



AVEVAWORLD

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APRIL 2025

AVEVA Unified Engineering 3.0

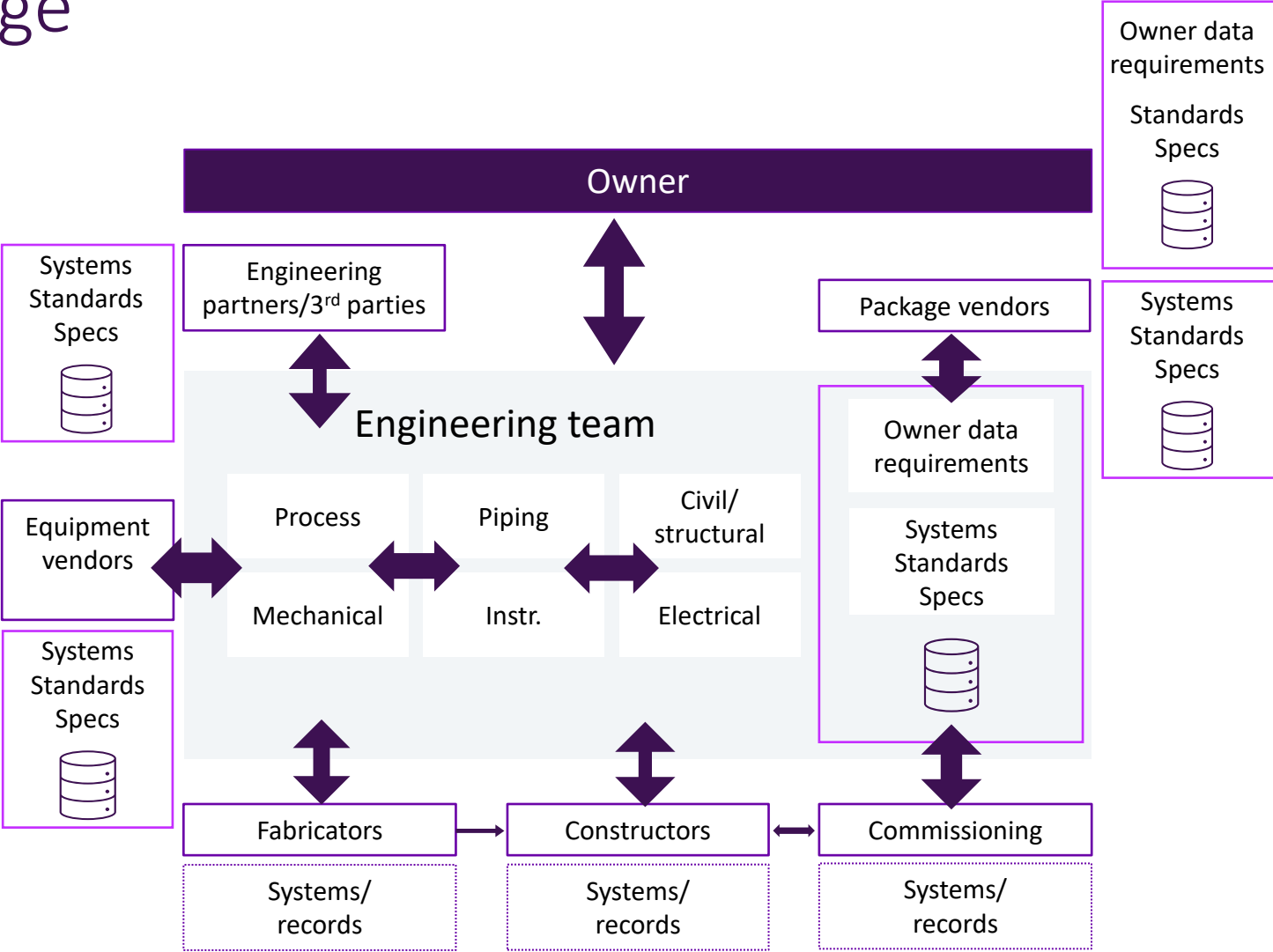
Brian Hughes, Head of Portfolio / Engineering, AVEVA

