CONDITIONING DATA FOR DIGITAL TRANSFORMATION

SUMMIT 2018

Data Driven Actions Should not be a Balancing Act

Mariana Sandin, Industry Principal

Presented at the Sigmafine Summit, Sept. 18, 2018 – Houston TX

OSIsoft.

Agenda

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- Digital Trends & Challenges
- Customer Success Stories
- Roadmap

Big Data Challenge

3.3 billion M2M connections

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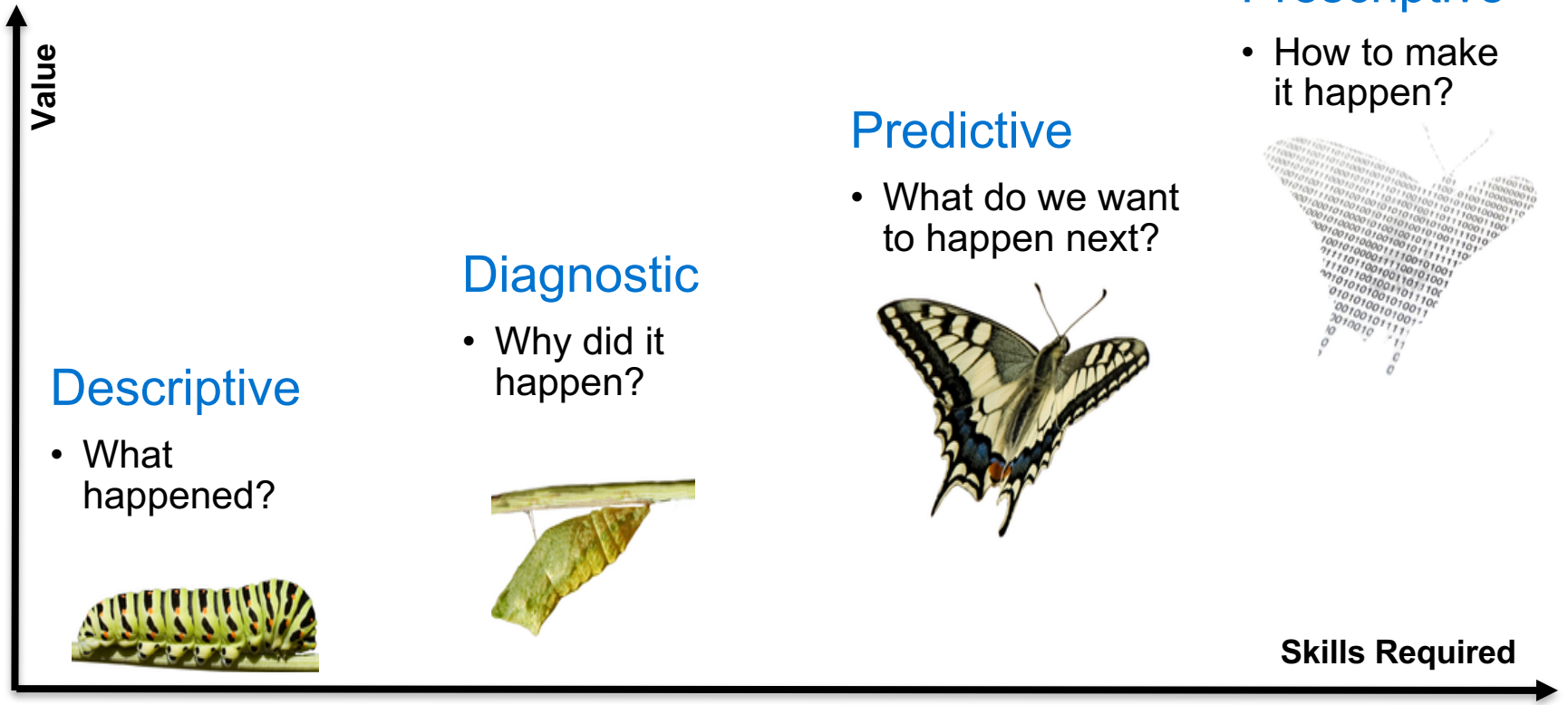
Yottabytes of data

Byte: 

Adoption of Advanced Analytics



Production Accounting and Yield Performance

Dow Corning

Bryan Sower, Sr. System Analyst

"The implementation of Sigmafine to perform an automated accounting mass balance provides Dow Corning… the key to insuring timely deliveries to customers and minimizing costs associated with artificial high safety stock inventory levels."

