
AVEVAWORLD

forzy

a promon company

For An Easier Tomorrow

Transforming Data into Results: The Forzy AIM experience

Rafael Porazza | Head of Sales
Rodrigo Gonçales | Head of Digital Twin

Who we are

Rafael Porazza

Head of Sales at Forzy

With experience in engineering solutions and industrial automation since 2017, worked at Pollux Automation and Accenture Industry X, leading robotic solutions and autonomous vehicle projects Americas.

MBA in Marketing Management and an MBA in Business Management & Market Intelligence.

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We are Forzy, a Promon company specialized in efficiency and digitalization of operations.

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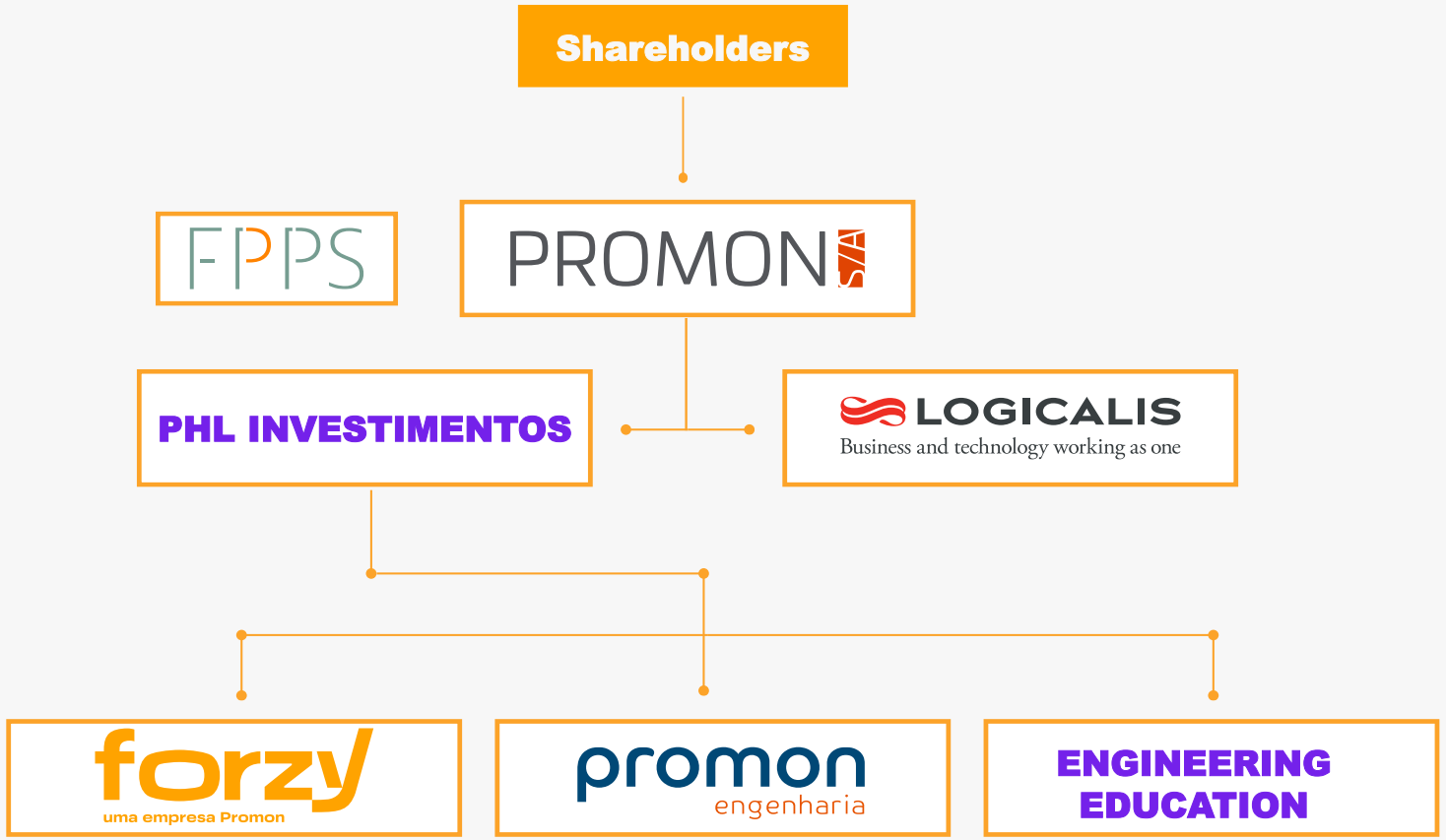
a promon company

With a modern and agile approach, **our mission is to facilitate companies' journey toward a more efficient and streamlined future.**

PROMON S.A.

A holding company operating in the fields of **engineering, telecommunications, and digital transformation**, serving various markets in around the world



Forzy is a company of **PROMON S.A.**

With **over 60 years of experience** in delivering large-scale industrial projects

Energy | Infrastructure | Mining & Metals | Oil & Gas | Chemicals & Petrochemicals | Manufacturing Industry | Communications

+ USD 680 MM in revenue

From the Promon S.A. group

+ 3.000 projects

Industrial and infrastructure

+ 40 countries

with projects implemented

+ 1.600 employees

In Brazil, working across a wide range of projects

+ de 3.600 employees

Across the Americas, with offices in:

Dominican Republic, Brazil, Colombia, Puerto Rico, Mexico, Ecuador, Argentina, Paraguay, Uruguay, Chile, Peru.

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SOLUTIONS

Industry | Energy | Infrastructure | Real Estate

	DESIGN, EXECUTION & COMMISSIONING	OPERATION & MAINTENANCE	DECOMMISSIONING / DEACTIVATION OR ADAPTATION
CONSULTING	**Maturity Analysis** ✓ Industry 4.0 Digital Maturity Assessment ✓ Development and implementation of the Digital Journey Roadmap		
EFFICIENCY SOLUTIONS	**Operational Efficiency** ✓ Systems ✓ Processes ✓ Organization		
	Energy Efficiency ✓ Energy Consumption ✓ Own Energy Generation ✓ Competitive Energy Contracting		
DIGITAL SOLUTIONS	**1 - Descriptive Digital Twin (Static Data)** ✓ Asset and Document Digitization (BIM & GED) ✓ Reality Capture		
	2 - Operational Digital Twin (Asset Management) ✓ Operation Monitoring (Sensors, Assets, etc.) ✓ Vertical and Horizontal Integration ✓ Operational Control Center (OCC) (Visualization / KPI control)		
	3 - Predictive Digital Twin ✓ Analytics, anomaly detection, sensors, etc.		
	4 - Prescriptive Digital Twin ✓ Control and lifecycle planning of the asset		
	5 - Autonomous Digital Twin ✓ Control and lifecycle planning of the asset		

Digital Asset Lifecycle

5 Years

40 Years

Project Digital Twin
(Descriptive)

Data Quality / Compliance / KPIs

3D Progress Visualization

4D/5D Progress Visualization

Contract Management

Procurement

Engineering

Costs

Material Management

Planning

Status & Reports

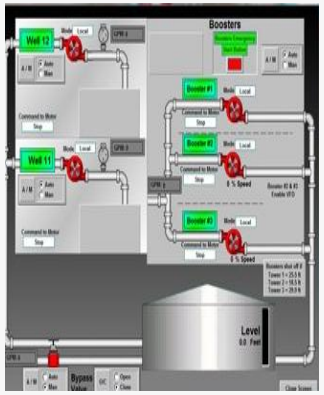
Project

Work Packages

AWP

DIGITAL HANDOVER

Operational Digital Twin
(Operational, Predictive, Prescriptive and Autonomous)



Monitoring KPIs

Artificial Intelligence

Safety Management

Integration

Process Control

Process Optimization

Optimization Strategy

Supply Chain

Production Accounting

Test Management

Prediction / Prescription

Production Management

Engineering and C&M

Operations & Maintenance

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VALUE PROPOSITION

We are the ideal **One-Stop-Shop** solutions partner for companies looking to optimize processes, reduce costs, and increase the availability and useful life of assets.

