



Avebe: Transformation to a data driven organization

Jan Spijkerman & Tom Wassink





Content

About Jan, Tom & Avebe

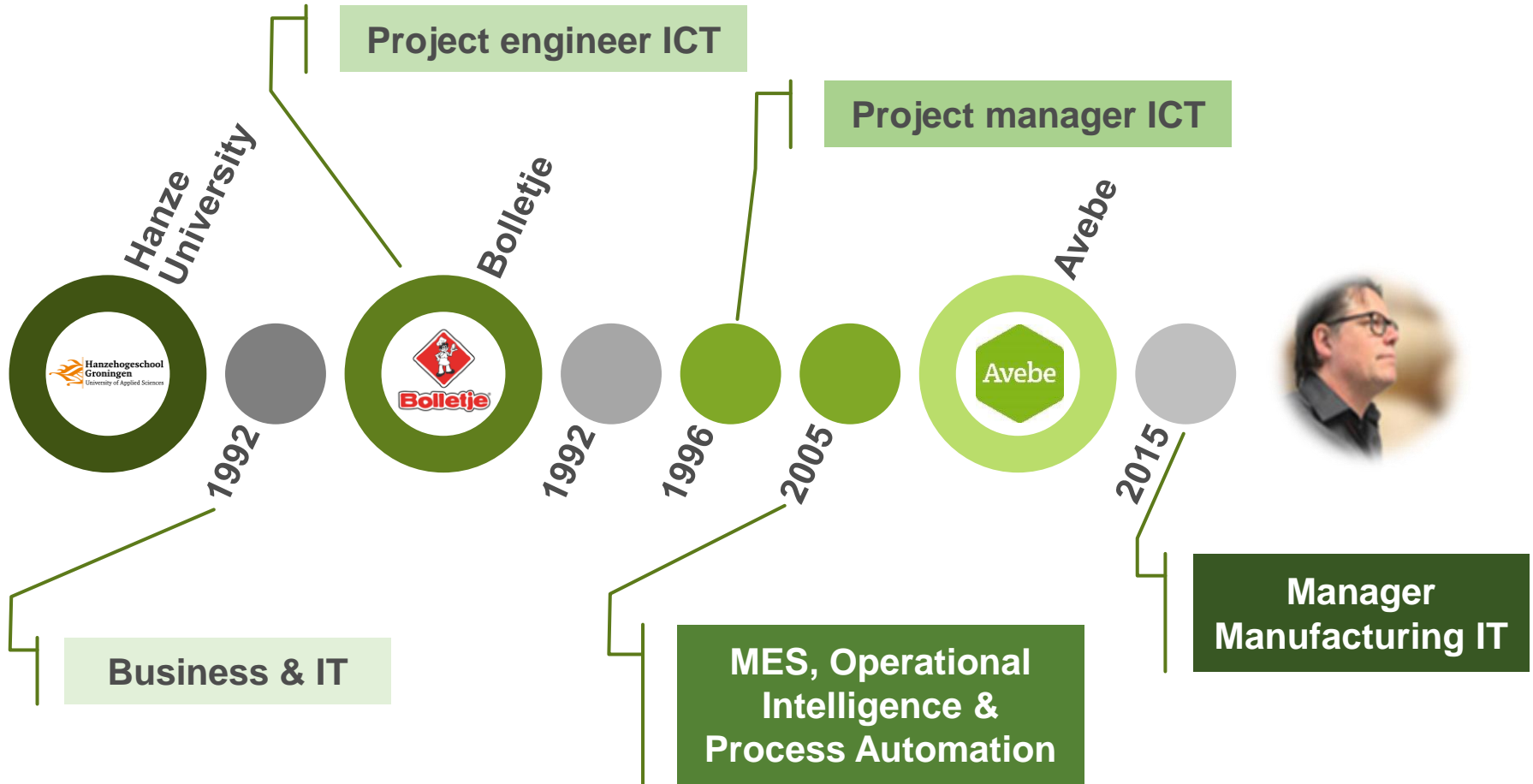
Our journey to a data driven organisation

PI introduction at Avebe

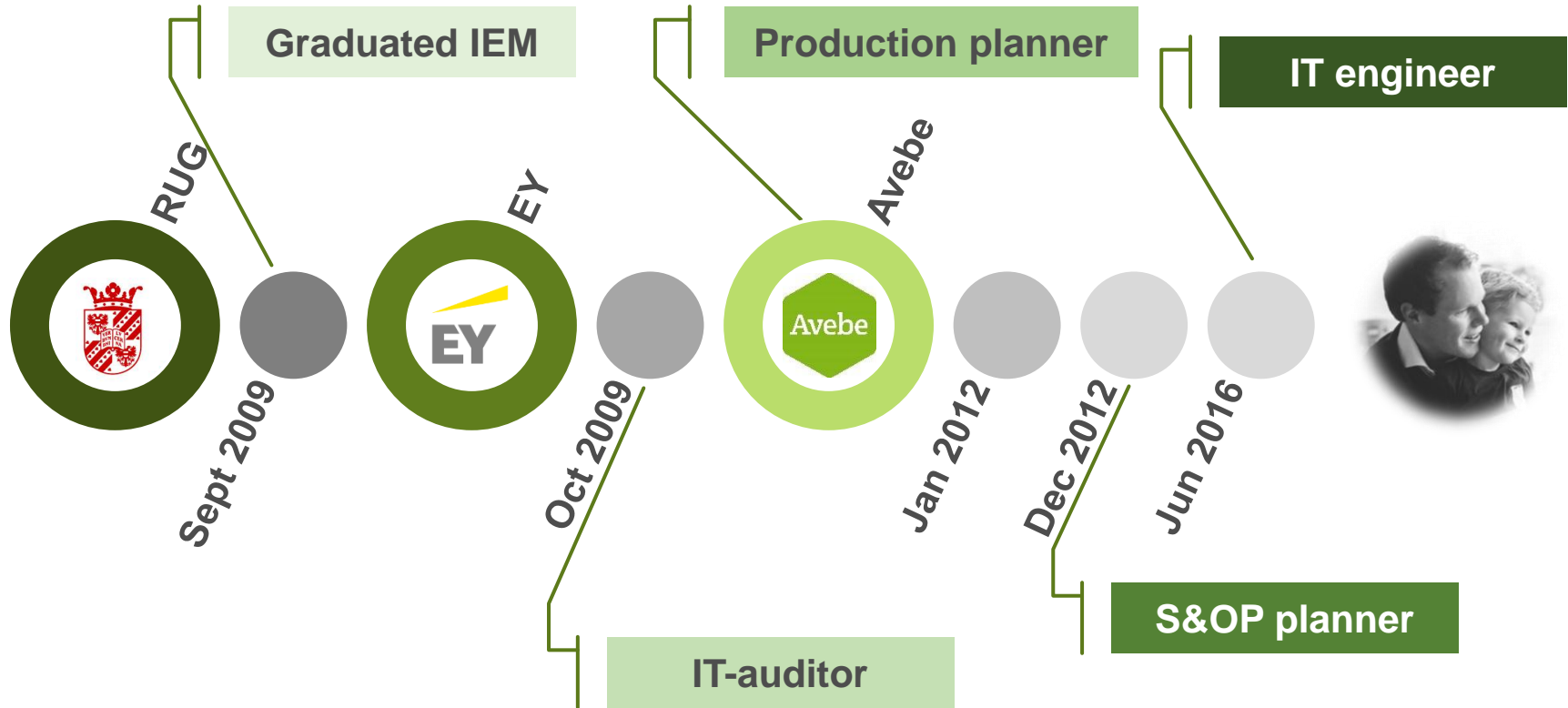
Operations strategy: Factory 4.0

Use cases

Jan Spijkerman



Tom Wassink





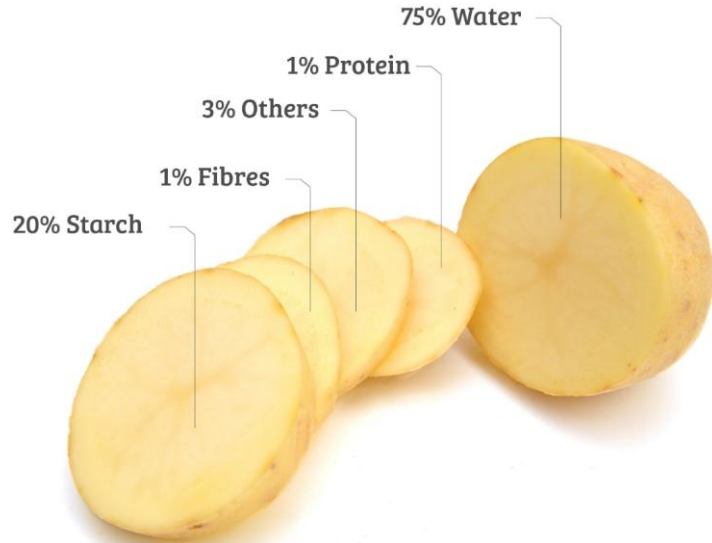


About us

Established in 1919

An international **cooperative of starch potato** growers

Approximately 2.300 members and
1.300 employees



We extract all valuable ingredients of the potato



Our mission is to achieve an optimum performance price for our members.

