent**

Smart Manufacturing



End-to-End Integrated Solution

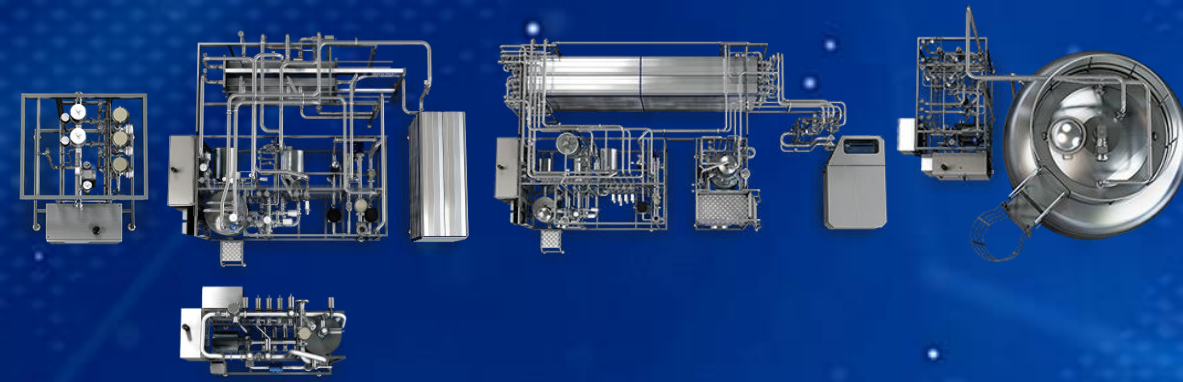




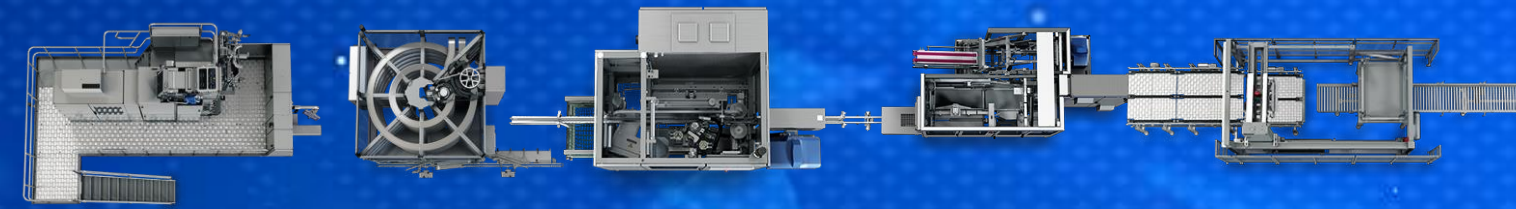
Example of "Standard Plant Layout"