Ian Piggott, Sr. Principal Consultant / Presales, AVEVA

Paulo Andrade, Sr. Manager / Presales, AVEVA

AVEVA

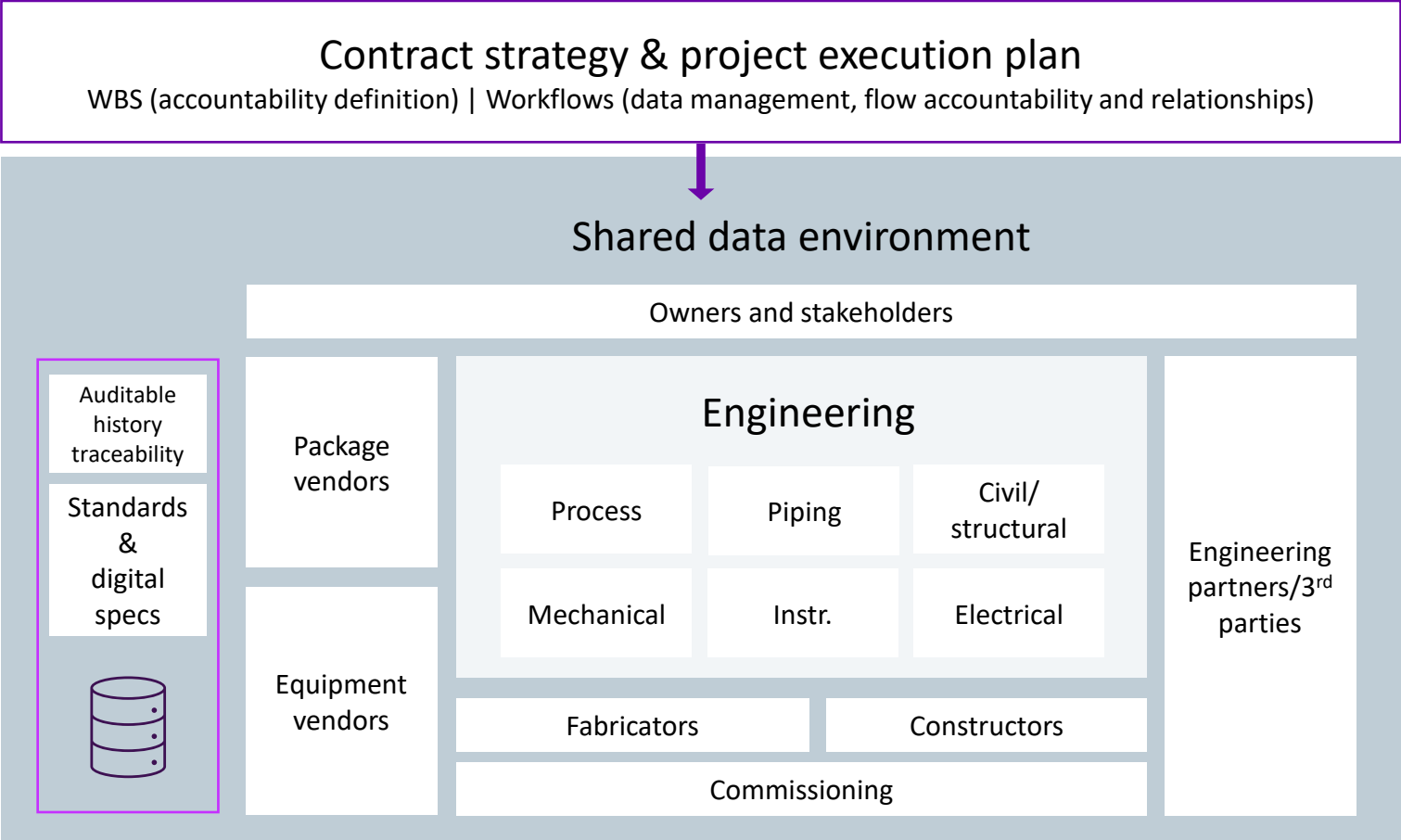
The Challenge



Engineering 3.0

Disconnected systems, teams and project data

The Challenge



Engineering 4.0

Connected systems, teams and project data

The Challenge

Collaboration challenges for current solutions



Multiple technologies drive incremental cost and have performance limitations



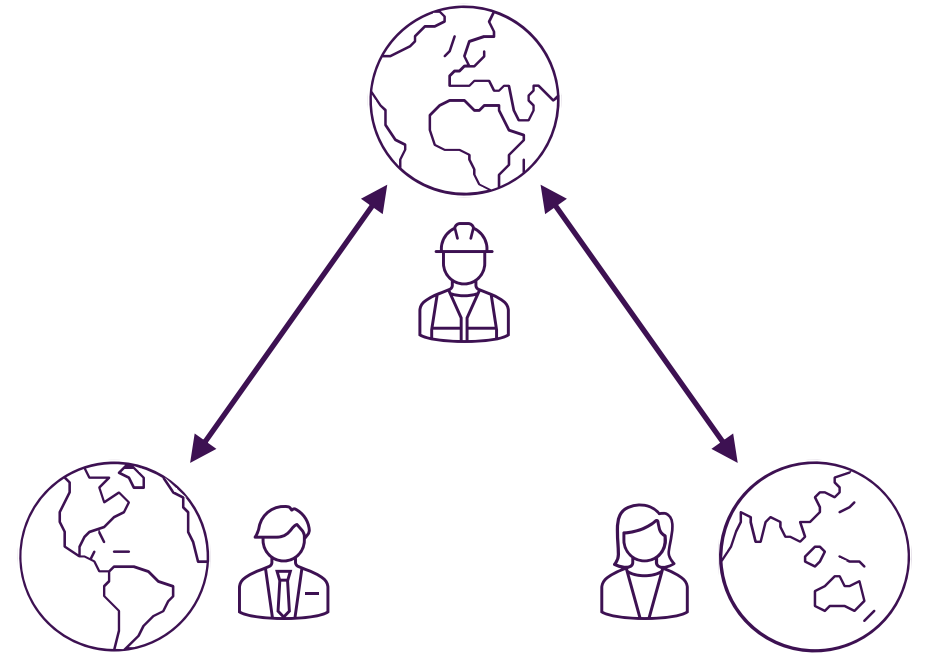
Significant time and cost for both setup and maintenance require experienced resources



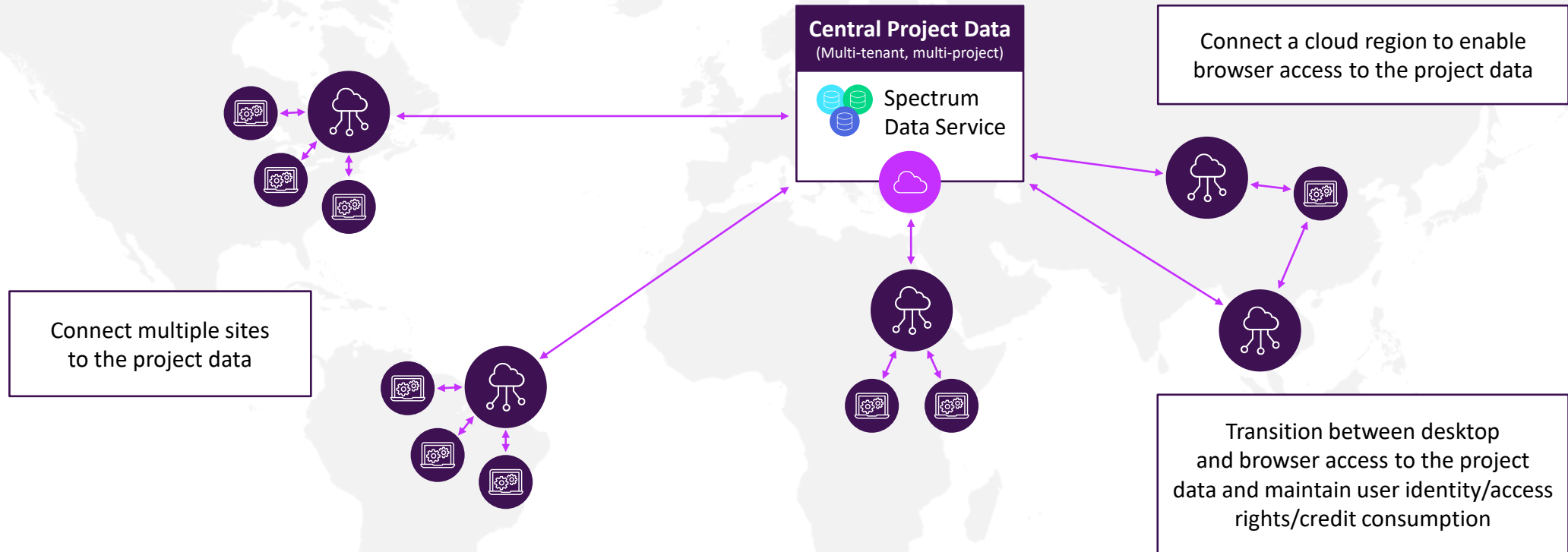
IT security and data access controls demands limit extent of data sharing and collaboration



Brittle configurations that cannot be adjusted as projects, facilities, and businesses mature

