

# Covestro ANT leverages the PI System to the max with industrial analytics from TrendMiner

Presented by Tim Timmermans



# Agenda



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Who are we?

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Why do we use industrial analytics?

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How do we want to do it?

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What do we do with it?

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Next steps?

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# Tim Timmermans

At a glance ;)

- Masters Degree of industrial sciences
  - Focus on polymer and sustainable engineering
- Operational Expert PET Antwerp continuous improvement process
- 5,5 years of experience @ Covestro
  - DCS-migration
  - Defect Elimination
  - Root Cause analysis



**ONE OF THE  
WORLD'S LEADING  
POLYMER  
PRODUCERS**

**Who we are**

# Purpose

At a glance

To make the world a brighter place.



We develop state-of-the-art polymer materials, that can do more.

We help push boundaries by supplying innovative and sustainable products, technologies and solutions for key industries and modern life.

# Profile

At a glance

Serving  
key industries



Products and solutions  
for a diverse range of  
end-markets

Present  
around the globe



Major sites in Europe,  
Asia and the Americas,  
close to the customers

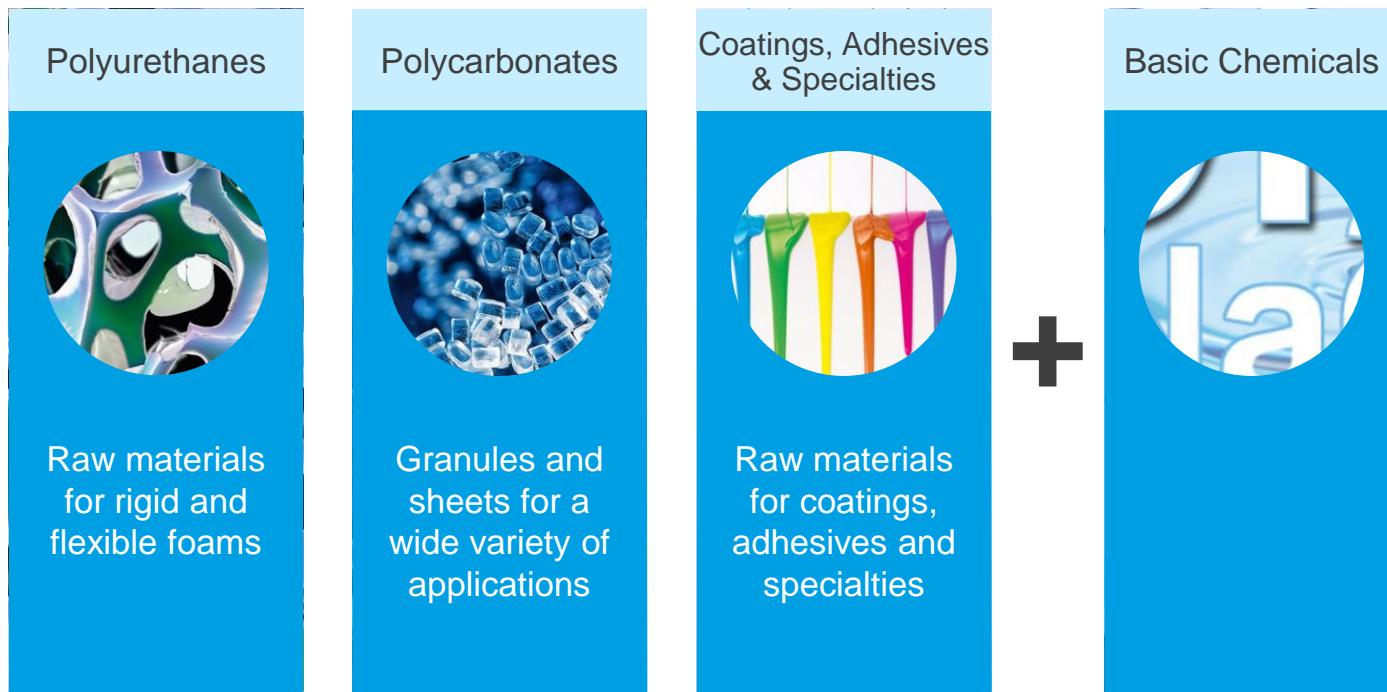
Technologically  
leading



Highly efficient,  
environmentally  
compatible processes

# Portfolio

At a glance



# Strategy

At a glance

Harnessing potential for growth

Our customer industries are expected to grow faster than the global economy in the years ahead.

Focus on sustainability

We are looking to help preserve the environment, advance society and create added value.

Innovation as a core element

Through focused innovation we aim to maintain and expand our position in the global competitive arena.

Efficient production

To improve profitability on a sustainable basis, we work continuously to increase the efficiency of our sites, plants and equipment.

Competitive costs

We work continuously to improve efficiency and effectiveness across the company, ensuring competitive cost structures.

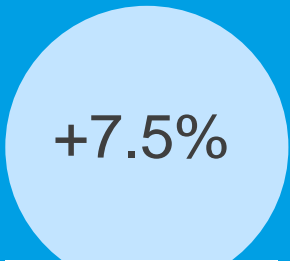


# Group results

Key data 2016



Sales



Core volume growth



Adjusted EBITDA



Net income

EBITDA: earnings before financial result, taxes, depreciation and amortization

# The Story of the Antwerp Pilot

# Entering the Digital Age

Contribute to Covestro strategy!

