

SIO.Perform Stream @ Air Liquide

How OSIsoft PI with analytics improve ROI

From

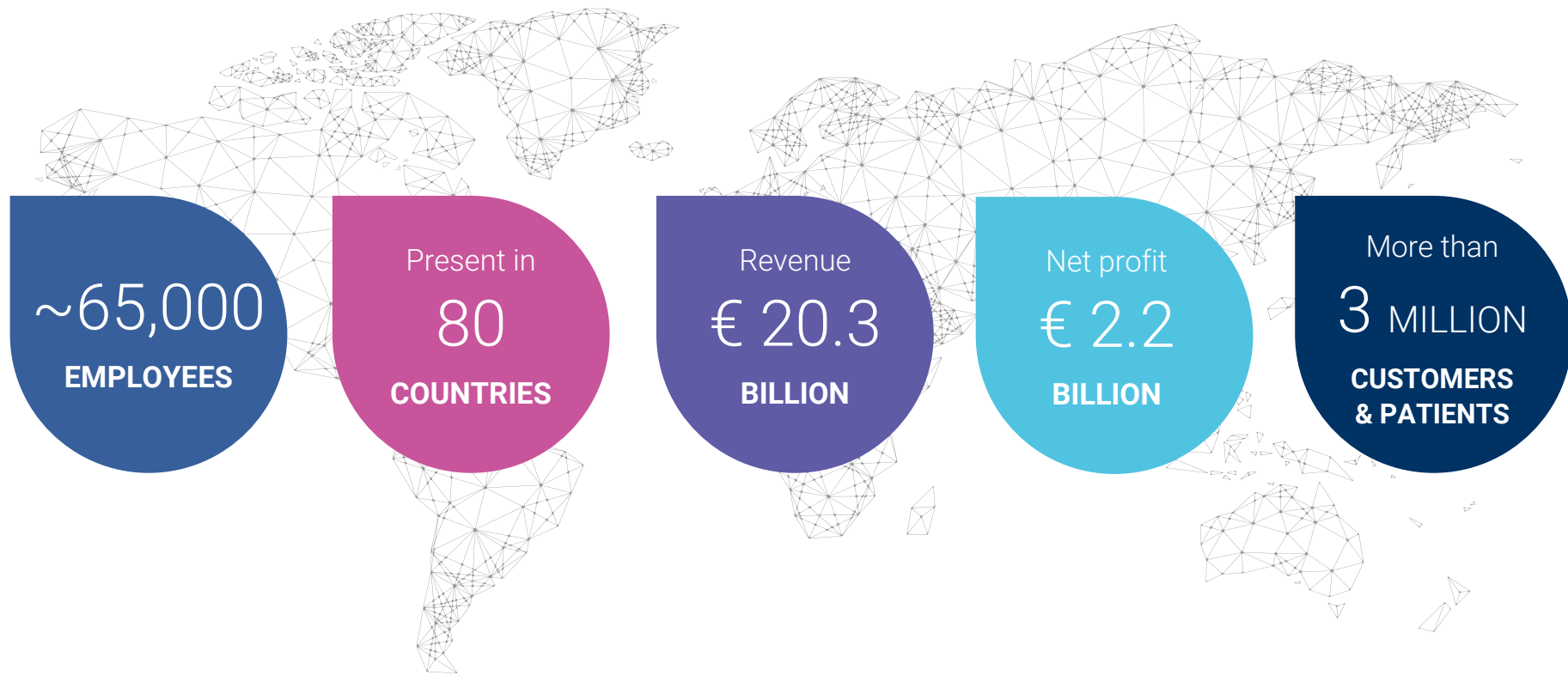
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Conference Theme & Keywords