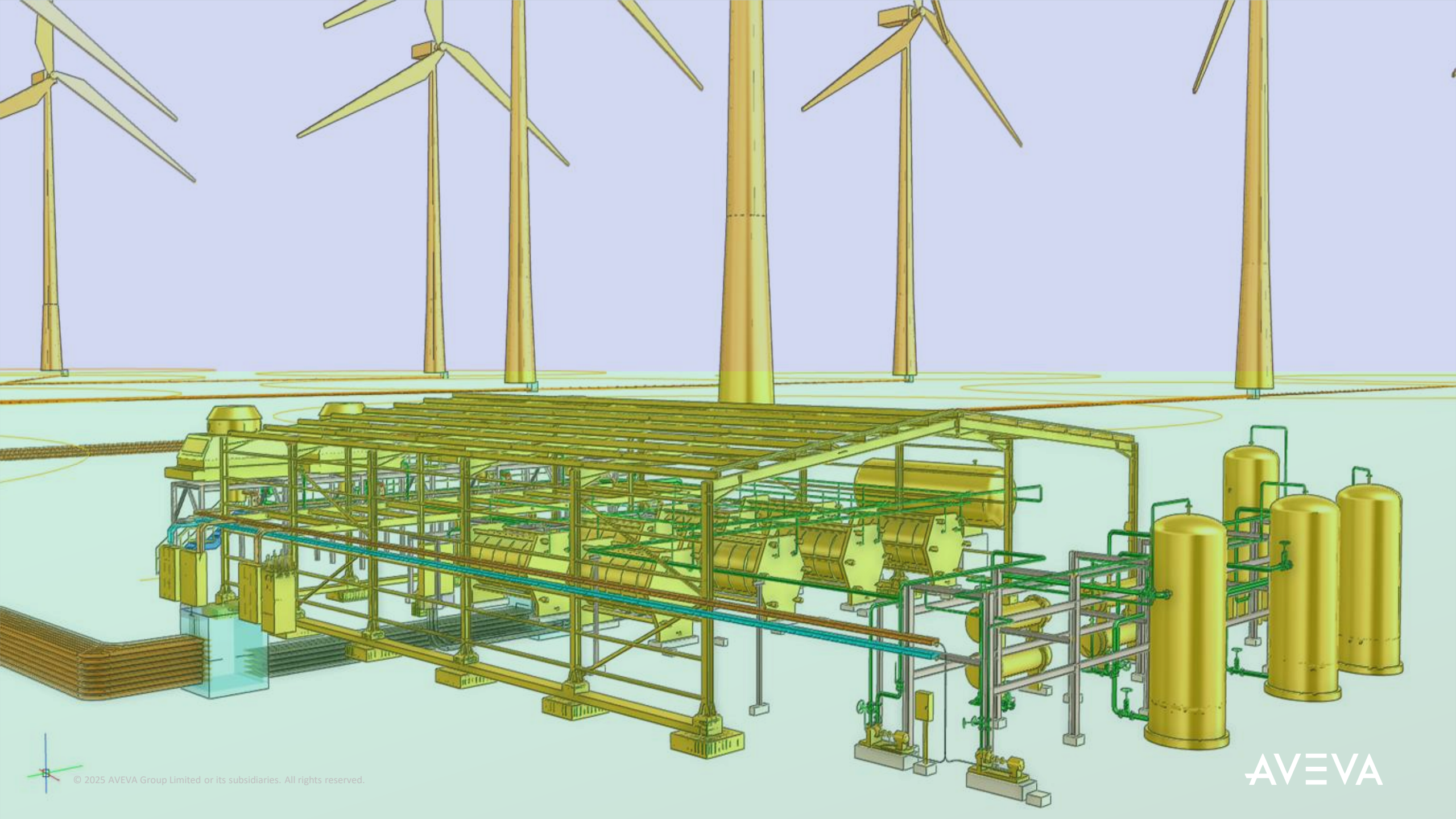


AVEVA Unified Engineering

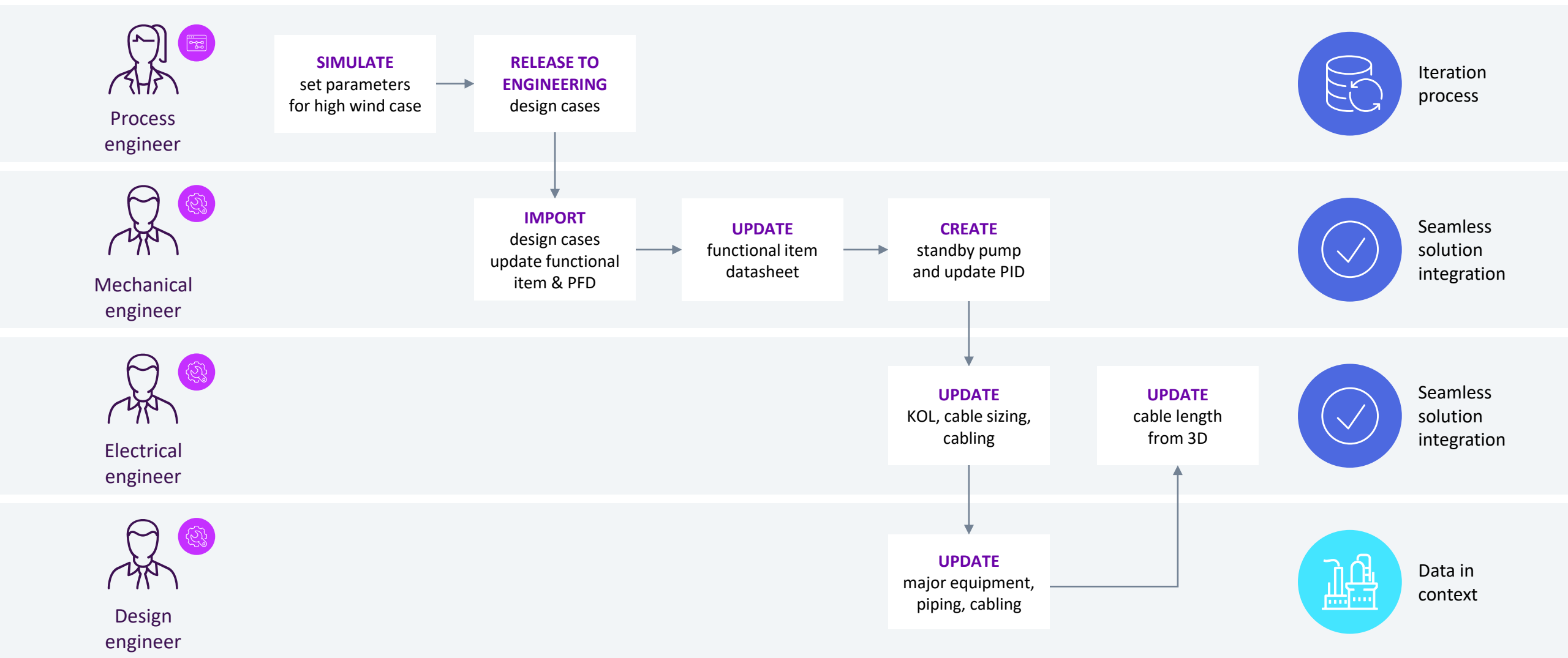