Who we are

Rodrigo Gonçales

Head of Digital Twin at Forzy.

Worked at Promon Engenharia from 2008 to 2024, where, for the last four years, he was Coordinator of the Engineering Systems discipline.

Specialist in AVEVA tools since 2003.

Master's and Ph.D. in Engineering with a focus on technologies related to reality capture.

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The Business Challenge

Promon’s projects faced scattered data and isolated systems

Business Impact

Increased inefficiencies and competitiveness limitations.

Our Challenge?

Centralizing and ensuring reliable information.

Improving fragmented communication.

Integrating engineering systems in a unified platform.

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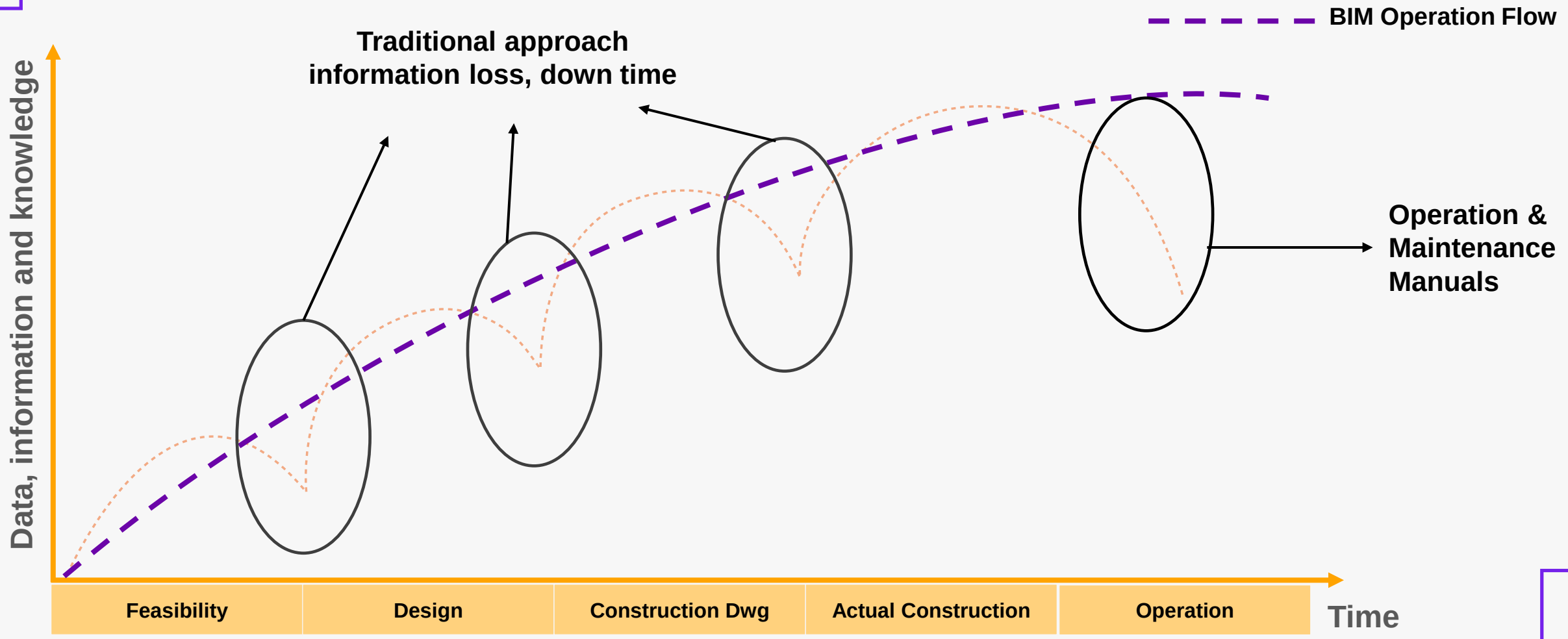
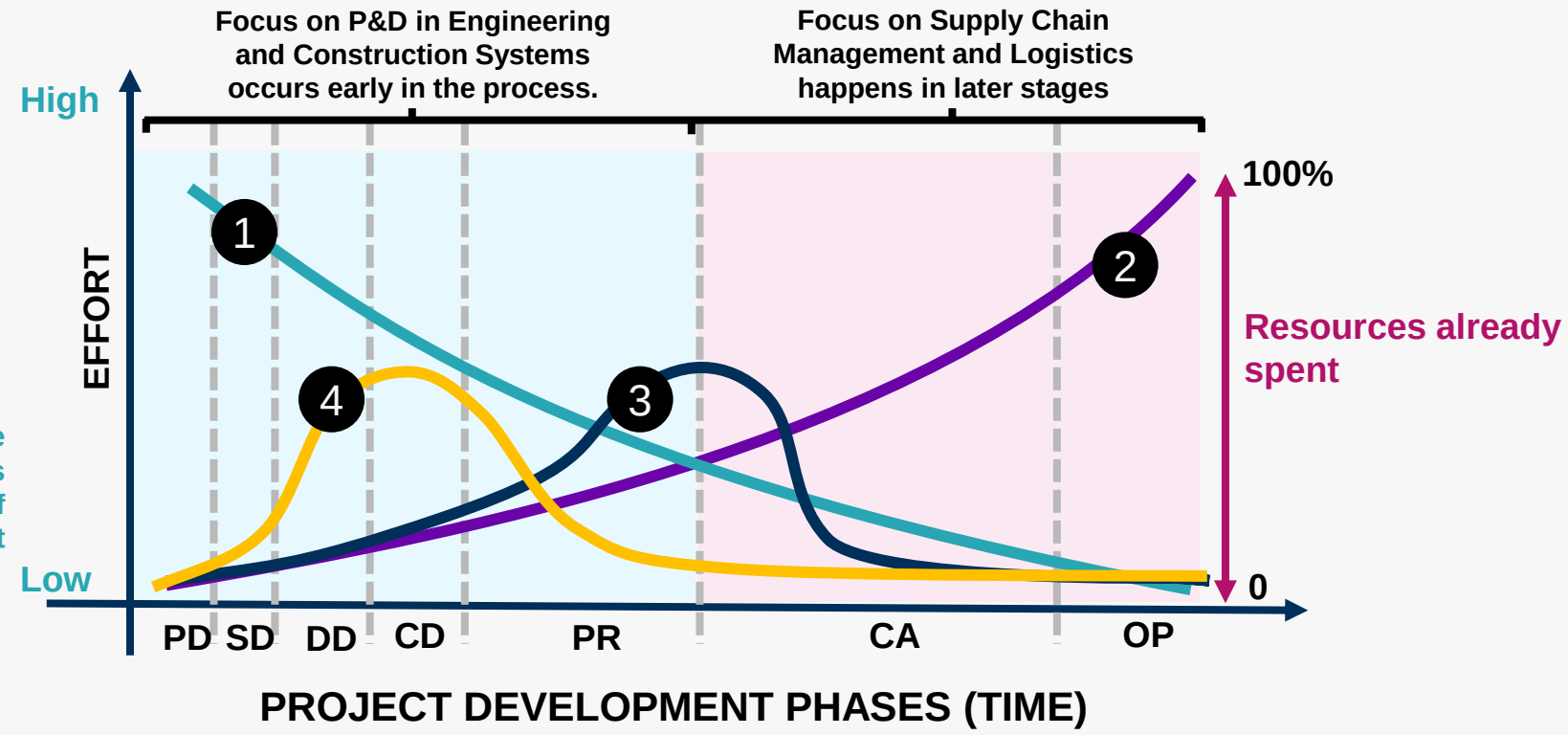
Motivation