Air Liquide Industries **Smart Innovative Operations Initiative**

Air Liquide



Large Industries perimeter

365

Large Air Separation Units
Oxygen, Nitrogen , Argon

50

Steam Methane Reformer Units
Hydrogen, CO, Syngas

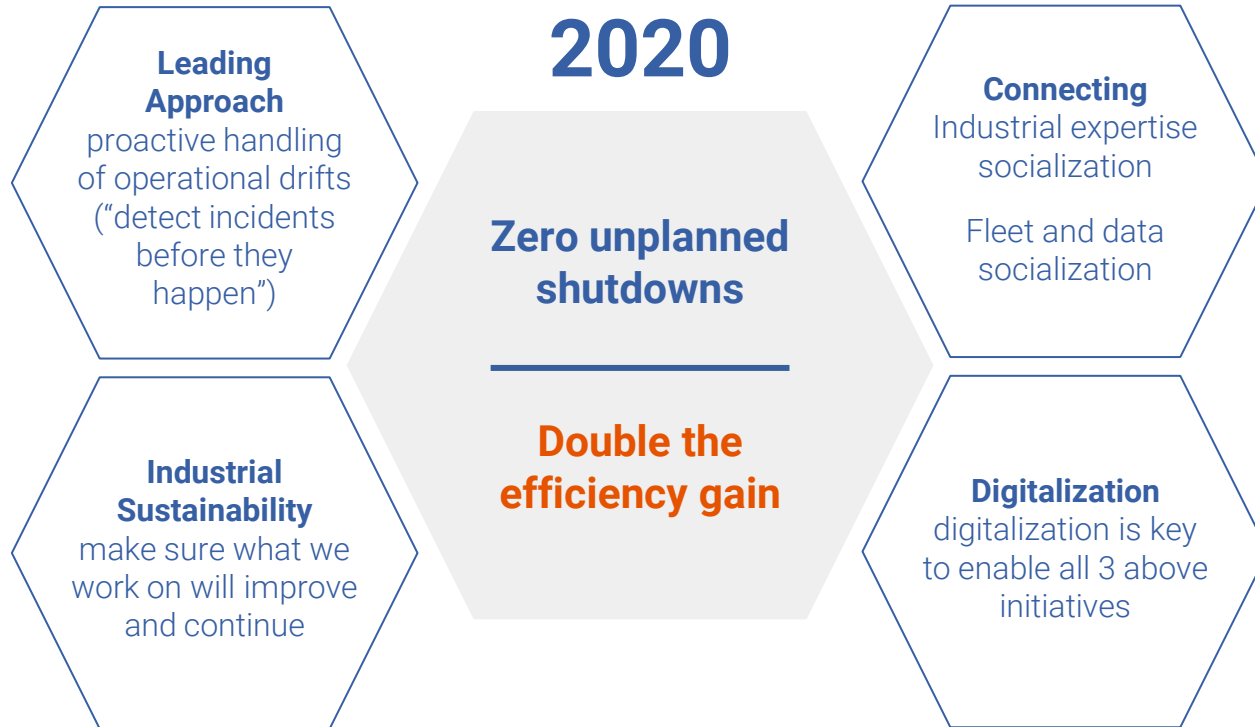
18

Cogeneration Units
Steam & Power

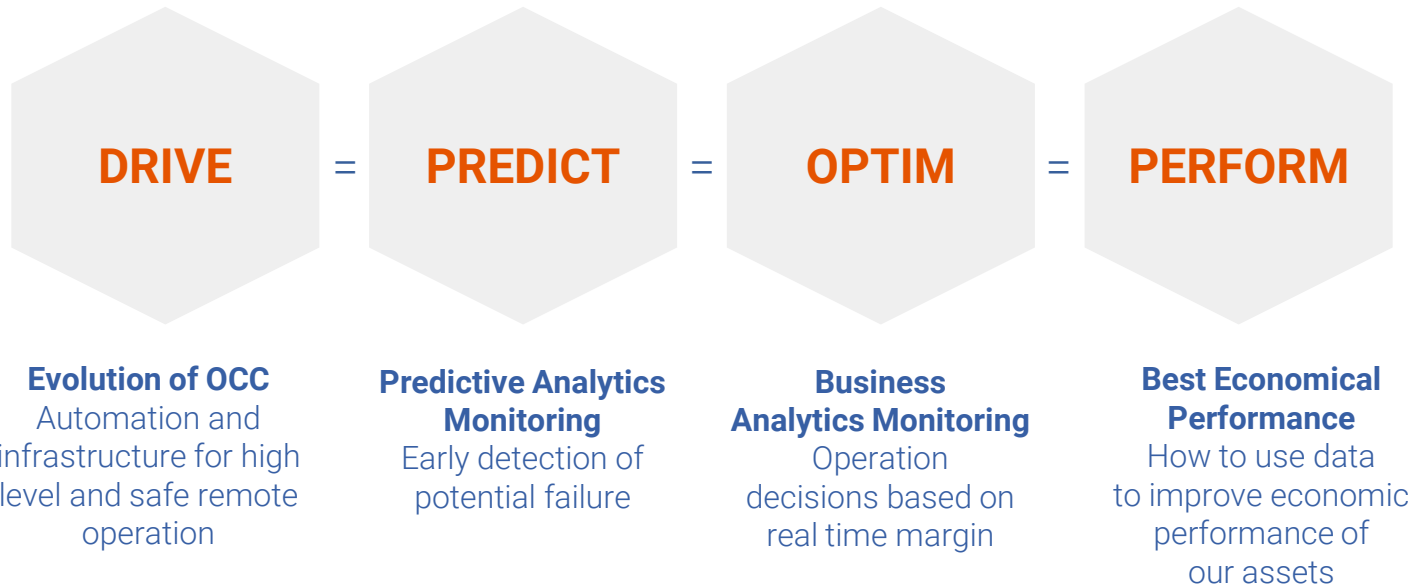


- Best in class performance in **safety** and **availability**.
- We improve the **efficiency** of our customer processes and help them preserve the environment.