The Avebe logo is a green hexagon with a white border, containing the word "Avebe" in white sans-serif font. It is positioned in the center of the image, overlapping the field and the table.

Avebe

Year	2016/2017	2015/2016	2014/2015
Net turnover (in millions of euros)*	551.3	548.6	521.1
Performance price (EUR/ton)*	82.16	77.10	78.41
Solvency	49.0%	48.8%	46.4%

Our members and the region

Germany (Weser-Ems) 260

The Netherlands 1397

Germany (KPW) 652



Production locations

Ter Apelkanaal

Foxhol

Gasselternijveen

Malmö

Dallmin

Lüchow





Our markets

Food

Industrial

Animal feed



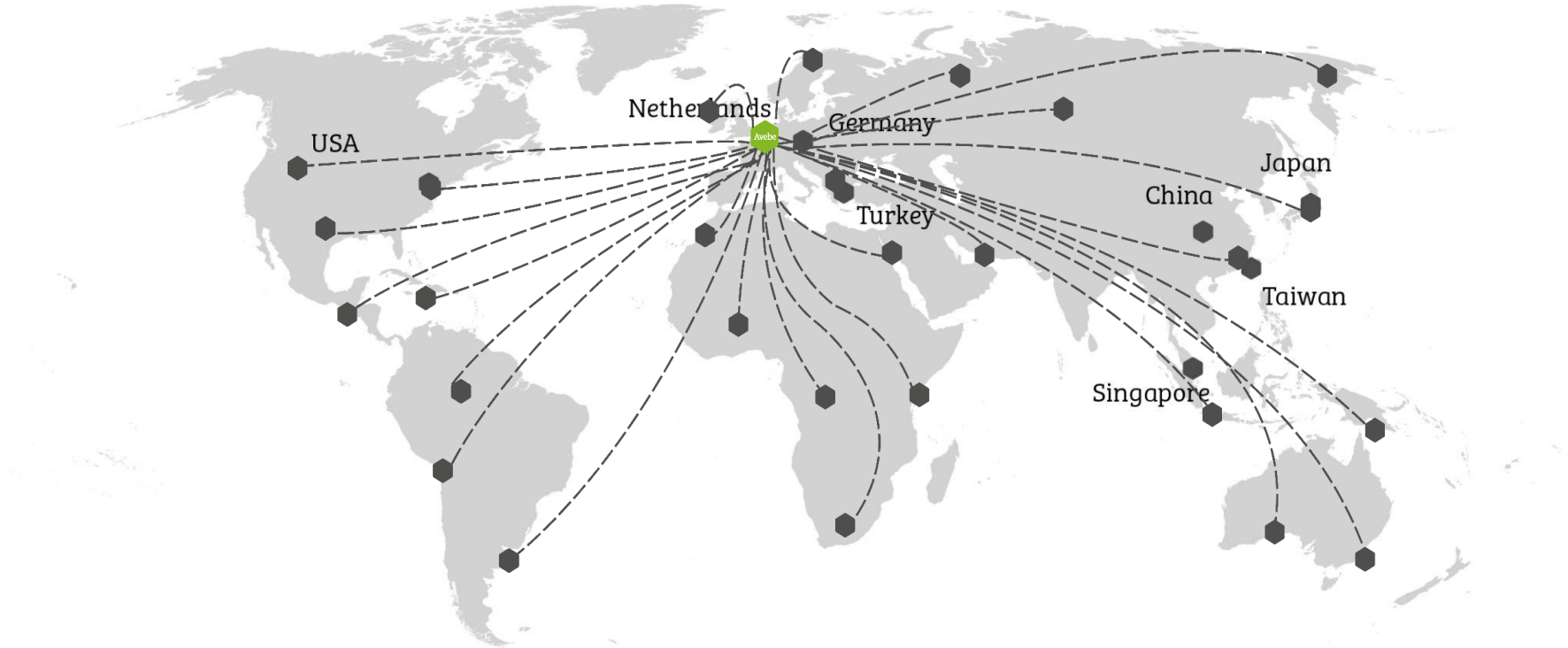
Major player in the Food industry

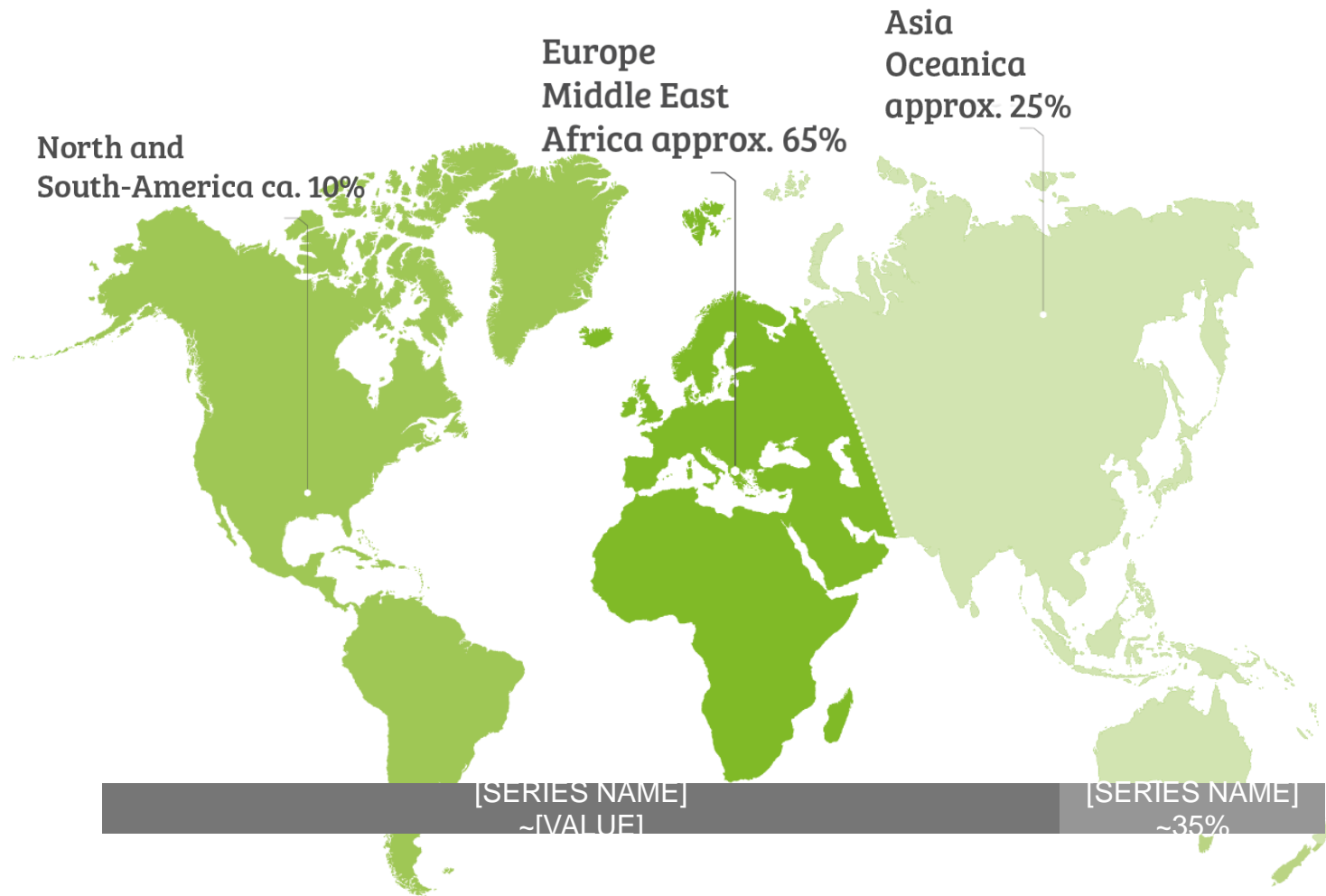


Sales offices



Customers







Our journey to a data driven organisation

Introduction of the PI system at Avebe

ERP transition

FROM

ORACLE®

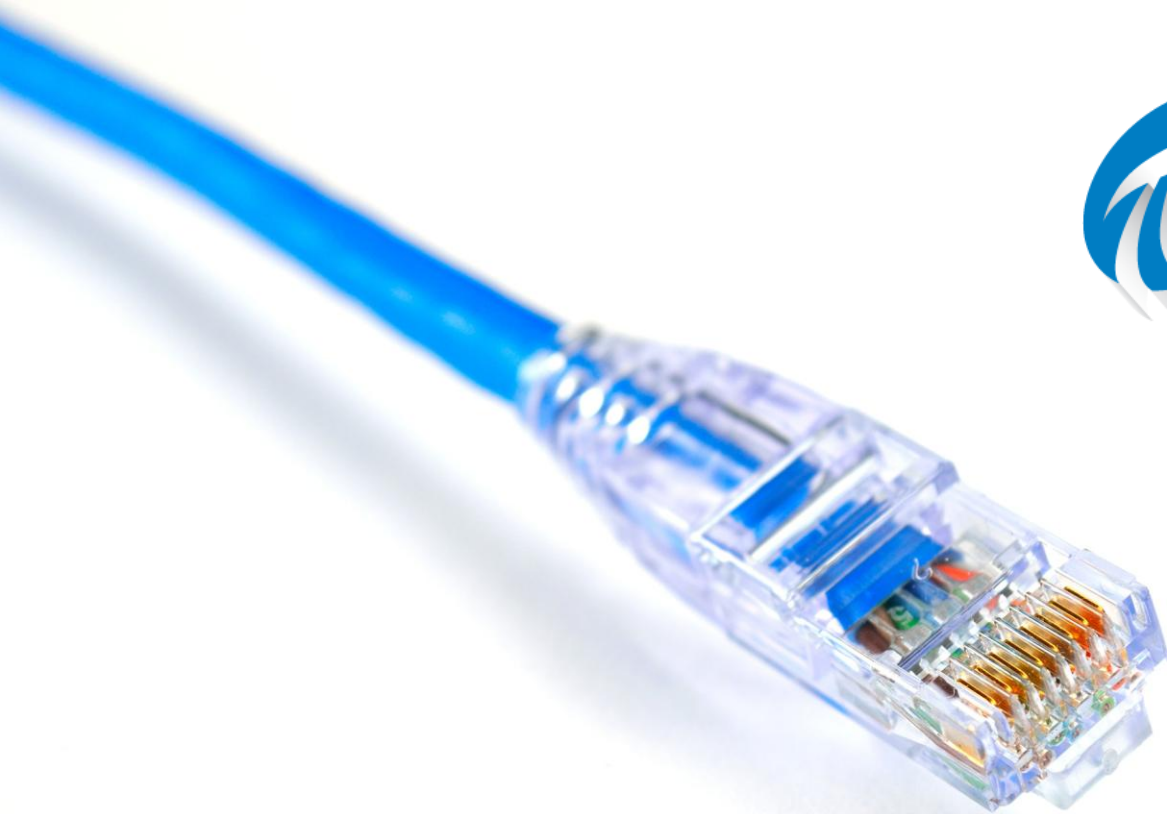
TO



...interfaces with process
automation gone...

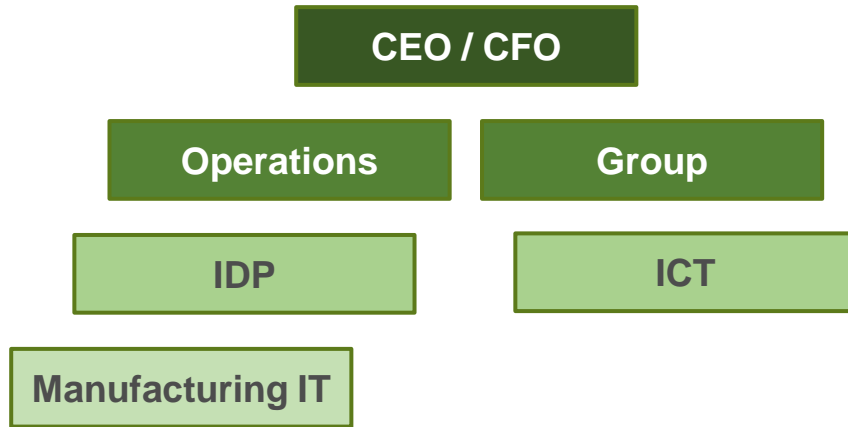


**Introduction of a MES system
as an interface between SAP
and process automation**



OSIsoft®

Manufacturing IT department



ICT:

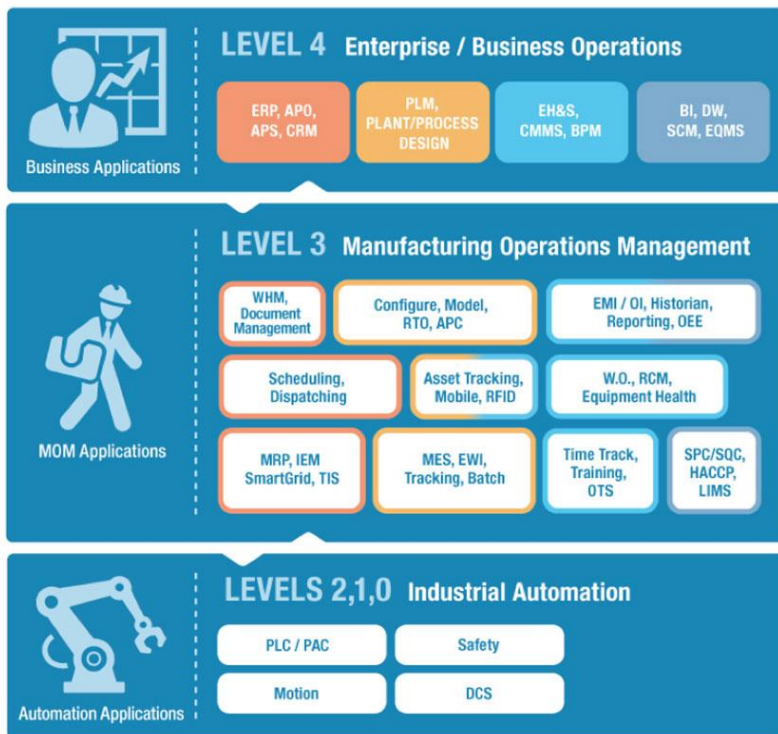
- Business application
- Infrastructure

Manufacturing IT:

