



AVEVA WORLD

APRIL 8, 2025

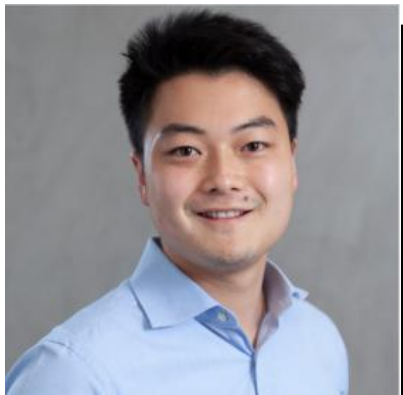
Grafcet: How Food & Beverage companies benefit from real-time data in the cloud

Lucas Umeda – Grafcet

How Food and Beverage companies benefit from real-time data in the cloud

AVEVA



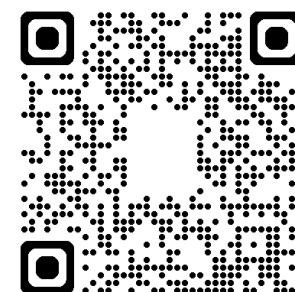


Lucas Umeda

Head of Operation

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Talk to me:



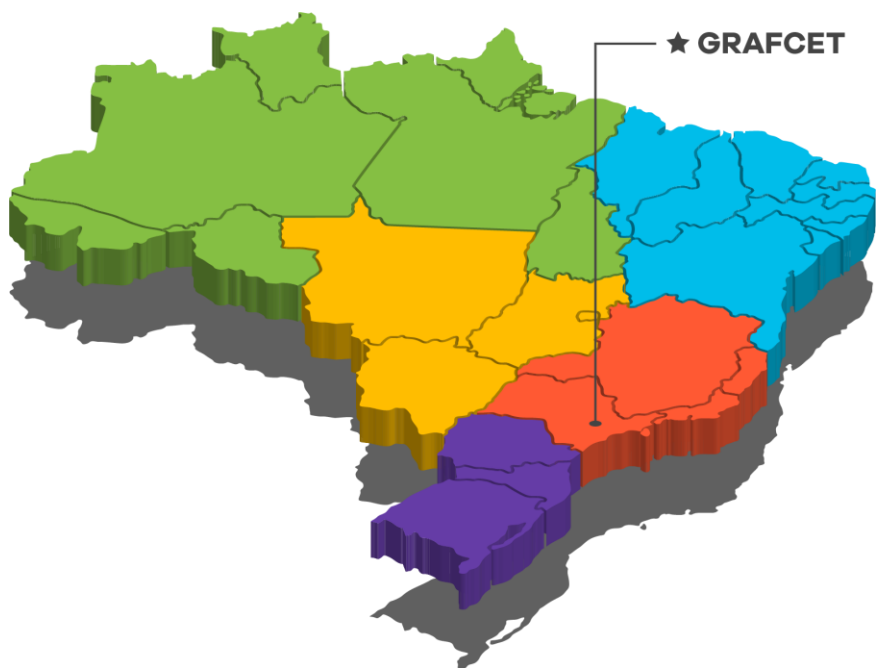
Professional Experience

6 years in Grafcet
Marketing, Operation, Finance

Background **Stock Market**

Academic Background

- **Production Engineer**
- Specialization in AI
- Post Graduation - Administration
- MBA Software Engineering



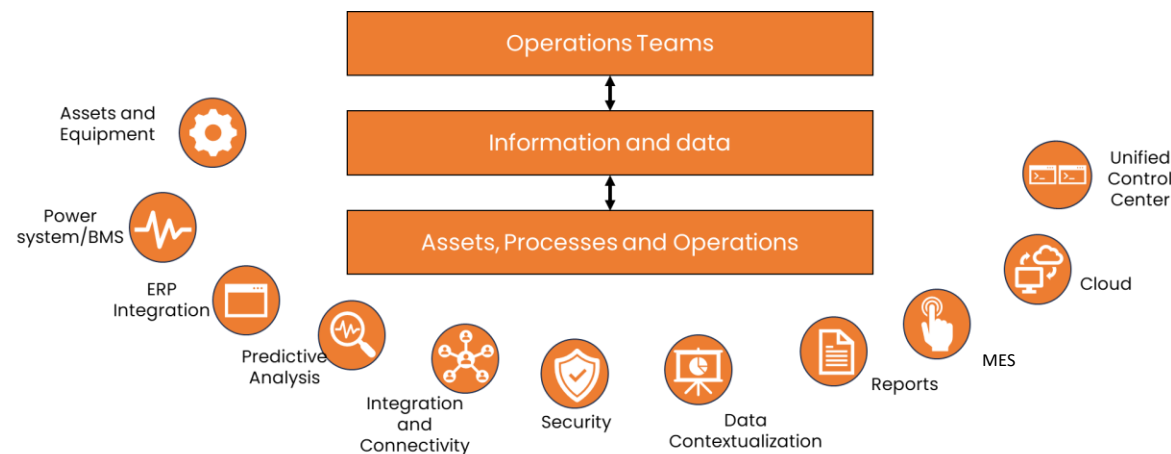
Who We are

Grafcet is an engineering company that has been developing technological solutions for implementing digital transformation projects since **1992**.

