

GreenVolt & Evora IT

Case Study

Driving the Energy Transition with Smart Predictive Monitoring

Turning Data into Action: How GreenVolt is Redefining Asset
Performance



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Evora IT

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01 GreenVolt & Evora IT Solutions



We are a Portuguese renewable energy company delivering 100% green energy through multiple technologies worldwide, including biomass, wind, and solar power.



A Global Group focused exclusively on 100% renewable energy

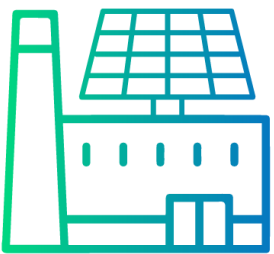
From a vision in 2021 to a leader
in the energy transition today



greenvolt

100% KKR

Greenvolt is a 100% renewable energy Group with operations spanning across 20 geographies with solutions in three business areas: Utility-Scale (Solar, Wind, BESS), Distributed Generation and Sustainable Biomass.



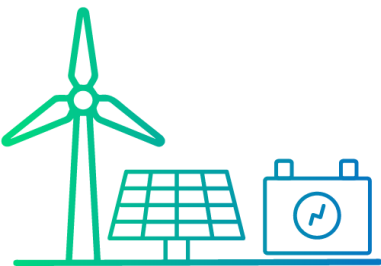
Distributed Generation



12
Markets



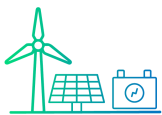
+584 MWp
Signed capacity



Utility-Scale
(Solar, Wind, BESS)



19
Markets



12.8 GW
Total Pipeline



Sustainable Biomass



2
Markets



7 Plants
+160 MW
Capacity



Your Trusted Partner for End-to-End Asset Management
across the SAP Ecosystem and Beyond



>1000
projects

A photograph of a person's hands typing on a laptop keyboard. The laptop screen displays lines of code in a dark-themed editor. The image is framed by a white, wavy, ribbon-like graphic.

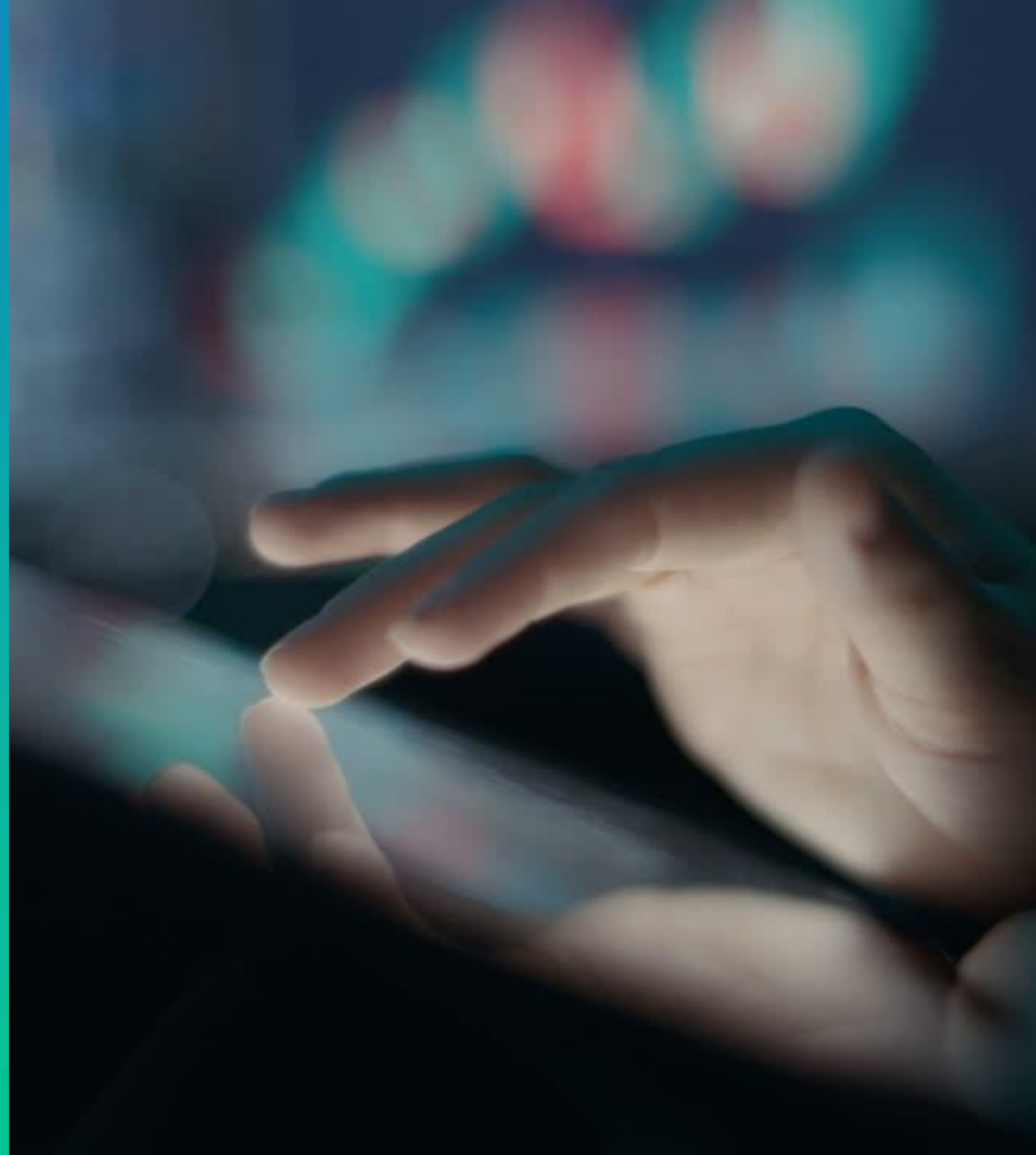
>200
clients

A photograph of industrial machinery, possibly a robotic arm or assembly line, with orange and metallic components. The image is framed by a white, wavy, ribbon-like graphic.

+500
Employees
Worldwide

A photograph of several people in a meeting or office setting, with one person standing and pointing at a screen. The image is framed by a white, wavy, ribbon-like graphic.

02 Project Background



The main objective of the project was to implement a centralized and remote Monitoring and Prediction Center to oversee and manage all biomass plants across Europe.



02 PROJECT BACKGROUND

The main objective of the project was to implement a centralized and remote Monitoring and Prediction Center to oversee and manage all biomass plants across Europe.



- 1 Mortágua
- 2 Figueira da Foz (Mondego / SBM plant)
- 3 Vila Velha de Ródão
- 4 Oliveira do Hospital
- 5 Constância



02 PROJECT BACKGROUND

The main objective of the project was to implement a centralized and remote Monitoring and Prediction Center to oversee and manage all biomass plants across Europe.