- Manufacturing operations management applications
- Automation applications

MANUFACTURING OPERATIONS MANAGEMENT

Software / Application View



ICT



OSIsoft®

Manufacturing IT

SIEMENS

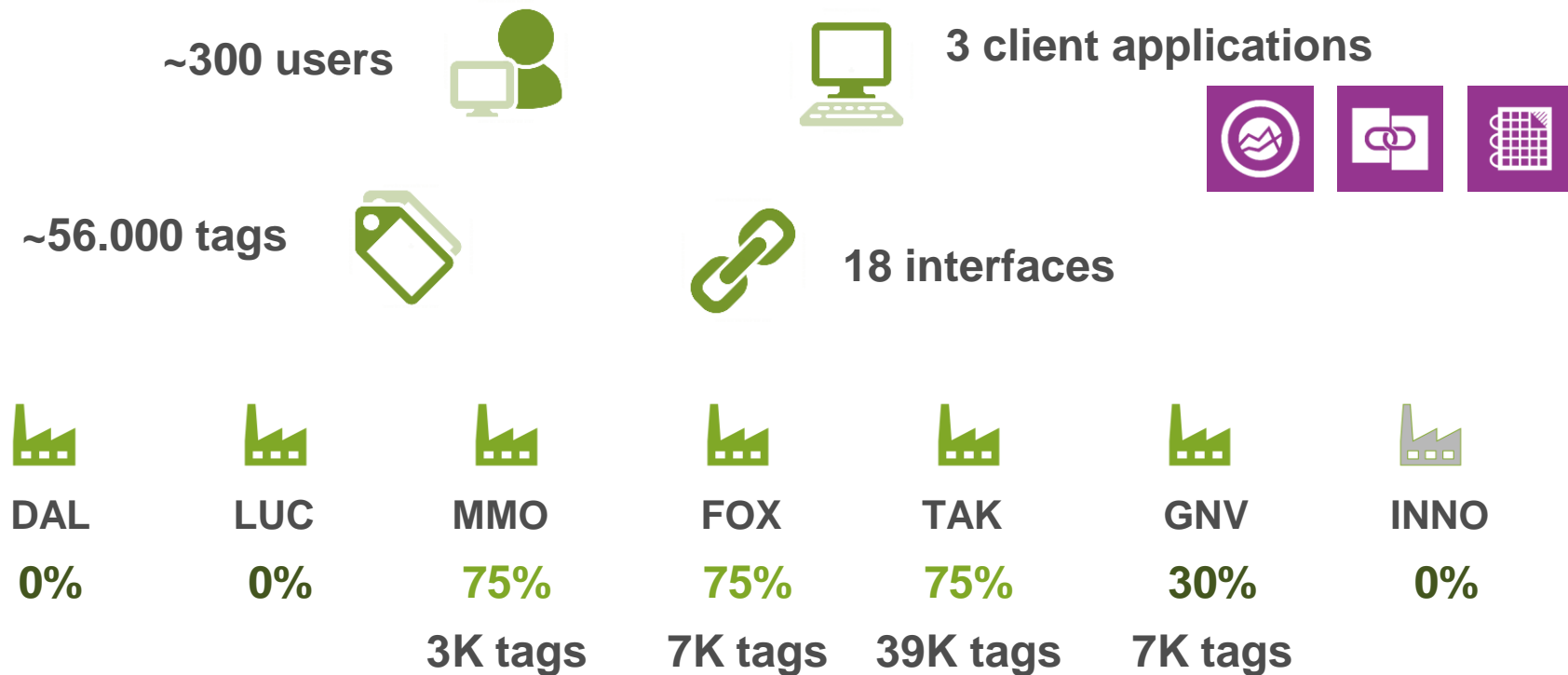


from **data storage/interface**
application



to an **information** application

Current status PI system

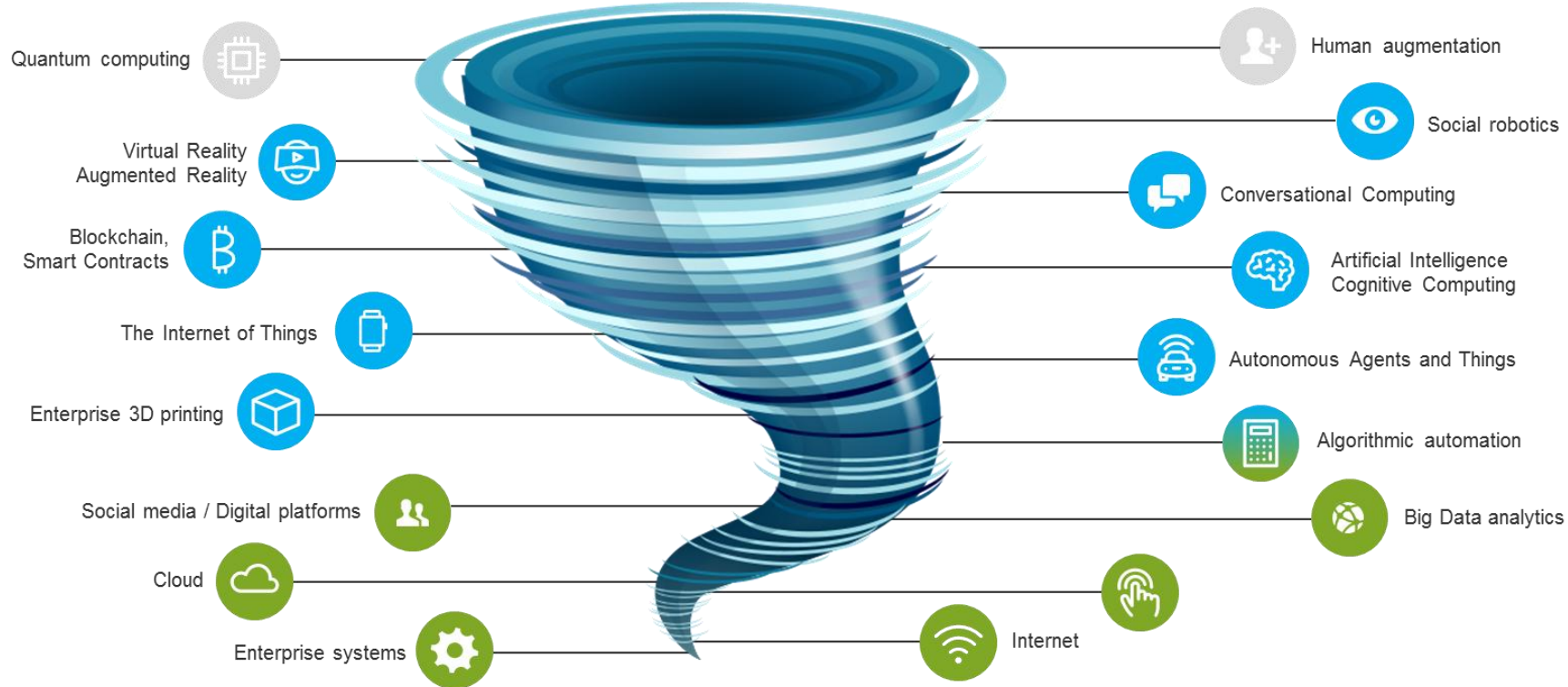




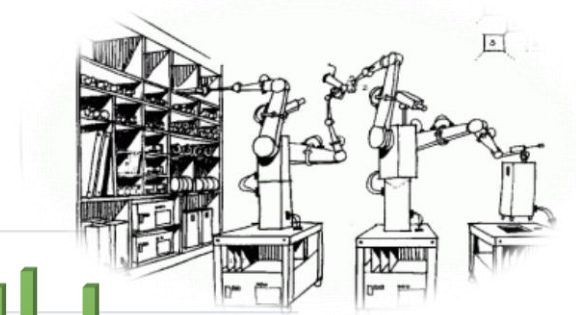
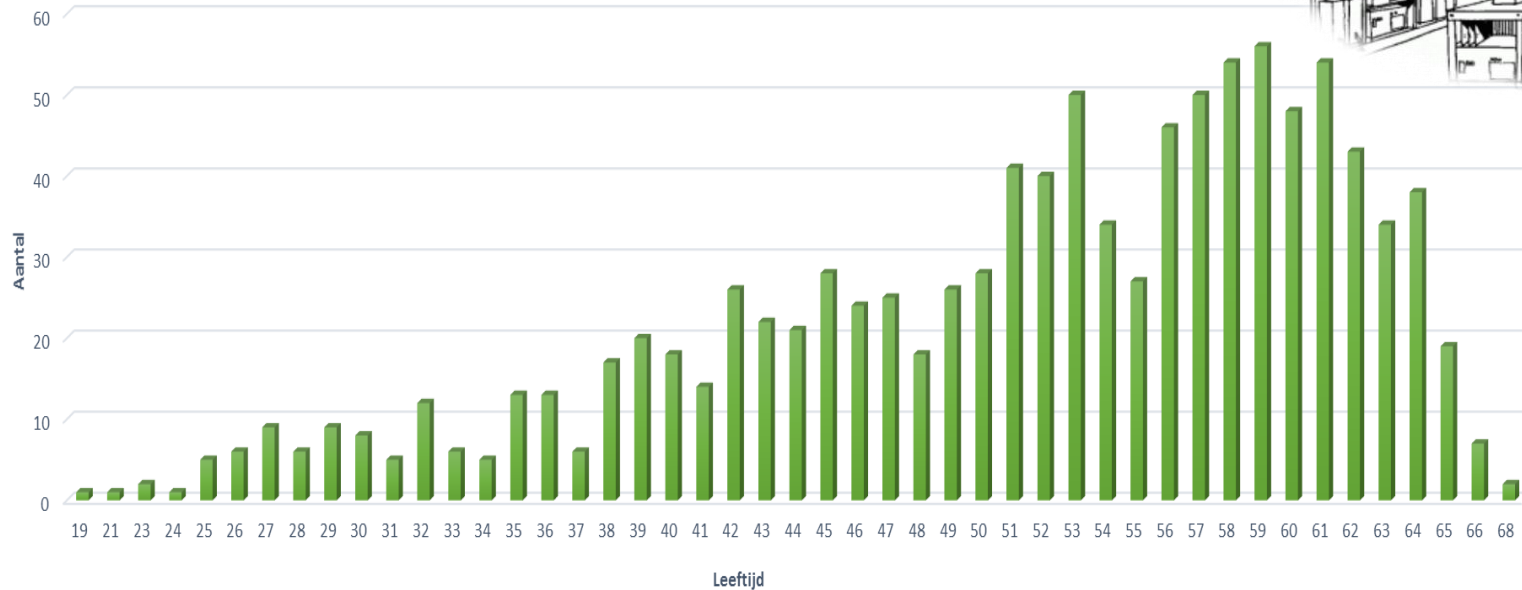
Our journey to a data driven organisation