Focus on sustainability



Efficient production



Competitive costs



Innovation as a core element

# Entering the Digital Age

How to turn the massive amount of process data into our advantage

Focus on sustainability

Competitive costs

Industrial IoT

Industry 4.0

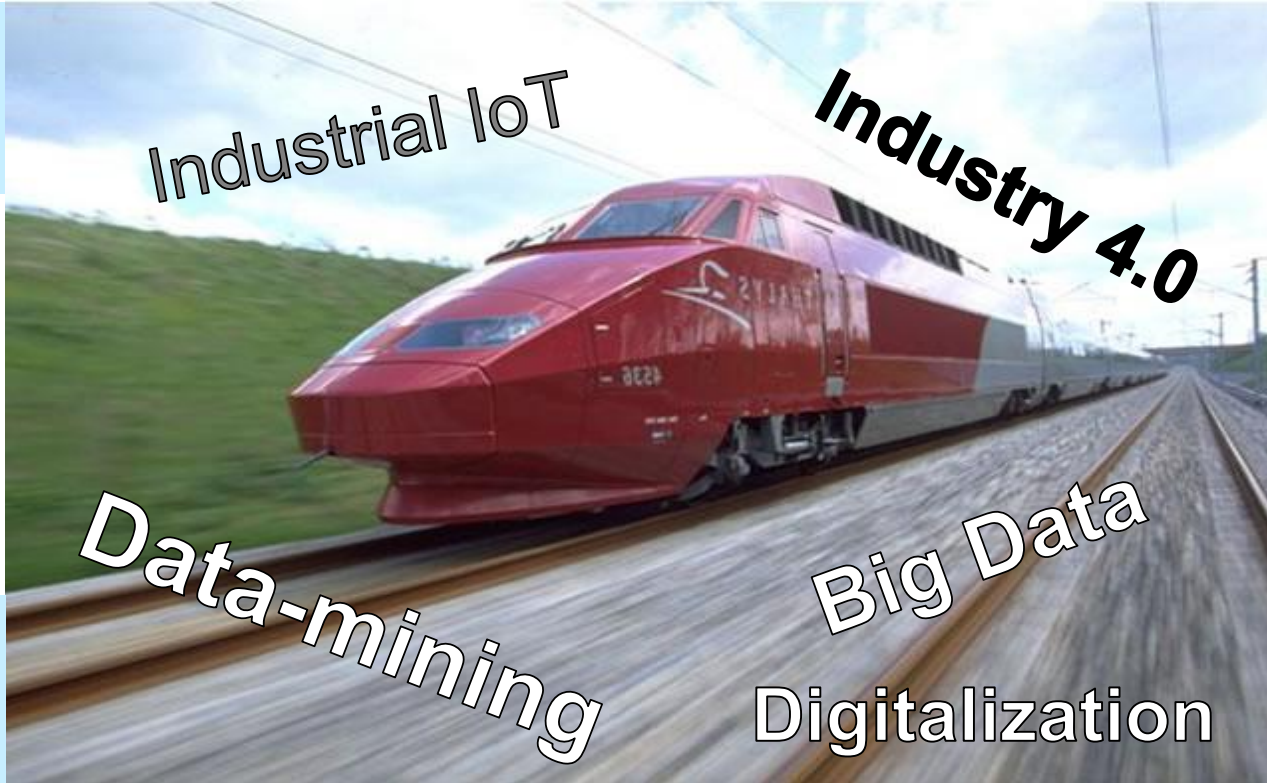
Data-mining

Big Data

Efficient production

Digitalization

Innovation as a core element



# Entering the Digital Age

How to turn the massive amount of process data into our advantage