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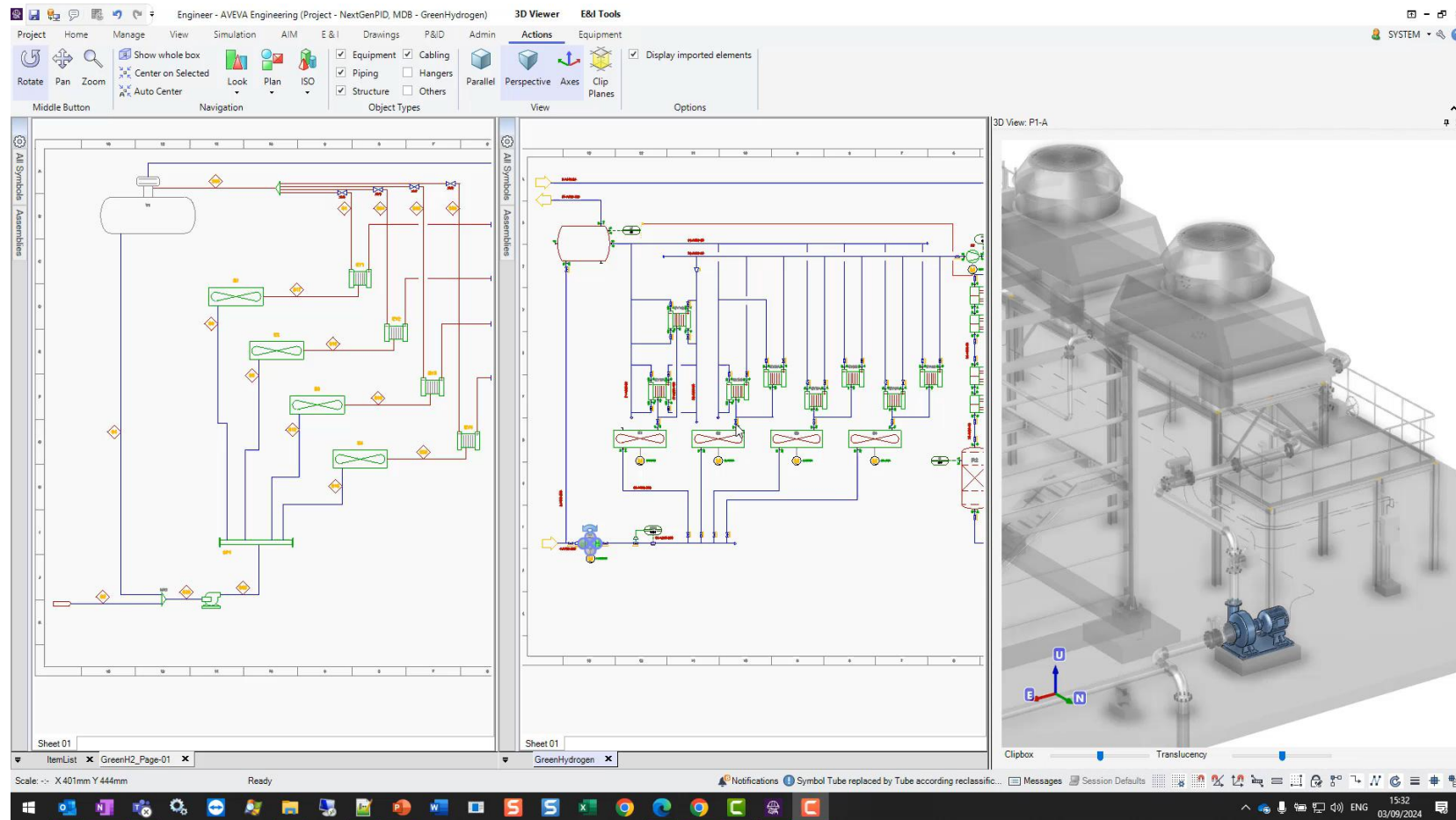