Air Liquide Large Industries business challenge



Air Liquide Large Industries business challenge



ALIZENT

A S S E T I N T E R A C T I V E

a Key Partner

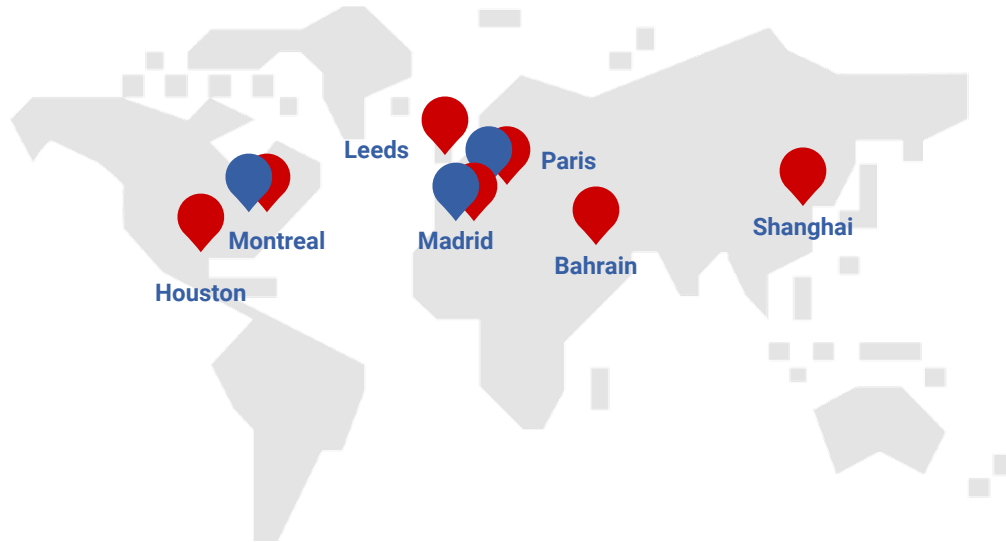


Alizent purpose

Alizent is a fully owned subsidiary of Air Liquide, dedicated to **Industrial Internet of Things**. We **design** and **operate** solutions that **connect assets** to provide data and enhance performance to:

- deliver Air Liquide Digital Transformation for asset management and production & logistics optimization
- **serve non competing 3rd party clients** facing similar challenges as AL in their Digital transformation. Ex: LPG Industry - Beer Industry - Aluminum Industry - Health & Wellbeing Industry - Food Industry

Alizent - local presence and global reach



7 Offices to serve clients from



3 Networked Technology Centers
(Paris - Madrid - Montreal)

- 250+ employees
- 20+ years of experience
- ISO 9001
- Digital Studio Facilities in Paris



Digital Studio — Paris

Alizent augments industrial & medical assets with data

Returnable Assets: 22M assets tracked today



Alizent Value Proposition

- Accelerate rotation
- Anticipate demand
- Inventory & working capital optimization
- Avoid losses / detect theft
- Attach info to the asset
- Enable new distribution & business model

Remote Assets: 205K connected assets today



- Optimize service costs (refill, maintenance...)
- Collect & share information with client / users / patients
- Enable new distribution & business model

Production Assets: 200+ plants supervised today



- Improve plant performance
- Traceability of production / regulation compliance
- Pool operation teams across several assets
- Enable new distribution & business model

SIO Program and Alizent

People

- 3 continents
- Data Scientists
- IT Architects
- PI Experts

Processes

- Agile
- Iterative
- Collaborative
- Customer Experience

Phases

- Proof of Concept
- Pilot
- Industrialization
- Operation

SIO.Perform

legacy - The base

2 Zonal PI Infrastructures aggregating / replicating all the local data from **~170 sites** in almost 40 countries (More than **500 000 Tags**)

- 1 in Paris for EMEA (Data for 16 years)
- 1 in Singapore for APAC (Data for 9 years)

Visualization: PI Tools (Datalink, ProcessBook and PI Vision) and Web Applications



