

AVEVA PI WORLD

Air Liquide - PI World 2021

Efficiency Monitoring System

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Xiaoding Shen

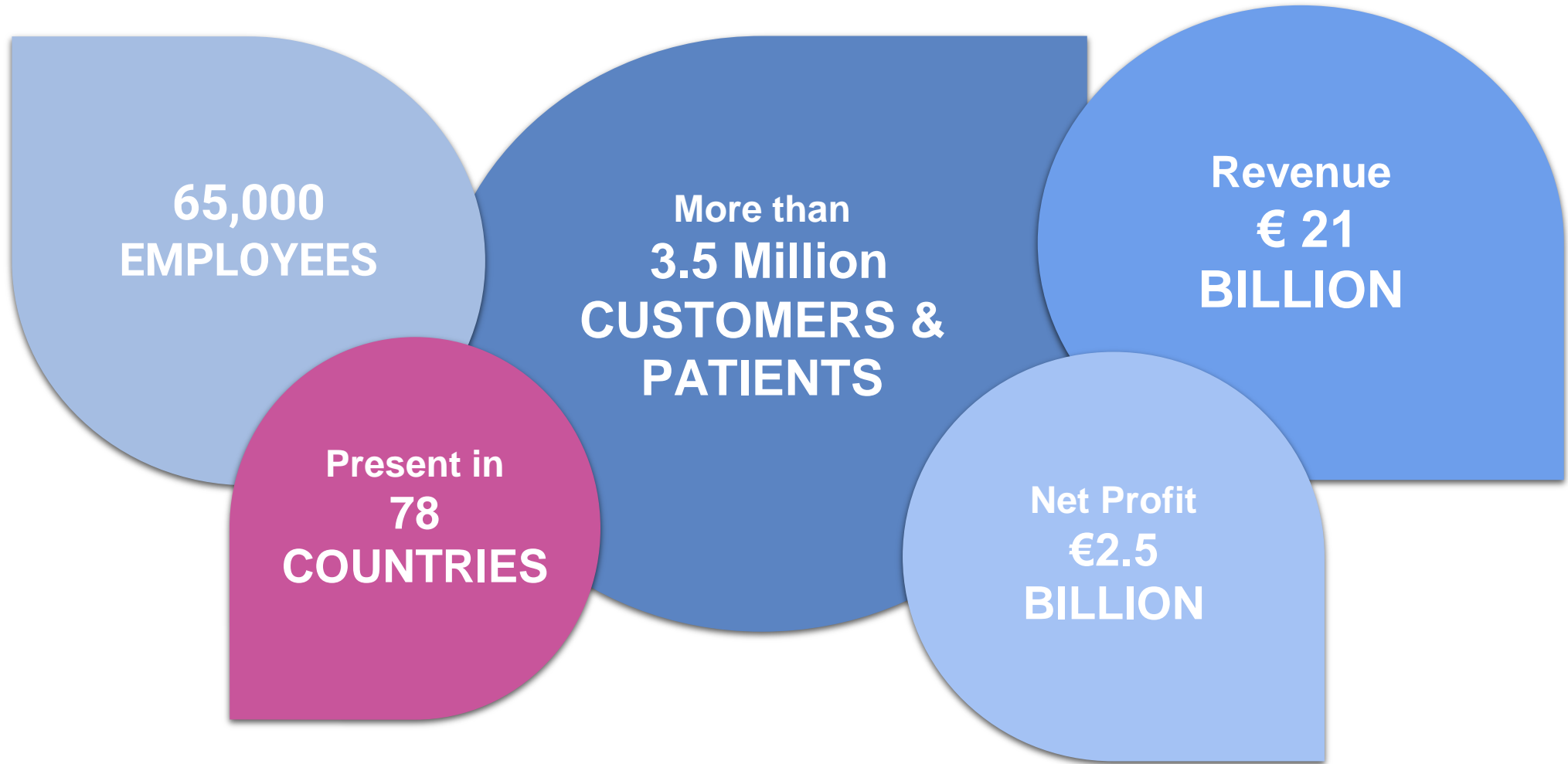


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The AVEVA logo, consisting of the word "AVEVA" in a bold, white, sans-serif font, positioned in the bottom right corner of the slide. The background of the slide features abstract, glowing blue and orange circular patterns on the right side.