CHALLENGES

- Different solutions for accounting mass balance
- Point solutions difficult to maintain
- Difficult for new users to learn
- Low flexibility
- SOx compliance and easy access for auditors
- Complicated integration with SAP

Production Accounting and Yield Performance

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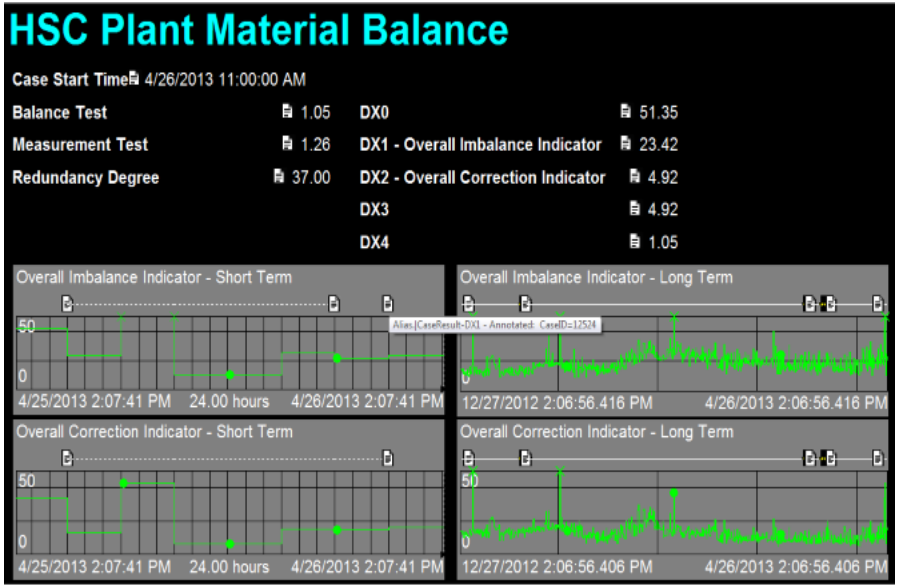
Dow Corning

SOLUTION

Using AF and Sigmafine to:

- Standardize naming convention and model templates for accounting mass balance
- Define Elements with Excel add-ins and use it for data analysis
- Validate data using the data reconciliation rules
- Streamline data flow from data gathering to publishing results in SAP and saving them back in the PI System



Production Accounting and Yield Performance

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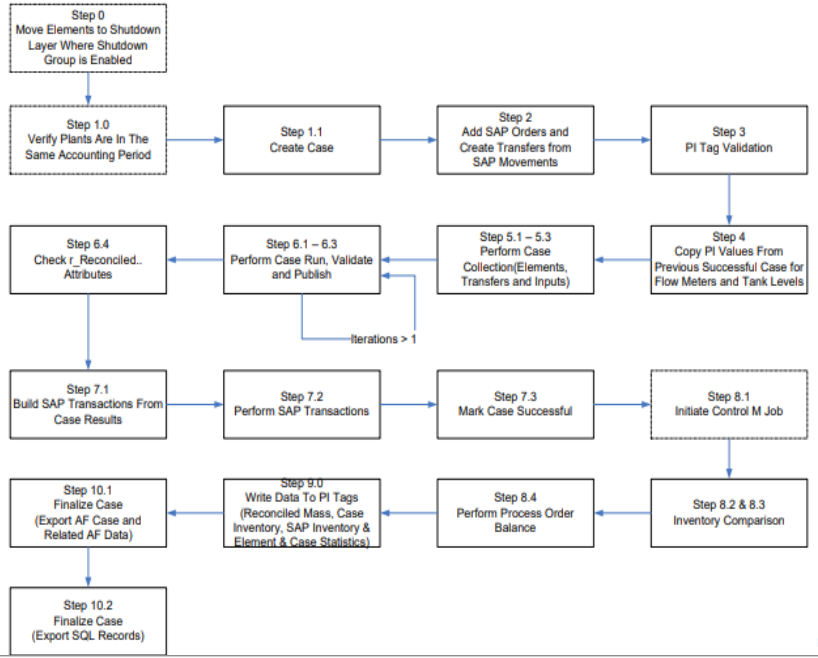
Dow Corning Sigmafine Automated Accounting Balance



RESULTS

Improvements are now possible:

- Automated data flow and integration with SAP.
- Visibility of issues in the balance process
- Ability to run the accounting mass balance at a set frequency, fully automated, unattended, and trigger notifications on issues encountered
- Visibility of financial impact of process operations
- Change control process
- Increased awareness of critical instrumentation

Predicting Quality Properties

eni Versalis

Domenico Napoli, IT Project Manager

“Aromatics plants need of an automated solution that tracks most important qualities of the feed at least on a daily basis and related to actual plant data”

CHALLENGES

- Improve the plant yield and minimize the time and cost associated with ships docked for materials receipts
- Low visibility into materials quality in tanks
- Not very efficient plant operations
- Inconsistencies in the expected vs real EOM yield

Predicting Quality Properties

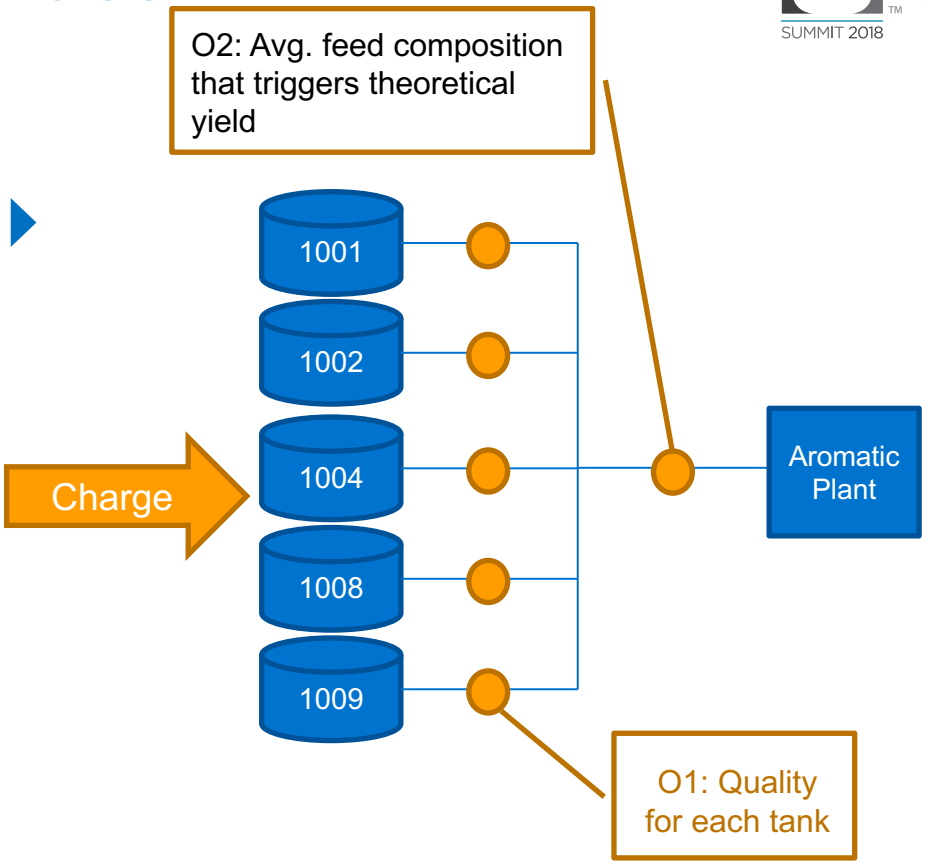
eni Versalis

SOLUTION

Monitor key material properties:

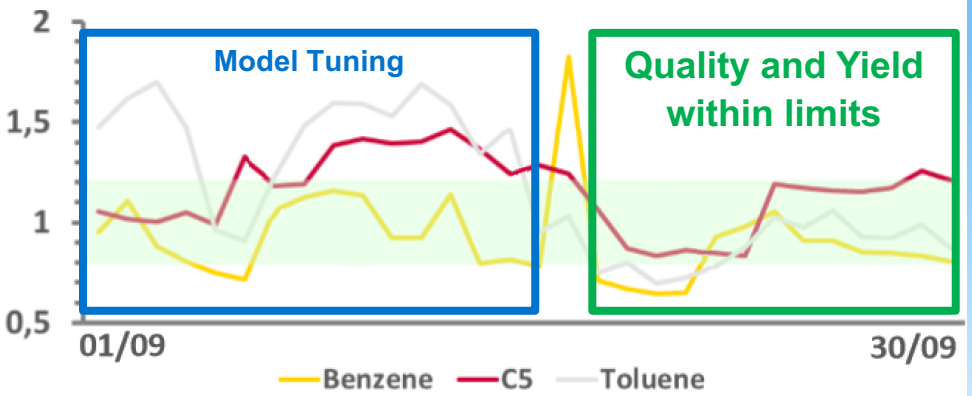
- Content of 5 VOCs & alkanes
- Diene number
- Bromine number