More than **1,500** projects carried out in the following technological segments:

- Industrial Automation
- MES systems
- Data Analytics

Systems Integration



AVEVA



Endorsed System
Integrator by AVEVA

AVEVA MES Certified

Aveva PI Integrator

Industries

- Food and Beverage
- Infrastructure
- Oil & Gas
- WWW
- Chemicals
- MMM
- Data Centers

Our Projects





About our client



4 plants around the world. One is the **biggest orange juice** processing plant in the world



5 maritime terminals to distribute to the world



Over 20 farms supplying oranges to the industry.



20% of the global market share and 40% of all orange juice produced is exported by Brazil.

About our client



A global leader in the orange juice industry, managing an integrated supply chain from cultivation to distribution. With one of the world's largest processing plants in Brazil and strategically located **near capital and maritime terminals**, it ensures **high-quality production and efficient global delivery**. The company prioritizes innovation, sustainability, and operational excellence to maintain its industry leadership.

Products:

- **Orange juice**
- Animal feed
- Essential oils, pulps, and essences

Final Products:

NFC – Orange juice sold in supermarkets
FOP – Frozen Orange Juice
FCOJ – Frozen Concentrated Orange Juice



Challenges

- **Need for visibility** of tank levels at the Port of Santos.
- **Need for visibility** of operational capacity and inventory
- The current **In house system** is outdated and proprietary used for managing information of the operation, requiring specialized labor.
- Current system is limited and does not attend with all client's requirements
- **Lack of dashboards** for managerial data analysis
- Integration with ERP system
- **Reduce manual data input** and paper usage



Challenges in real-time data sharing among organizations caused by legacy system limitations.



Lack of visibility and delays in decision-making for critical processes between organization



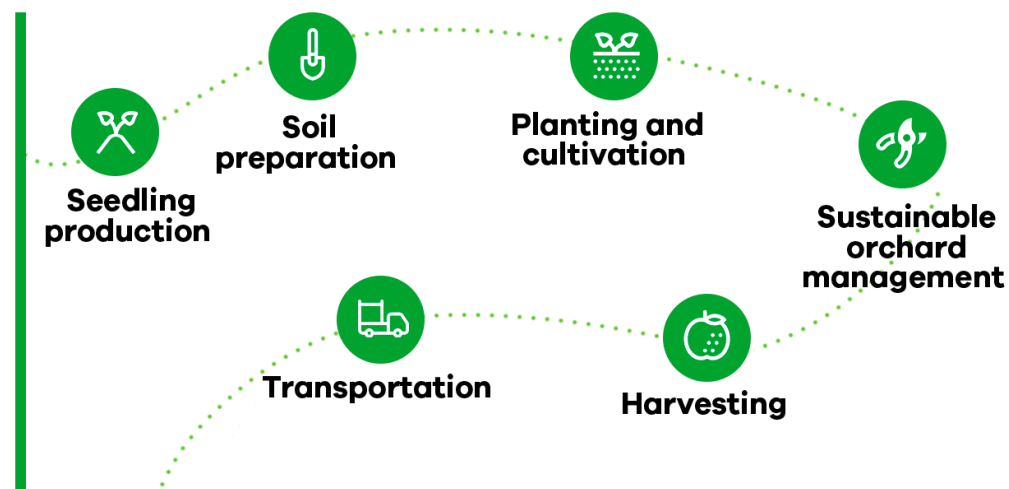
High costs associated with implementing an on-premise solution