About Air Liquide

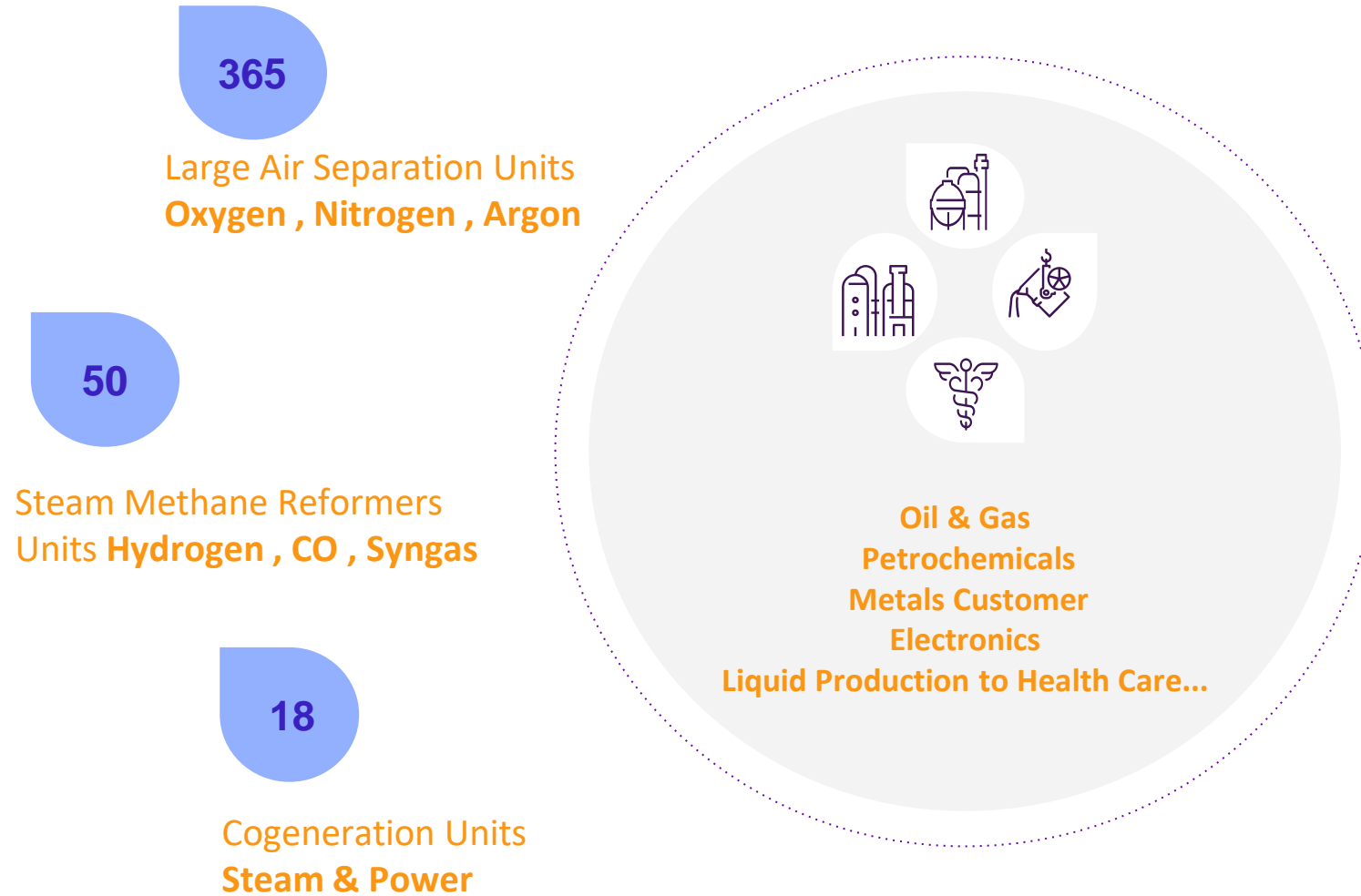
Air Liquide Key Figures



Air Liquide Business Lines



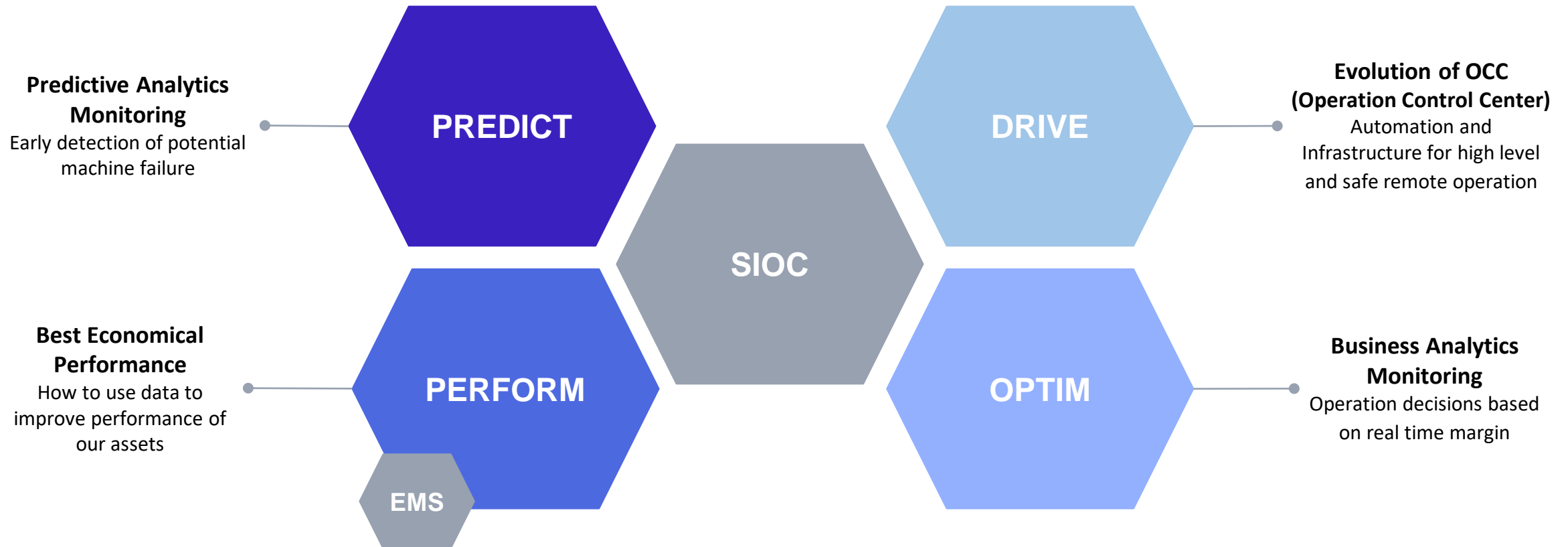
Air Liquide Large Industries Perimeter



- Best 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 Challenges

Smart Innovation and Operation Center (SIOC)