AF and Sigmafine model: Flow meters, tank levels and lab data



Predicting Quality Properties

eni Versalis



RESULTS

From monthly averages to daily reports estimating composition and material quality in tank inventories

This would allow for better operations efficiencies and improved yields

Optimization of the schedule and time of materials receipts

Integrated Downstream Fuels Value Chain

Tibor Komróczki, Head of Process Information and Automation
Gábor Mucsina, Process Information Expert

The goal for 2030 is to increase the flexibility and quicker response to market changes with a crude basket of 50+ grade. The objective is to increase EBITDA even more.

CHALLENGES

1. Safety and asset integrity:
   - Corrosion control (High Temperature Hydrogen Attack)
   - Preventing coke steam eruption in DCU and high vibration
2. Predictive maintenance and integration with SAP PM module for complex maintenance workflows

Alternative Supply Sources Pros & Cons

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Pros

- Discounted Price: $2 - $4 BBL
- Estimated benefit: $1 – $3 BBL
- 10% alternative crude processing ~ $10 - $11+ M /Year per refinery

Cons

Integrated Downstream Fuels Value Chain

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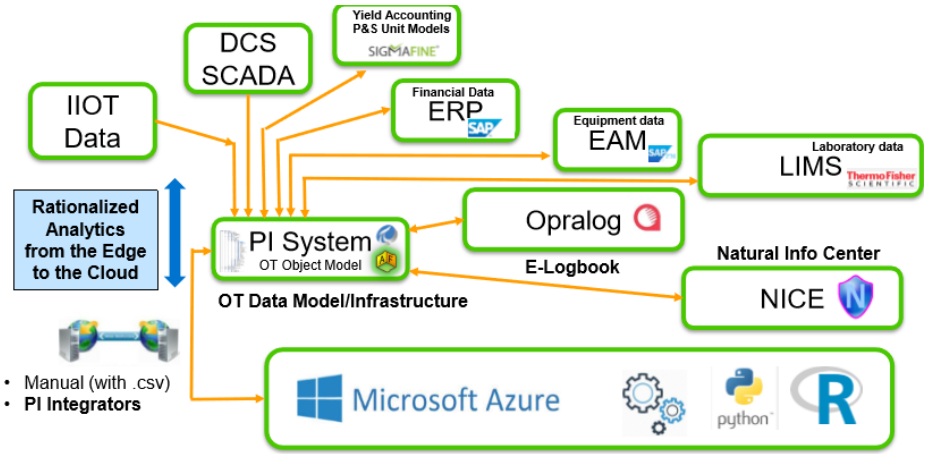
MOL Group

SOLUTION

AF model and analytics calculate Hi and Lo limits for corrosion and composition in DCU feed (RHC >10%)

PI Integrator for BA sends reconciled and operational data to MS Azure ML and Python scripts. These tools help determine the threshold of RHC %