AVEVA™ Unified Engineering 3.0



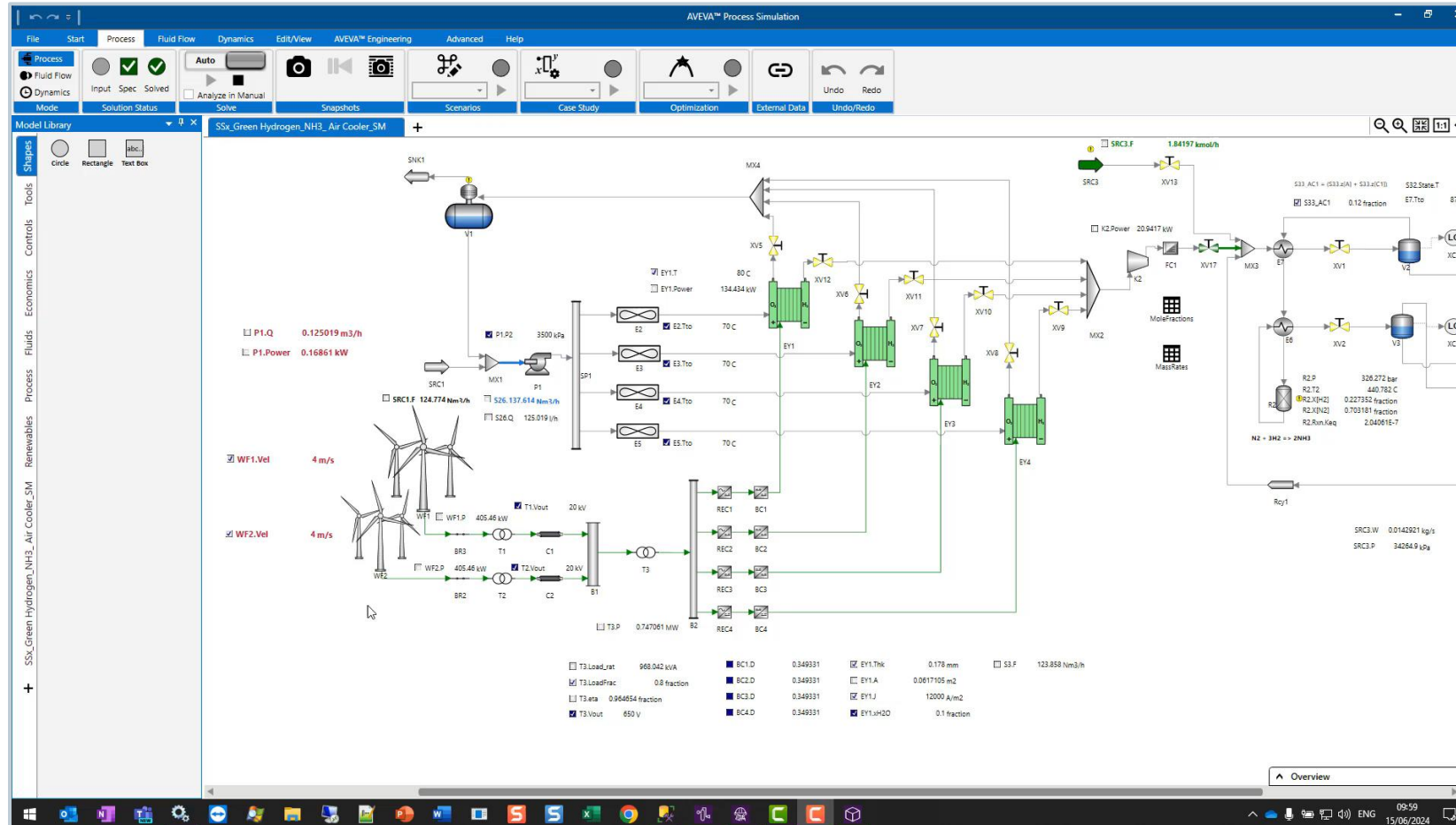
AVEVA™ Unified Engineering 3.0

Existing plant in operation



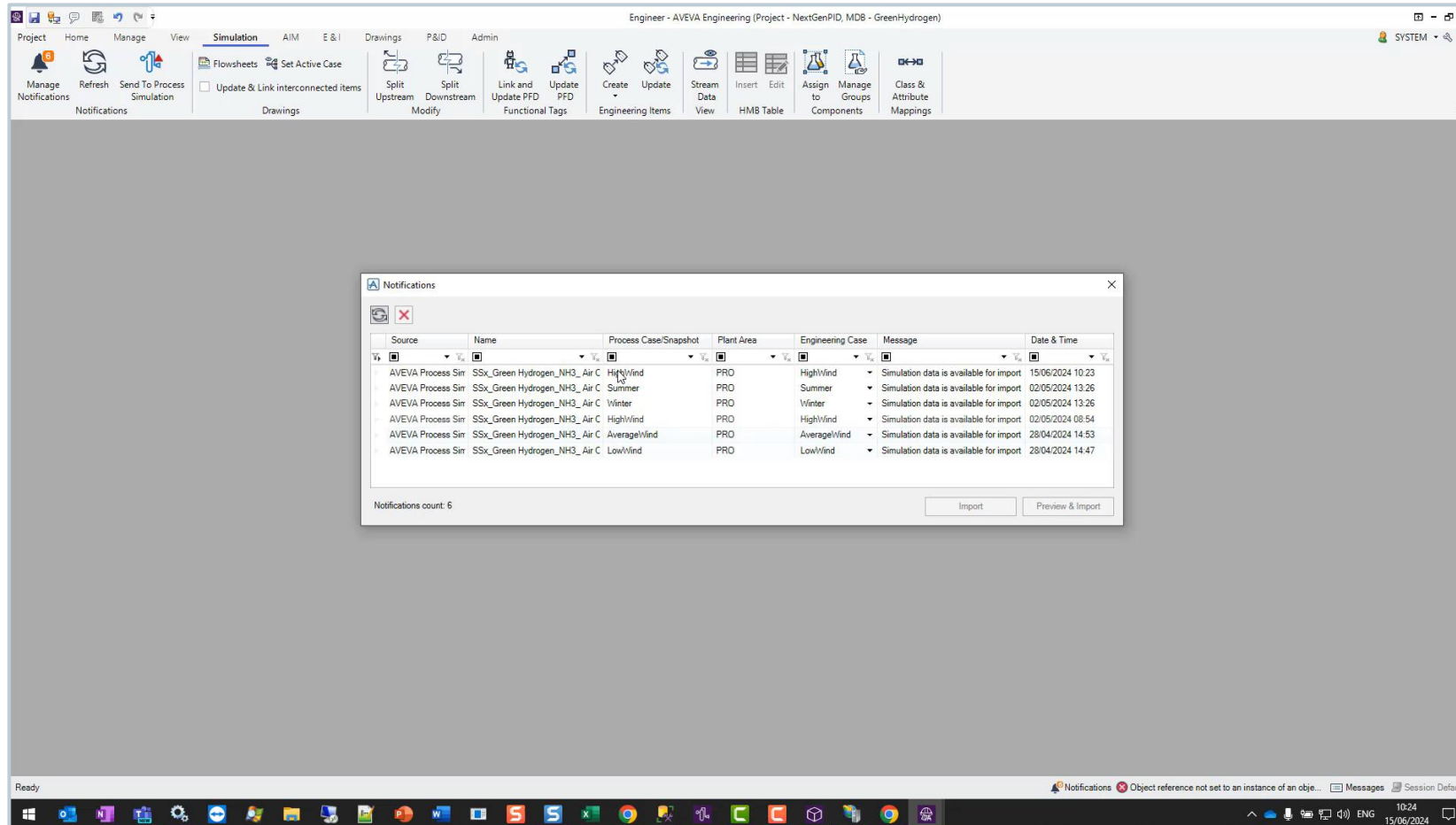
AVEVA™ Process Simulation

Simulate high wind case and publish to engineering



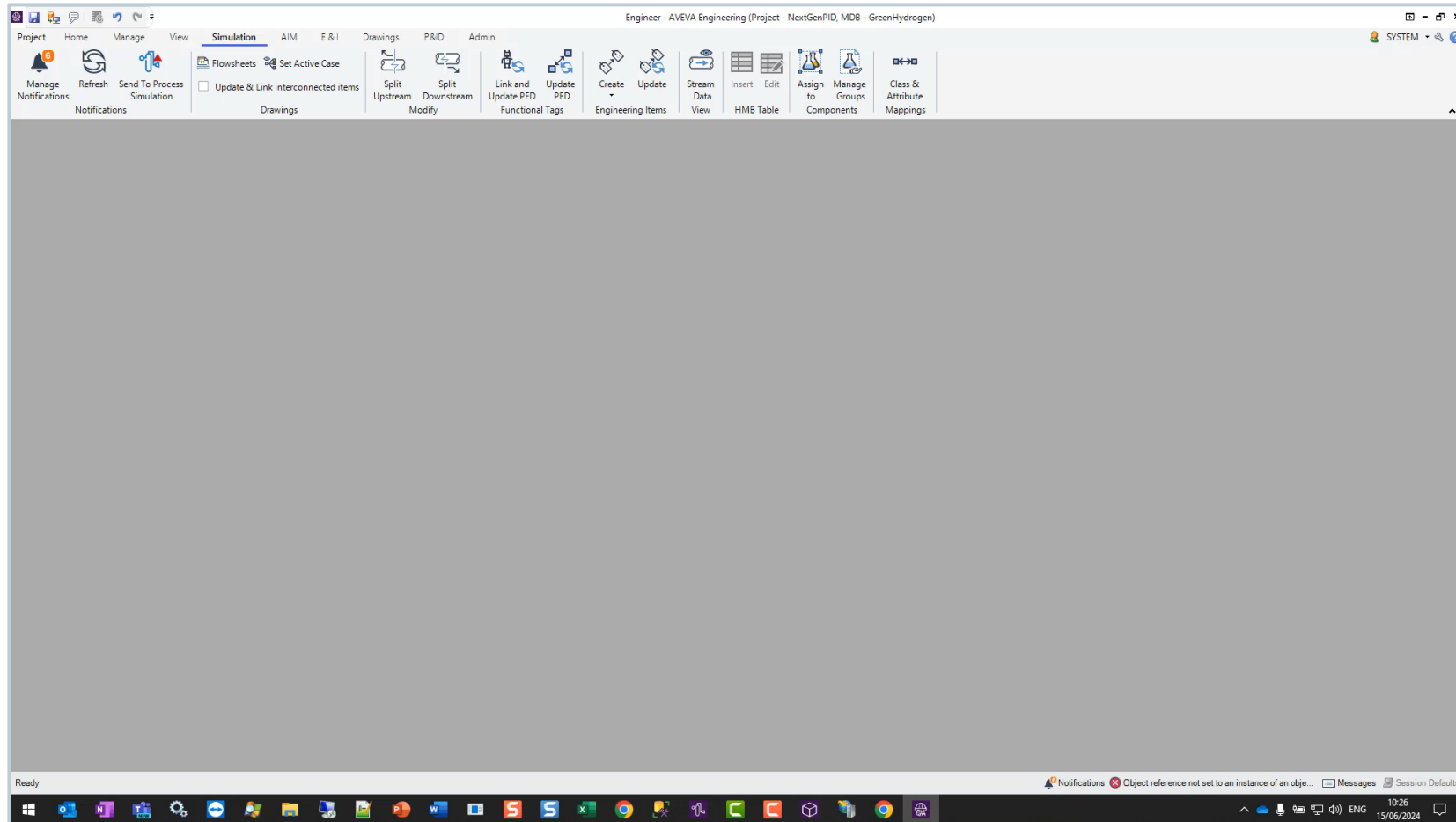
AVEVA™ Engineering

Import simulation case and update functional item on PFD



AVEVA™ Engineering

Define governing case



AVEVA™ Engineering

Update engineering items visible on P&ID

The screenshot displays the AVEVA Engineering software interface. The top ribbon is labeled 'E&I Tools' and includes tabs for Project, Home, Manage, View, Simulation, AIM, E & I, Drawings, P&ID, Admin, and Equipment. The 'Simulation' tab is active, showing options like 'Flowsheets', 'Set Active Case', 'Update & Link interconnected items', 'Split Upstream', 'Split Downstream', 'Modify', 'Link and Update PFD', 'Update PFD', 'Create', 'Update', 'Stream Data', 'View', 