Source: Reduction of data loss in transfer stages using standardized workflows (adapted from Aziz (2016))

Motivation



The ability to influence costs and quantities is higher at the beginning of the project

1. Ability to impact construction costs and functional characteristics of the project
2. Cost of project changes
3. Traditional Project Process (CAD)
4. BIM Process

PD (Pre-Design) | Conceptual Phase
SD (Schematic Design) | Preliminary Study
DD (Construction Design) | Basic Project
CD (Detailed Design) | Executive Project
PR (Procurement) | Bidding and Contracting
CA (Construction) | Execution/Construction
OP (Operation) | Operation

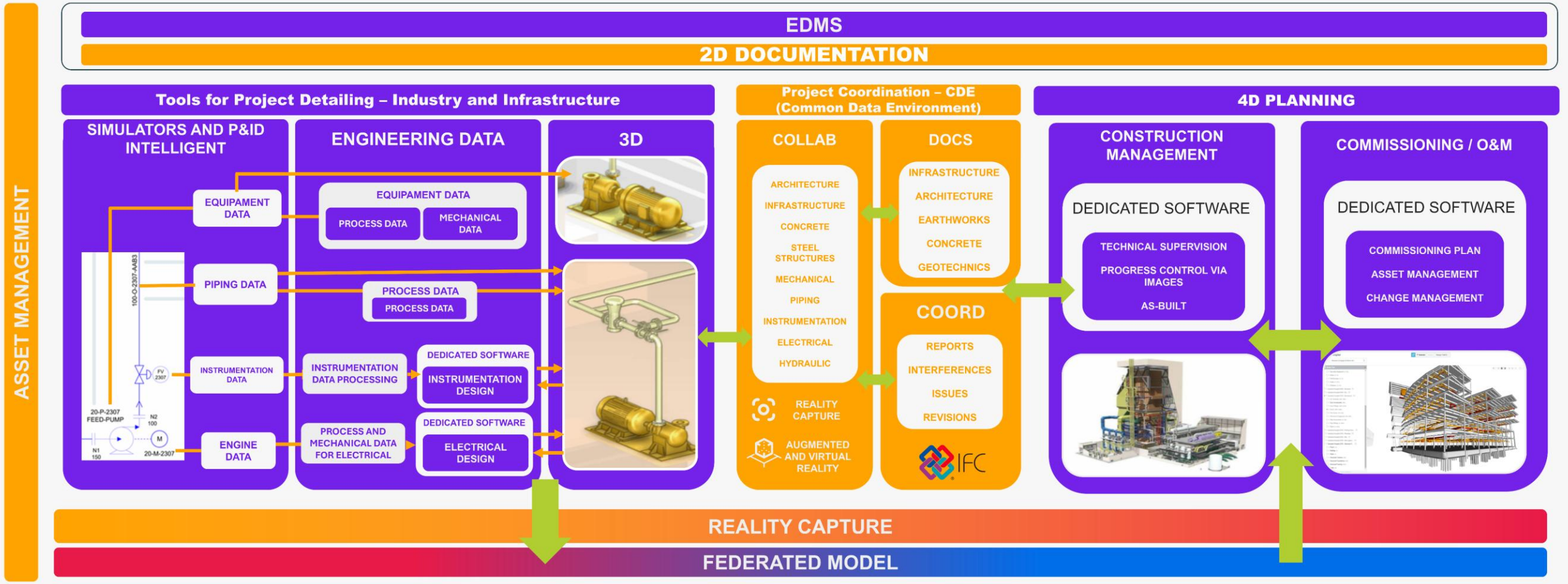
Source: McLeamy Curve, CBIC (Brazilian Chamber of the Construction Industry)

Critical Issue

Integrating various engineering systems and the need to consolidate all information in a single accessible environment.

Business Impact

Lengthier processes and rework due to data inconsistencies.
Limitations in competitiveness and strategic responsiveness.



Choosing the Best Solution

The Need for an Information Hub:

Recognizing the opportunity to turn these challenges into a competitive advantage, Forzy identified that consolidating all information into a unified platform was essential to boost the efficiency and competitiveness of Promon’s projects.

Choosing the Best Solution

Essential Requirements:

Integration with existing systems

Scalability

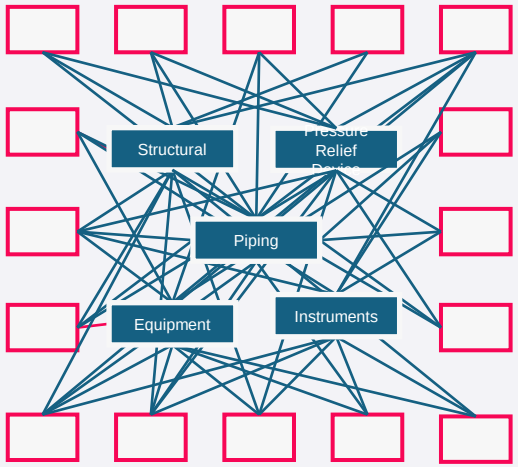
real-time collaboration.

Source: [BIM Software Mapping 2021 - Catenda]

Choosing the Best Solution to Achieve the Business Goal

FROM DISCONNECTED INFORMATION…

Disconnected information in multiple formats and systems, leading to inconsistencies and manual efforts.



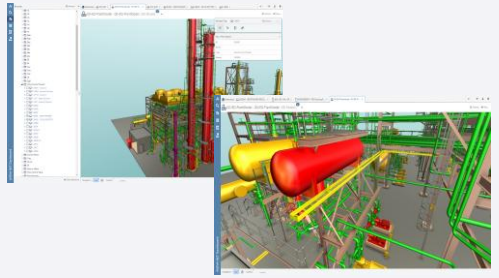
…TO DIGITAL INFORMATION CONNECTED TO EACH OTHER AND TO THE ASSET...

The Asset is at the center of the strategy, with everything interconnected around it in an organized and contextualized manner.

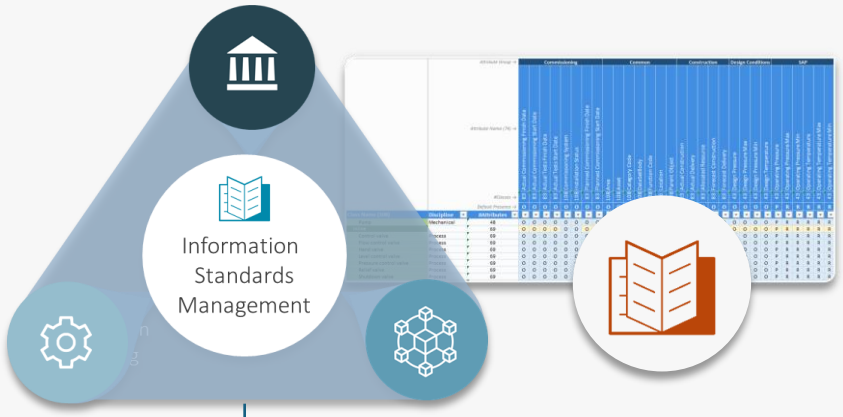
...PROMOTING FAST AND EASY ACCESS TO INFORMATION

Easy and quick access to contextualized information:

- Navigation
- Search
- Visualization
- Verification/Validation



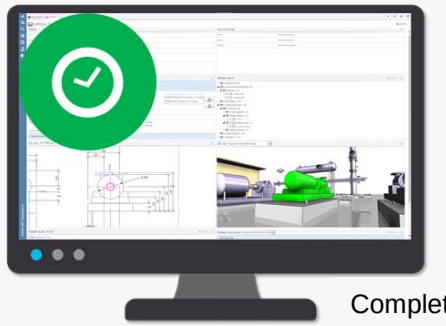
Strategic Criteria for the Choice



COMPANY STANDARDS

Physical Asset

Digital Asset

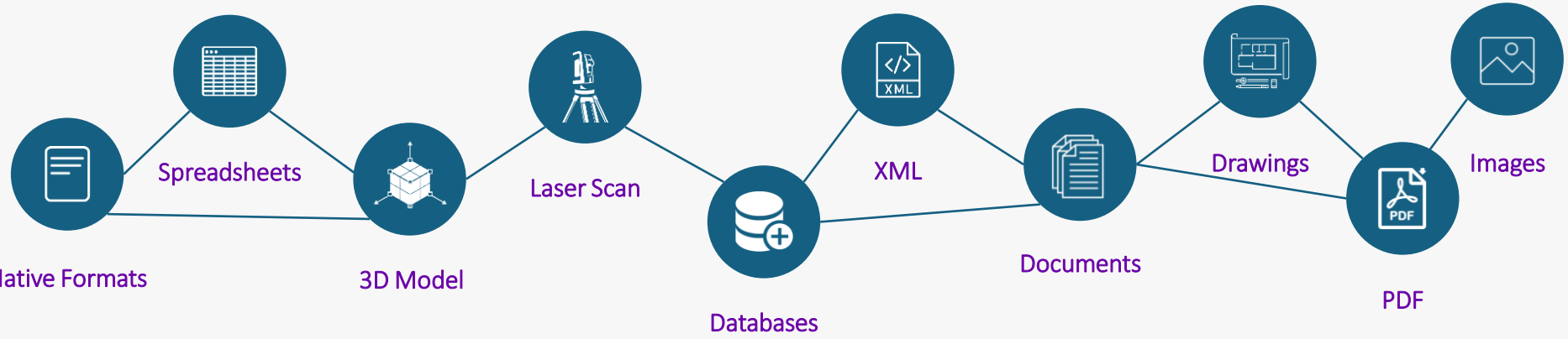


Complete

Compatible

Consistent

Validated, Reliable, and Accessible **Repository** for all stakeholders



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AVEVA ASSET INFORMATION MANAGEMENT (AIM)

COLABORATIVO (GED)