***“Process data tells stories,  
all you need to do is capture  
them!”***

Focus on  
sustainability

Efficient  
production

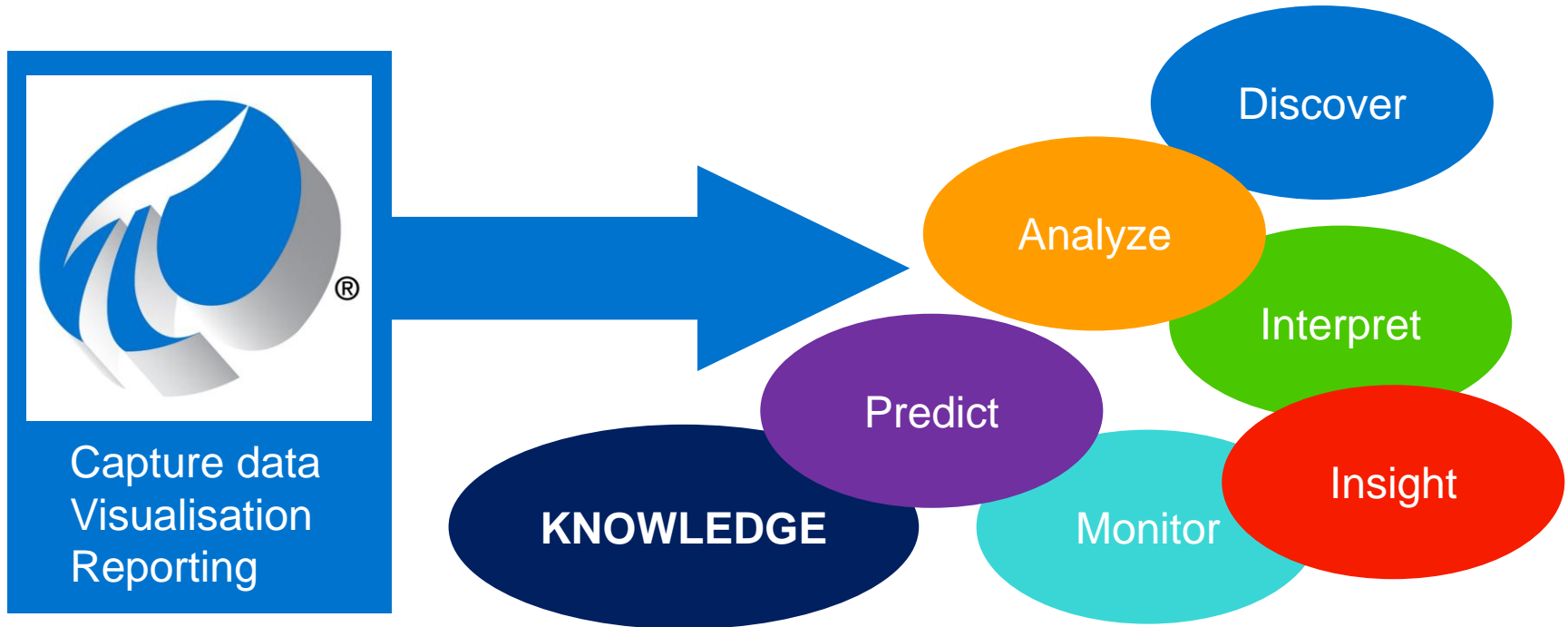
Competitive  
costs

Innovation as a  
core element

# Entering the Digital Age

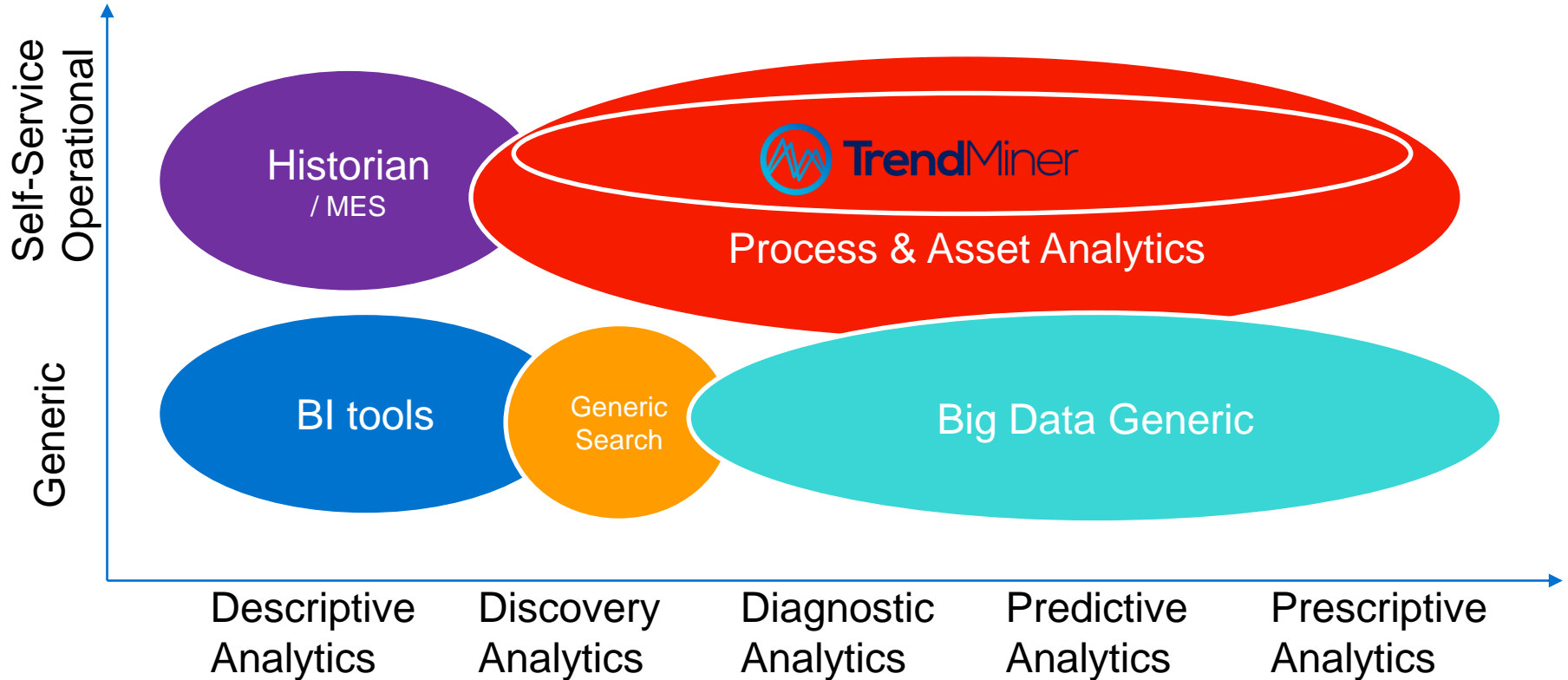
How to turn the massive amount of process data into our advantage

The PI System makes a massive amount of process data available for analysis.