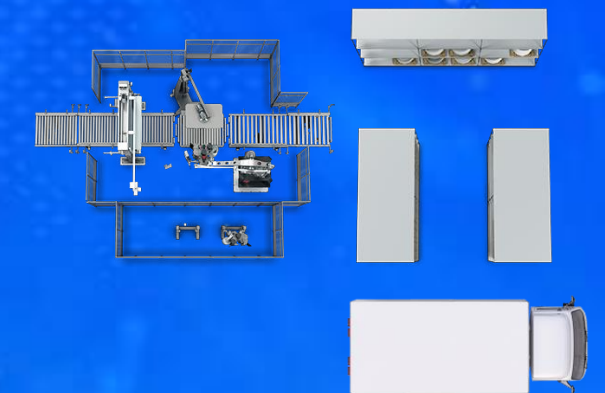
Inbound supply chain



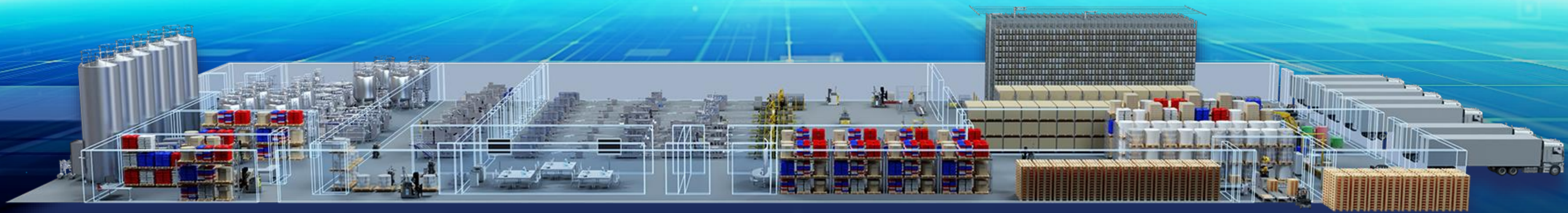
Processing area



Packaging lines

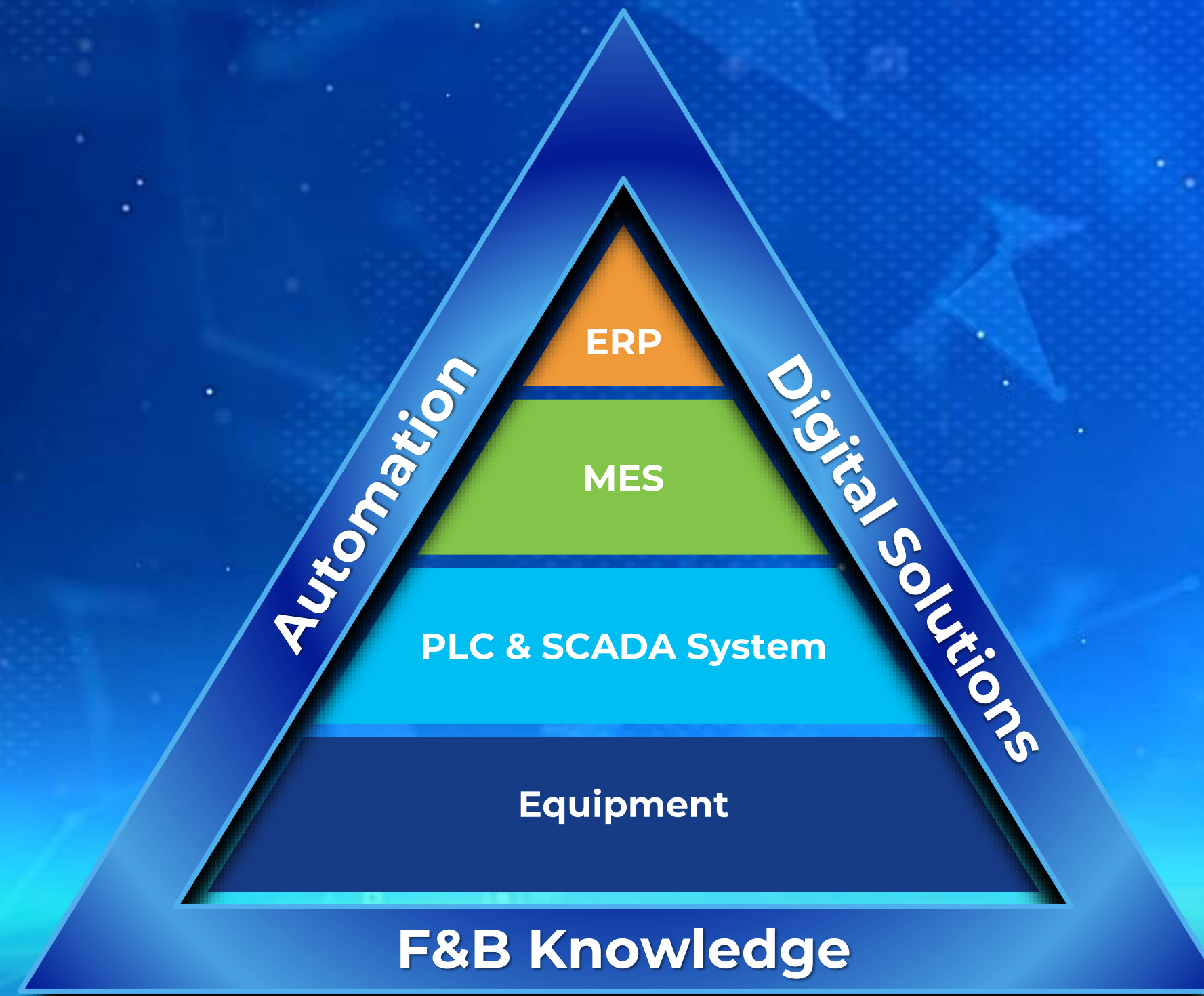


Outbound logistics





Several "Silos and isolated areas" within the plant



Modernise your factory operations by integrating "Horizontally and Vertically"



Integration to secure continuous data collection for decision-making and improvements



Dairy



Ice cream



Beverage



Prepared food



Cheese



Powder



Plant-based

Raw Material

Pallet Deliveries





Total control of your plant for data-driven operations and optimization



ERP – Enterprise Resource Planning

Digital Reporting System

Control System

Warehouse Management





What gets measured gets improved!

Quantum of data

7.2 Mn in 6 months

1.2 Mn / Month

40,000 / Day

400 Records / CIP





Performance portal

Example: Cleaning in place



Performance Portal

Date : 28th July 2024

Time : 13:25:47

CIP Summary

Number of CIP

50

CIP Duration (HH:MM)

53:06

CIP Water Consumption (ltr)

249255

CIP Circuit Cleaned

49

CIP Circuit Aborted

1

CIP Water Drain (HH:MM)

17:04

Drill down



Process Parameter Status

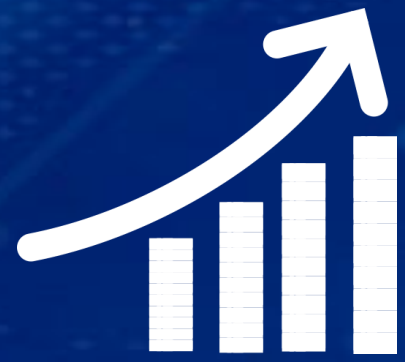
Start Date	Start Time	Object	Recipe	CIP Status	Supply Flow	Sup Temp Lye	Sup. Temp Acid	Sup. Temp HW
2024-07-17	6:30 AM	Tank 1	Caustic Acid Hotwater					
2024-07-17	5:46 AM	Tank 2	Caustic Acid Hotwater					
2024-07-17	7:12 AM	Tank 3	Caustic Acid Hotwater					

Why?