But not leveraging 100% of the raw Data before
Smart Innovative Operations

What is SIO.Perform

Issue: Model in the past was not accurate. Not actionable results



Idea #1
**Empirical
algorithm**



Idea #2
**Prescriptive
algorithm**

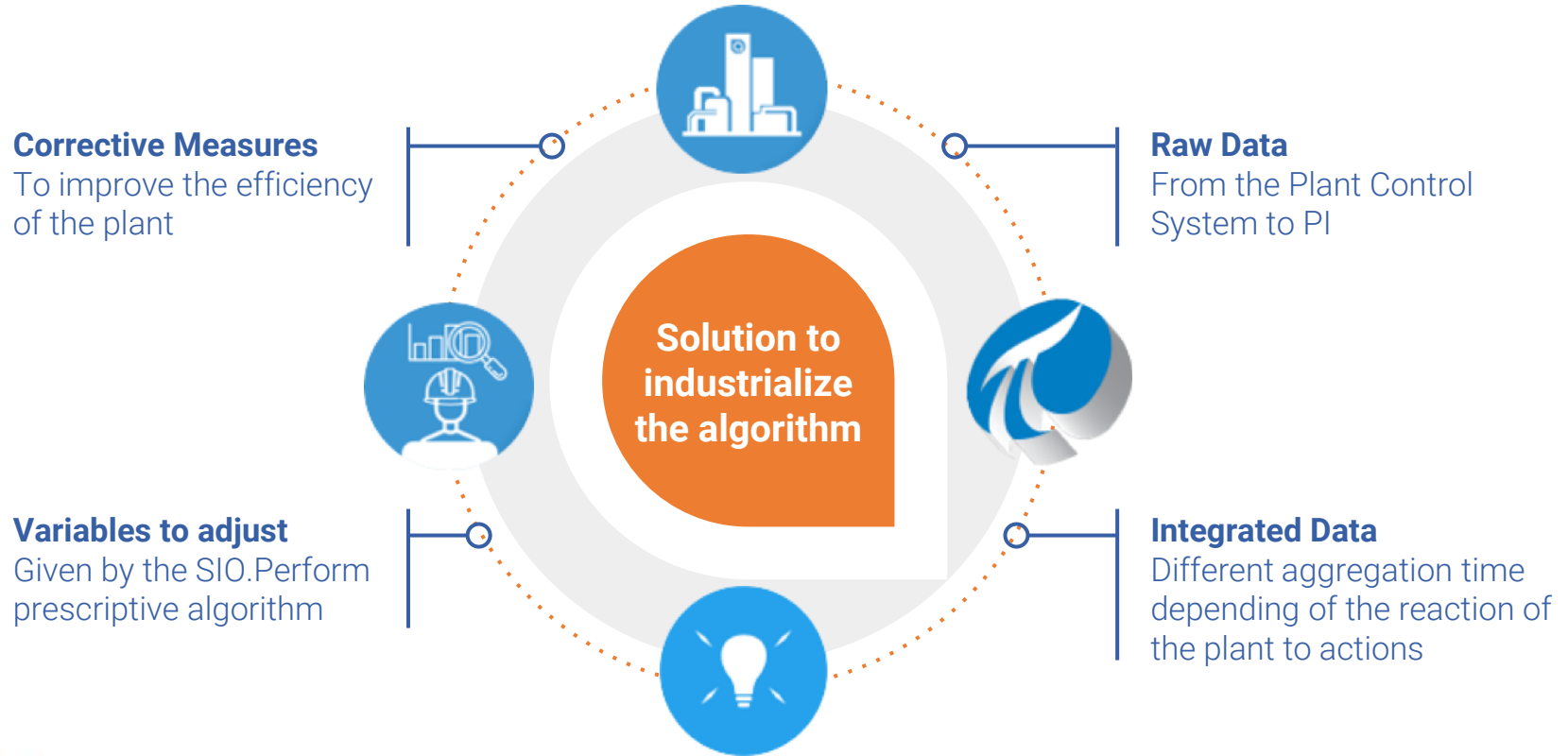


Idea #3
Web platform

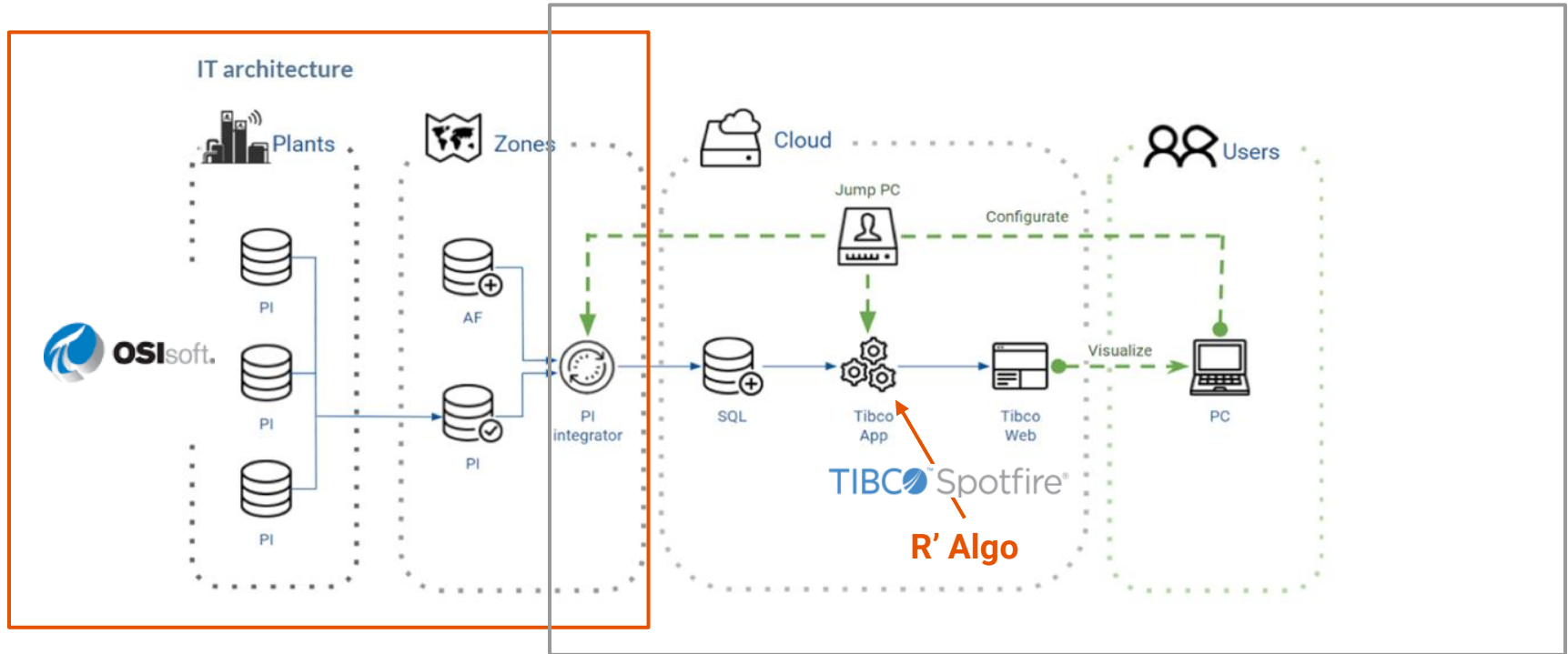
A specific algo?