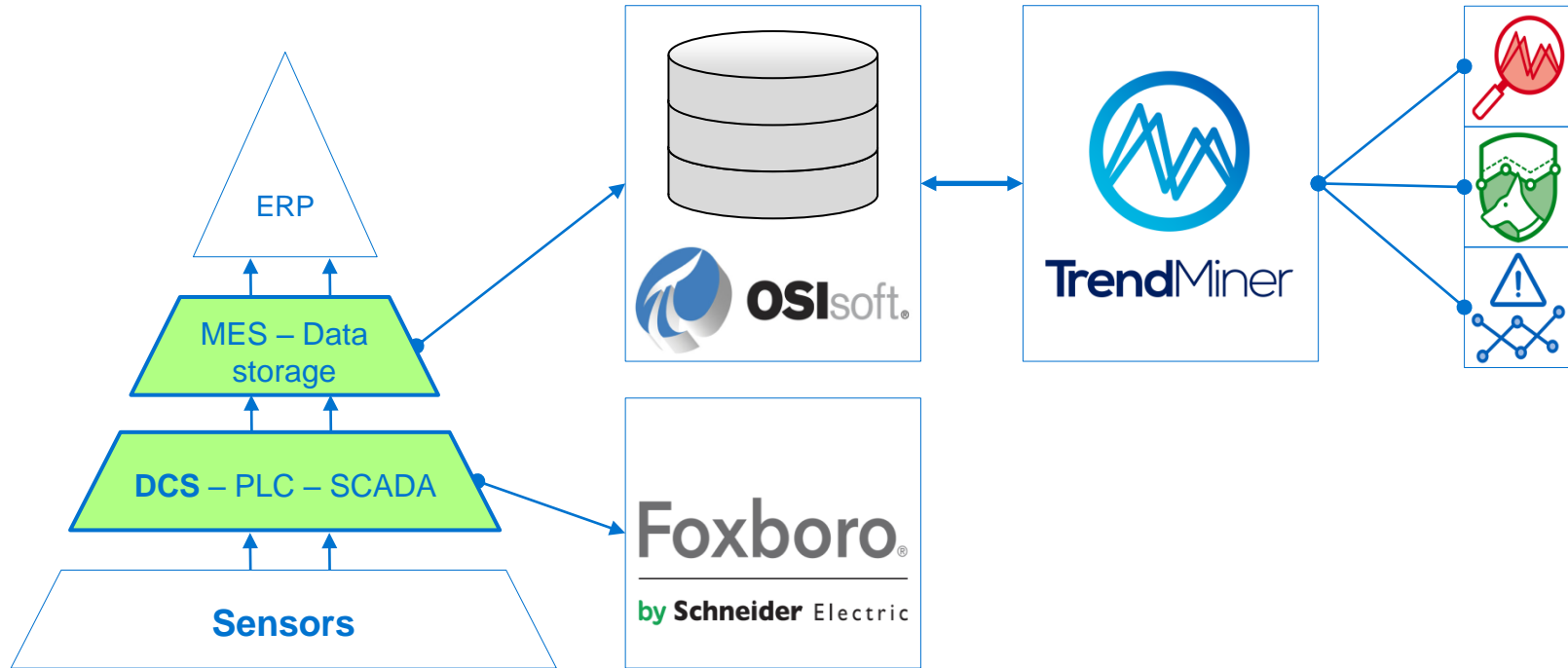
# Entering the Digital Age

How to turn the massive amount of process data into our advantage



# Entering the Digital Age

Industrial data architecture



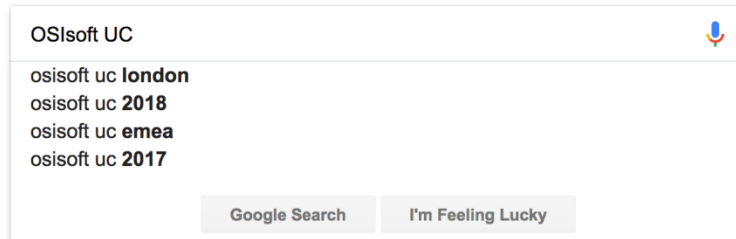


# Google (for Process Industry?)

How do we find information today?