Operational Process

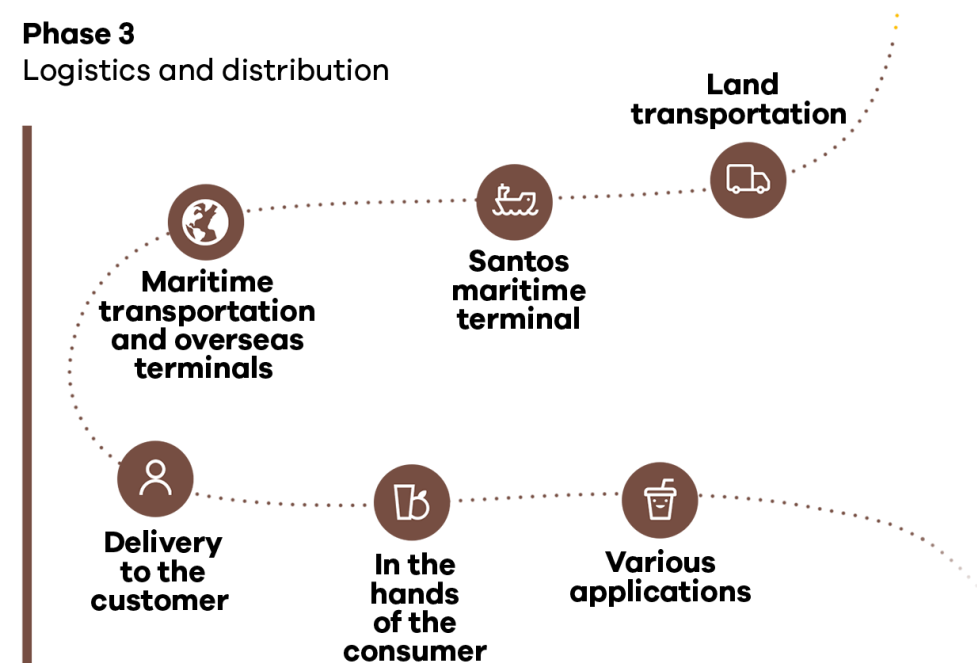
Phase 1 Agricultural



Phase 2 Industry



Phase 3 Logistics and distribution

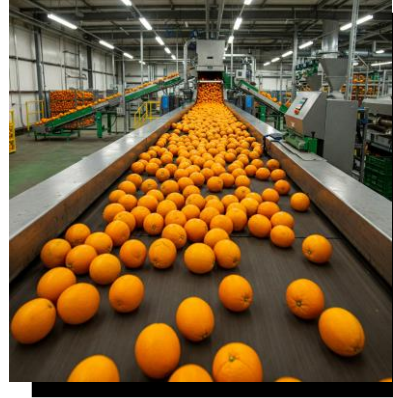




Phase 2 - Process



Transport the
orange



Quality - Selection of
good orange



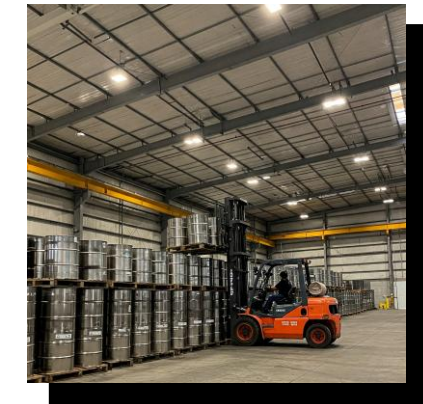
Cleaning and sanitization of
the orange



Extract the juice from
the orange

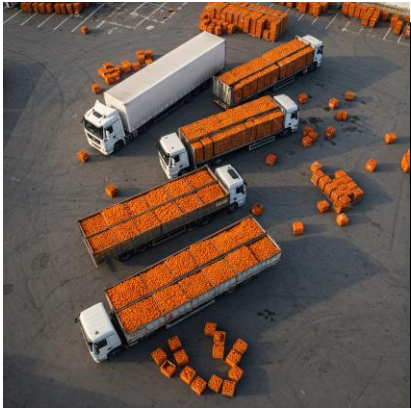


Pasteurization/ Evaporation
of the Orange juice



Tanks with Orange
juice

Parking



- Quantity of trucks
- Quantity of boxes

Bins (Silos)



- Amount of trucks on BINs
- Amount of boxes on BINs

Extractors



- Amount of boxes processed
- Forecast of boxes** that will be processed
- Amount of **extractors** running