Access to right information and by making the right decisions at the right time, you can...

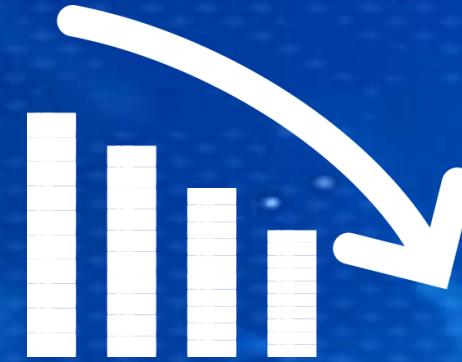
Increase



OEE

7-20%

Reduce



Utility

15-20%

Assure



**Quality
&
Safety**



Performance portal demo





Traceability

Compliance & Transparency





Track and Trace

In plant traceability

Reception to warehouse

E2E Traceability

Enable improved quality, performance, sustainability and cost End-to-End. From Farm to Table

Out of plant traceability

Warehouse exit to consumer and recycling



Raw material

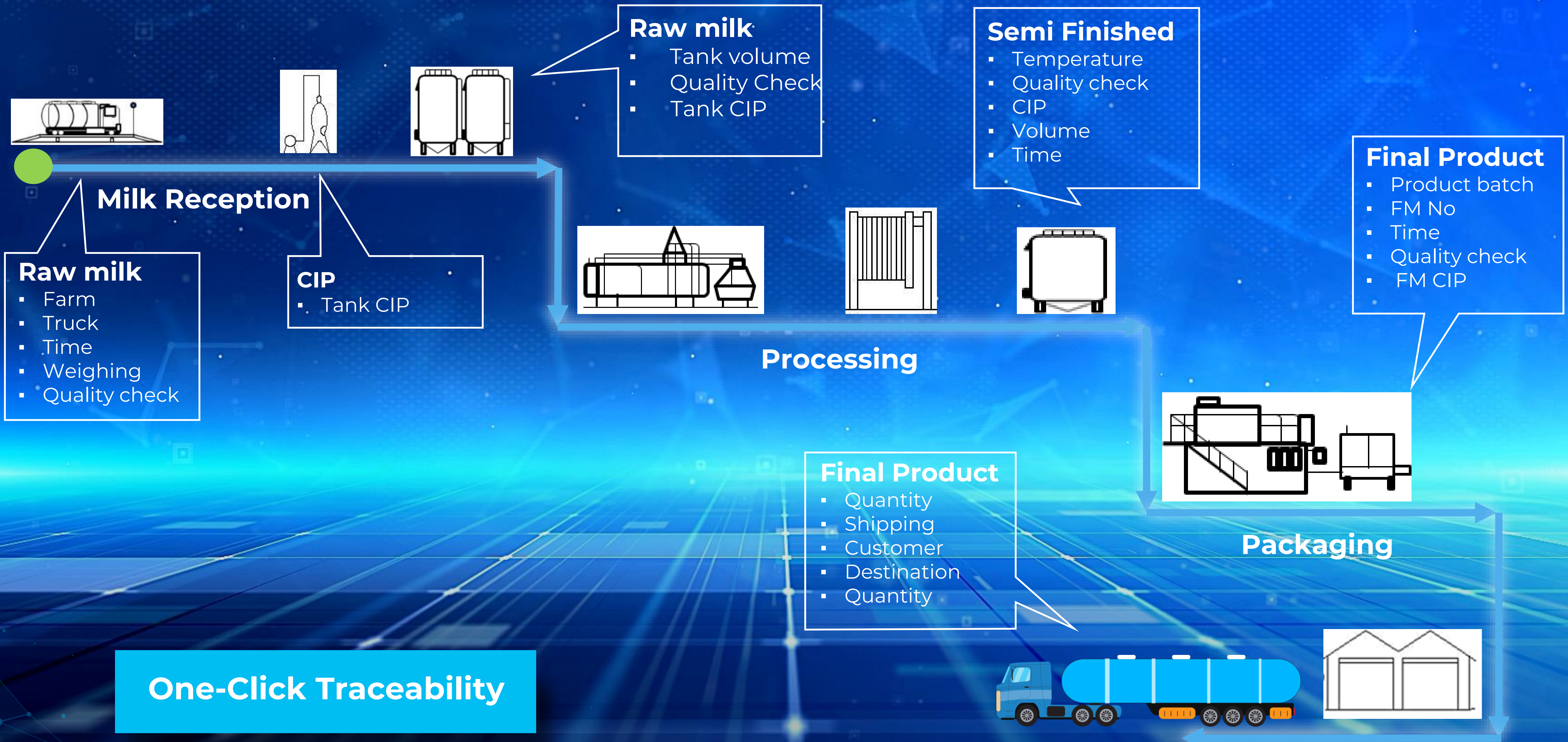
Processing line

Packaging line

Distribution



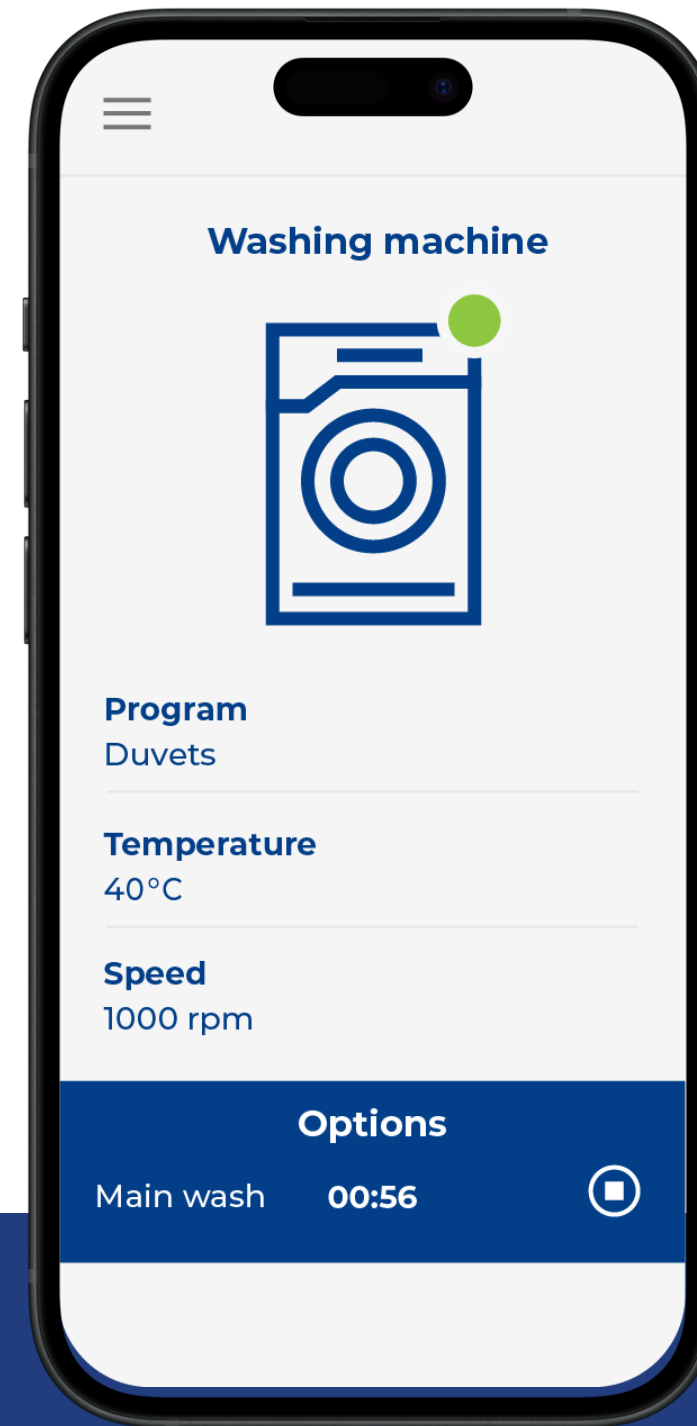
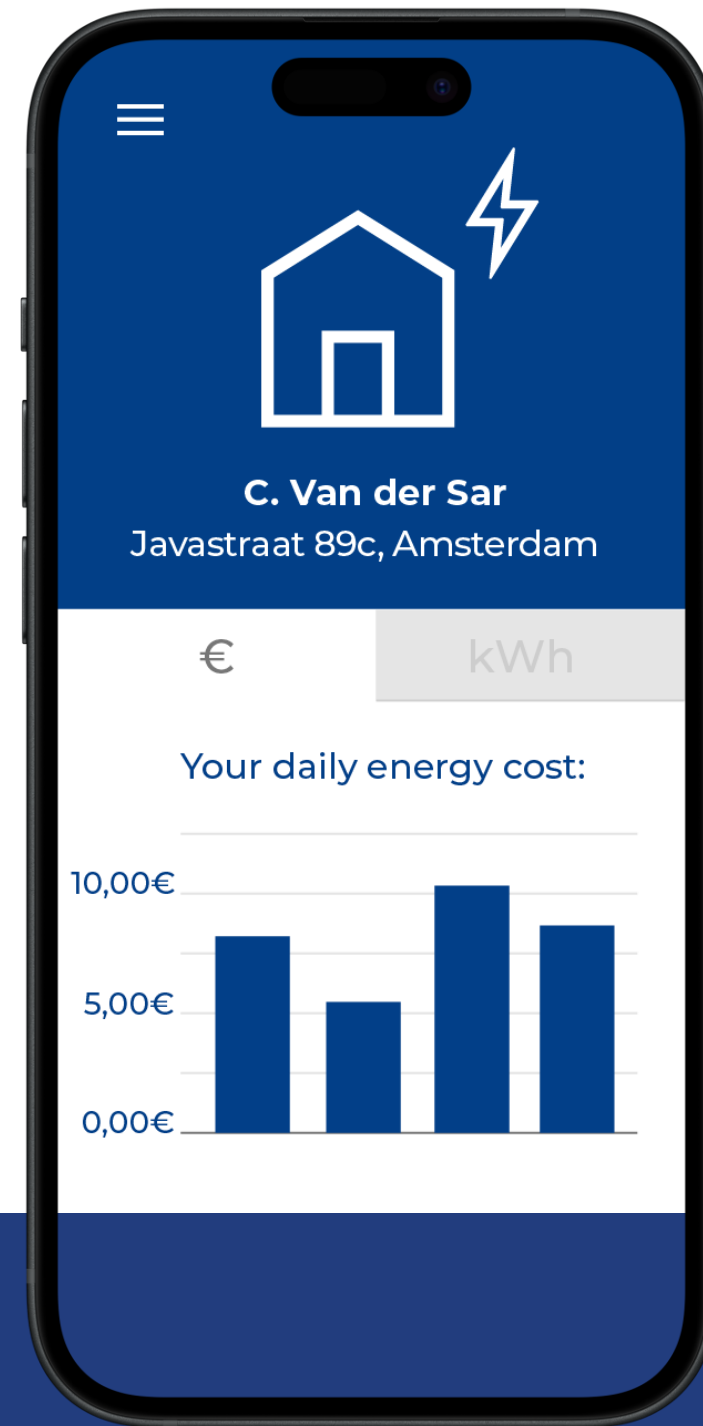
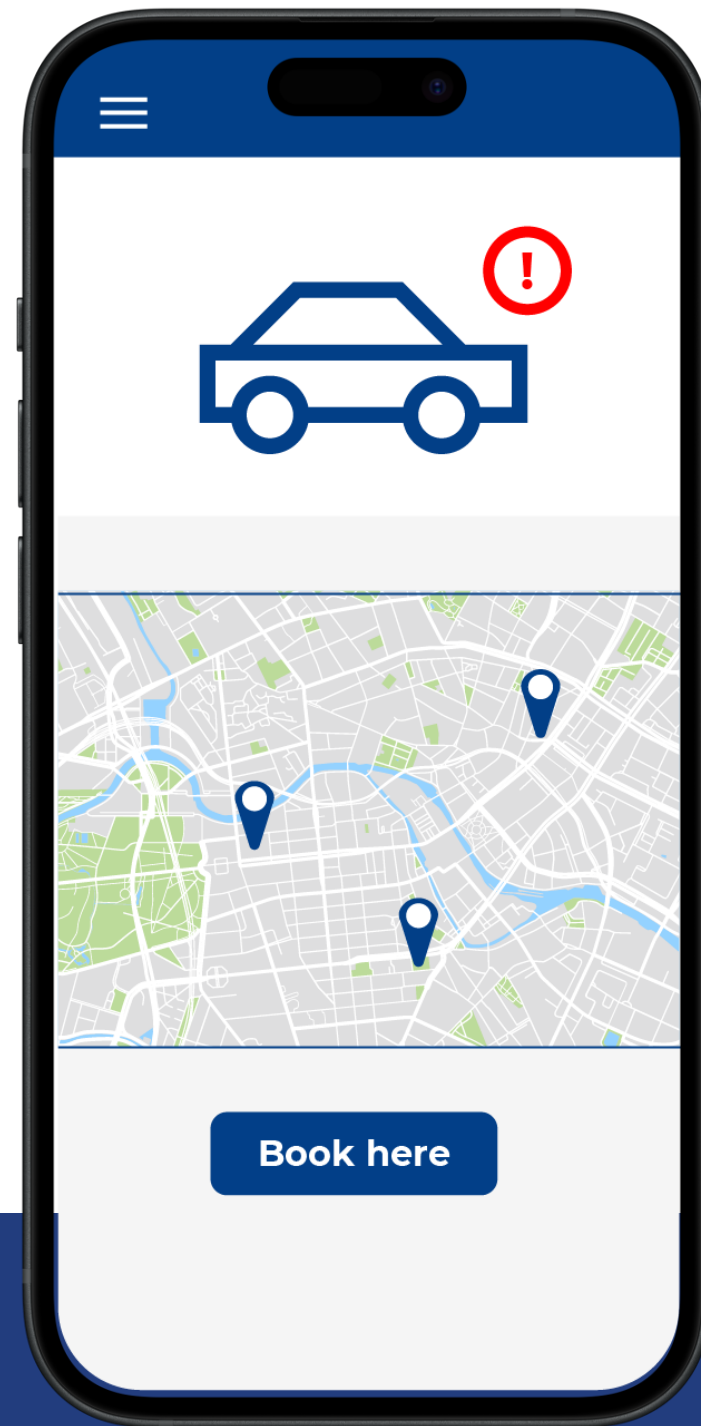
Example of step by step data collection