'HMB Table', 'Insert', 'Edit', 'Assign to Components', 'Manage Groups', 'Class & Attribute Mappings', and 'Equipment'. The 'Grids Explorer' on the left shows a tree structure with 'Grids' expanded, containing 'Admin Grids', 'Electrical', 'Elevate Grids', 'Instrumentation', 'Unified Engineering', '1-Simulation', '2-Functional', 'FUN_HX', 'FUN_PUMP', 'GreenH2 Functional', '3-Engineering', '4-Summary', and 'User Grids'. The main workspace shows a table with the following data:

Name of the element	Description of the element	Realized By	Specified By	CD Power [kW] (Low)	CD Power [kW] (Average)	CD Power [kW] (High)	CD Speed [rpm] (Low)	CD Speed [rpm] (Average)	CD Speed [rpm] (High)
P1	P1-A	P1		20.00	0.17	6.38	15.59	3600.00	3600.00

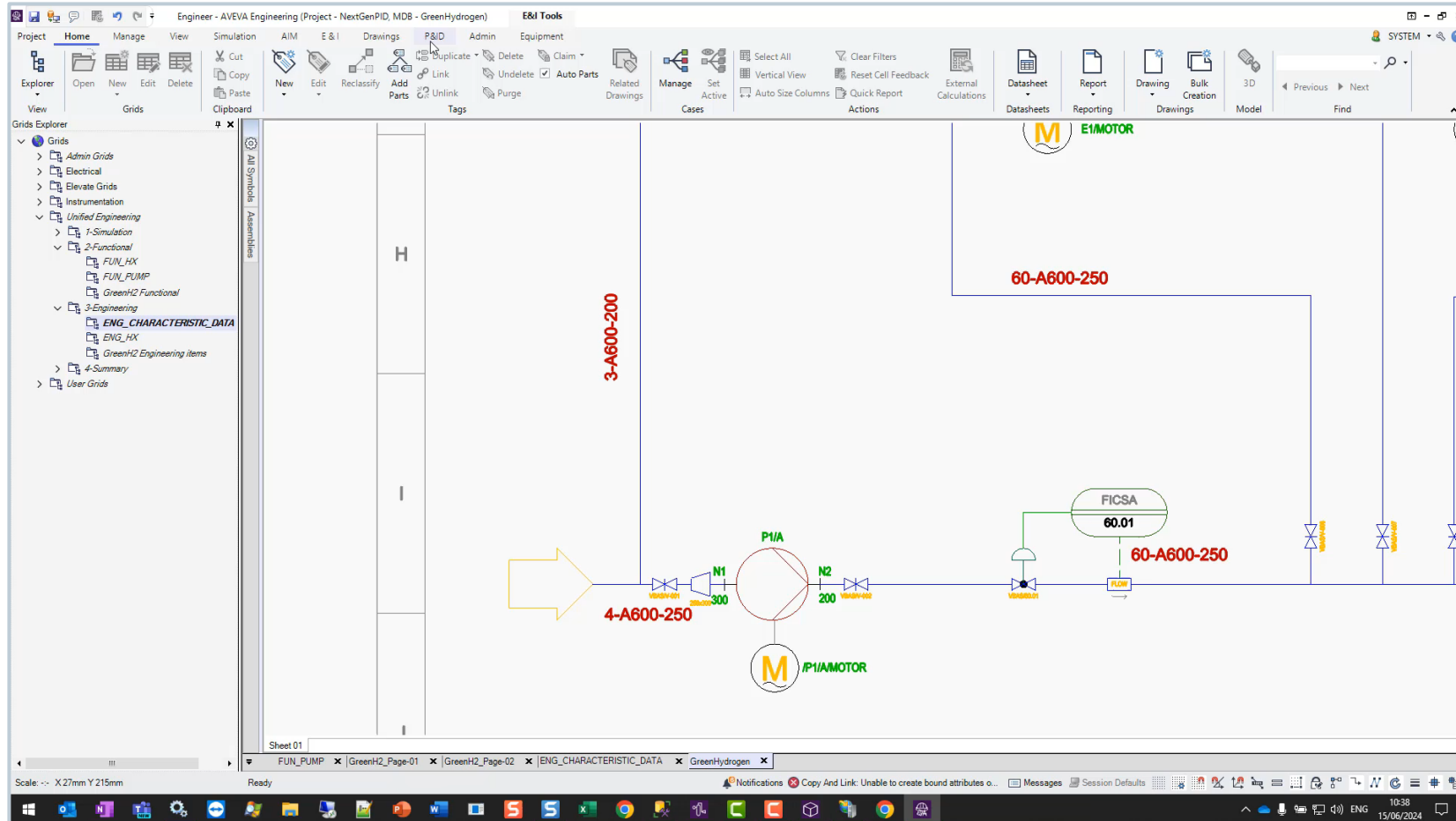
The status bar at the bottom indicates '1 record(s) selected' and 'FUN_PUMP' is the active item. The Windows taskbar at the bottom shows the system clock as 10:33 on 15/06/2024.