- 1 Tilbury Green Power - Essex
(Port of Tilbury, near London)
- 2 Kent Renewable Energy -
Sandwich (South East
England)



03 Business Purpose

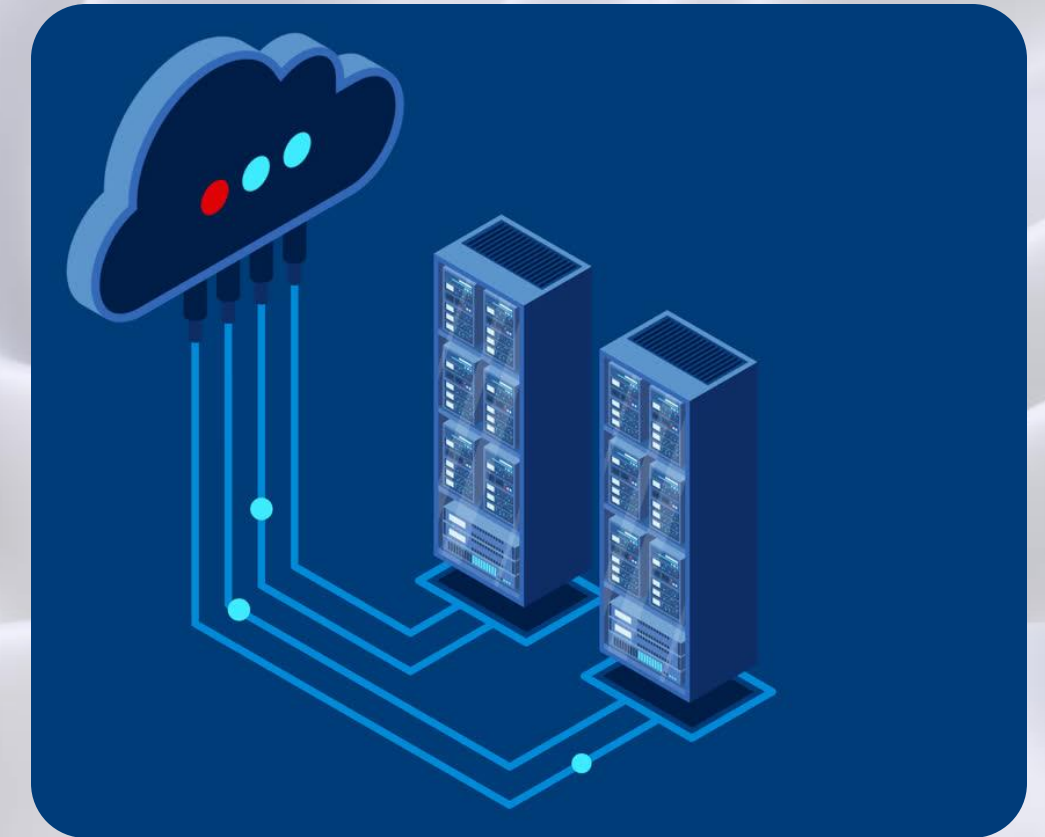




01 Improve the transparency



02 Increase profitability and operational efficiency