Advantages of Google

- Simple
- Easy
- Fast



Report inappropriate predictions

Websites

Images

Video's

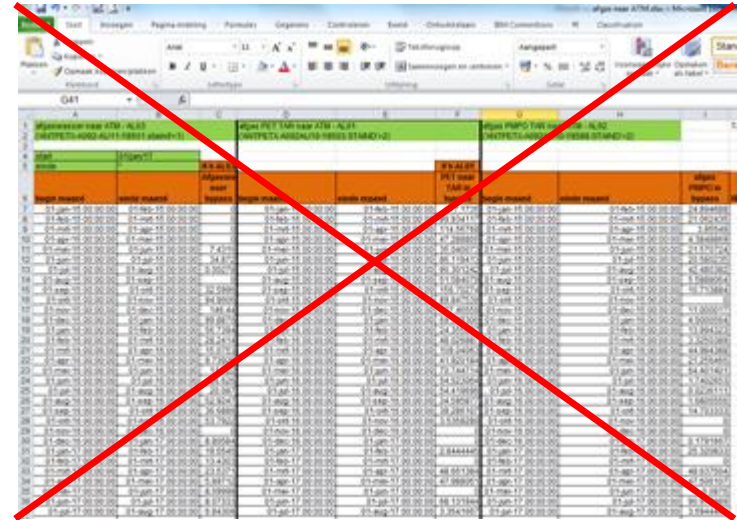
Books

= Context

# Google for Process Industry!

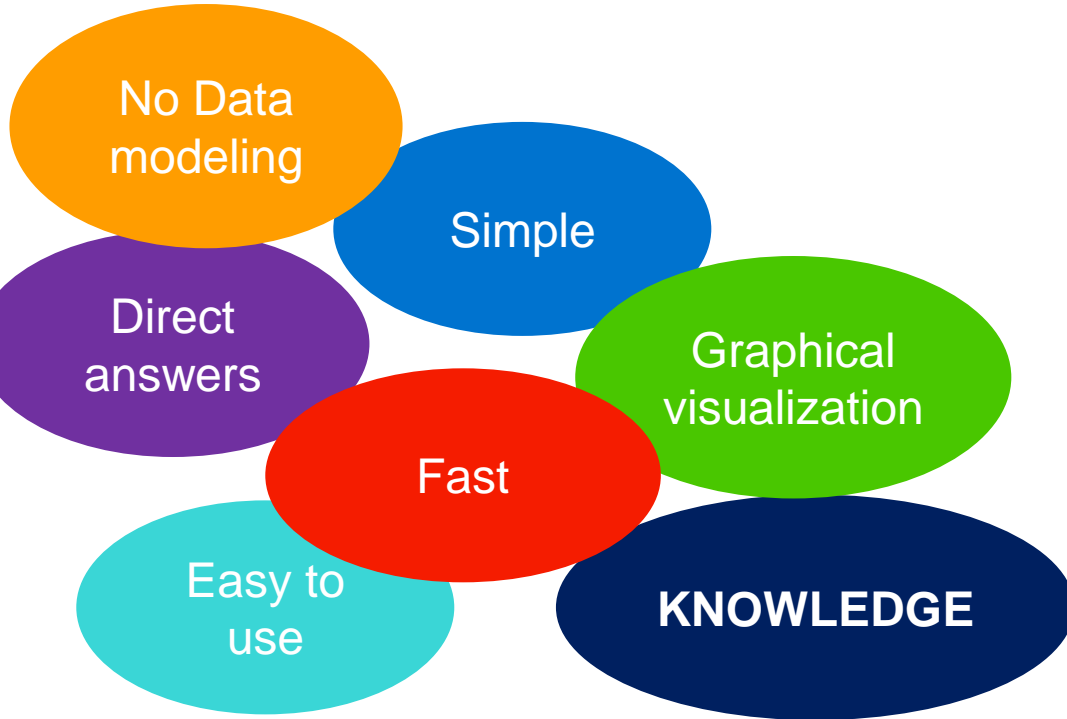
## Current issues

- Big-data analytics is done in MS Excel
  - Slow
  - Potential loss of data in MS Excel
  - Large volume of data = need for super computer
- Complex problems = data-modeling with complex modeling programs
  - Long investigation time
  - Long modeling time
  - Potential loss of knowledge at the plant



# Google for Process Industry!

Potential solution for Antwerp



Antwerp selected

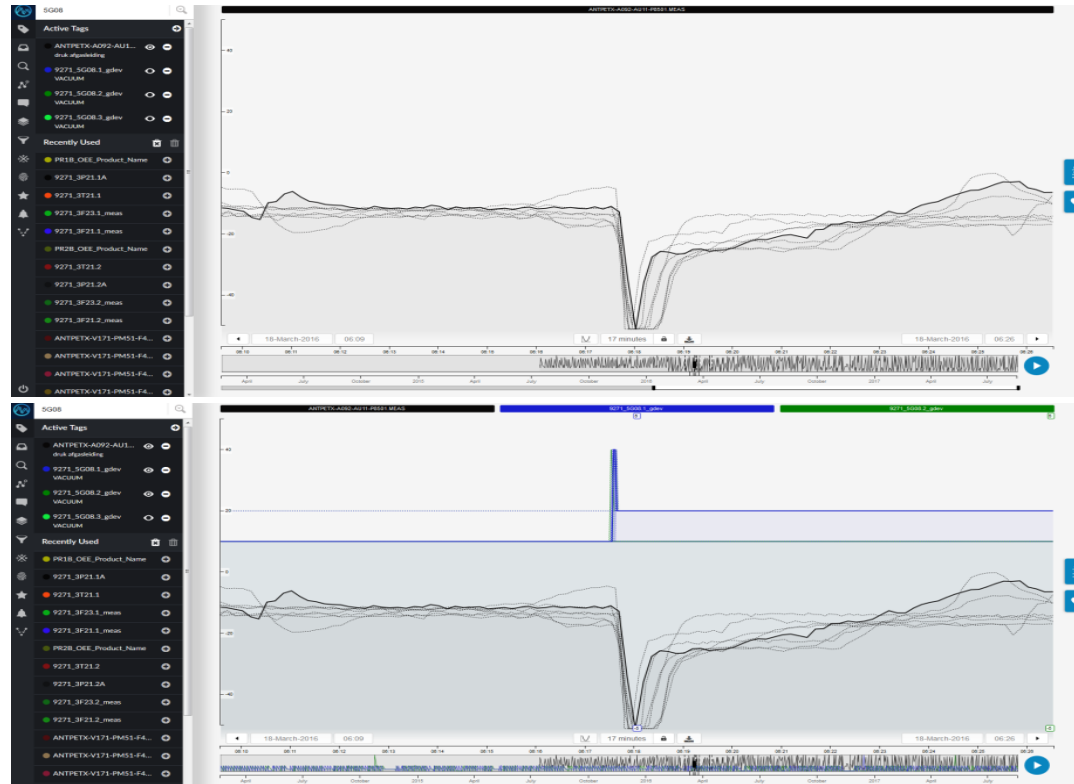


# Search and Discovery Analytics

Analyze - Reduce emissions by improving off-gas treatment

Focus on sustainability

With data from the PI System and TrendMiner we are able to do a hypothesis check easily and fast. We were able to decrease problematic situations with 63 %.