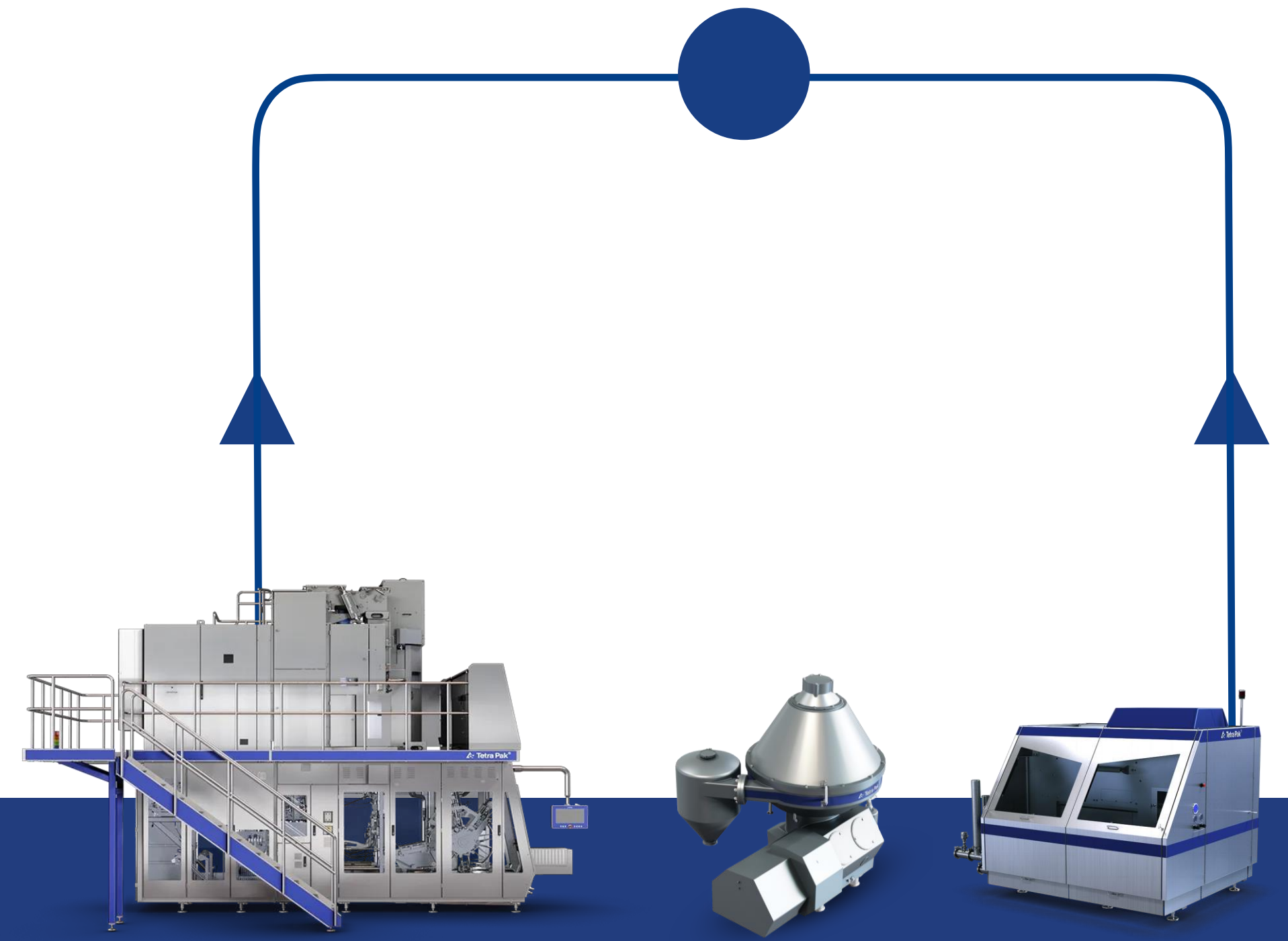


Traceability demo





Why should your plant be any different?



Asset Health Monitoring

Your assets are talking We help you listen



Asset Health Monitoring

How does it make things better?



Optimise maintenance by lifetime management.

- Condition-based maintenance by continuous monitoring
- Cost optimization



Prevent unplanned downtime.