Duplicate feedwater pump



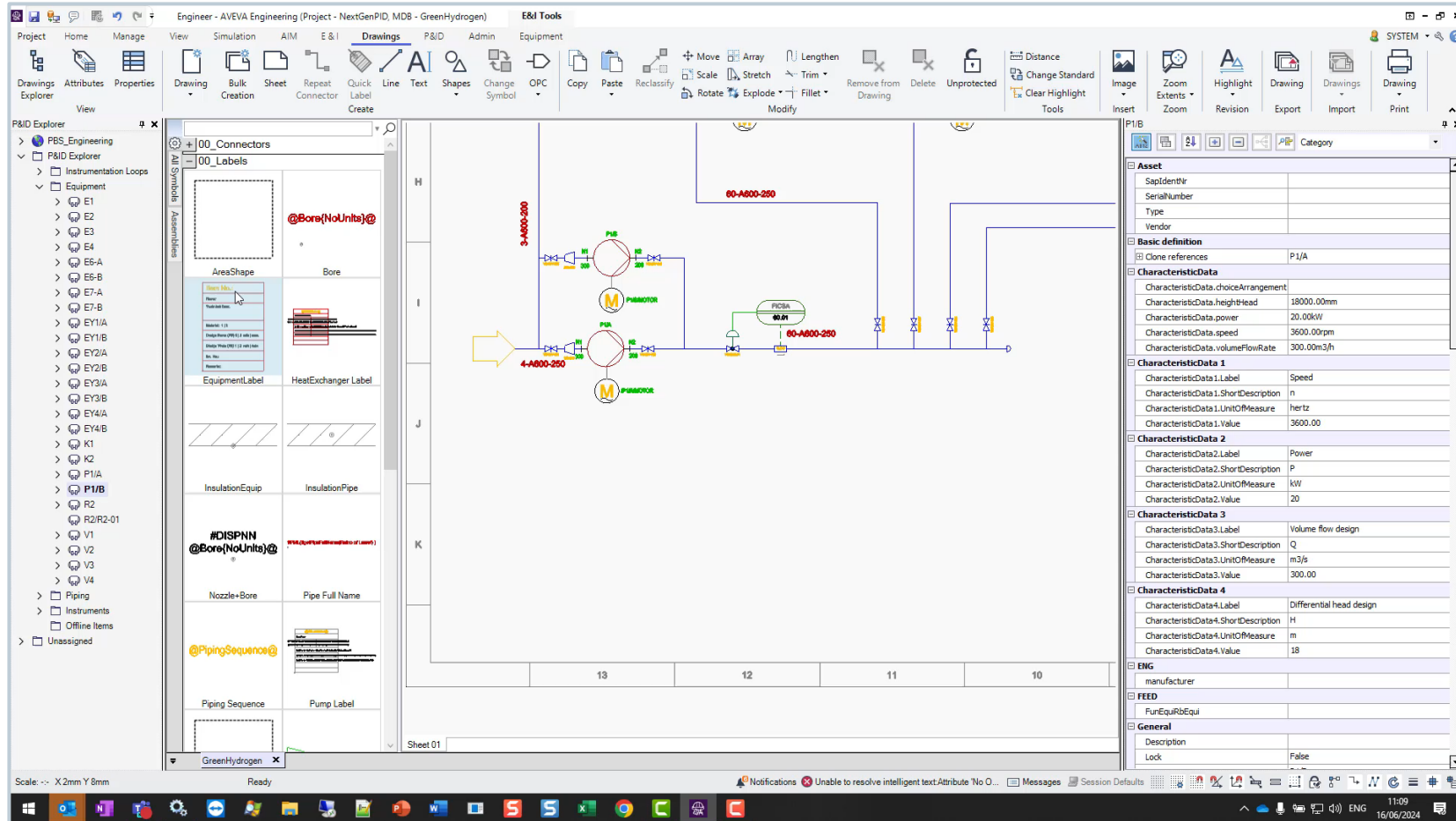
AVEVA™ Engineering

Update P&ID



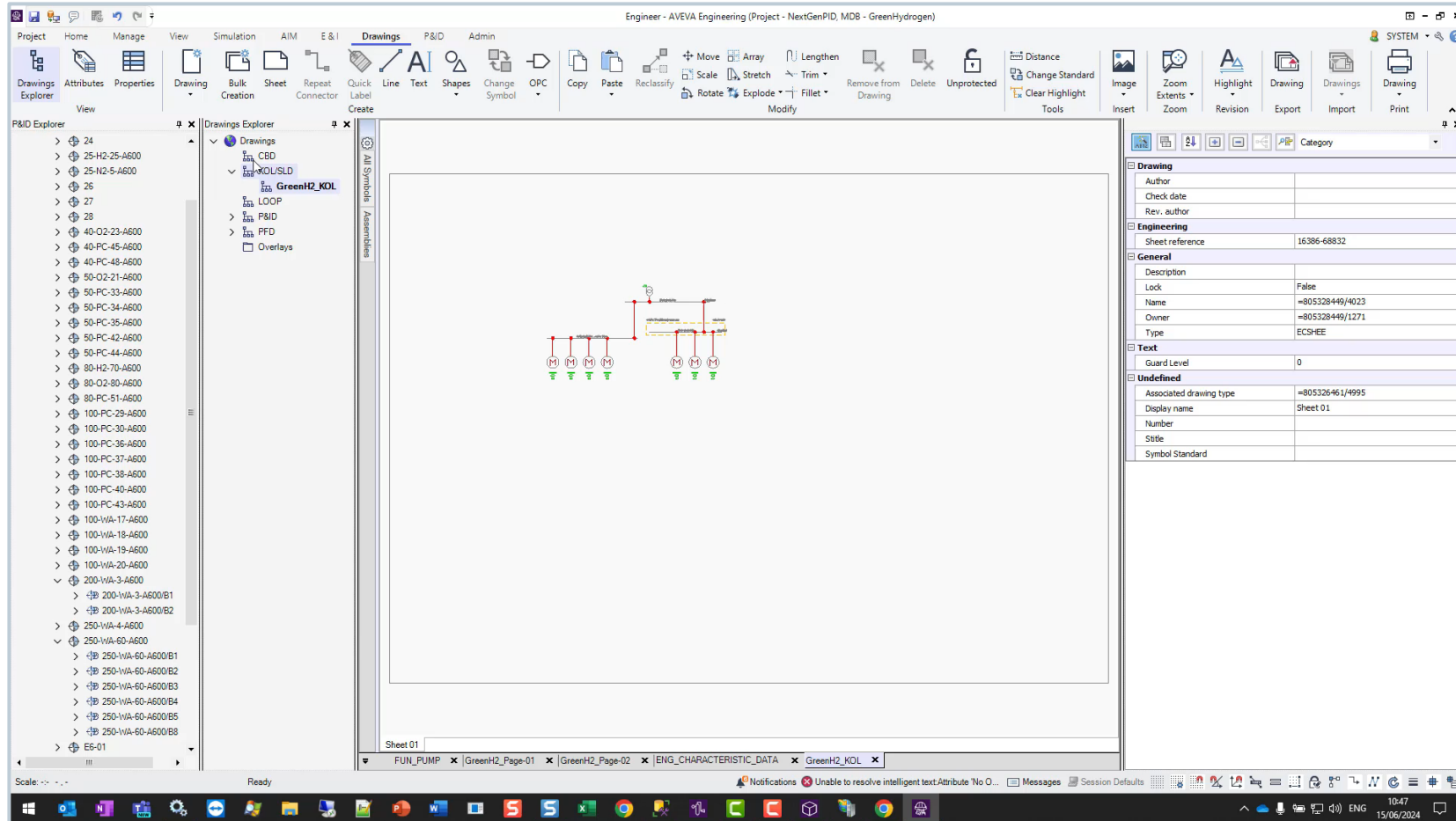
AVEVA™ Engineering

Add labels to the equipment bar on P&ID