Avebe Factory4.0, Operations Strategy 2018 – 2023

The technology storm is developing



Ageing of Avebe employees



Avebe Factory4.0 - Business Drivers

From average performance to **World Class Operations Management**

- Reduce operating costs



- Reduce utilities usage



- Reduce quality costs



- Increase capacity



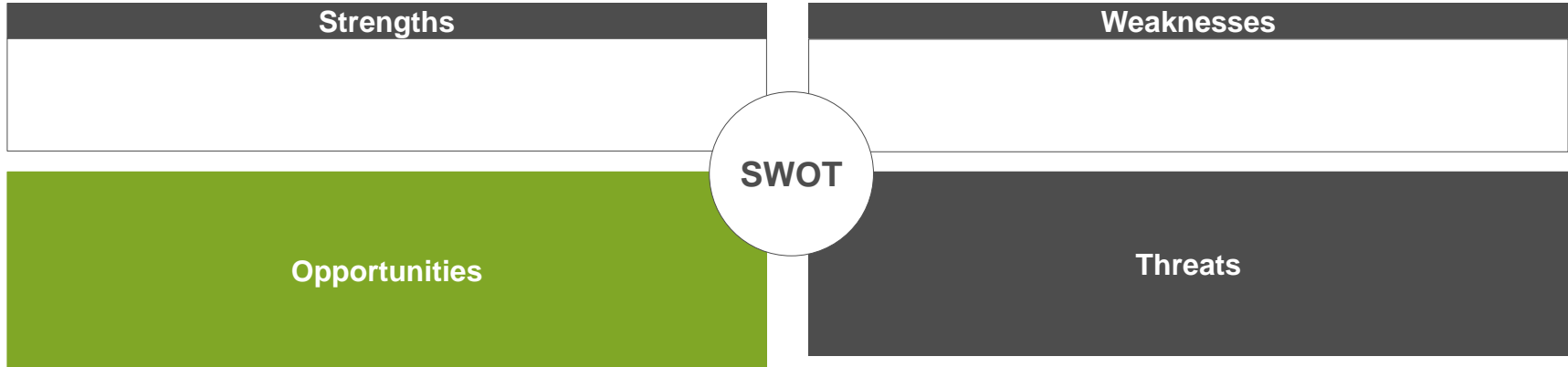
- Increase throughput and yields



- Reduce business risk



SWOT analysis



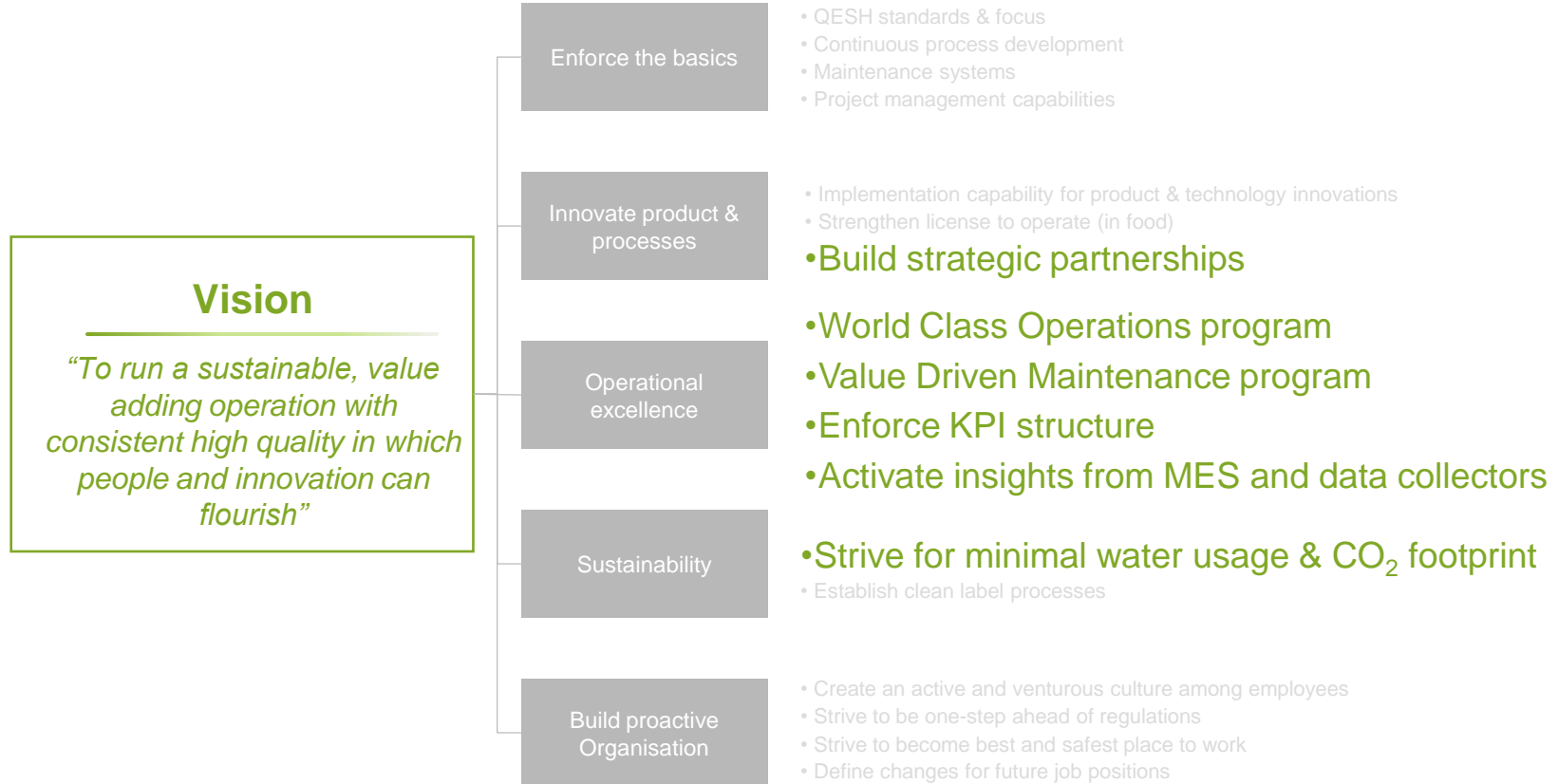
- ...
- Process management based KPI structure using operational KPIs
- ...
- Activate MES & data collectors in a focused way
- ...
- Leverage supplier expertise
- ...

Main goal Factory4.0: Transforming Avebe with data



The **accessibility** of data is paramount for
informed decision making
at all levels of **business**