- Equipment downtime avoidance for reliability
- Quick issue resolution



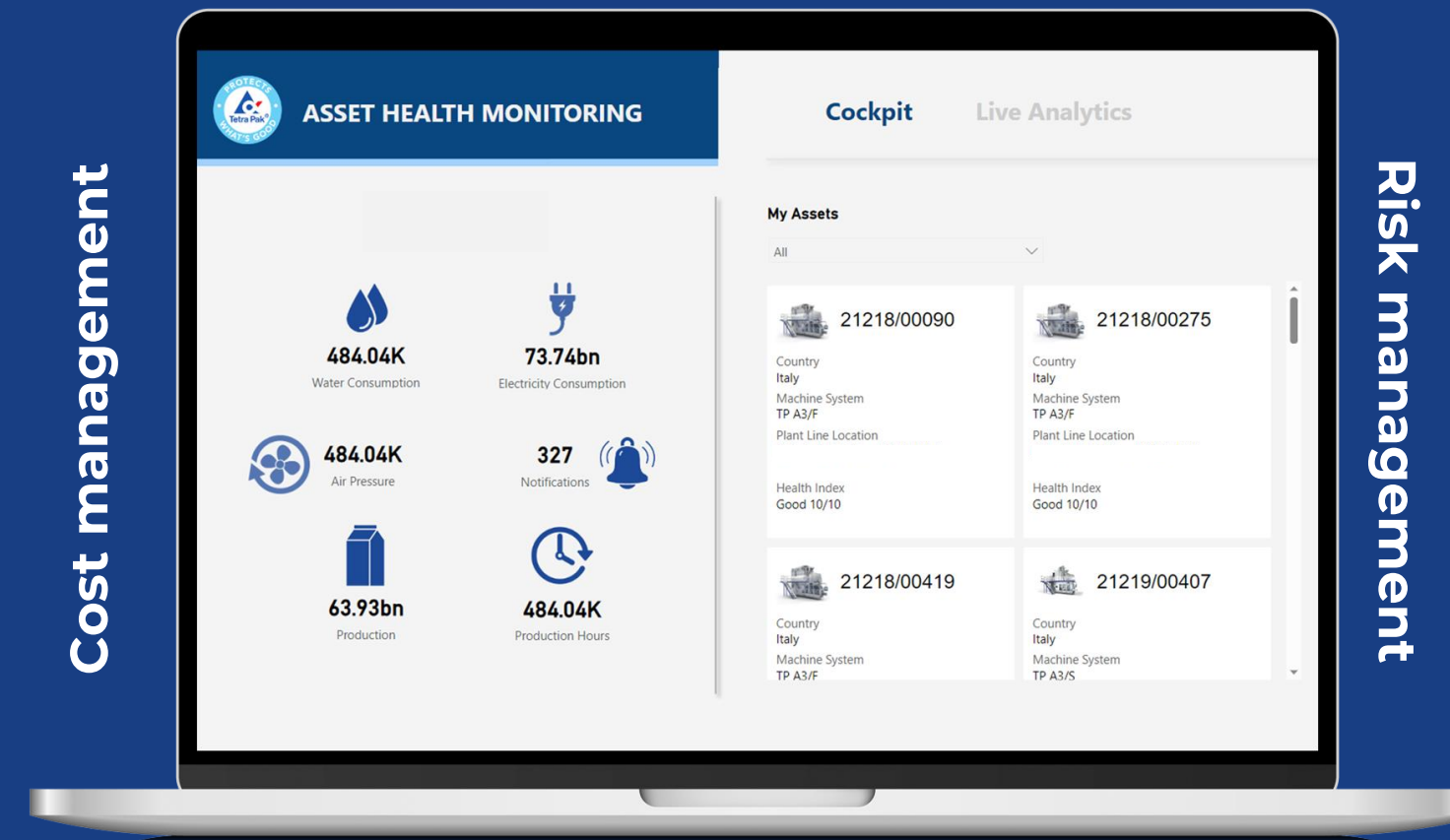
Manage risk by better process control.

- Early detection of potential failures
- Lower Probability of quality issues



In-depth operational understanding by better data visibility.

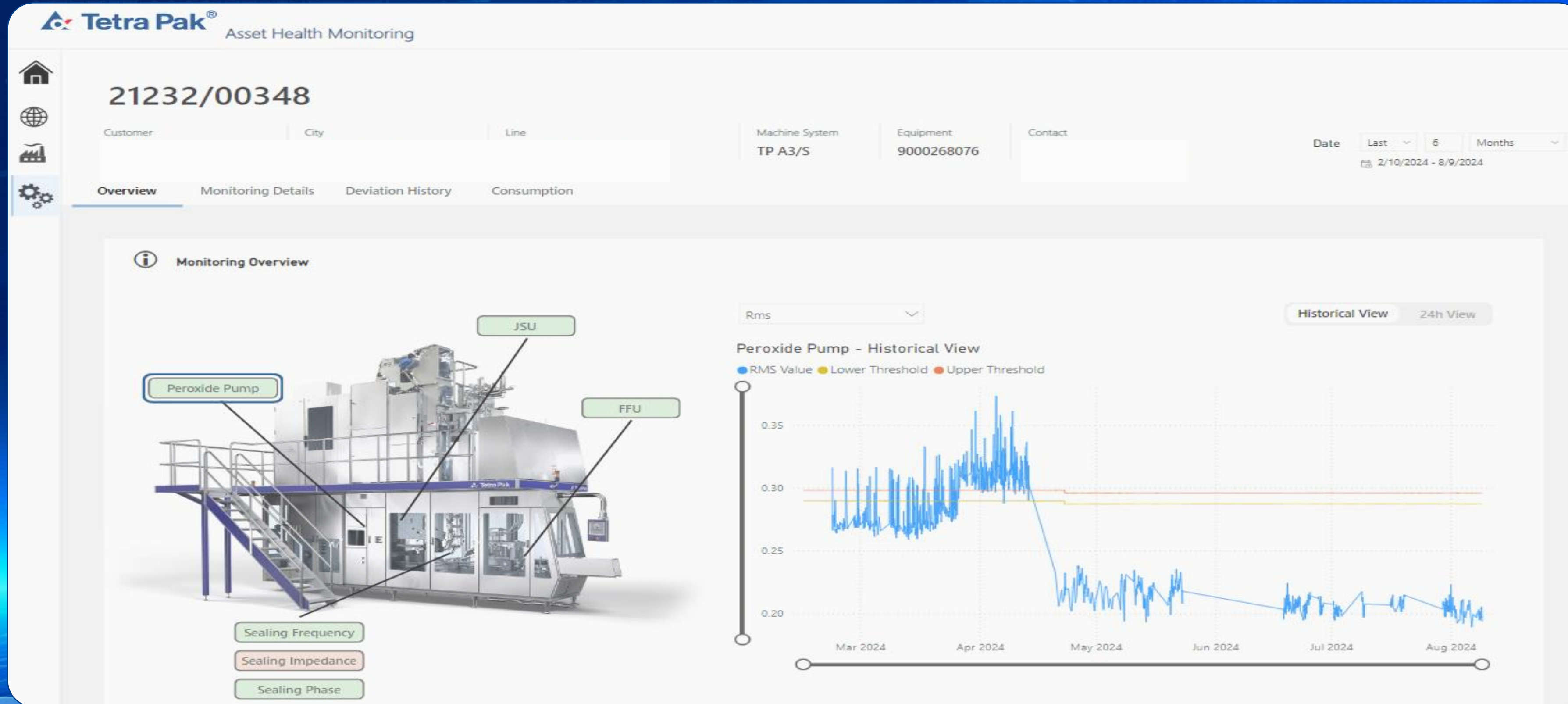
- Better data visibility enables cost optimization
- Automatic notifications accelerates decision making