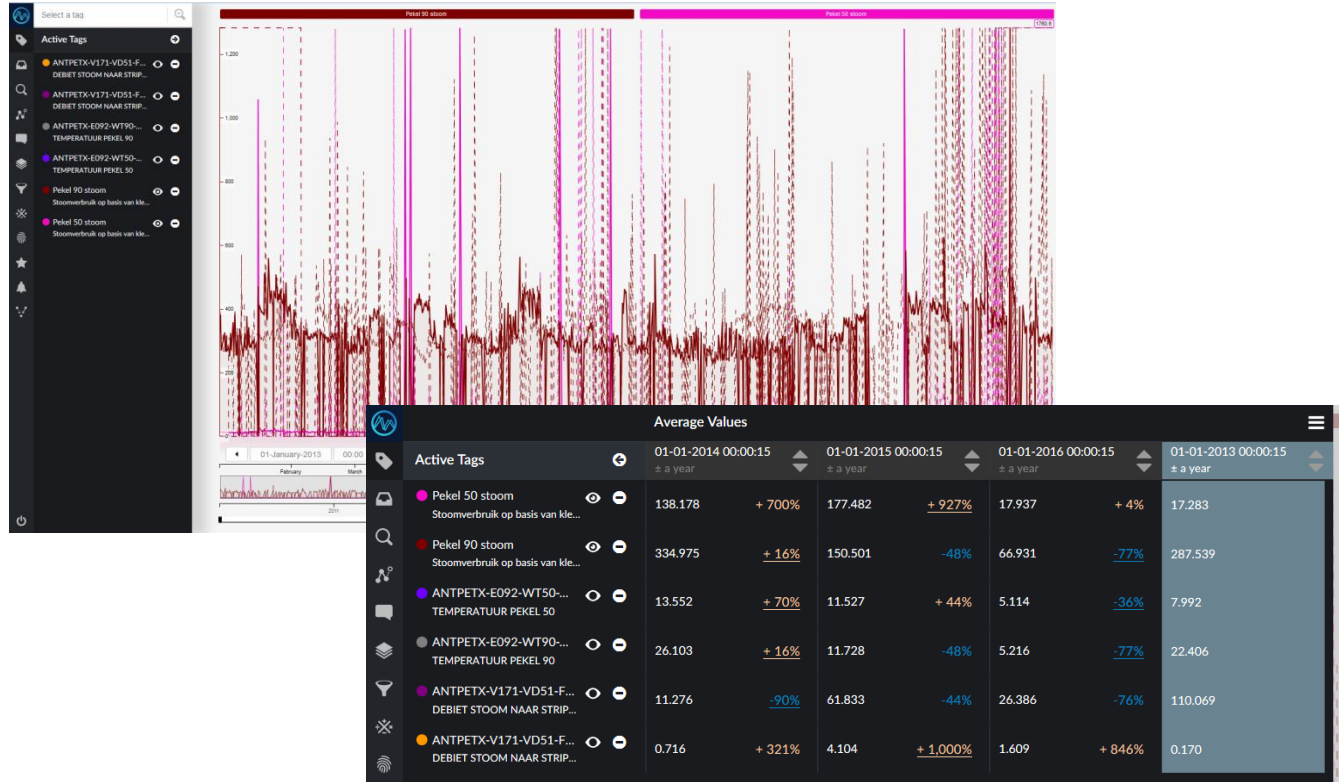


# Search and Discovery Analytics

Analyze - Energy monitoring

Focus on sustainability

Do an energy monitoring and consumption check without excel-files. Simple, easy and fast tool for project verification.