SIO.Drive - Remote Operation Control Centers ROCC

7 SIOC Worldwide

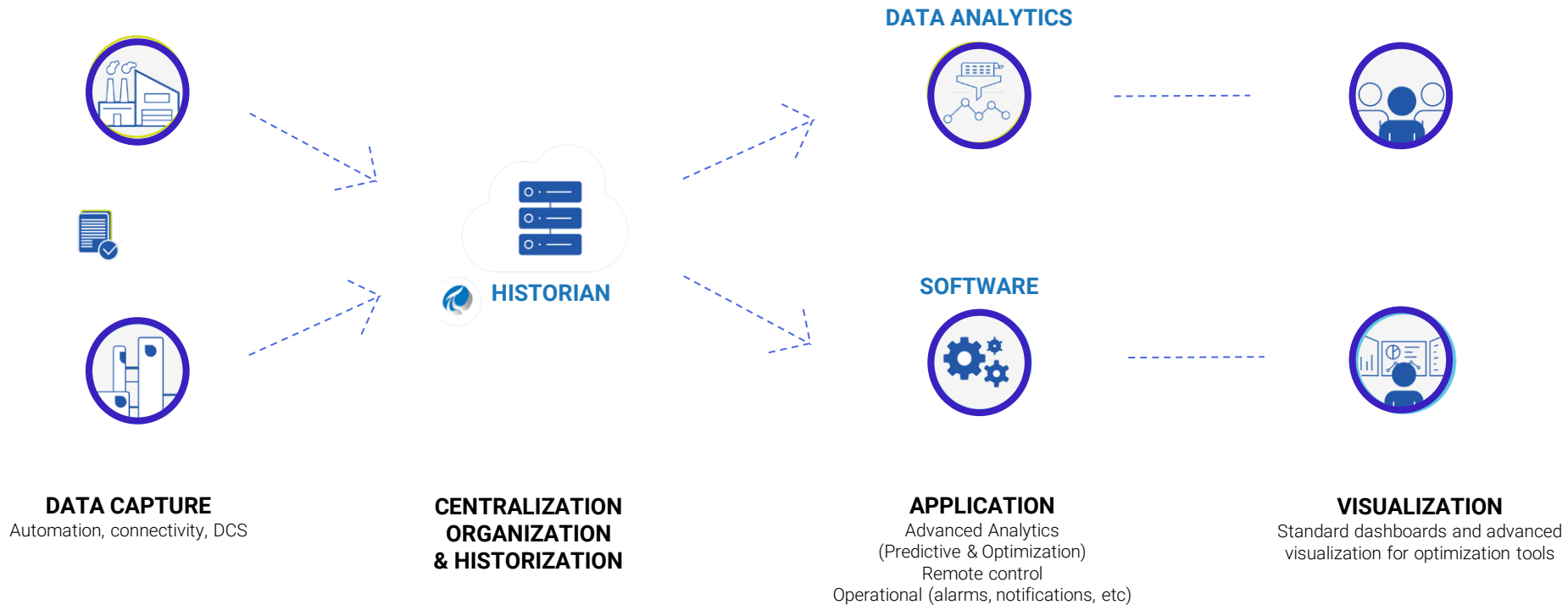


Providing services to
customers supplied in
industrial gases

ALIZENT Facing asset-intensive industries challenges

ASSET INTERACTIVE

CONTINUOUS Operation & Production EFFECTIVENESS





50

COUNTRIES
IN AMERICAS, EMEA & APAC



330

LOCAL PI DEPLOYMENTS



AVEVA

200

PLANTS DEPLOYED WITH **PRISM**
ON **PI System**

AVEVA GLOBAL ALLIANCE PARTNER



Airliquide

Efficiency Monitoring System

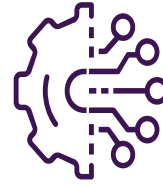
Efficiency Monitoring System



Analysis and Monitoring
System that Operate
24/7 on global **PI Server**



Based on **Big Data Models** that utilizes
physical principles



Uses **historical data** to
detect plant **efficiency deviations** and aids the
Data driven Decision
Based on Efficiency
Modeling