Asset Health Monitoring

Positive impact on unplanned maintenance and operational cost



Potential saving

4 MWH
Energy

5L Liters
Water

20L Liters
Compressed air

13
Cases notified by the system & followed-up

60 hours
Downtime avoided on filling machines

1.5L Liters
Product saving for Homogenizers

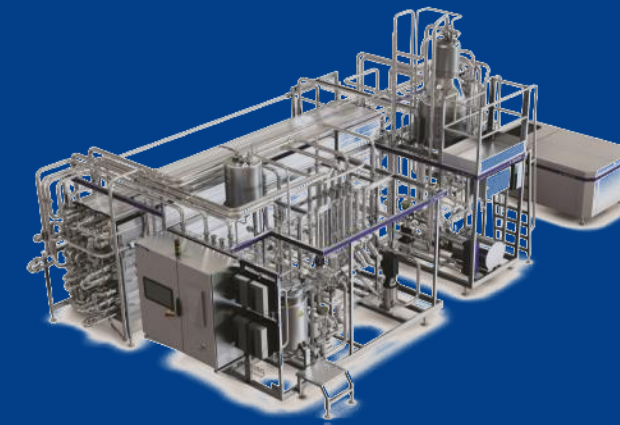


Asset Health Monitoring

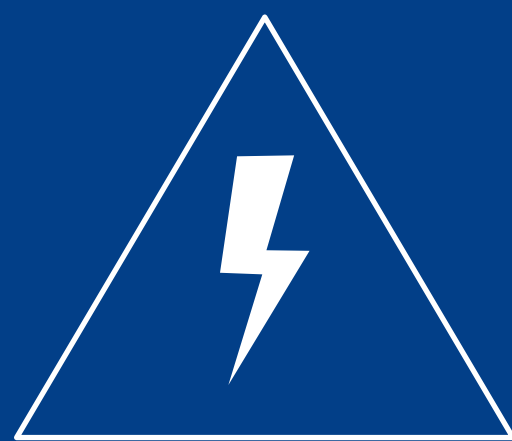
Facts and figures



300+
Filling
machines



100+
Processing
equipment's



upto **30%**
Energy saving
potential



upto **15%**
Maintenance
cost reduction



20+
Potential
Un-Sterilities averted



AHM demo

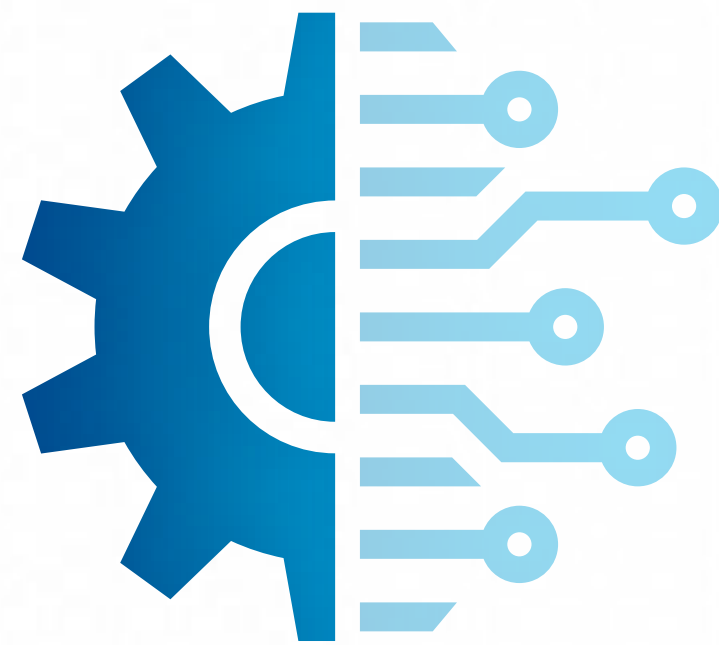




Digi intelligence factory



WORLD ECONOMIC FORUM



Greenfield

– first lighthouse factory
in the Chinese dairy
industry

MengNiu
Ningxia, China

Use case

>30 advanced use cases, from intelligent
decision-making to flexible automation



A leap in factory efficiency

– from human control to system control

Total cost of production

▼ **19%**



▲ **67%**
packaging
efficiency
increased

▲ **15%**
product
switch
improved

▲ **37%**
space
utilisation
improved



Innovation
starts here.