2D DOCUMENTATION

AVEVA INTEGRATED ENGINEERING AND DESIGN

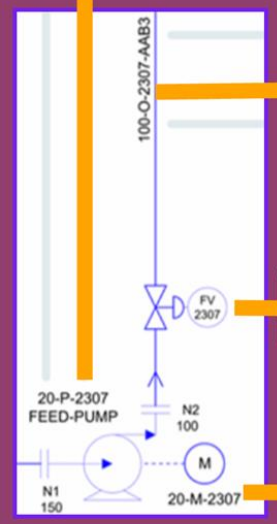
AVEVA™ Diagrams

EQUIPAMENT DATA

PIPING DATA

INSTRUMENTATION DATA

ENGINE DATA



AVEVA™ Engineering

EQUIPAMENT DATA

PROCESS DATA

MECHANICAL DATA

PROCESS DATA

PROCESS DATA

INSTRUMENTATION DATA PROCESSING

PROCESS AND MECHANICAL DATA FOR ELECTRICAL

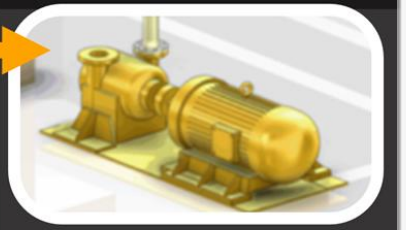
AVEVA™ Instrumentation

INSTRUMENTATION DESIGN

AVEVA™ Eletrical

ELECTRICAL DESIGN

AVEVA™ E3D Design



AUTODESK CONSTRUCTION CLOUD

COLLABORATION/ COORDINATION

ARCHITECTURE

INFRASTRUCTURE

CONCRETE

STEEL STRUCTURES

MECHANICAL

PIPING

INSTRUMENTATION

ELECTRICAL

HYDRAULIC

IFC

REALITY CAPTURE

AUGMENTED AND VIRTUAL REALITY

DOCS

AUTODESK CIVIL 3D - REVIT

INFRASTRUCTURE ARCHTECTURAL CONCRETE STRUCTURES

MEMETSCHEK ALLPLAN

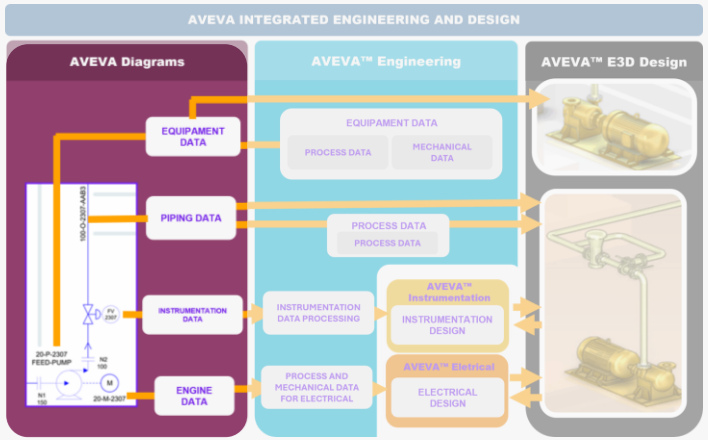
CONCRETE STRUCTURE

TRIMBLE TEKLA

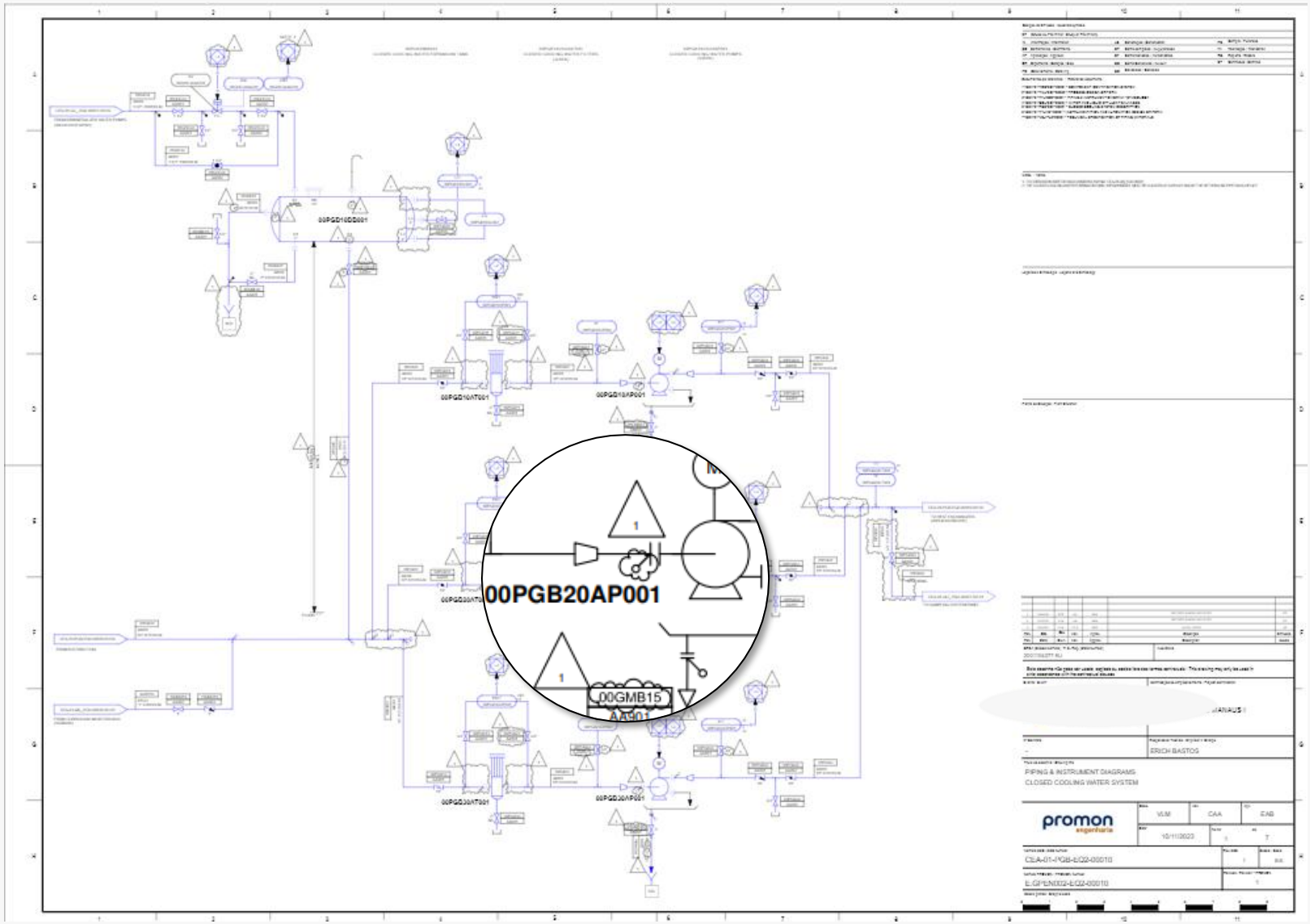
STEEL STRUCTURES

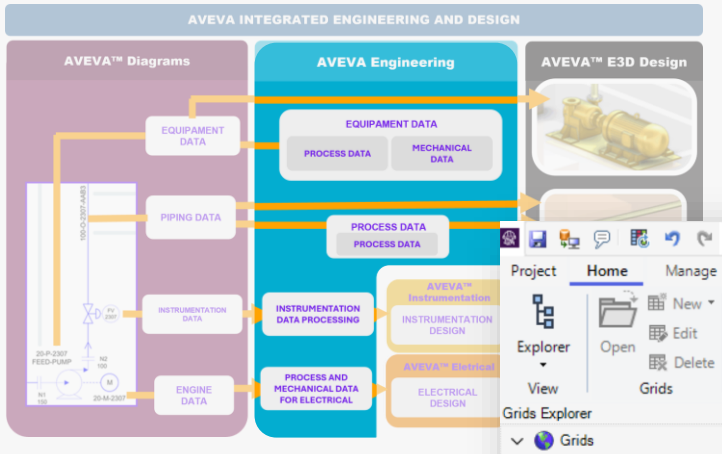
AUTODESK NAVISWORKS / CINTOO

FEDERATED MODEL

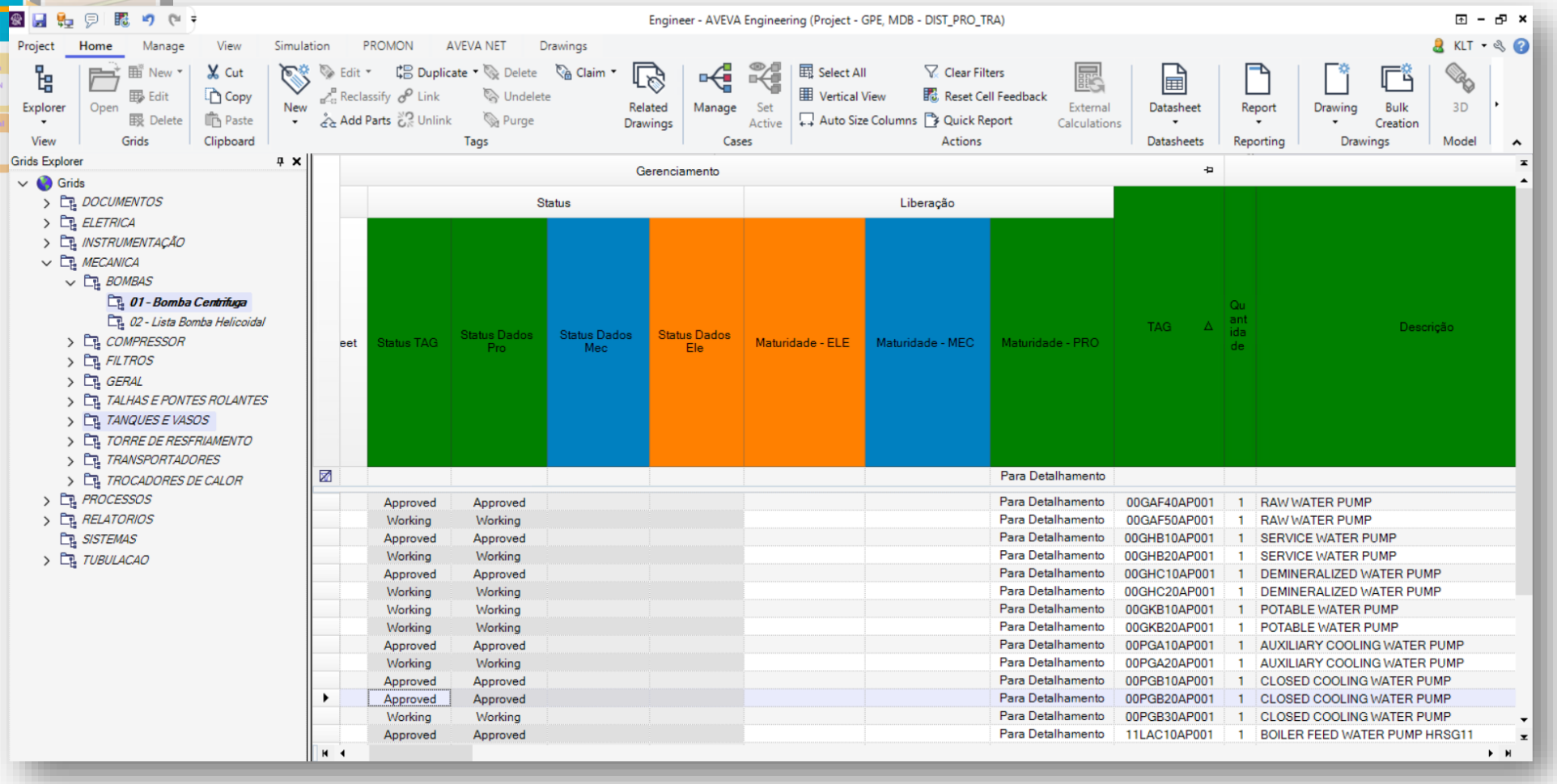


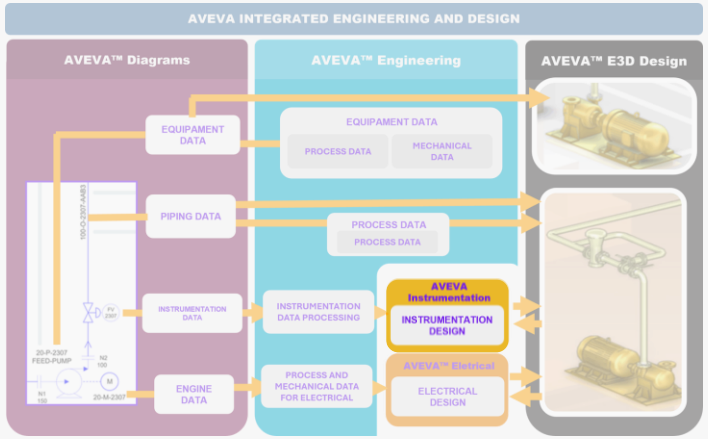
AVEVA™ Diagrams



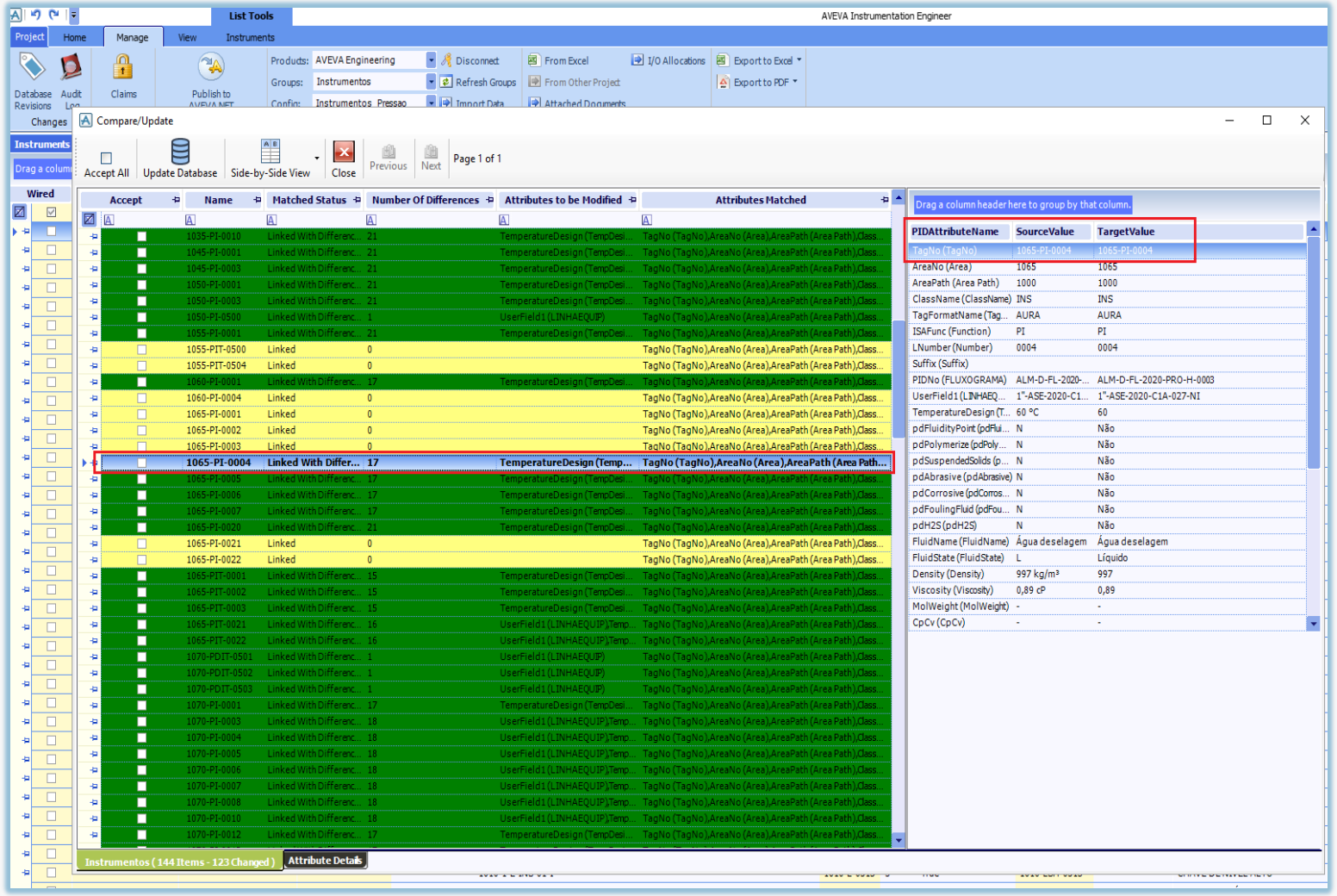


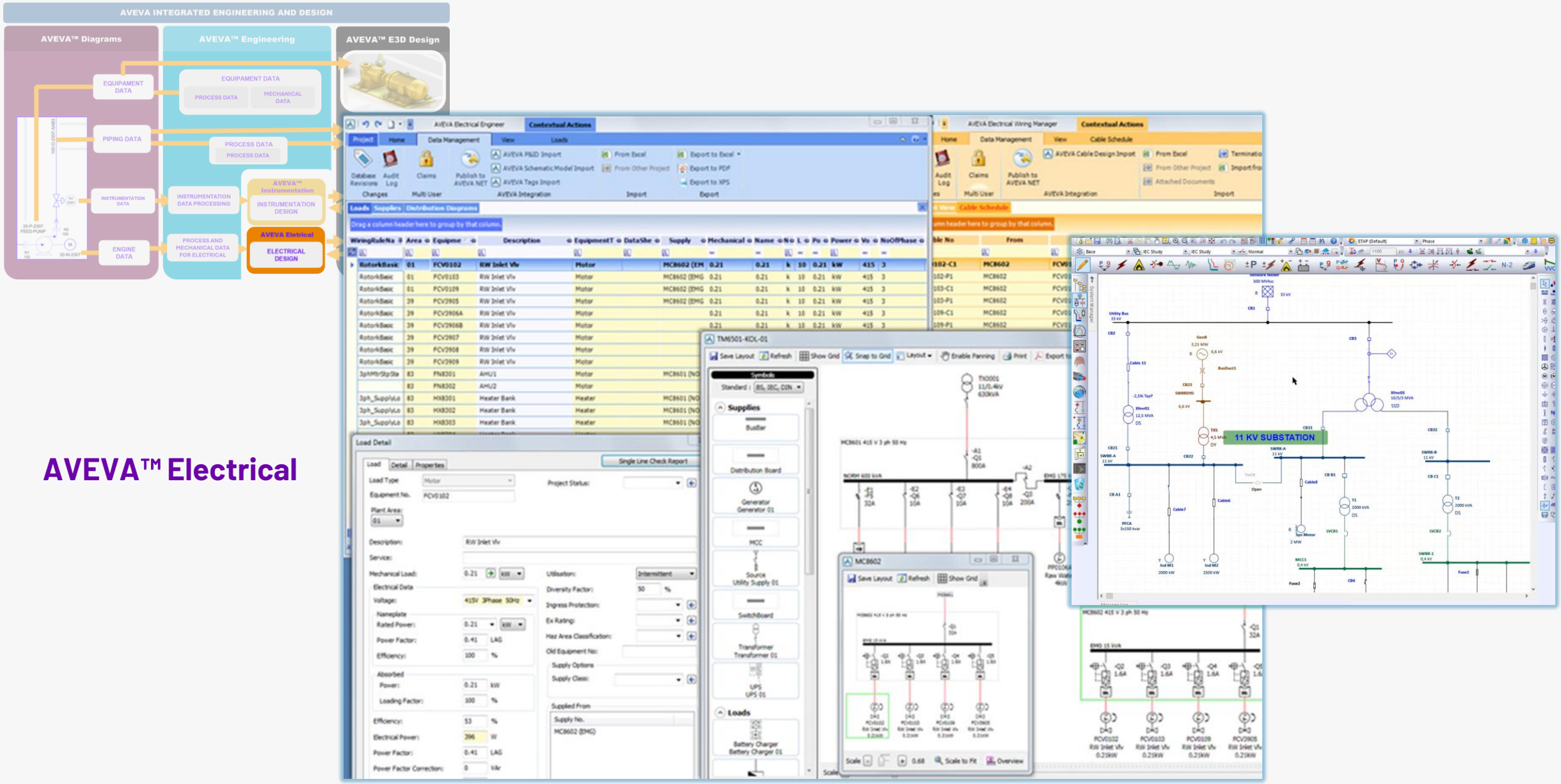
AVEVA™ Engineering



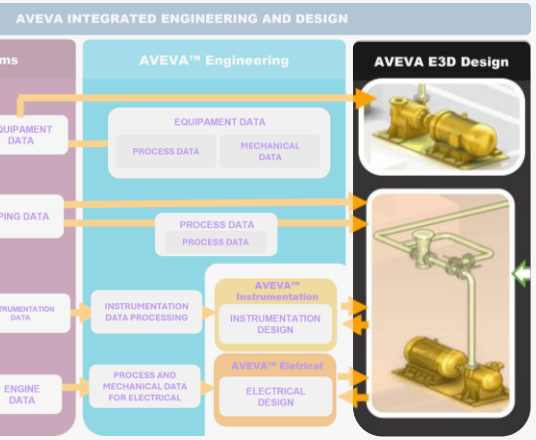


AVEVA™ Instrumentation

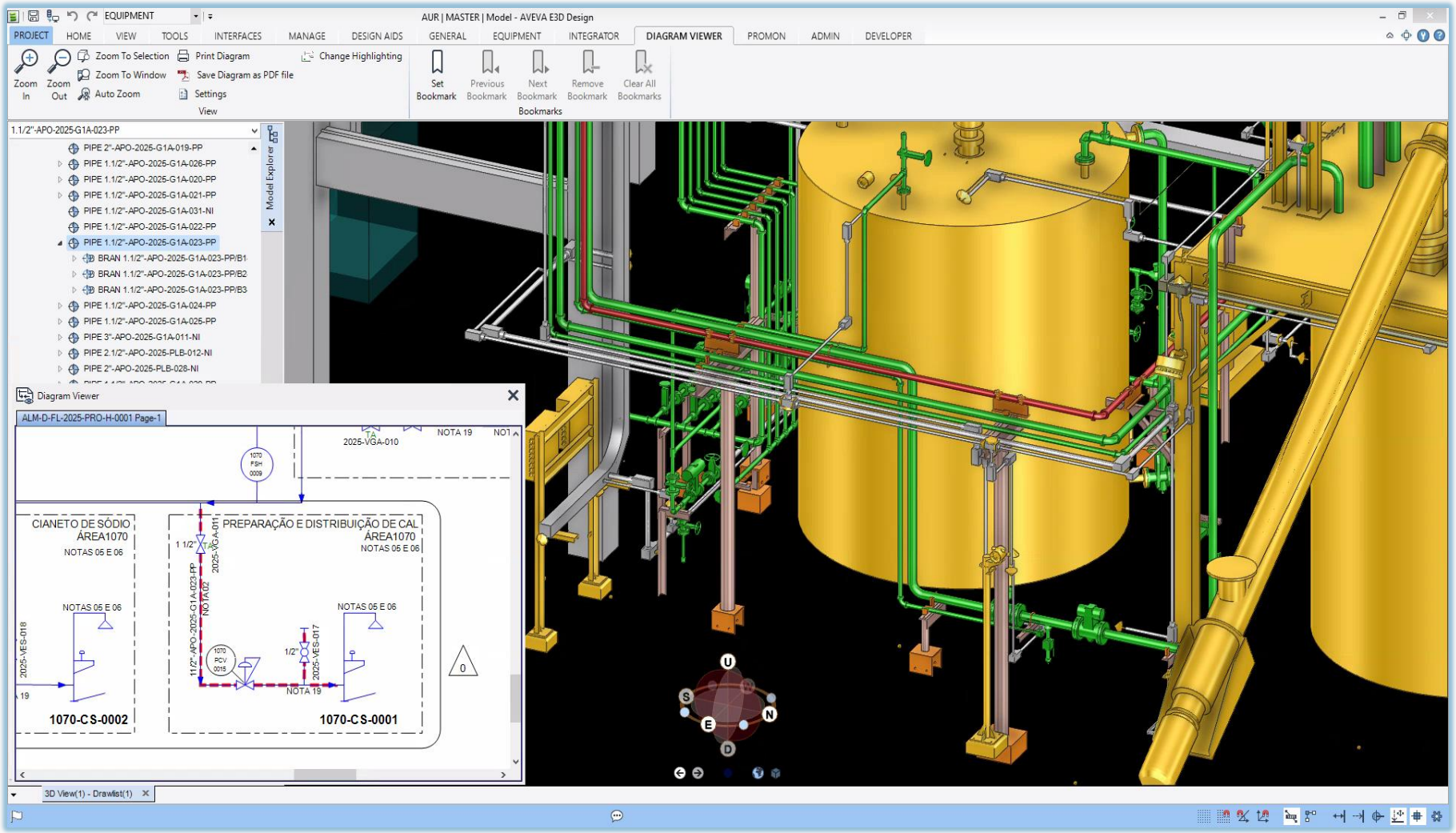


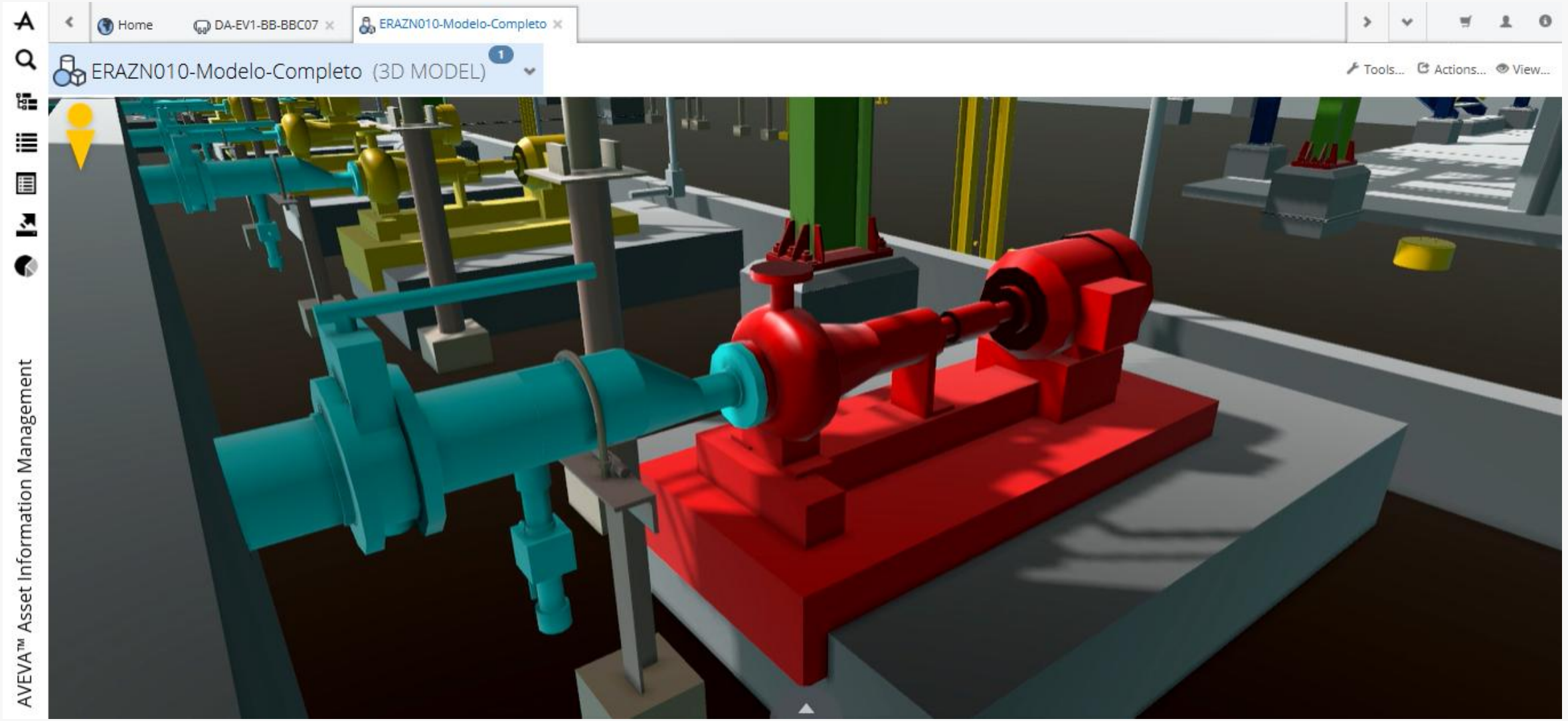


AVEVA™ Electrical



AVEVA™ E3D Design




Home
DA-EV1-BB-BBC07
ERAZN010-Modelo-Completo
ERAZN010-Modelo-Completo (3D MODEL)
1
Tools...
Actions...
View...
AVEVA™ Asset Information Management

Connecting Engineering and Contractors

Challenges in Project Oversight (Before AIM Implementation)

- ✓ Project monitored via **document issuance**
- ✓ Analyses based on **outdated information**
- ✓ **No real-time visibility** into project status
- ✓ Dependent on **manual communication** with stakeholders, resulting in **delays and waiting times** for critical information