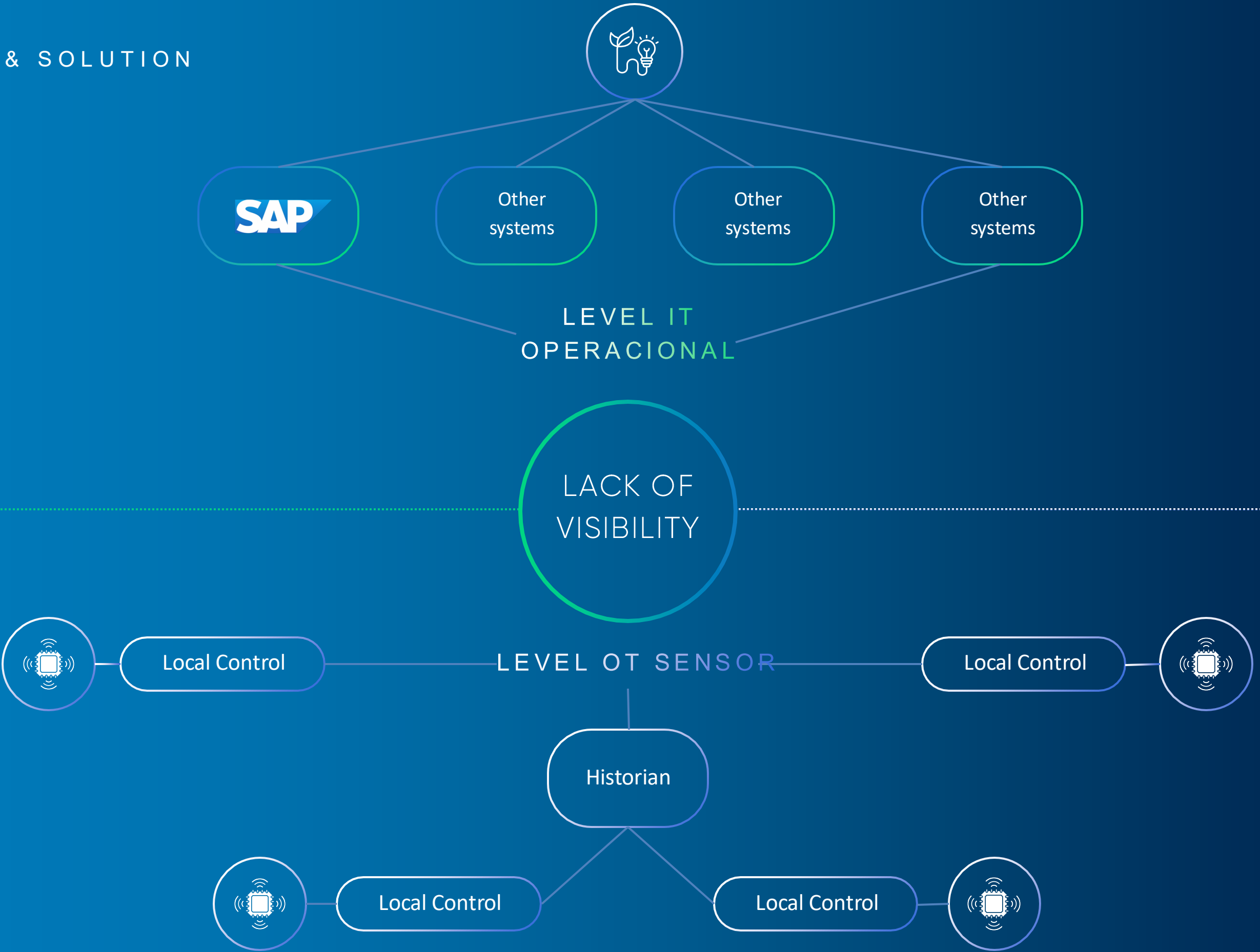


03 Reduce downtime by mitigating unplanned maintenance events

04 Challenge & Solution



04 CHALLENGE & SOLUTION

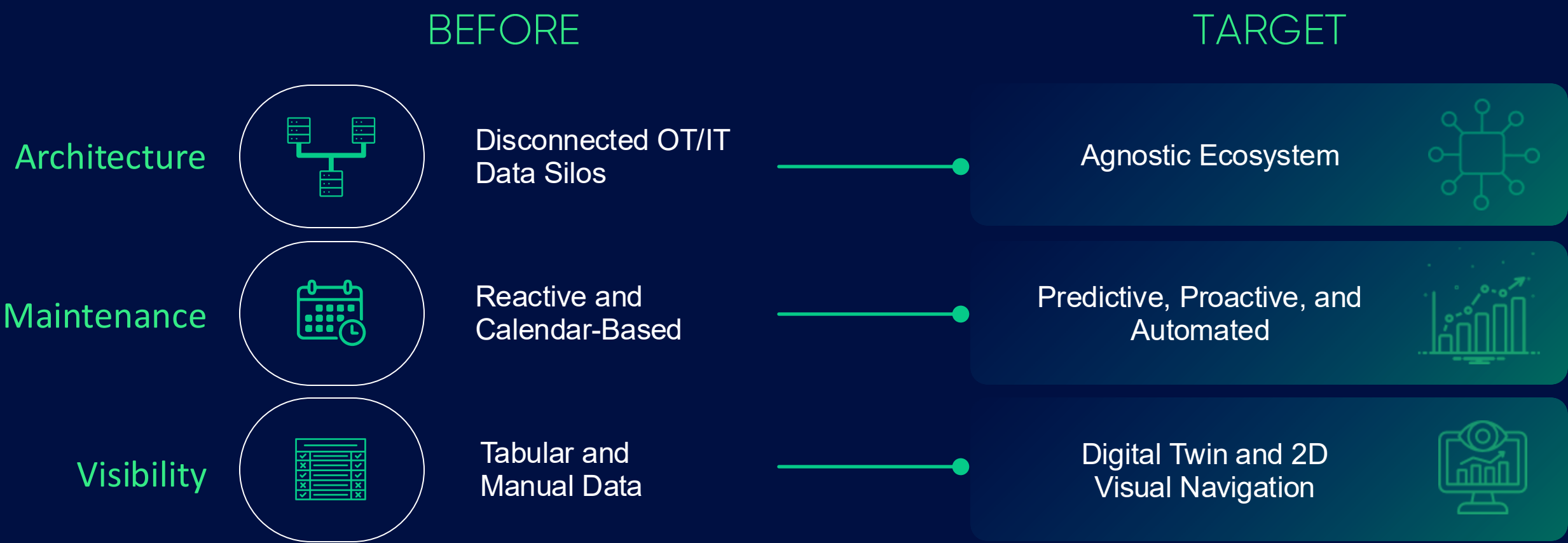


Operational Data (IT)