The Operations strategy 2022 is founded on 5 main strategic pillars



Build Strategic Partnerships





Use cases

Training

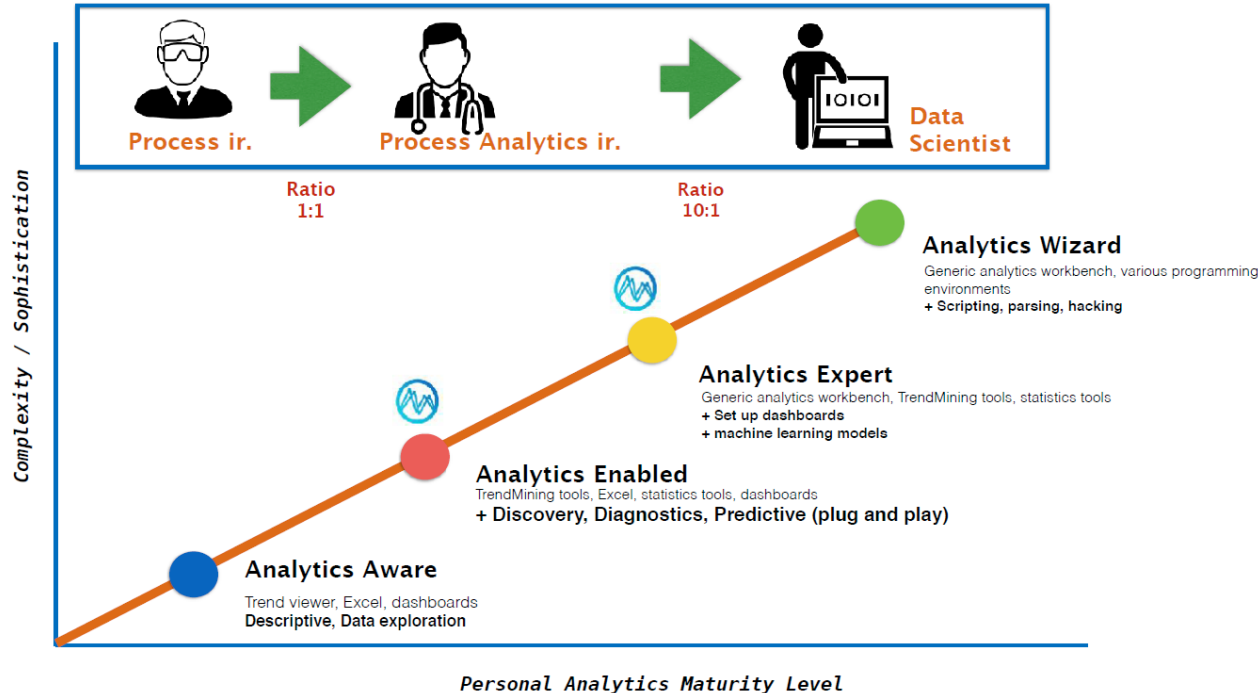
Utilizing Asset Framework

Dashboards



In-house training sessions for users
&
Avebe PI User conferences

TrendMiner Corporate Explorer Program



We have to develop the
next generation
process engineers

TrendMiner in practice: Coagulation



Issue:

Valve opened to
fast

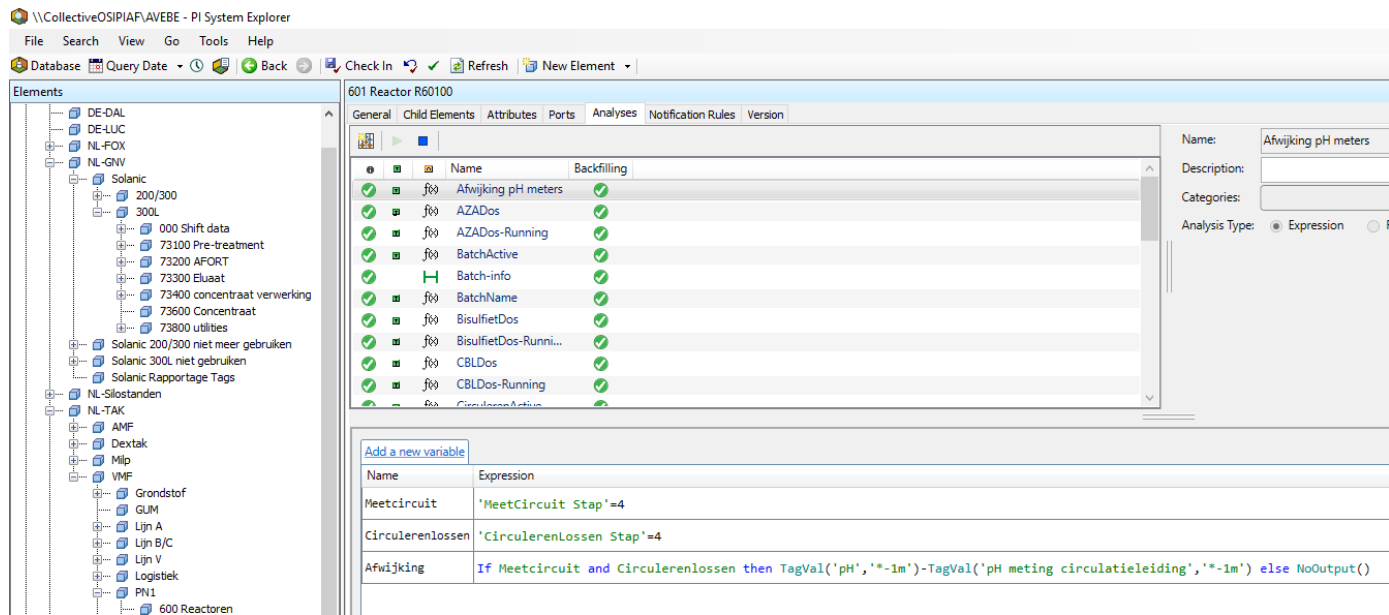
Solution:

changing ramping in
process automation



Modelling of the Asset Framework
in scope for new plants/projects

Utilizing the PI Asset Framework



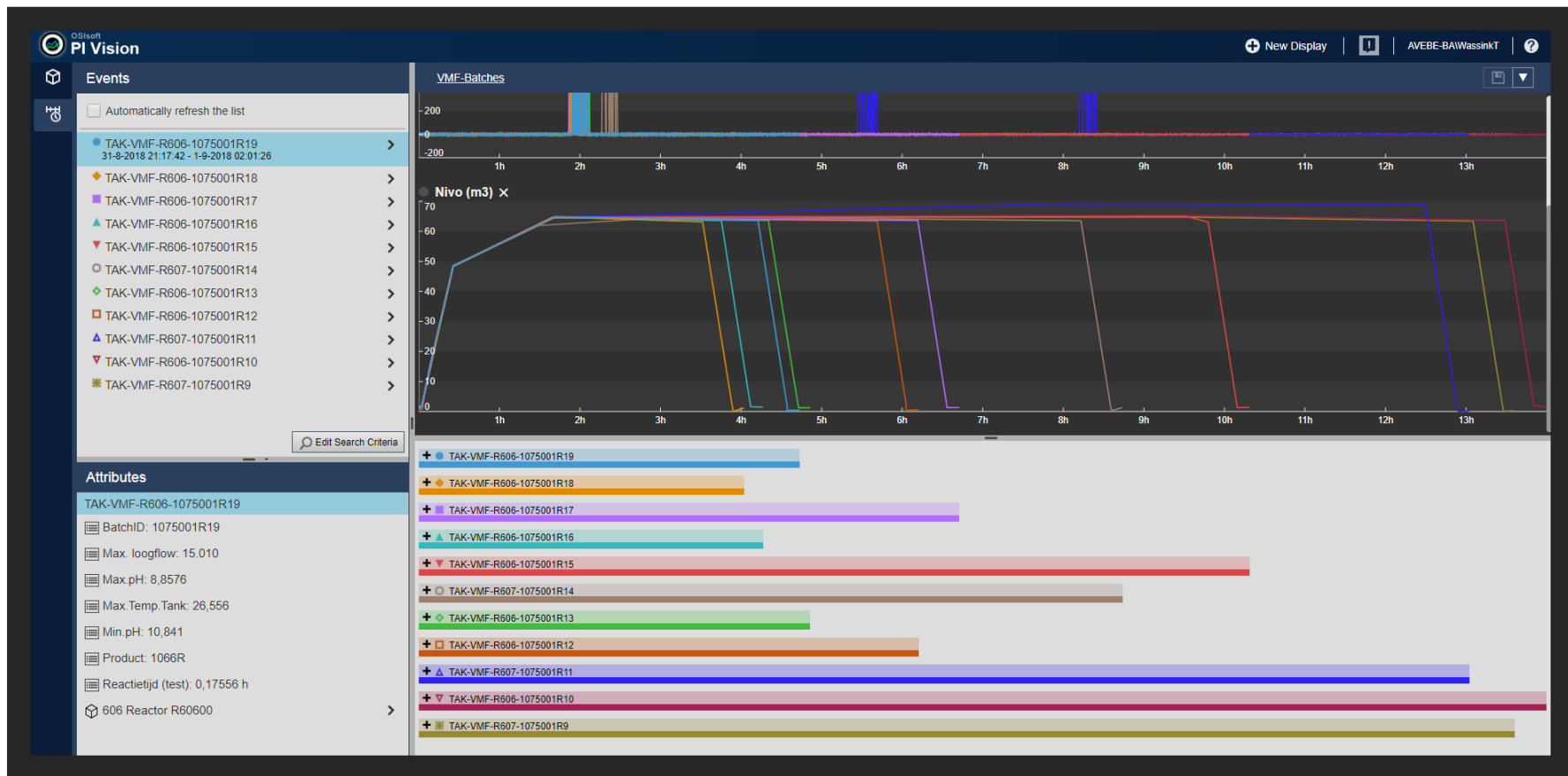
The screenshot displays the PI System Explorer interface. The left pane shows a hierarchical tree of assets, including Solanic, NL-GNV, and 600 Reactoren. The right pane shows the configuration details for the selected asset, 601 Reactor R60100. The configuration is organized into tabs: General, Child Elements, Attributes, Ports, Analyses, Notification Rules, and Version. The General tab is active, showing a table of variables and their backfilling status. Below the table, there is a section for adding new variables with a table of Name and Expression.