Pasteurizer/ Evaporator



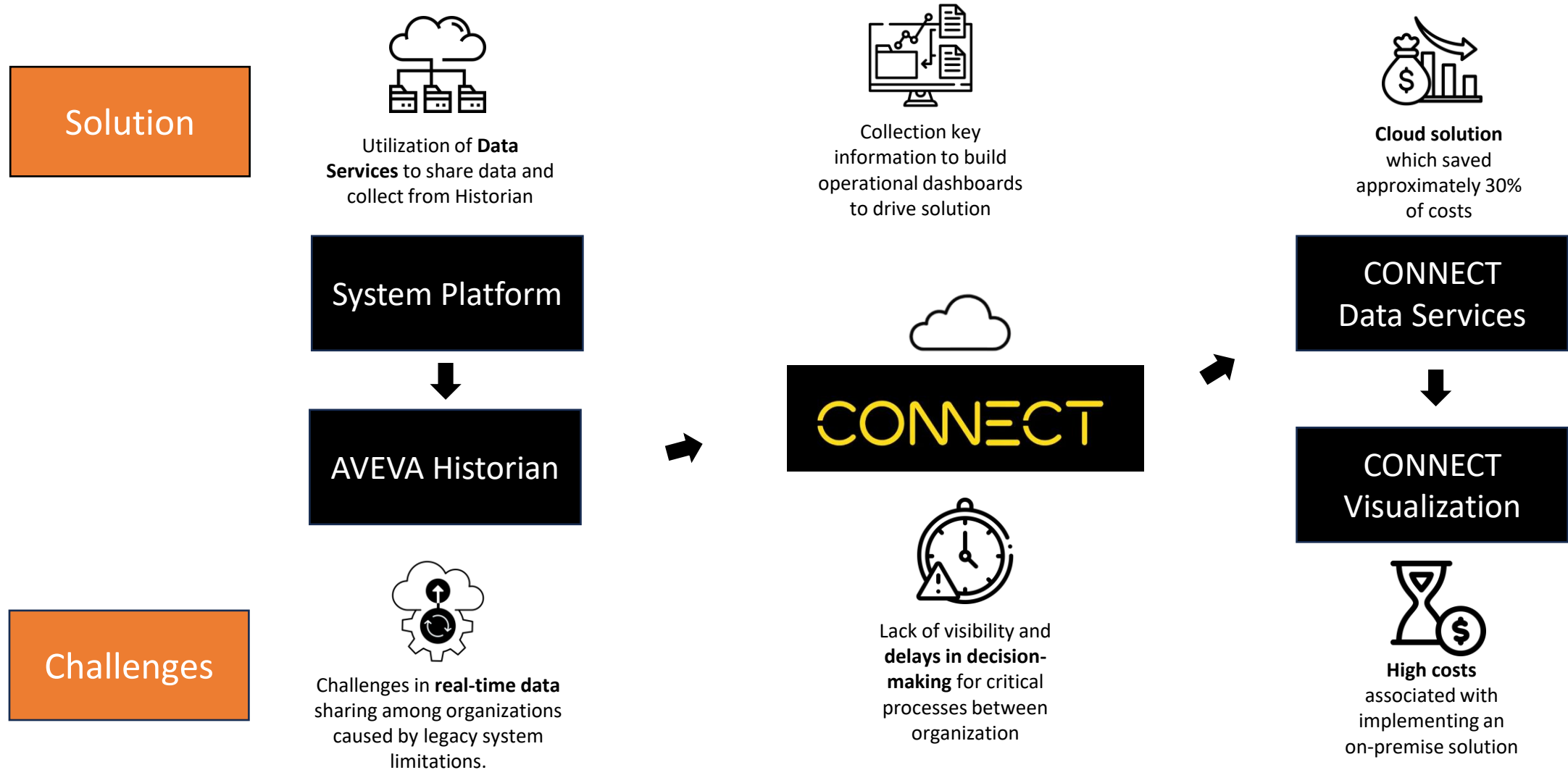
Pasteurizer (NFC or FOP - Pulp)

- Amount of liters/ kilos processed
- Utilization of the capacity of Pasteurizer



Evaporator (FCOJ)

- Amount of kilos produced
- Utilization of the capacity of evaporator





Data Services pre configuration

CONNECT

Home

Connect Services

Access Control

Usage Reports

Log control

Apps

Account details

Folder management

User management

Integrations

Reports


Audit

Services catalog

Details

Region: US-West


Services



Data services

A cloud-native platform for aggregating, storing, enriching, accessing and analyzing real-time operations data from historians, edge devices and more.

☒ On




Insight

Operations and asset management platform: unlock critical data, increase collaboration, improve asset reliability and drive operational performance.

Region:

☒ On



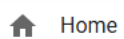
Visualization

Composable dashboards using custom and pre-defined content for visualizing data services and other data sources

Region:

☒ On

CONNECT Data services ▸ OMF Connections



Home



Data Management >



Data Collection >



Visualization >



Analytics >



Security >



Developer Tools >



Support >

COLLAPSE



Filter OMF Connections...

+ Add OMF Connection



Name

Description

State

Aveva Historian

Aveva Historian OMF CONNECTION

✓ Active



Data Services



CONNECT Data services ▸ Sequential Data Store



Home

Data Management >

Data Collection >

Visualization >

Analytics >

Security >

Developer Tools >

Support >

COLLAPSE <

Streams ▾

Search for Streams



+ Add Stream



<input type="checkbox"/>	Name ↑	Id	Description	Type
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...	Leitura em unidades de engenharia	TimeIndexed.Double.OpcU...
	Transmissor vazão alim. pasteurizador gu...	TimeIndexed.Single.OpcUa...	Transmissor vazão alim. pasteurizador gu...	TimeIndexed.Single.OpcUa...
	Transmissor vazão alim. pasteurizador br...	TimeIndexed.Single.OpcUa...	Transmissor vazão alim. pasteurizador br...	TimeIndexed.Single.OpcUa...