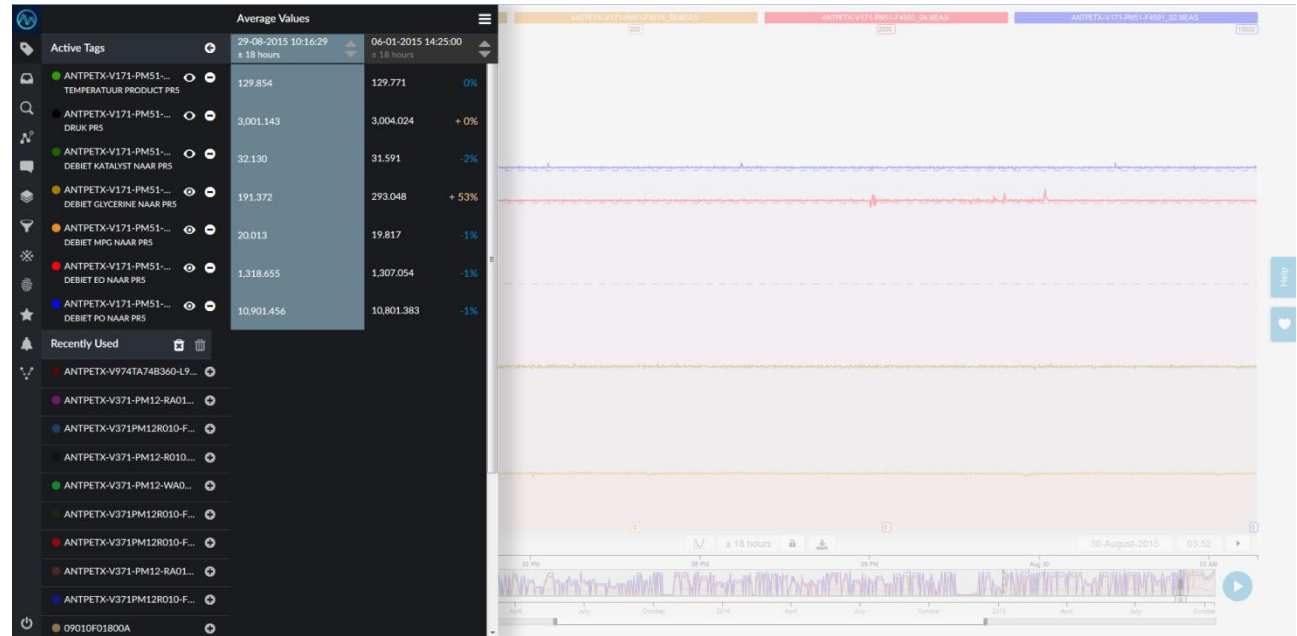


# Diagnostic Analytics

Analyze - Efficient production

Efficient  
Production

Easily identify  
the problem,  
comparing good  
quality periods  
with bad quality  
periods lead to  
the root cause.