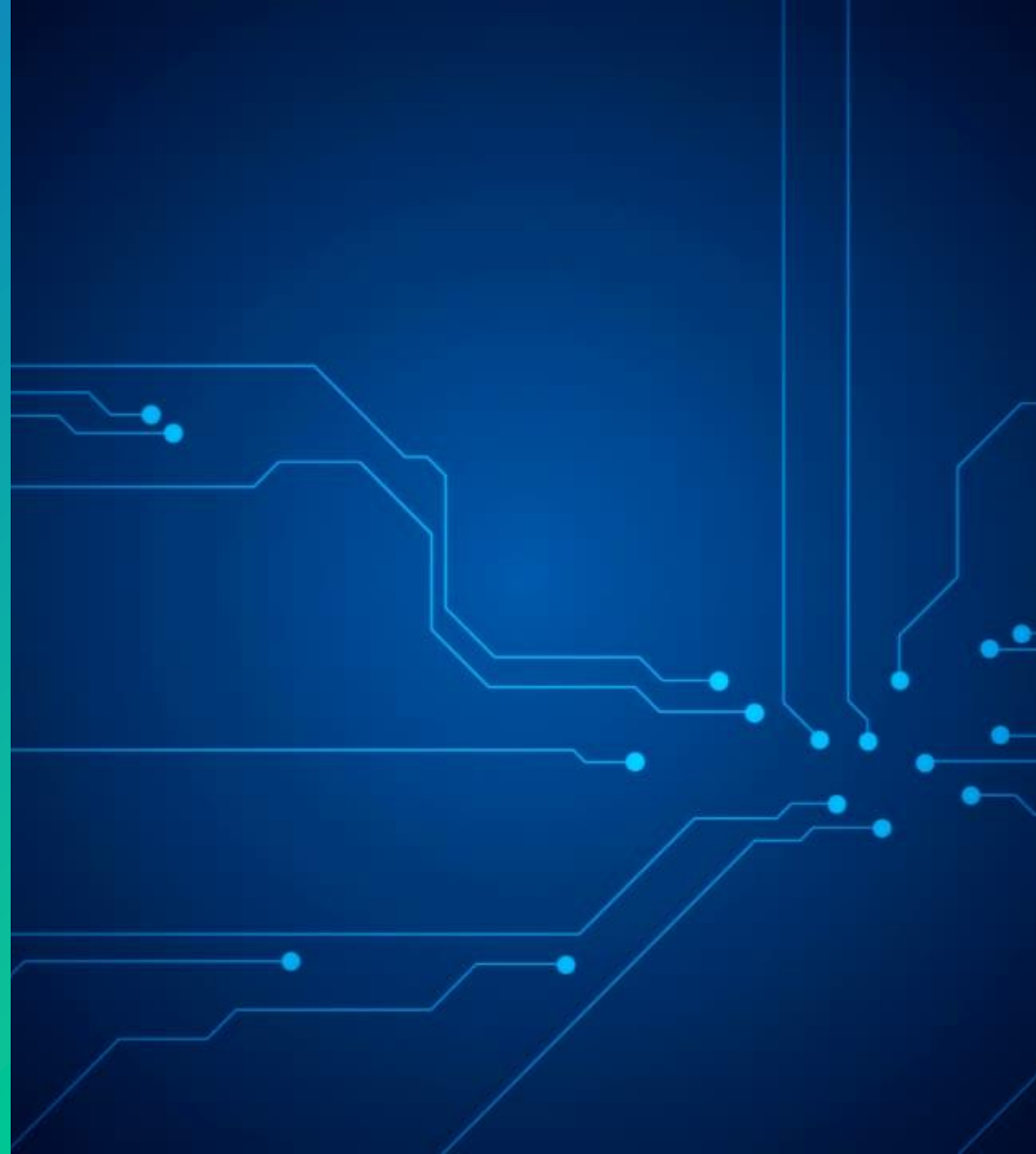
**SILOED OT & IT
SAP APM**

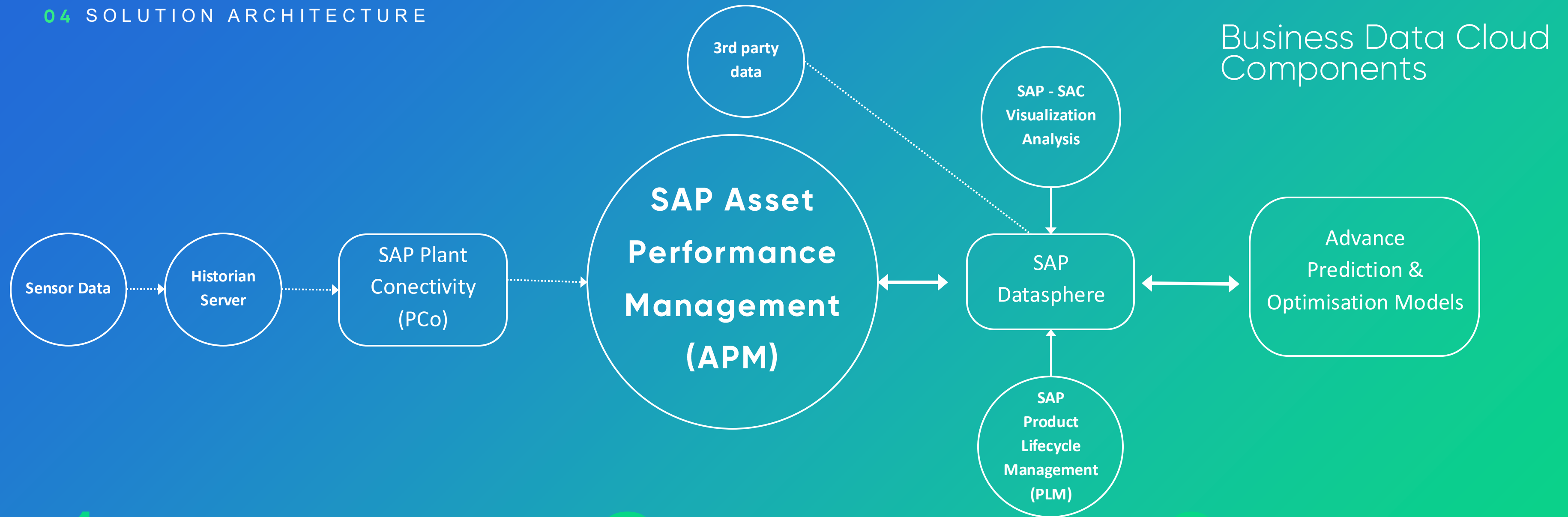
Sensor Data (OT)

The Vision: Creating a Unified Intelligence Hub to Monitor, Predict, and Optimize Biomass Plants Across a Heterogeneous Landscape based on SAP Asset Performance Management



04 Solution Architecture





1 Capture

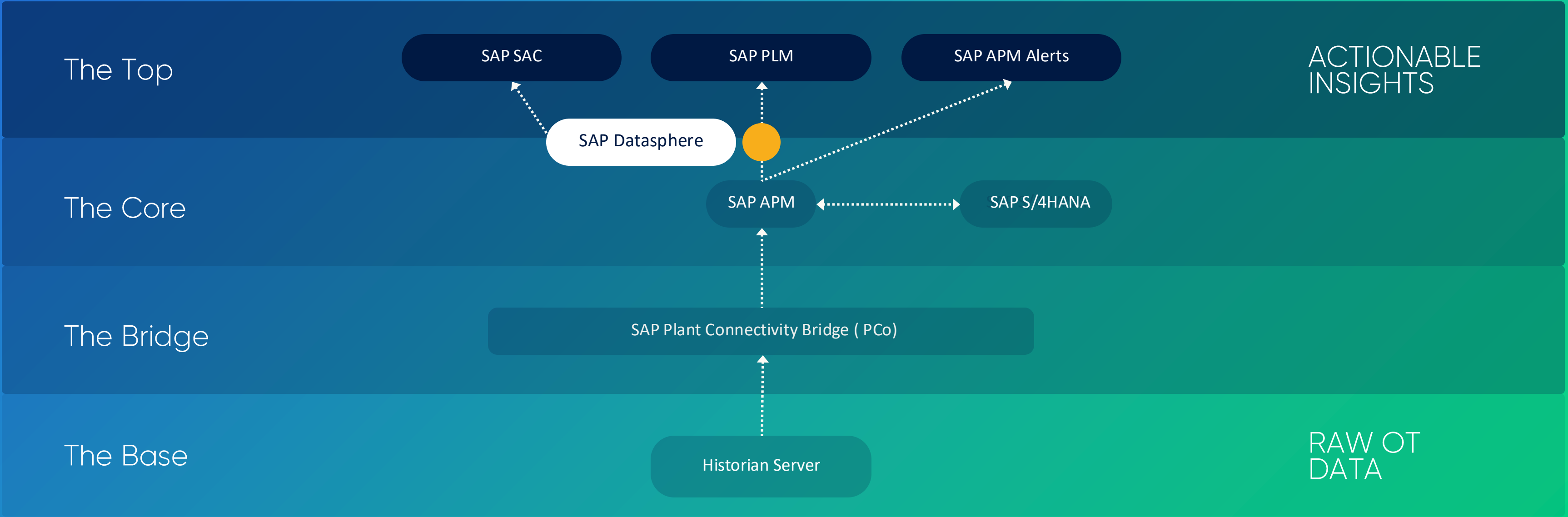
All plant data is stored in a Historian Server, acting as the main OT data source