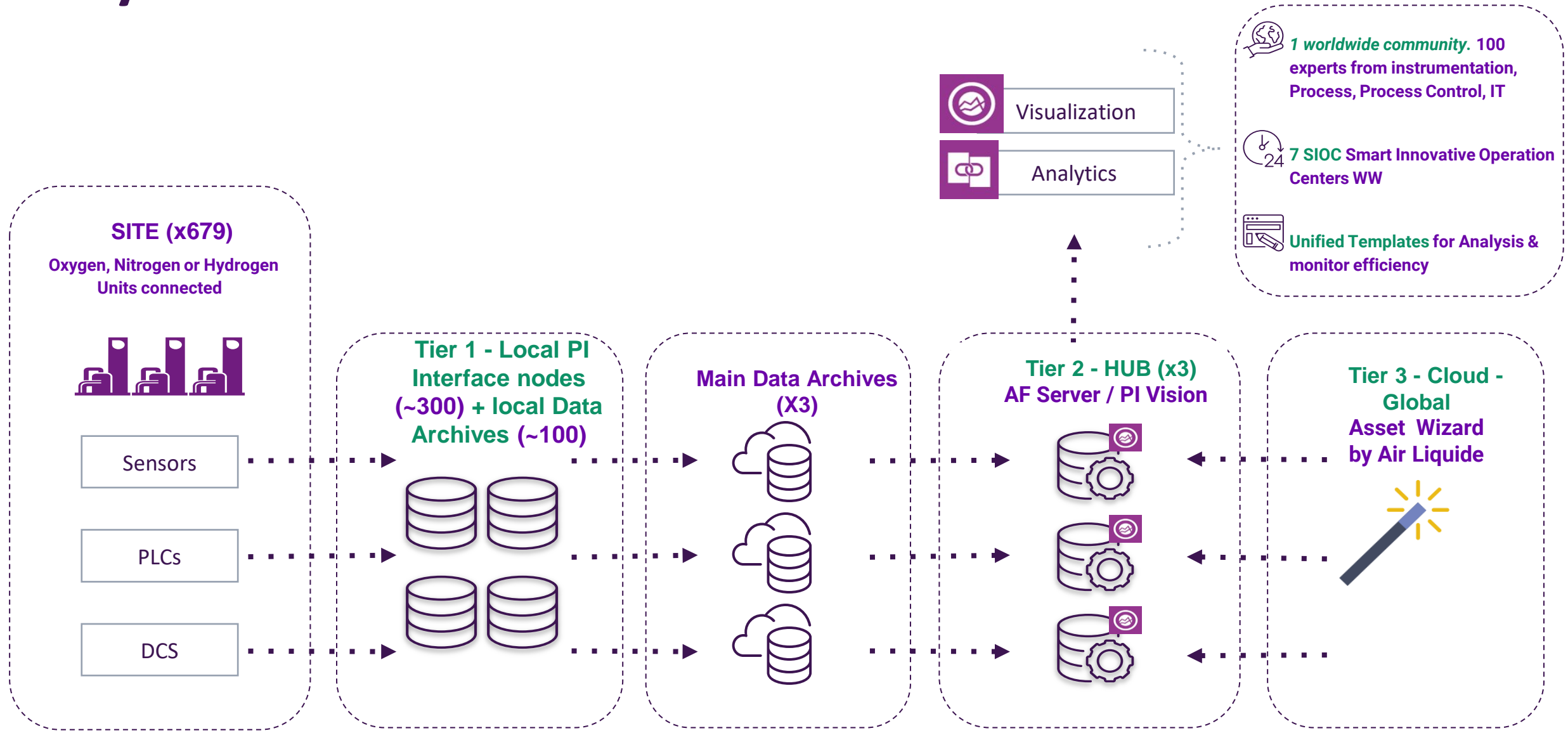


Incorporates global
standardized Asset
Framework **templates**



Alerts Real Time
Pilot(RTP)and Analysts
any performance
degradation

PI System Infrastructure



Asset Wizard

- Is the Key to a clear governance and deployment
- Next step towards a unified database with unified asset, element, attribute, and tag naming convention
- Air Liquide tool developed in house by ALIZENT.



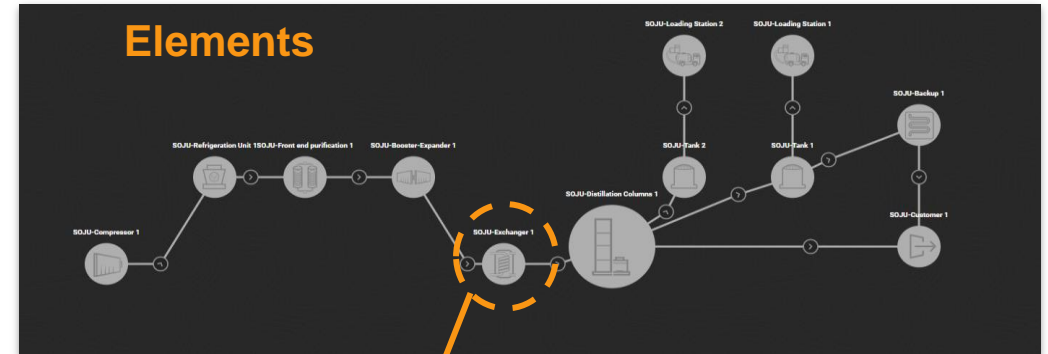
PI-AF

The screenshot shows the PI-AF software interface. On the left, there's a 'Filter' section with a search bar and a list of attributes under the category '001 - Basic_Attribute'. The attributes include various flow and temperature measurements like 'Cold_Fluid_Flow_1' through 'Cold_Fluid_Flow_5', 'Cold_Fluid_Temp_1' through 'Cold_Fluid_Temp_5', 'Warm_Fluid_Flow_1' through 'Warm_Fluid_Flow_5', and 'Warm_Fluid_Temp_1' through 'Warm_Fluid_Temp_5'. On the right, there's a 'Properties' panel for the selected attribute 'I_Fluid_Flow_1_Pi_Point_UOM'. It shows details like Name, Description, Properties, Categories, Default UOM, Value Type, Default Value, Display Digits, Data Reference, and Settings. A note at the bottom states: 'Element(Templates[Exchanger_Cryogenic_T]) Cold_Fluid_Flow_1_Pi_Point_UOM is mapped as an output for: UOM_Cold_Fluid_Flow_1'.