Items per page:

50 ▾

1 - 50 of 246





Data Services – Asset Explorer



CONNECT Data services ▸ Asset Explorer



- Home
- Data Management >
- Data Collection >
- Visualization >**
- Analytics >
- Security >
- Developer Tools >
- Support >

Asset Types ▾

+ Add Asset Type



Caminhões

Dados de estoque em Rodas

DataCollectorHealth

DataCollectorService

Descarregamento

Dados de descarregamento de Camin...

Estoque

Dados Totais - Estoque

Evaporadores

Dados de Produção - FCOJ

Extração

Dados Totais - Extração

FCOJ

Dados Totais - FCOJ

FOP

Dados Totais - FOP

Ingredientes

Informações - Polpa

Linhas

Dados - Linhas de Extração

Módulos

Dados - Módulos de Extração

NFC

Dados Totais - NFC

OmfEgressHealth

Pasteurizadores

Dados de Produção - Pasteurizadores

Recepção

Dados - Estoque

Unidades Industriais

Unidade Citrosuco

COLLAPSE





Data Services – Asset Rule



CONNECT Data services ▶ Asset Rules

Home	+ Add Rule	Edit Rule	Manage Permissions	Remove Rule	
Data Management >	State	Rule	Description		
Data Collection >	▶	Pasteurizadores NFC	Informações - Pasteurizadores NFC		
Visualization >	▶	Extração	Informações gerais de extração		
Analytics >	▶	Módulos	Informação das Extratoras por Módulo		
Security >	▶	Linhas	Informação das Extratoras por Linha		
Developer Tools >	▶	FOP	Informações gerais - FOP		
Support >	▶	Pasteurizadores FOP	Informações - Pasteurizadores FOP		
	▶	Evaporadores	Informações - Evaporadores FCOJ		
	▶	Estoque	Informações de Estoque		
	▶	Caminhões	Informações de Estoque em Rodas - Por ti...		
	▶	Descarregamento	Número de caminhões descarregados por ...		

CONNECT Data services ▶ Asset Rules

Home

Back to Overview

Name: Evaporadores Asset Type: Evaporadores

Edit Rule Details

1 Extract Tokens

2 Map Tokens to Values

3 Asset Configuration

4 Asset Preview

Token Sources

REQUIRED (PICK 1)

Name

ID

Description

OPTIONAL

Metadata

Change Stream

Stream ID

MATAO 06_EV02_ST CAPAC_EV02

1. Match letters preceding the delimiter "." (Unidade) - MATAO

2. Match the delimiter "."

3. Match characters of any type (including letters, numbers, and symbols) preceding the delimiter (Evaporador) - 06_EV02_ST

4. Match the delimiter "."

5. Match characters of any type (including letters, numbers, and symbols) until the end (Propriedade) - CAPAC_EV02

Undo Capture

Capture



Data Services – Asset Explorer



CONNECT Data services ▸ Asset Explorer

Home

Data Management >

Data Collection >

Visualization >

Analytics >

Security >

Developer Tools >

Support >

Assets ▾

Search for Assets

+ Add Asset

Filter facets

Status

☐ Good

☐ Warning

☐ Bad

☐ Unknown

Asset Type

☐ Linhas

☐ Pasteurizadores

☐ Evaporadores

☐ Descarregamento

☐ Módulos

☐ Caminhões

☐ Estoque

☐ DataCollectorHealth

☐ FCOJ

☐ FOP

Evaporador 06

Dados de Produção - FCOJ

Evaporador 07

Dados de Produção - FCOJ

Evaporador 08

Dados de Produção - FCOJ

Evaporador 09

Dados de Produção - FCOJ

Evaporador 10

Dados de Produção - FCOJ

Extração

Dados Totais - Extração

FCOJ

Dados Totais - FCOJ

FOP

Dados Totais - FOP

Ingredientes

Informações - Polpa

Linha 01

Dados - Linhas de Extração

Linha 02

Dados - Linhas de Extração

Linha 03

Dados - Linhas de Extração

Linha 04

Dados - Linhas de Extração

Linha 05

Dados - Linhas de Extração

Items per page: 50 1 - 50 of 57

Evaporador 08

Dados de Produção - FCOJ

Asset Type: Evaporadores

Metadata

Properties

Status

Property	Last Value	UOM	Timestamp
<input type="checkbox"/> Capacidade Atual Quality			31/03/2025 11:12
<input checked="" type="checkbox"/> Capacidade Atual Value			31/03/2025 11:12
<input type="checkbox"/> Vazão Quality			31/03/2025 09:57
<input checked="" type="checkbox"/> Vazão Value			31/03/2025 09:57
<input type="checkbox"/> Status Quality			31/03/2025 11:12
<input checked="" type="checkbox"/> Status Value			31/03/2025 11:12
<input type="checkbox"/> Capacidade Nominal Quality			16/12/2024 16:52