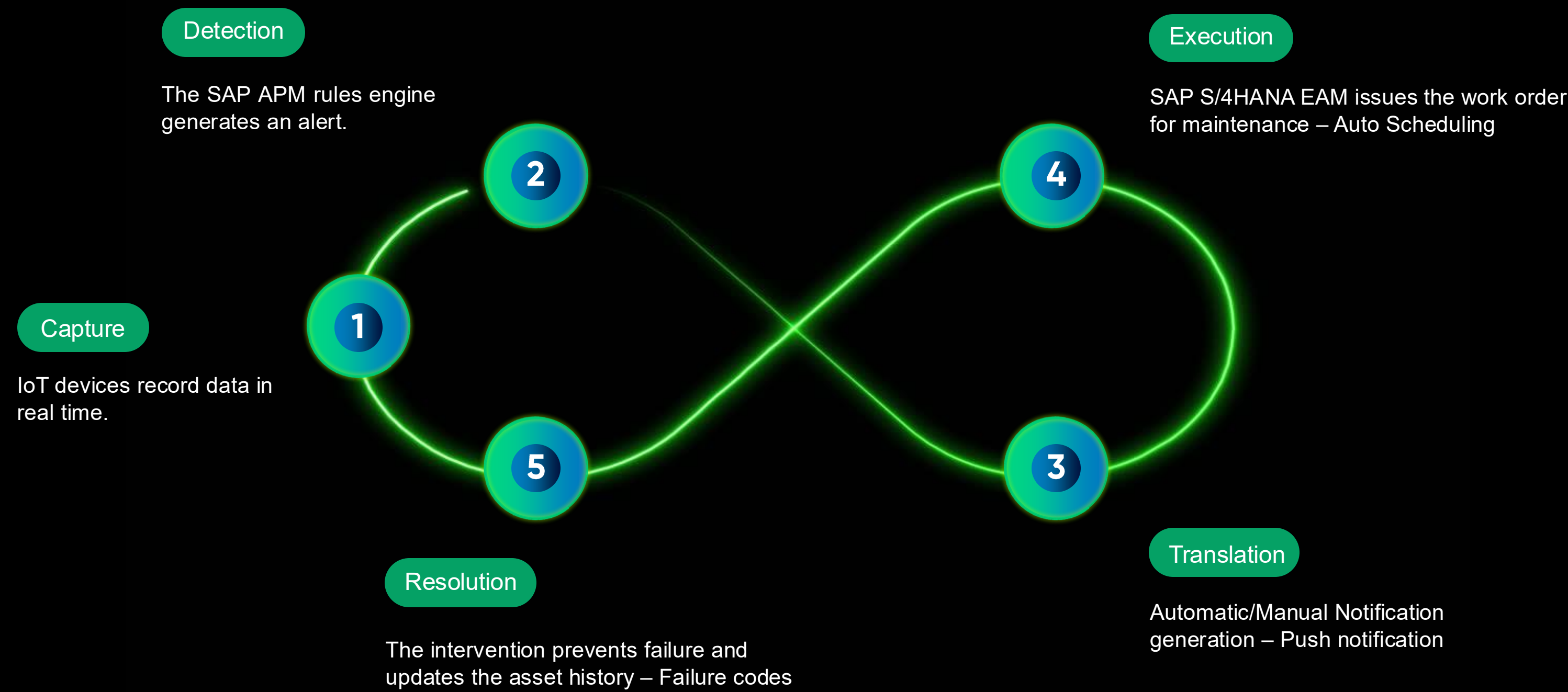
2 Core

At the core, SAP APM connects OT data with IT processes, enabling actionable insights

3 Future

A flexible architecture ready to leverage SAP Business Data Cloud and advanced prediction capabilities, including SAP Databricks

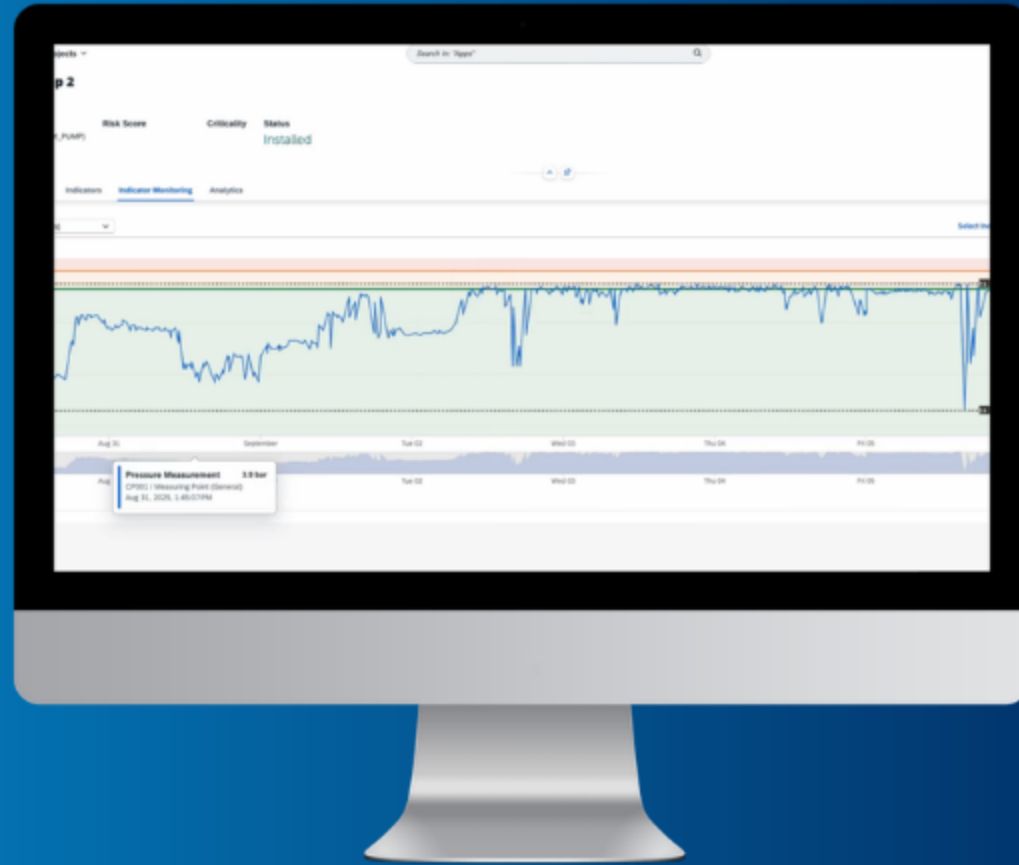




07 Actionable Insights



07 ACTIONABLE INSIGHTS



01

Rules and alerts in SAP APM

Trend charts for temperatures and flow rates, enabling rapid identification of alerts.