Asset
Wizard

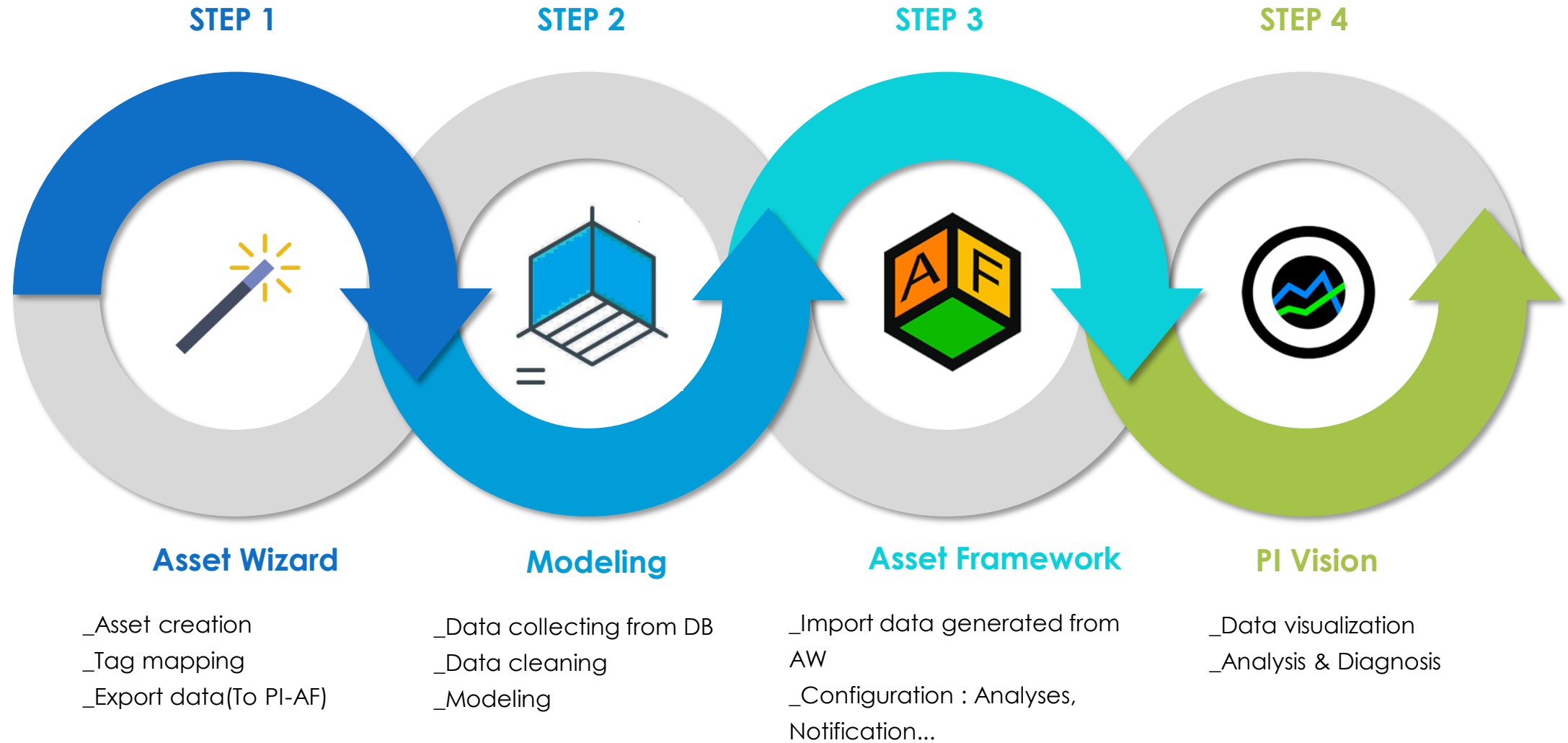
Elements



Attributes

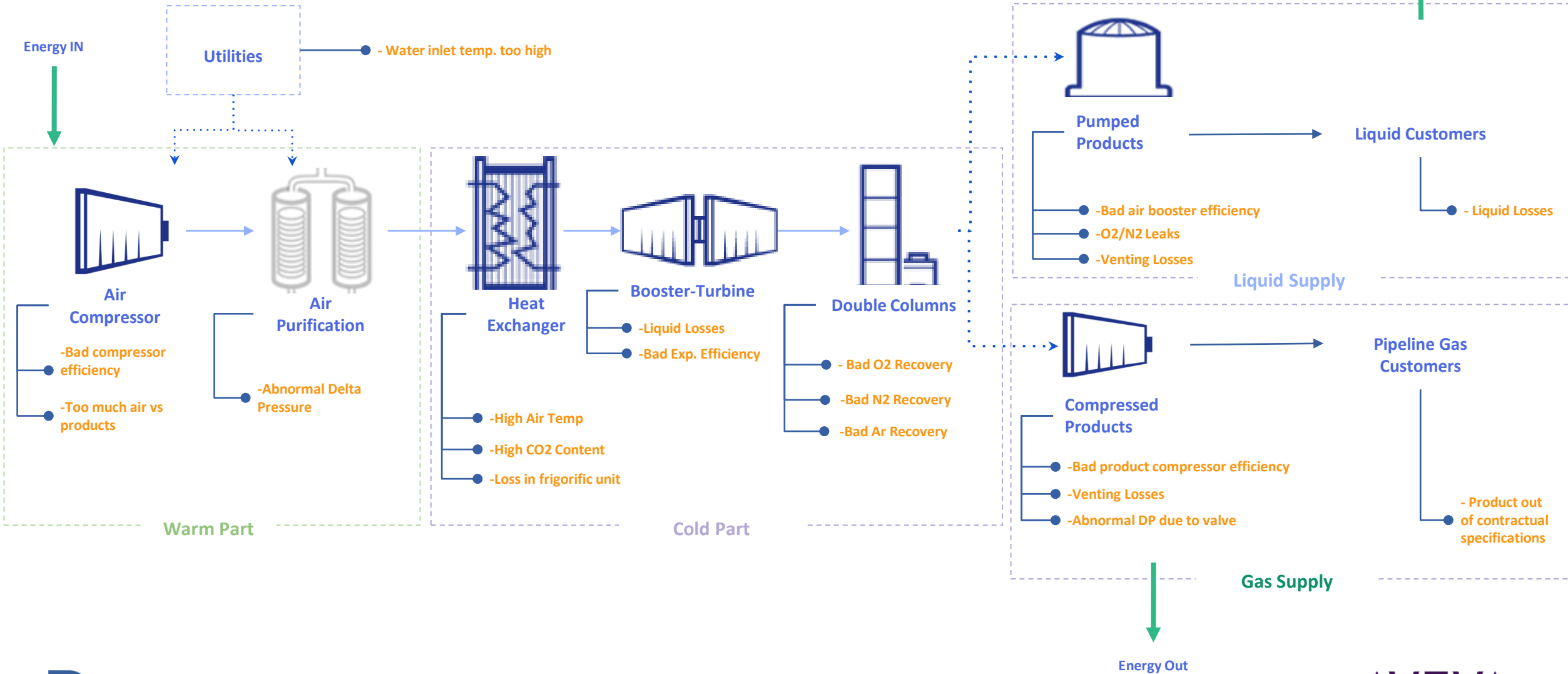
The screenshot shows the 'ASSET WIZ' interface with a 'Destination' dialog box open. The dialog has a 'Ready For Use' section with 'YES' and 'NO' buttons. Below this, there are input fields for 'Shunt Start Time' and 'Shunt End Time', both with date and time pickers. The 'Basic attributes' section includes 'AIRTOT Flow' with a '#PI Point' input and a 'Molar Flow Rate' label. The 'Argon attributes' section includes 'Argon Bubble O2 Meas' with a '#PI Point' input and a 'Ratio' label. At the bottom, there are 'Cancel' and 'Validate' buttons.