Industrialize the algorithm

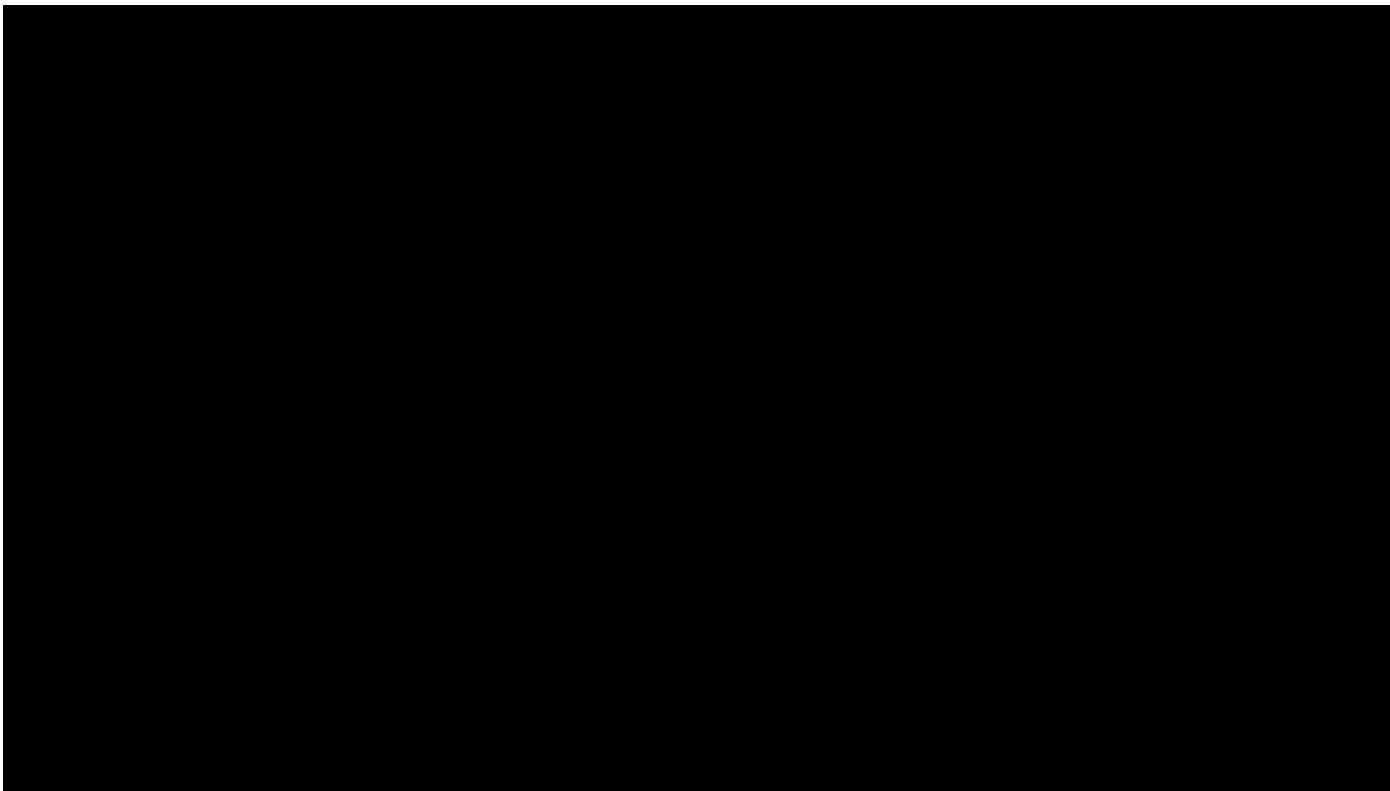


SIO.Perform: a hybrid platform

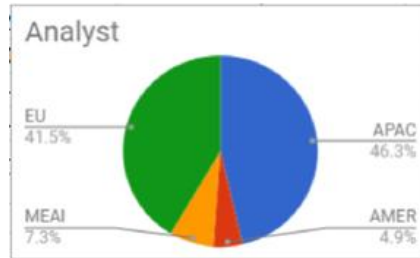
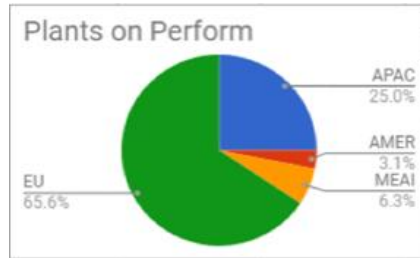


Results & Schedule

SIO: A reality



SIO.Perform in numbers: 3 months payback



Whats next?



2018

America Zone
Deployment



2019

Flexible
architecture
(auto scaling)



2020

Improve the
algorithm



2021

**Import
unstructured
data analytics**
Tag on video
CMM



2022

**AI to improve
the algorithm**
Find the Best
Economical
Performance
never achieved
before

Conclusion > How OSIsoft PI with analytics improve ROI



SIO.Perform is one of the digital transformation programs of Air Liquide Large Industries to leverage data in order to improve the economic performance of our assets

CHALLENGE

- ✓ Air Liquide LI 2020 objective:
Double the efficiency gain
- ✓ Leverage value from available data

SOLUTION

- ✓ Alizent partnership
- ✓ Air Liquide 'R' algorithm
- ✓ Hybrid infrastructure:
 - On site OSIsoft PI Server
 - Zone PI-AF and PI-Integrator
 - AWS Cloud server for Tibco

RESULTS

- ✓ Every Hydrogen plant equipped Europe, Middle East , Asia-Pacific
- ✓ Payback of the project in 3 months
- ✓ Saving 10 times of the project cost after 8 months
- ✓ Benefits in term of human resources, visibility, Air Liquide's customers, image, ...



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Questions

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microphone before asking
your questions

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name & company



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Merci

Спасибо

Danke

谢谢

Gracias

감사합니다

Thank you

ありがとう

Grazie

Obrigado