[View video](#)

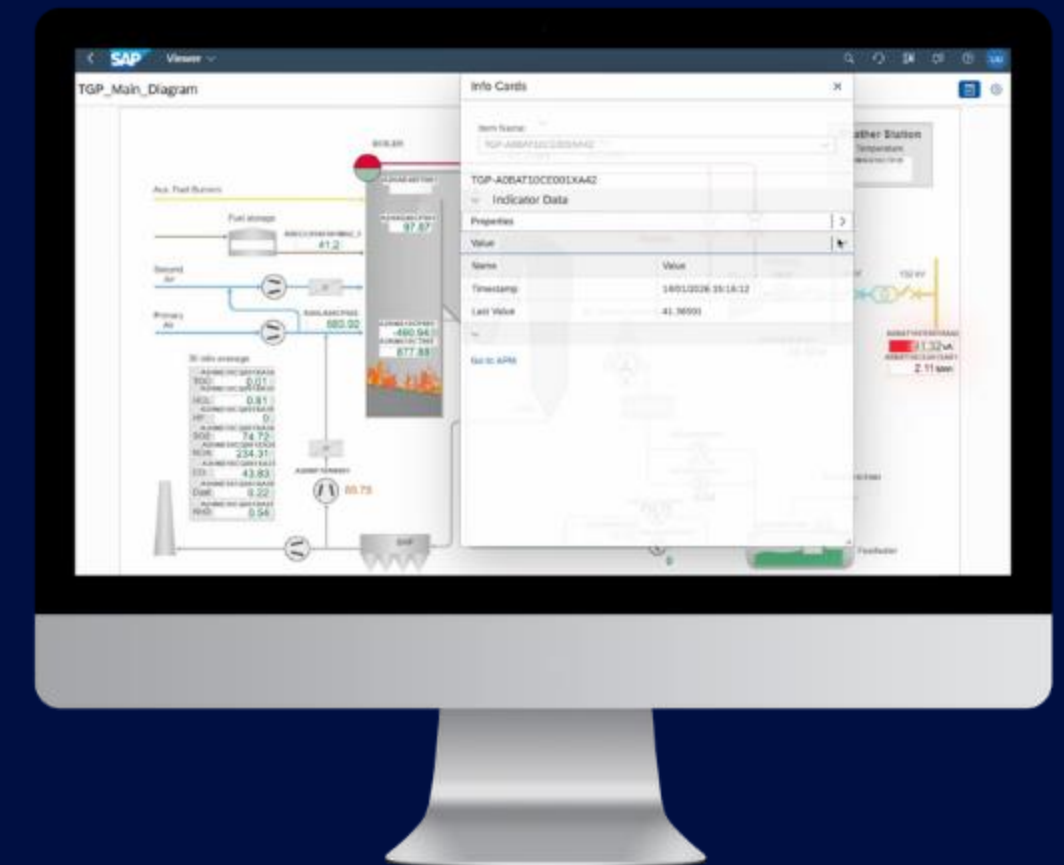


02

Management/Operational dashboard in SAP SAC

Dual-layer dashboards: Operational dashboards focused on real-time monitoring, and Management dashboards focused on performance and operational efficiency

[View video](#)



03

Digital Twin in SAP PLM

From visualization to intelligence: Digital Twins enabling real-time monitoring and AI-driven optimization

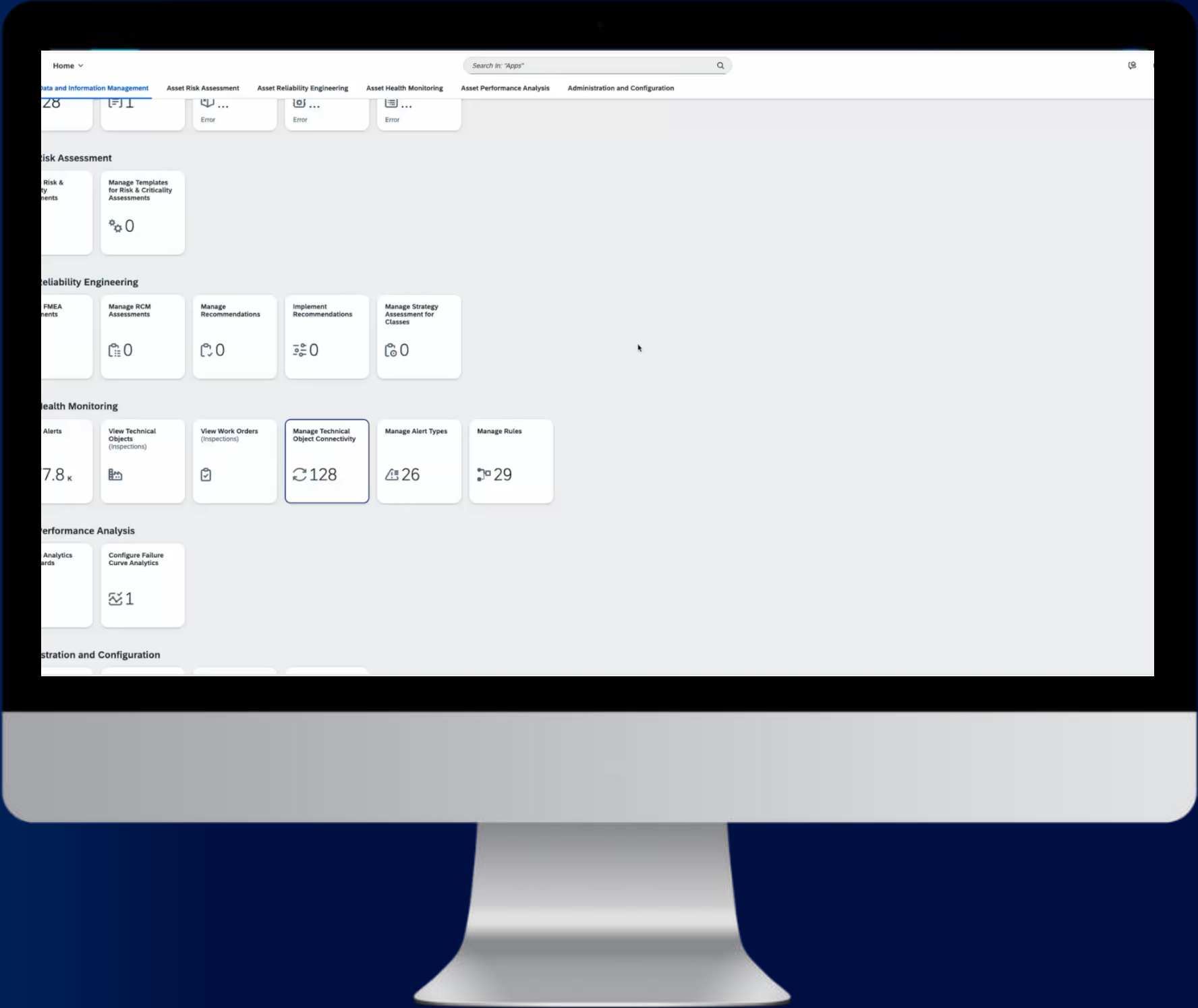
[View video](#)

01

Rules and alerts in SAP APM

Trend charts for temperatures and flow rates, enabling rapid identification of alerts.