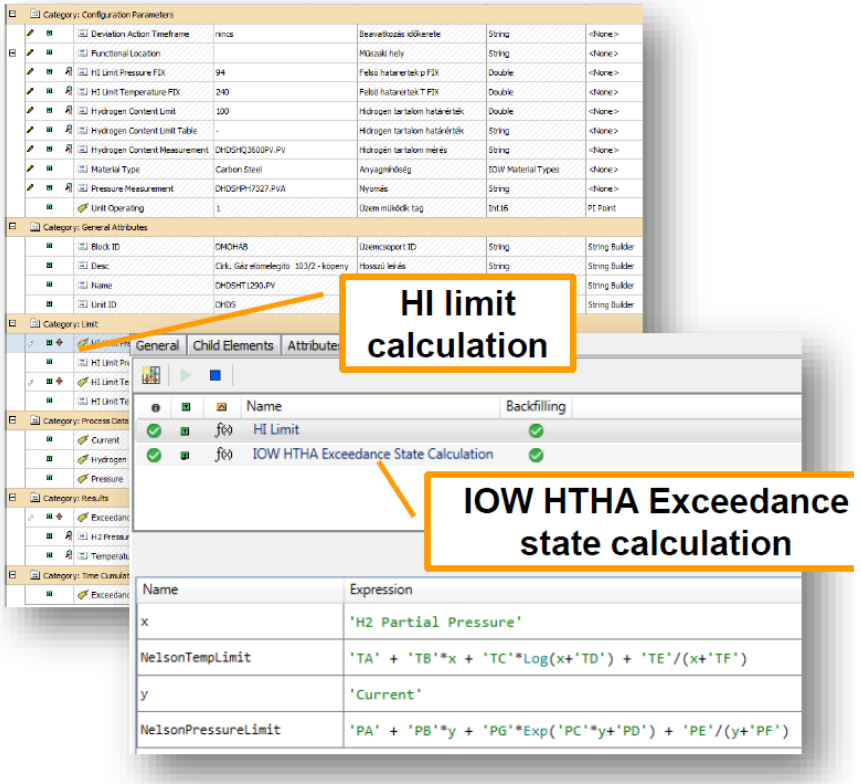
Notifications trigger notification into SAP PM



HTHC Modeling

- **Objective:** Keep process safety parameters in control

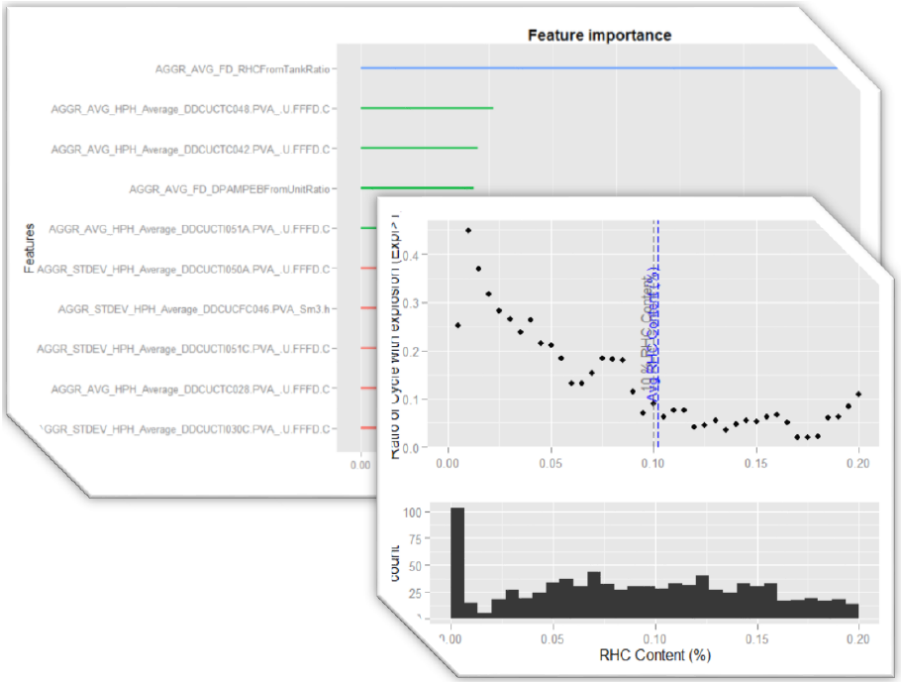
- **Solution:**
  - Structure in PI Asset Framework (PI AF)
  - Calculation, limit evaluation
  - Advanced PI Analytics and PI Event Frames



Integrated Downstream Fuels Value Chain

MOL Group

Won Petroleum Economist Award 2016 for **Best Downstream Company of the Year**



RESULTS

- Increased process stability even with changing crude quality
- Faster reaction to issues & longer asset lifecycle
- On their way to accomplish 2030 objectives

Estimated benefits of **preventive maintenance $230,000 per year**

In 2016 $**1 B USD EBITDA** because of their digital transformation efforts

What's next ?