Project Oversight with AVEVA AIM (After Implementation)

- ✓ **Real-time project monitoring** with consolidated information
- ✓ Clear visibility of **work-in-progress vs. document issuance**
- ✓ **Information searchable by asset**, eliminating dependency on communication and waiting time
- ✓ **Unified and reliable data access**
- ✓ **Reduced rework and fewer errors**
- ✓ **Faster and more agile decision-making**

Identified Benefits

- Faster and more reliable Vendor Drawing and Technical Data Sheet validation compared to traditional methods
- Efficient asset information retrieval within supplier-issued documents
- Direct access to engineering data during construction and project management
- Real-time access to project data without requiring an extra engineering software license (cost savings)
- Simplified information search, eliminating the need for expertise in engineering tools
- Faster and more accurate access to information from any source (3D model, EDM, ERP, P&ID, etc.)


NIST GCR 04-867

NIST U.S. Department of Commerce Technology Administration National Institute of Standards and Technology — Advanced Technology Program Information Technology and Electronics Office Gaithersburg, Maryland 20899

Cost Analysis of Inadequate Interoperability in the U.S. Capital Facilities Industry

Michael P. Gallaher, Alan C. O'Connor, John L. Dettbarn, Jr., and Linda T. Gilday

"...large owners and production operators have conducted internal studies and determined that typical engineers in design, construction, operations, and maintenance spend 40% to 60% of their time searching for and validating information. One owner and operator with a large portfolio of commercial properties indicated that a typical on-site construction engineer spends more than 15% of each day simply tracking down information to handle maintenance requests."

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Data is, in fact, the new oil of the digital age.