[Return](#)

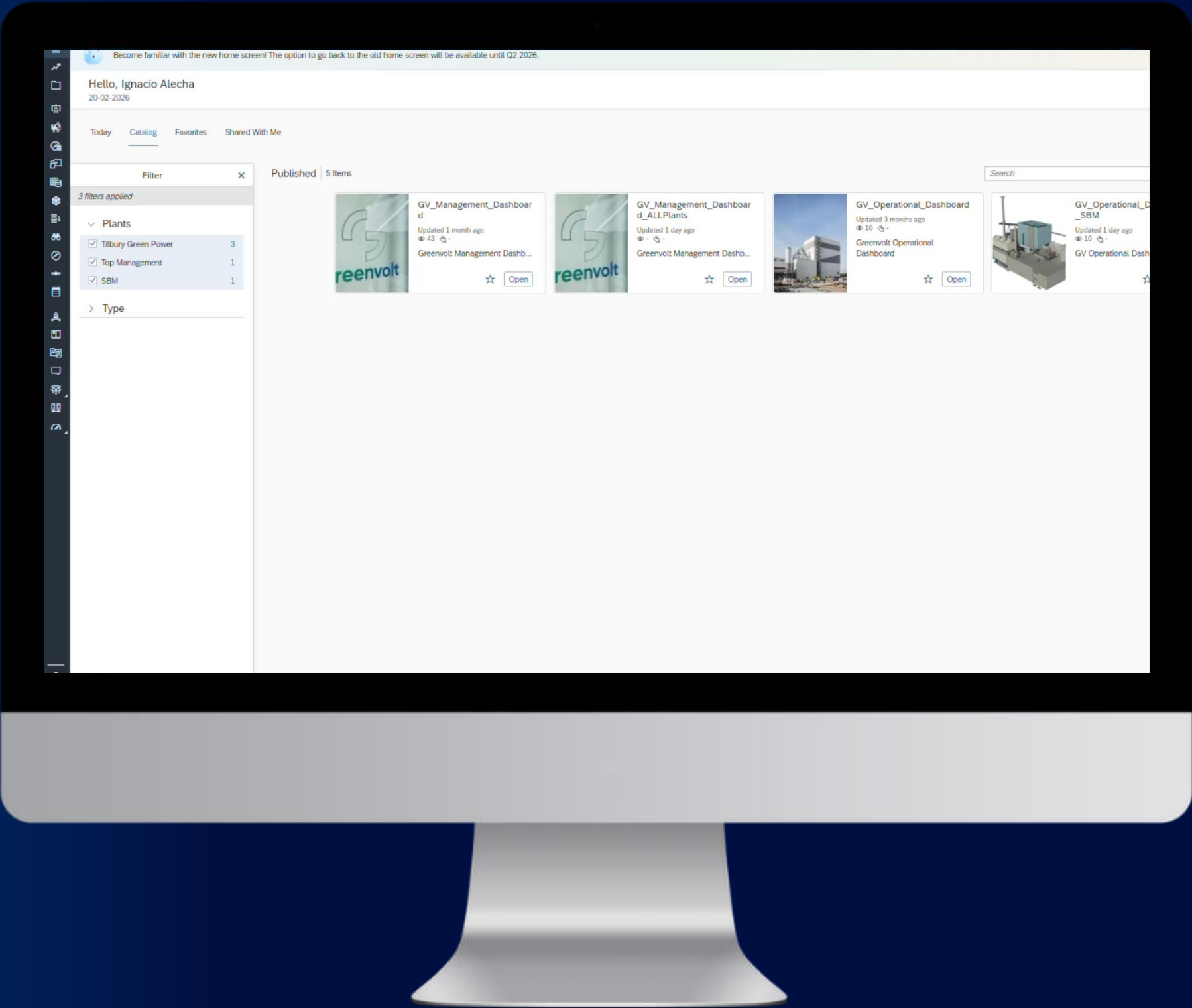


02

Management/Operational dashboard
in SAP SAC

Dual-layer dashboards: Operational dashboards focused on
real-time monitoring, and Management dashboards focused on
performance and operational efficiency

[Return](#)