Seamless Infrastructure from Edge to Cloud

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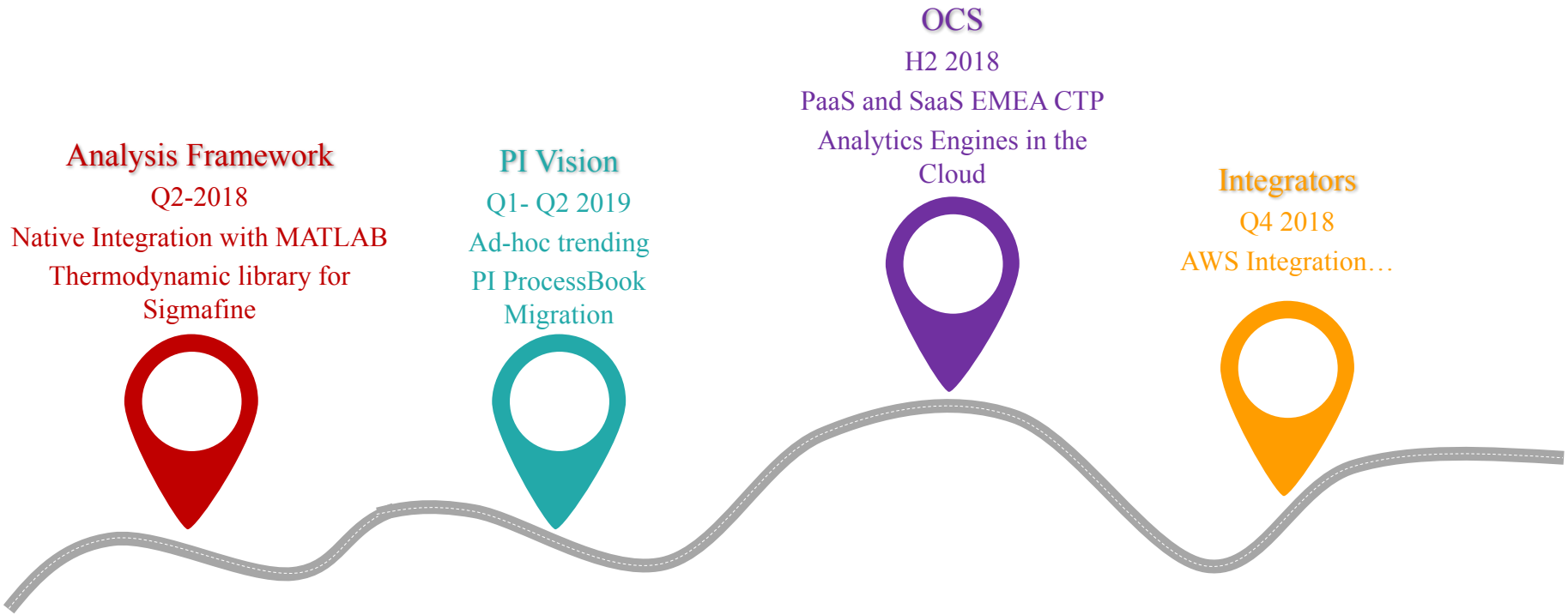
PDC/Edge

Classic PI System

Infrastructure at Scale

Sensors	Assets	Plant	Enterprise	Community
 Millions of **Smart Devices**	 Multiple **Sensors**	 Multiple **Assets**	 Multiple **Plants**	 Multiple **Enterprises**

What Really Impacts You…



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Wrap-up

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Digital Trends & Challenges: Big Data and Analytics

Customer Success Stories: Production Accounting & Yield Performance. Predicting Quality. Integration with ML

Roadmap: Edge to Cloud. Better Integration & more robust platform for a powerful analytical engine

Mariana Sandin

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Industry Principal

OSIsoft, LLC

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Thank You

We believe People with Data can Transform their World

OSIsoft.


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KEA LEBOHA
TAPADH LEIBH
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БАЯРЛАЛАА
MISAOTRA ANAO
SALAMAT
NGIYABONGA
OBRIGADO
شكرا
GRÀCIES
TEŞEKKÜR EDERIM
DANKIE
TERIMA KASIH
DANKON
TANK
TAPADH LEAT
KÖSZÖNÖM
СПАСИБО
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FAAFETAI
GO RAIBH MAITH AGAT
ESKERRIK ASKO
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GRACIAS
THANKYOU
TEŞEKKÜR EDERIM
ТИ БЛАГОДАРАМ
MAHADSANID
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MAHALO IĀ ʻOE
TAKK SKAL DU HA
ДЯКУЙ
DI OU MÈSI
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ありがとうございました
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HATUR NUHUN
PAXMAT САГА
SIPAS JI WERE
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UA TSAUG RAU KOJ
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