Data is knowledge, but that alone is not enough.

The new oil is wisdom through data.

"Knowledge is understanding that a tomato is classified as a fruit; wisdom is understanding that it has no place in a fruit salad."

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Before

3 projects

134,3K
Project Engineering Hours

7,813
Quantity of Documents

17.25
Average KPI Hours/Doc

3.10
Average KPI revisions/Doc

After

2 projects

199,5K
Project Engineering Hours

12,306
Quantity of Documents

16.07
Average KPI Hours/Doc

2.82
Average KPI revisions/Doc

Comparing Industrial projects from the same sector, using the same Engineering tools (BIM methodology)

7.34% ↑

9.93% ↑

Efficiency increased

ForzyLAB

creating **connections** for a new world

ForzyLab is a space completely **focused on the customer experience**, enabling interaction with projects through highly technological equipment

Immersive Reality

Navigate through a 3D model of an asset with a 1:1 scale sensation

Agility and Precision

An integrative platform (3D models, data, or documents).

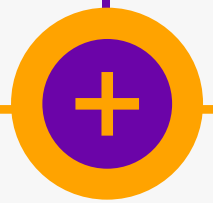
Team Experience

Access digital asset information directly using a 75” smartboard, ideal for team discussions.

AIM as a Lever for Data Integration

Roadmap: Connecting operational data (e.g., PI System).

We are empowering ourselves to become true System Integrators — bridging technologies, data, and people to unlock the full potential of digital ecosystems and deliver smarter, connected solutions.



Expected Benefits:

Data-driven decisions, smarter asset management, and a new level of operational excellence through real-time, integrated insights.

Challenges & Opportunities:

A transformative journey that requires overcoming technical complexity and cultural shifts — but opens the door to innovation, collaboration, and continuous improvement.

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Conclusion & Next Steps