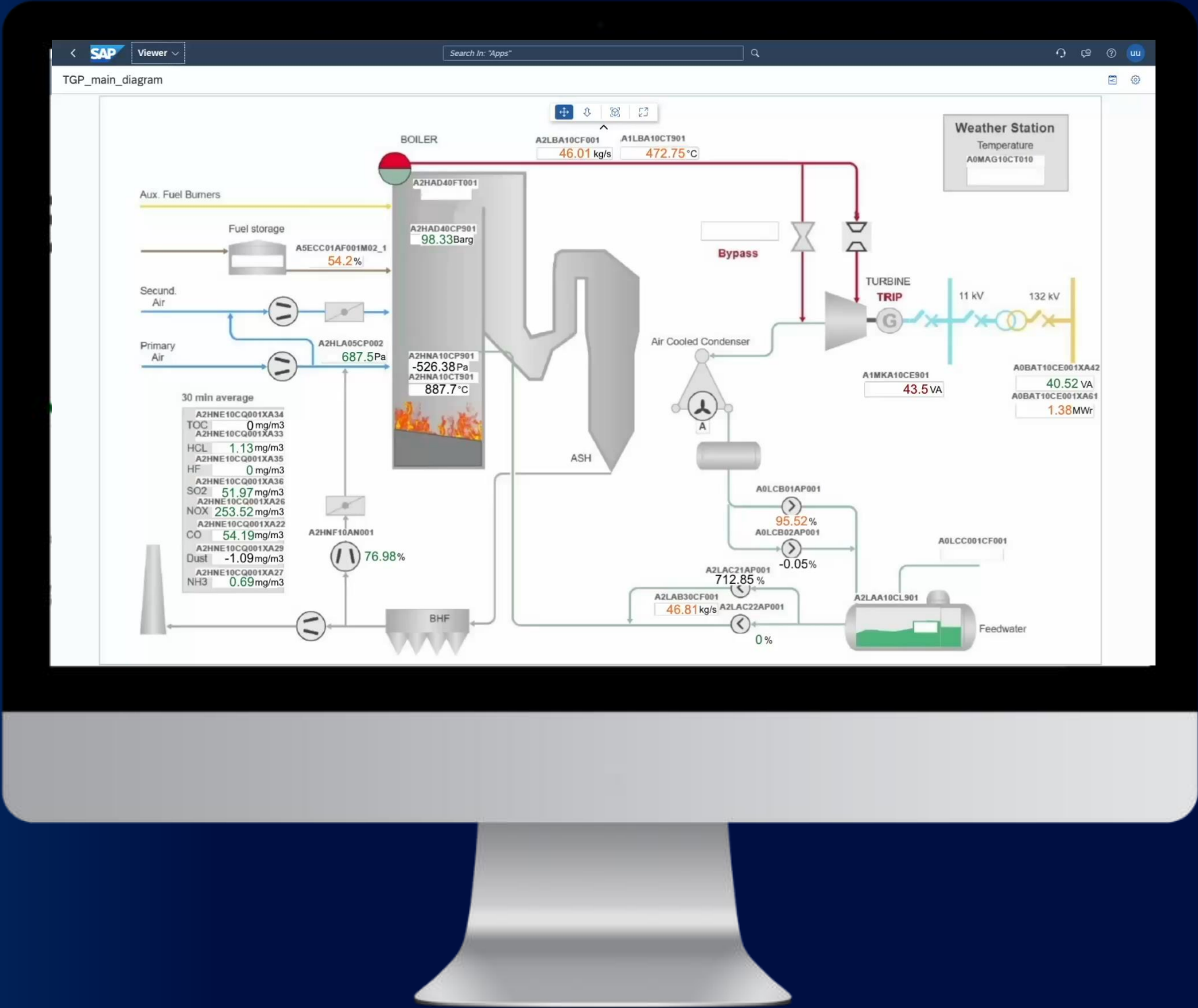


03

Digital Twin

From visualization to intelligence: Digital Twins enabling real-time monitoring and AI-driven optimization

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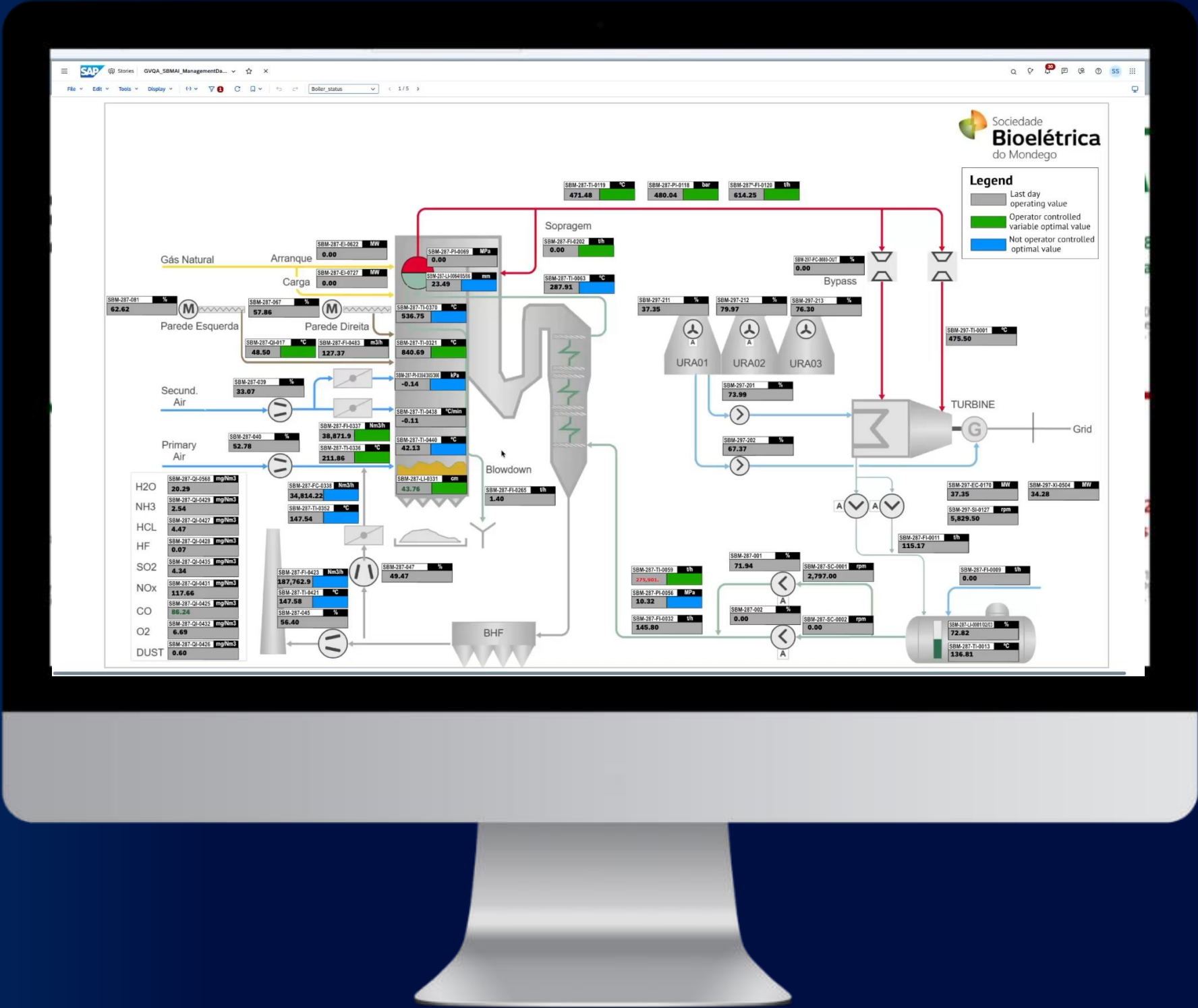
08

AI Model for Boiler Optimisation



08 AI Model for Boiler Optimisation

The objective of the AI-based custom biomass boiler optimisation model is to maximise thermal efficiency and operational performance while minimising biomass consumption and keeping emissions under control.



09 Success Metrics & Next Steps





01 Data-Driven Decision Making

- **Operations & Maintenance**
Enhanced transparency across all plants through centralized condition monitoring, enabling better visibility and control of asset health.
- **Business & Profitability**
Stronger operator alignment through data-driven insights, improving overall asset performance.



02 Improved Operational Efficiency through Custom AI Models

- **Analysis & Diagnostic:** Leak Detection, Assest Health Life
../...
- **Optimisation:** Optimize Boiler Emissions, Boiler Combustion
../...

08 SUCCESS METRICS & NEXT STEPS

greenvolt

evora
— IT SOLUTIONS —

Following the initial success in asset optimization and predictive dashboards, the current challenge is to scale the solution to support three new simultaneous implementations of this project within Greenvolt.



Share
Feedback!

A New Generation of Assets Management

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