Capacidade Atual | Value

Vazão | Value

Status | Value

9 de fev. de 2025 10:43:34 to 9 de mar. de 2025 11:13:34



Data Services to Visualization



CONNECT

Home

Browse

Create

Configure

Recently Viewed

Data sources

Search list by keyword

Prefix

Name

Region

Synchronization status

Last synchronization datetime

Success

31/03/2025 11:14:46

COLLAPSE

Items per page 50

1 - 1 of 1



Visualization



CONNECT

Home

Browse

Create

Configure

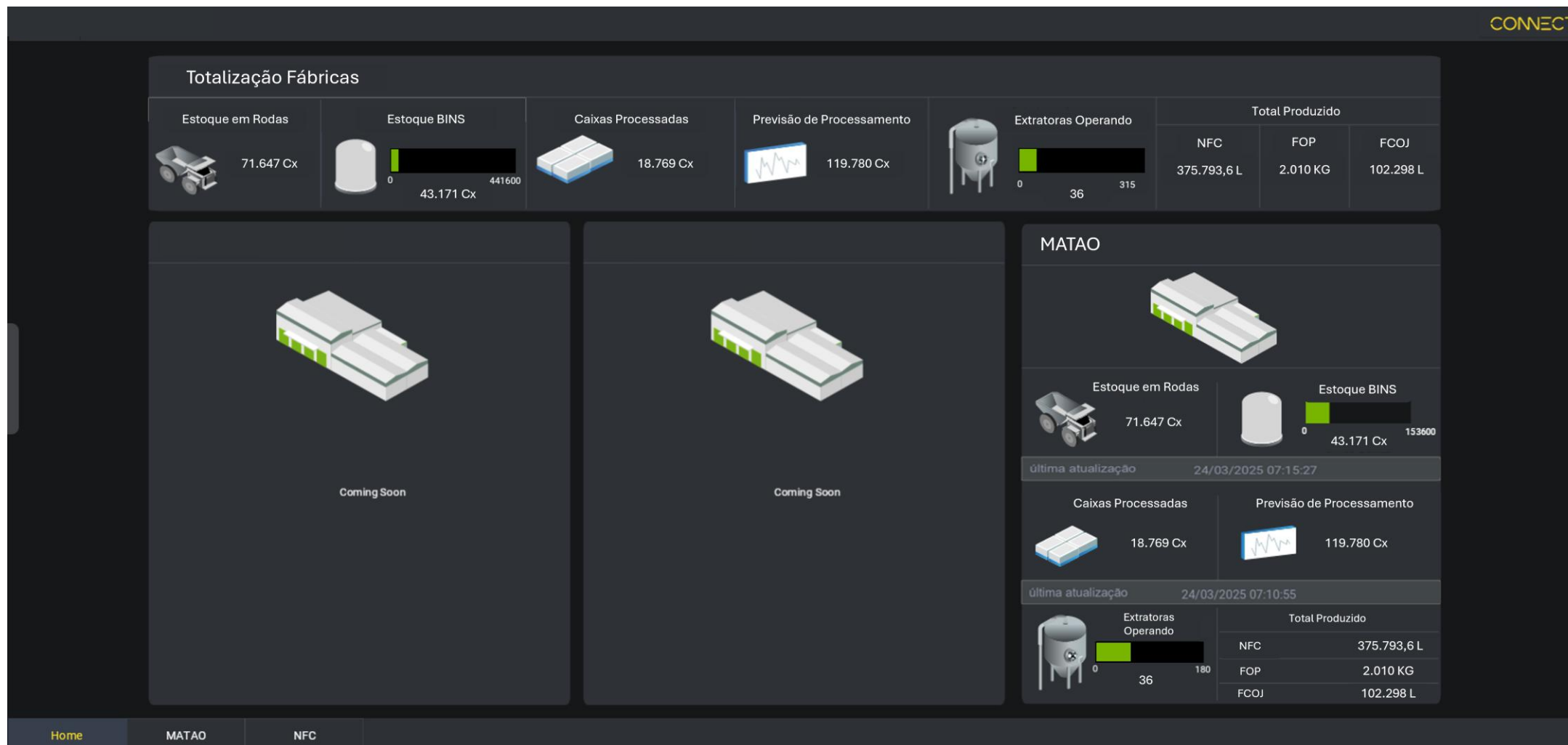
Recently Viewed

Assets

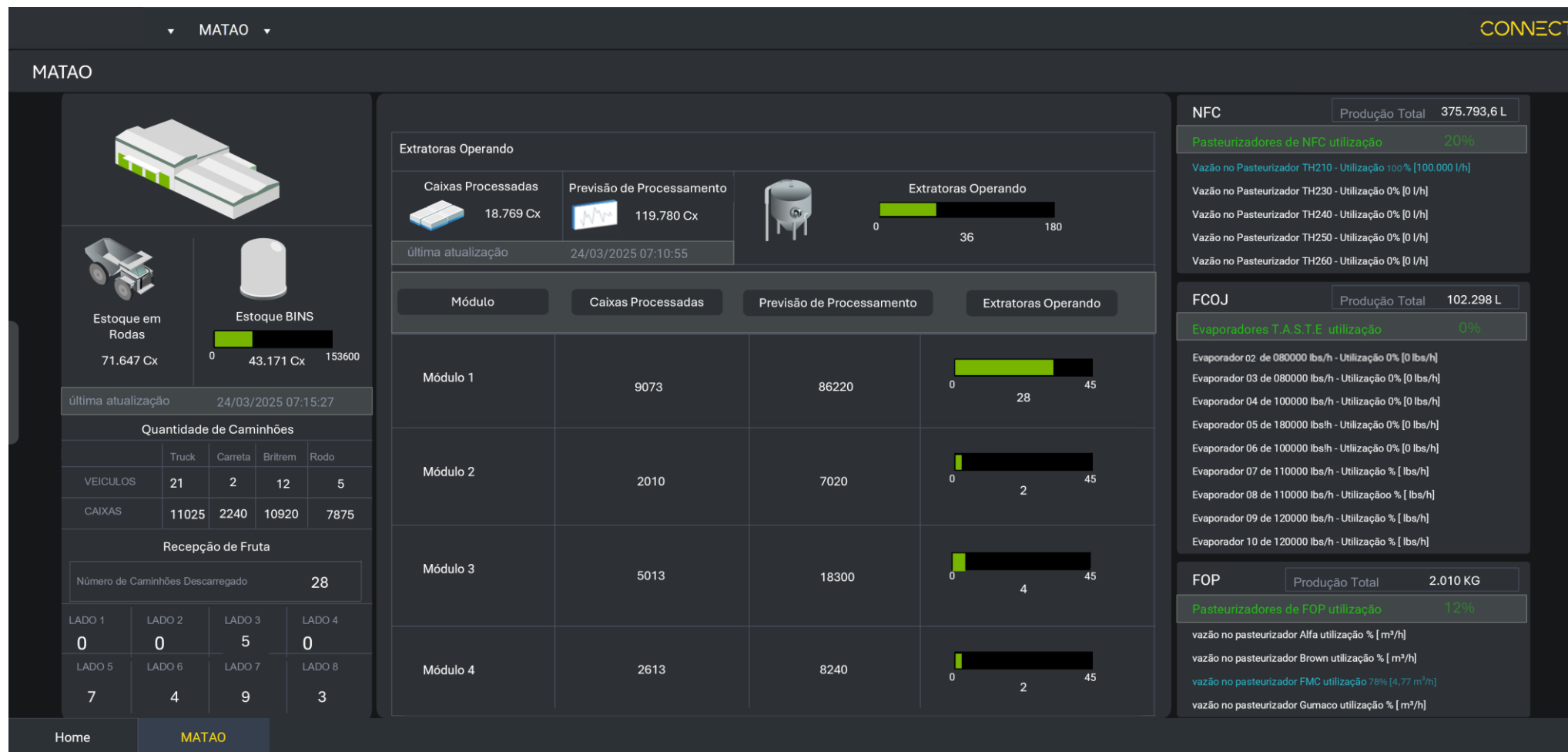
Name	Asset type	Asset type synchro...	Namespace
Unidades Industriais			
Extração	Extração		
Módulo 1	Módulos		
Linha 01	Linhas		
Linha 02	Linhas		
Linha 03	Linhas		
Módulo 2	Módulos		
Módulo 3	Módulos		
Módulo 4	Módulos		
FCOJ	FCOJ		
Ingredientes	Ingredientes		
FOP	FOP		
NFC	NFC		
Recepção	Recepção		