AIM has proven to be more than a digital tool — it's a strategic enabler

What comes next is even more exciting

Driving transformation: Turning information into insight, and insight into action — across the asset’s entire lifecycle.

It addressed critical business challenges and set the foundation for a more connected, intelligent, and agile asset lifecycle.

Expanding the ecosystem: Integrating AIM with field systems to bridge engineering and operations.

Unlocking intelligence: Evolving the digital twin with real-time data and analytics to empower proactive decisions.

Transforming Data into Results: The Forzy AIM Experience

In **operations and maintenance**, the **digital twin** goes beyond solving challenges — it anticipates, optimizes, and transforms, making **today simpler** and **tomorrow more efficient**.

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Rodrigo Gonçales

Head of Digital Twin

rodrigo.goncales@forzy.com.br

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SYSTEM ENGINEERING - EPC | BRAZIL

Forzy enabled up to 10% efficiency gains in industrial projects by implementing AVEVA AIM for Promon Engenharia

Challenge

- Promon's projects faced scattered data and isolated systems
- Centralized and ensured reliable information
- Improved fragmented communication
- Integrated engineering systems into a unified platform.

Solution

- Forzy chose AVEVA AIM for its ability to integrate with existing systems, offer scalability for future demands, and enable real-time collaboration—key requirements for supporting complex industrial projects.

Results

- **7.34% reduction in engineering hours per document.**
- **9.93% fewer revisions per document, reducing rework.**
- **Real-time project visibility, eliminating delays from manual updates.**
- **Improved document validation and asset data retrieval speed.**
- **Cost savings by avoiding extra engineering software licenses.**
- **Streamlined access to engineering data during construction and management.**