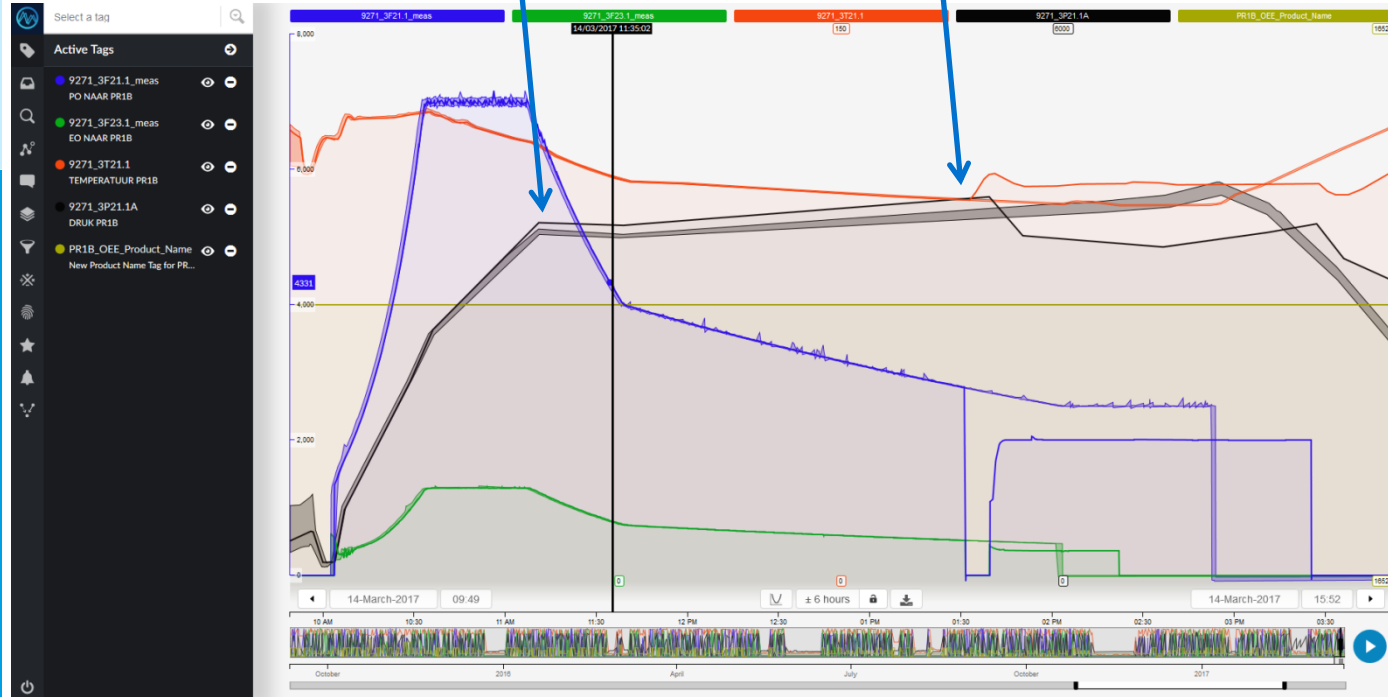


# Diagnostic Analytics

Monitor - Efficient production

Competitive costs

Eliminate a potential production loss of 125 tons

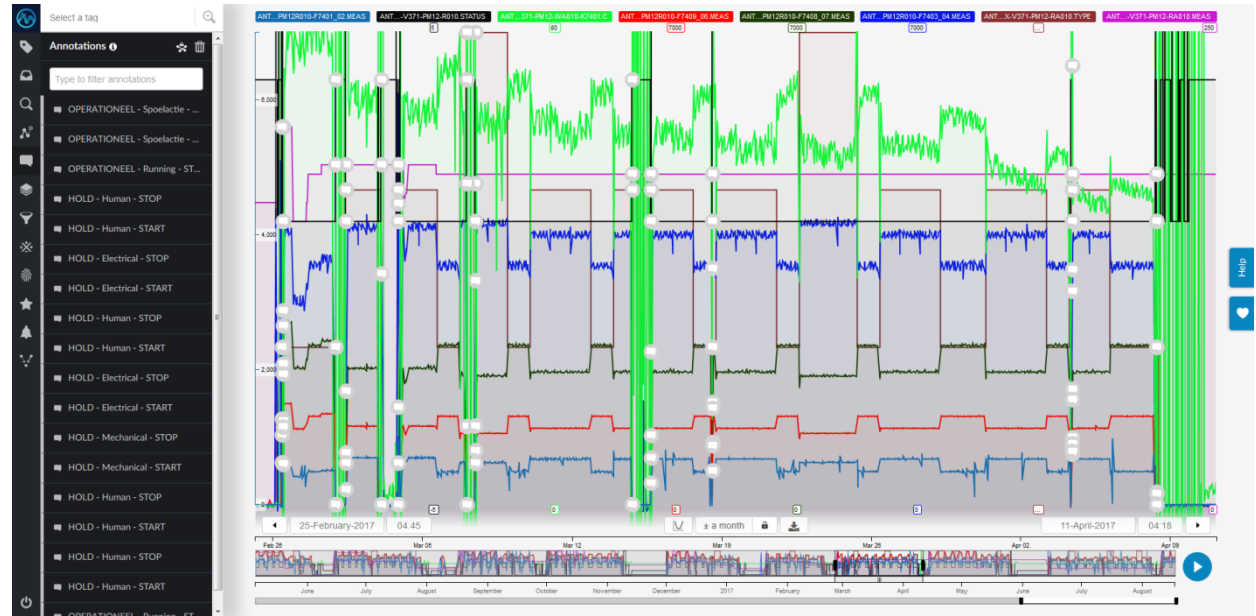


# Innovation as a core element

Capture - Knowledge transfer leads to innovation

Innovation as a core element

Capture the stories our process data tells. This leads to a maximum of knowledge transfer.





# Summary

## Harnessing potential for growth

Our industries are expected to grow faster than the global economy in the years ahead.

## Focus on sustainability

Decrease problematic situations with 63 % and we are able to do project verification in a simple, easy and fast way

## Innovation as a core element

Push boundaries by simple, easy and fast knowledge transfer

## Efficient production

Identify problems which decreased our productivity in a simple, easy and fast way

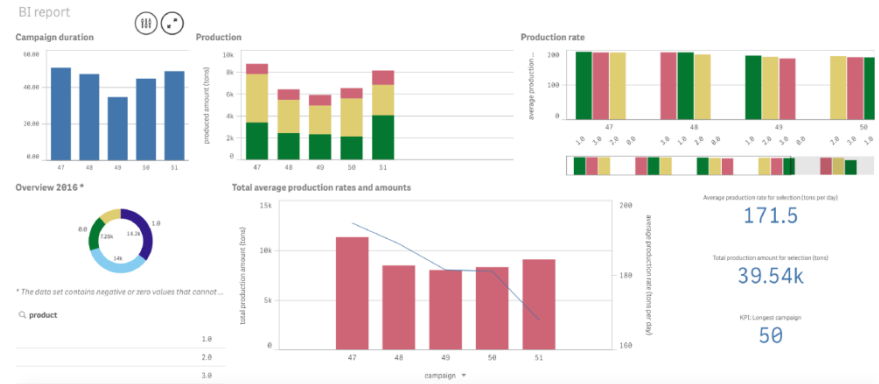
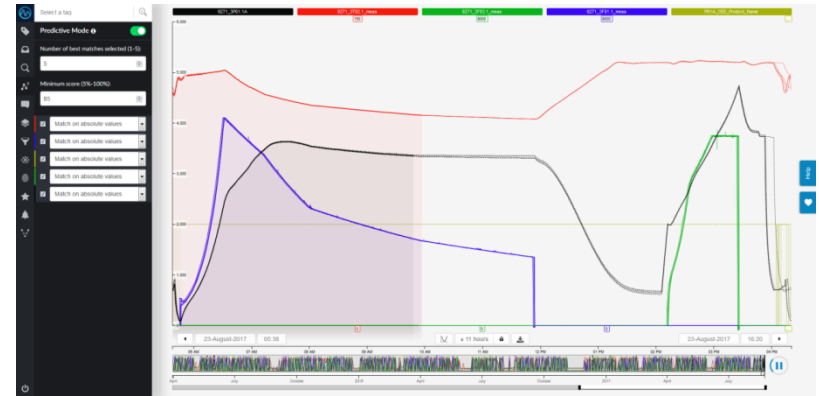
## Competitive costs

Identify potential extra costs in a simple, easy and fast way.

# Next Steps

@ Antwerp plant

- Keep up the high performance of the PI System
  - Data compression to the minimum since TrendMiner allows to analyze data into great detail
  - More data points
- Set up a daily energy monitoring system
- Create a connection to our BI-tool
- Configure Event Frames for campaigns logging
  - Sync with TrendMiner
  - Connect annotation in trendminer with event frames
- Build up PI Asset Framework
  - from SAP into PI System
  - Give structure



# Contact Information

**Tim Timmermans**

[tim.timmermans@covestro.com](mailto:tim.timmermans@covestro.com)

Process Engineer

Covestro



## Questions

Please wait for the **microphone** before asking your questions

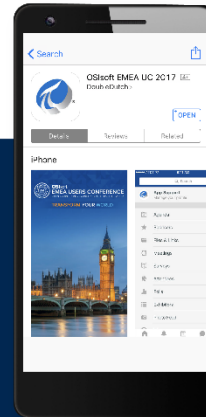


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WE MAKE

the world a brighter place

감사합니다

Danke

谢谢

Merci

Gracias

**Thank You**

ありがとう

Спасибо

Obrigado