Visualization

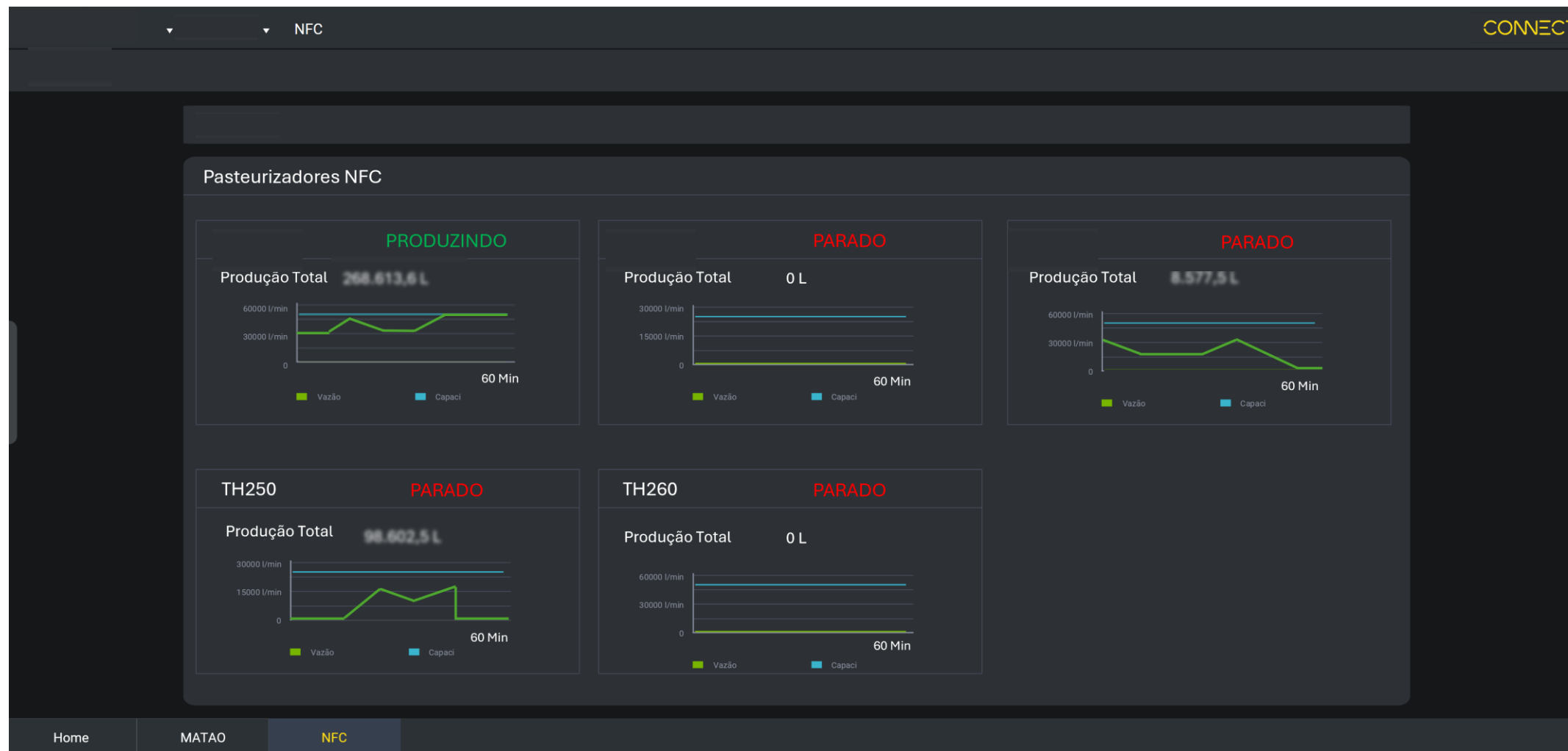


Visualization





Visualization





Results

- Control of main KPIs in the factory
- Better decision making
- Phase 2 integrated, possibility to share data with Phase 1 and phase 3
 - Full process integration
- Corporate visualization
- Data Infrastructure

Next Steps

- Implementation of Aveva PI
- Integration with PI on premise
- + Connect on cloud
- Integration of all plants
- Corporate Data + Operational data



Food and Beverage companies benefit from real-time data in the cloud

Challenge

- Legacy system caused limitations for real-time data sharing
- Lack of visibility and delays in decision-making for critical processes between organization
- High costs associated with implementing an on-premise solution

Solution

- Implementation of CONNECT Data Services and CONNECT Visualization to integrate AVEVA System Platform and AVEVA Historian data to show and share real time information on the cloud

Results

- **Reduction of IT infrastructure costs by 30% due to deployment on the cloud**
- **Centralization of data from different process sources**
- **Simplified real-time data sharing between multiple organizations, improving data transparency, collaboration, trust and mobile visualization on the cloud**
- **Integration of plant data, with the possibility of expansion throughout the production chain**