Name	Backfilling
Afwijking pH meters	✓
AZADos	✓
AZADos-Running	✓
BatchActive	✓
Batch-info	✓
BatchName	✓
BisulfietDos	✓
BisulfietDos-Runni...	✓
CBLDos	✓
CBLDos-Running	✓
CirculierenLossen	✓

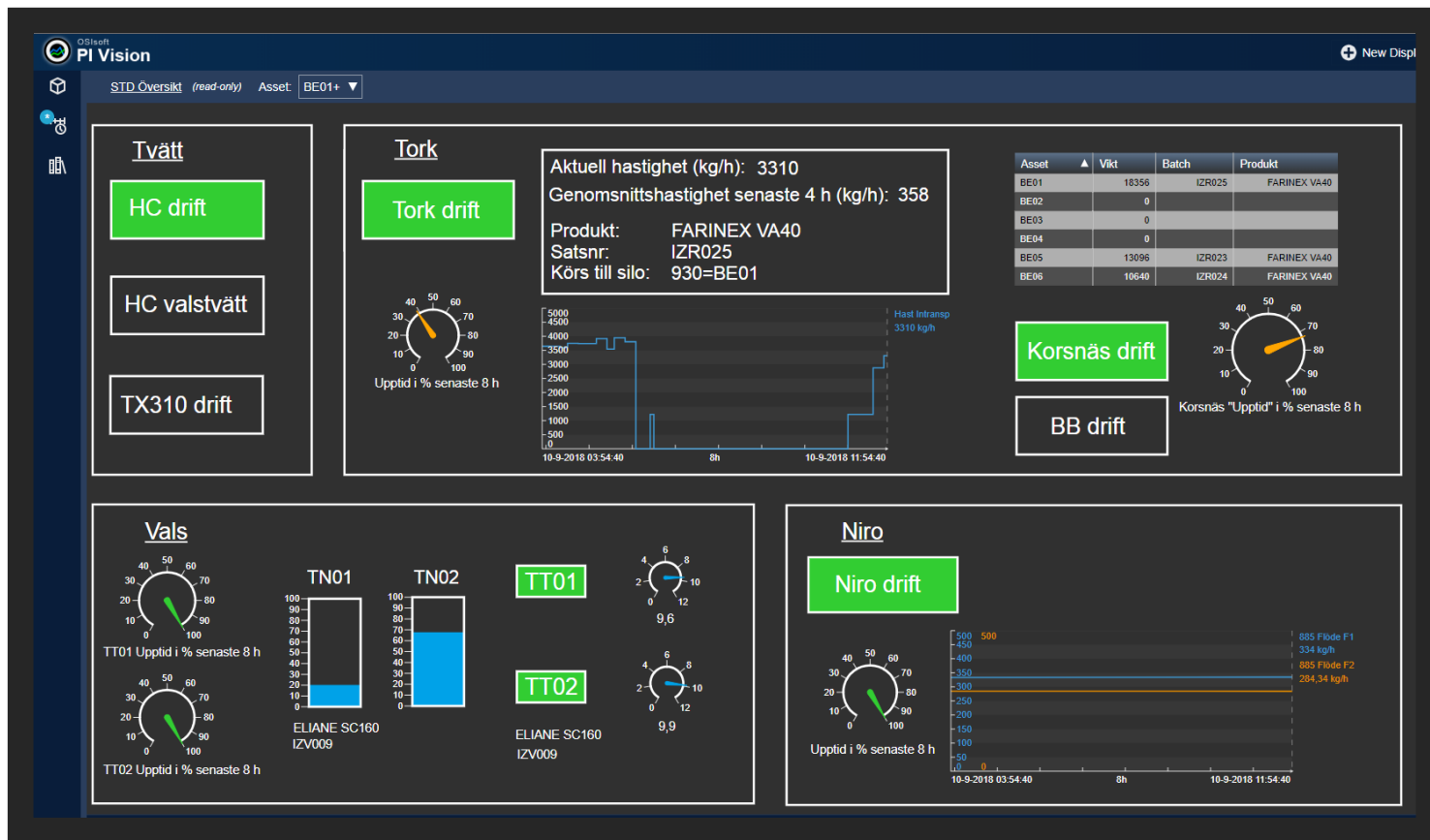
Name	Expression
Meetcircuit	'MeetCircuit Stap'=4
Circulierenlossen	'CirculierenLossen Stap'=4
Afwijking	If Meetcircuit and Circulierenlossen then TagVal('pH','*-1m')-TagVal('pH meting circulatieleiding','*-1m') else NoOutput()