Approach to deploy EMS

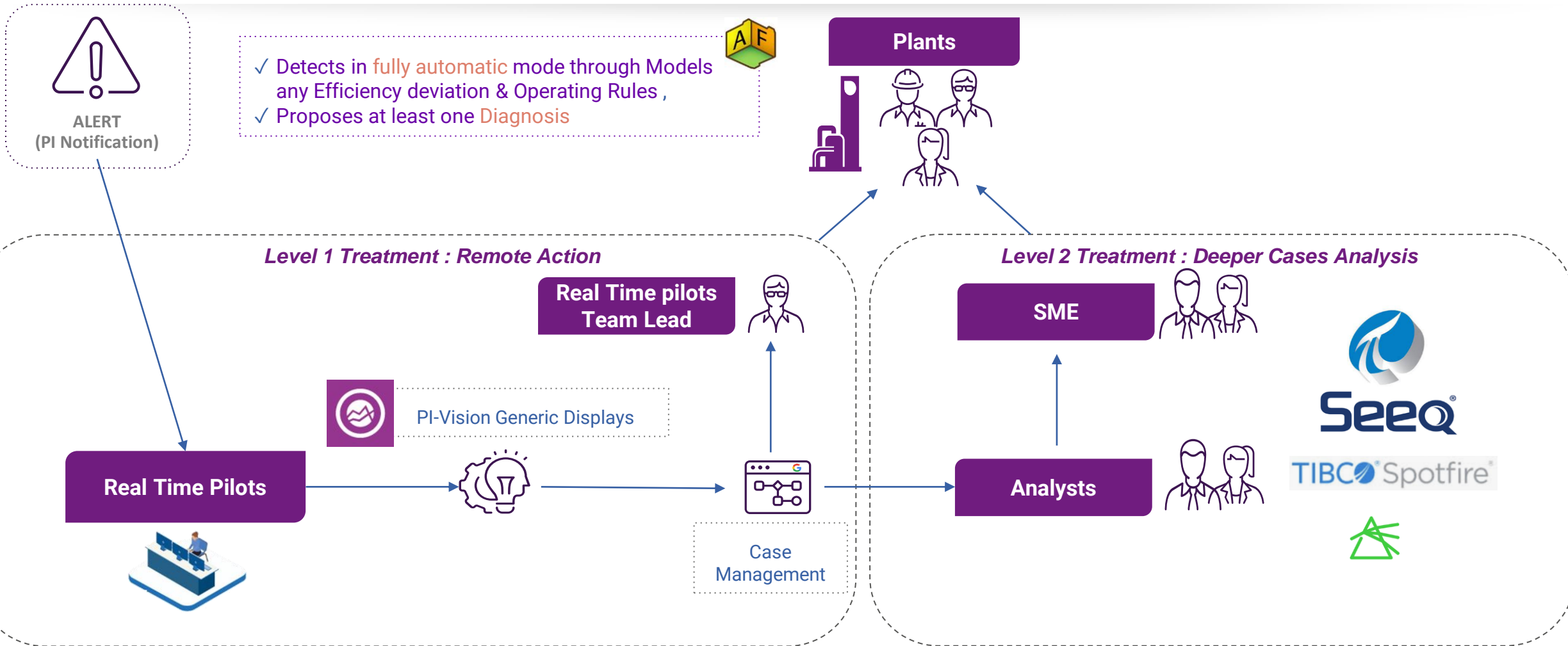


Global Concept on EMS

Application of EMS to Air Separation Units



EMS Solution Workflow - SIO Centers



Conclusion

Examples of EMS Global Standard PI-VISION Display:

Standard Global Coldbox Diagnosis PI-Vision Screen