**Calculations
within PI AF**

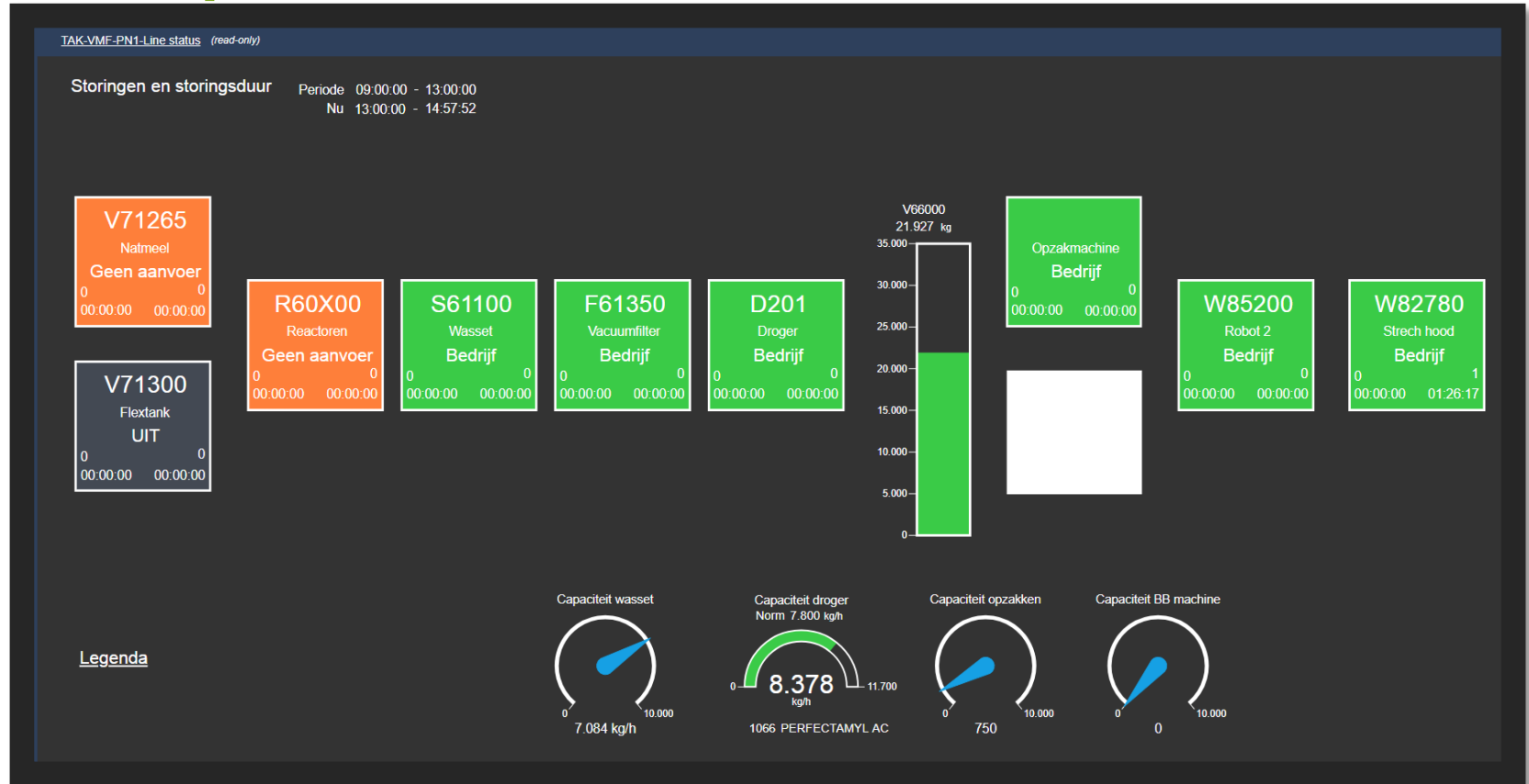
Event frames



Production lines overview dashboard



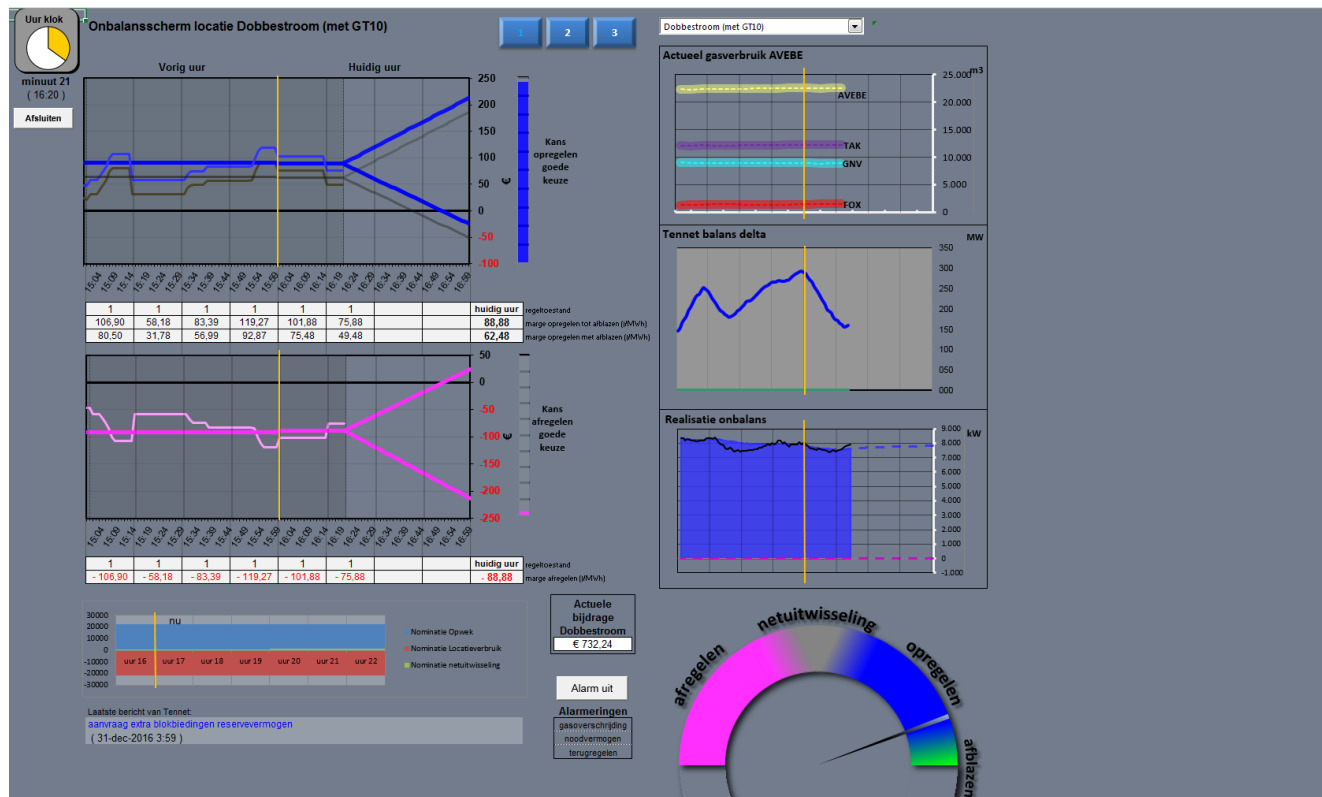
OEE - production line status dashboard



Real-time silo dashboard



Energy dashboard

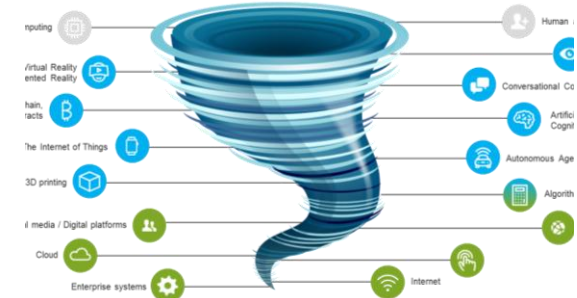


Electricity monitoring
and prediction

but still in excel...

Avebe

Transformation to a data driven organization



CHALLENGE

The technology storm is developing

- More and more technologies coming available on the market
- Additional challenges with an ageing workforce: ~20% will retire within 5 years

SOLUTION

Avebe developed an operations strategy “Avebe Factory4.0”

- Main goal Factory4.0: Transforming Avebe with data

RESULTS

Strategic focus on getting value out of data

- TrendMiner Corporate Explorer Program
- WCOM program
- Value Driven Maintenance program

Avebe: Transformation to a data driven organization



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- IT engineer
- Coöperatie AVEBE U.A.
- tom.wassink@avebe.com

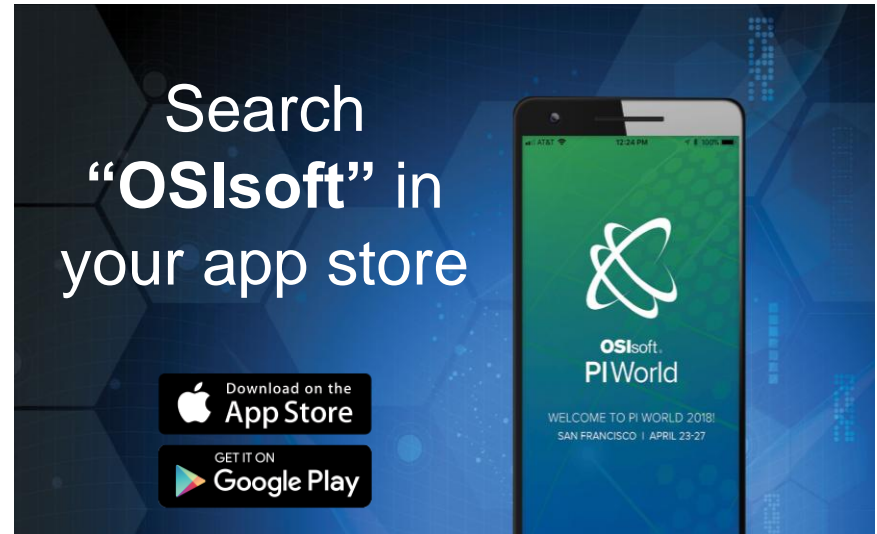
Questions?

Please wait for
the **microphone**

State your
name & company



Please rate this session in the mobile app!



謝謝 KEA LEBONA
 TAPADH LEIBH 고맙습니다
 БАЯРЛАЛАА MISAOTRA ANAO
 DZIĘKUJĘ CI NGIYABONGA TEŞEKKÜR EDERIM GRACIES
 OBRIGADO شڪرا SALAMAT
 DANKON TANK TAPADH LEAT
 KÖSZÖNÖM DANKIE TERIMA KASIH GRACIES
 СПАСИБО MULTUMESC
 PAKMET CIZGE FAAFETA
 GO RAIBH MAITH AGAT ESKERRIK ASKO
 БЛАГОДАРЯ GRACIAS HVALA ХВАЛА ВАМ
 TI БЛАГОДАРАМ TEŞEKKÜR EDERIM
 TAK DANKE MAHADSANID
 RAHMAT MERCI
 HATUR NUHUN
 DANK JE ΕΥΧΑΡΙΣΤΩ GRATIAS TIBI
 AČIŪ SALAMAT MAHALO IĀ 'OE TAKK SKALDU HA
 GRAZZI PAKKA PĒR
 PAXMAT CAĞA
 CẢM ƠN BẠN ありがとうございました
 WAZVIITA SIPAS JI WERE TERIMA KASIH
 UA TSAUG RAU KOJ
 TI БЛАГОДАРАМ
 СИПОС



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THANK YOU

HVALA

GRAZIE



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