Standard Global Event Frame PI-VisionScreen



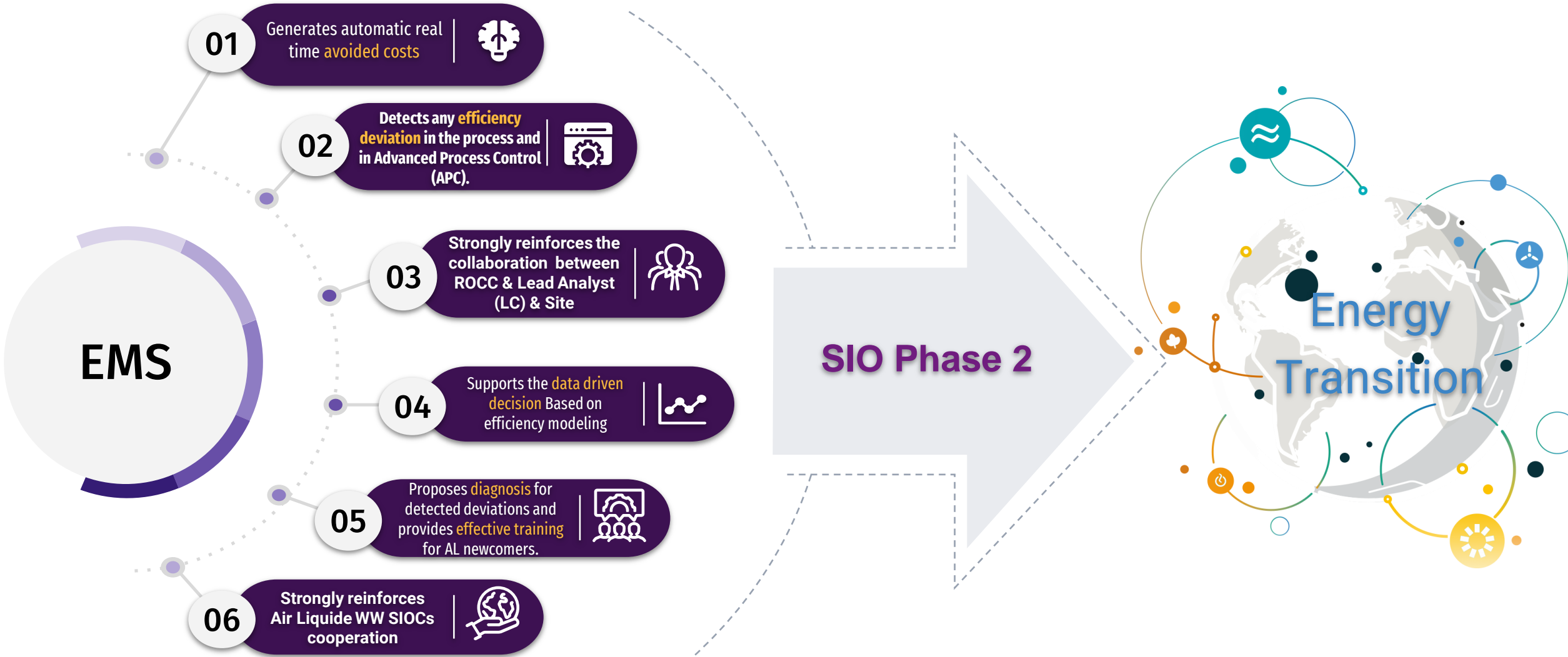
AVEVA Predictive Analytics Dashboard in PI-Vision



TIBCO Dashboard in PI-Vision



Benefits of EMS



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