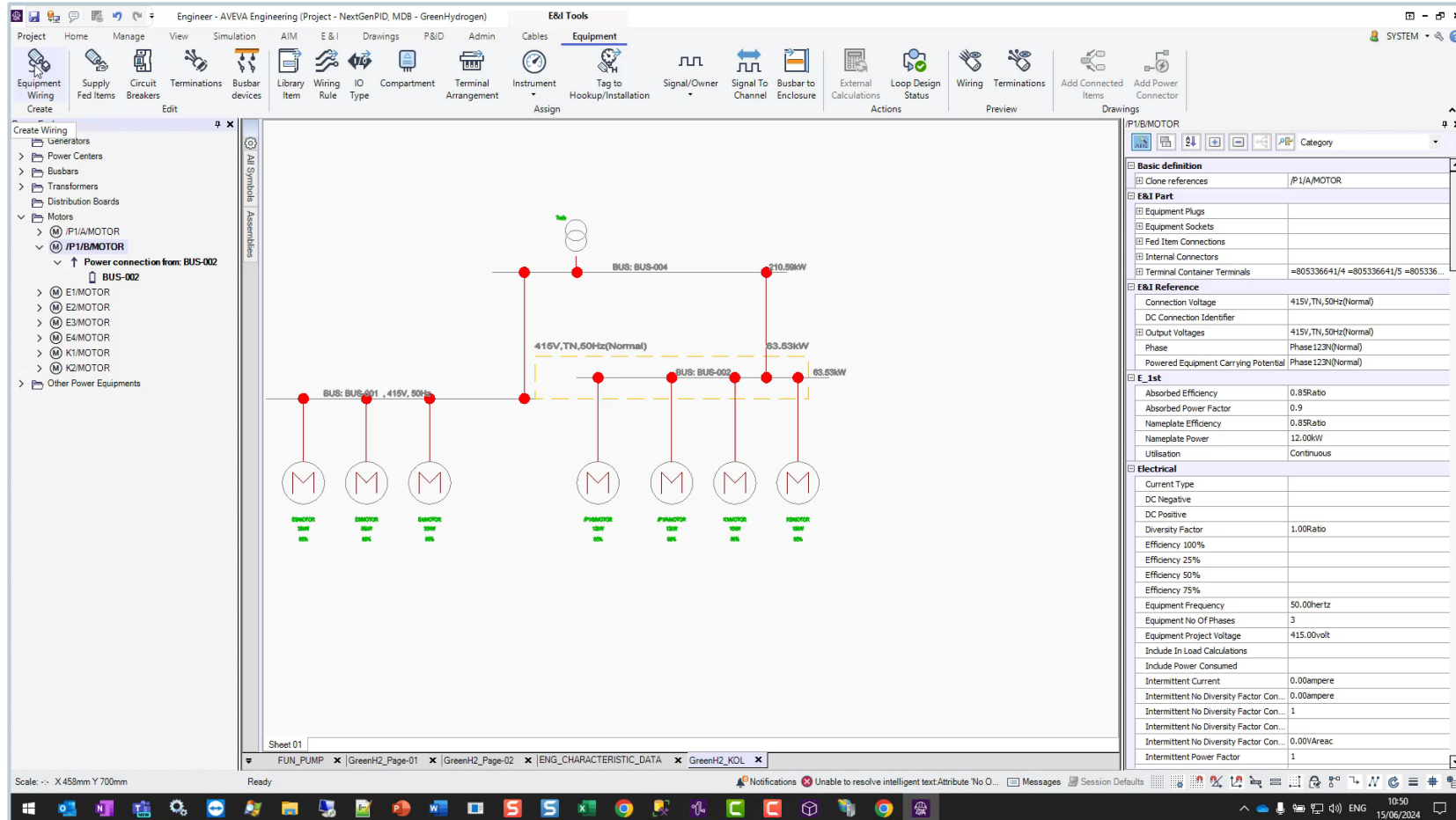
AVEVA™ Engineering

Update KOL drawing



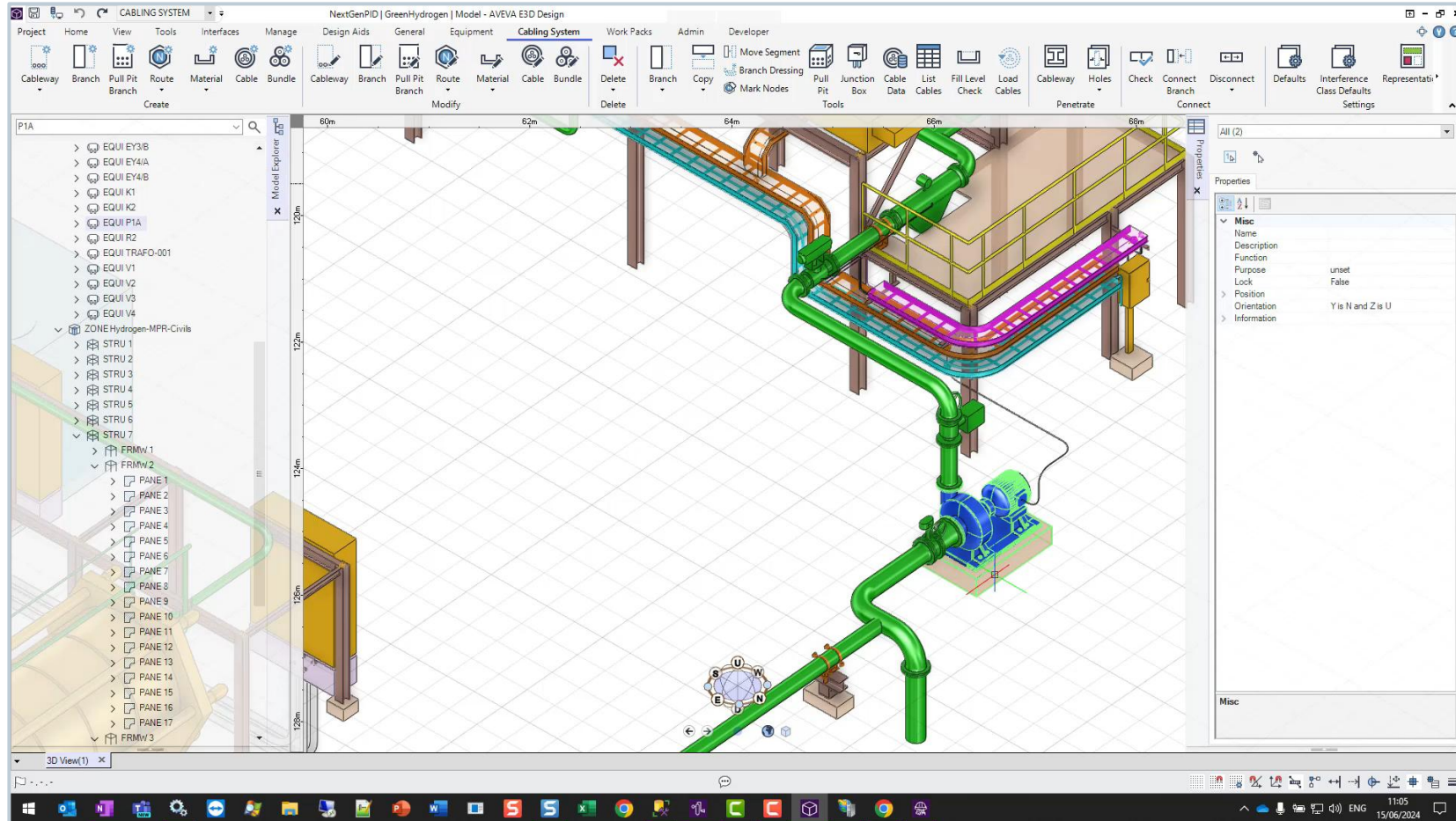
AVEVA™ Engineering

Create cable sizing and power cable



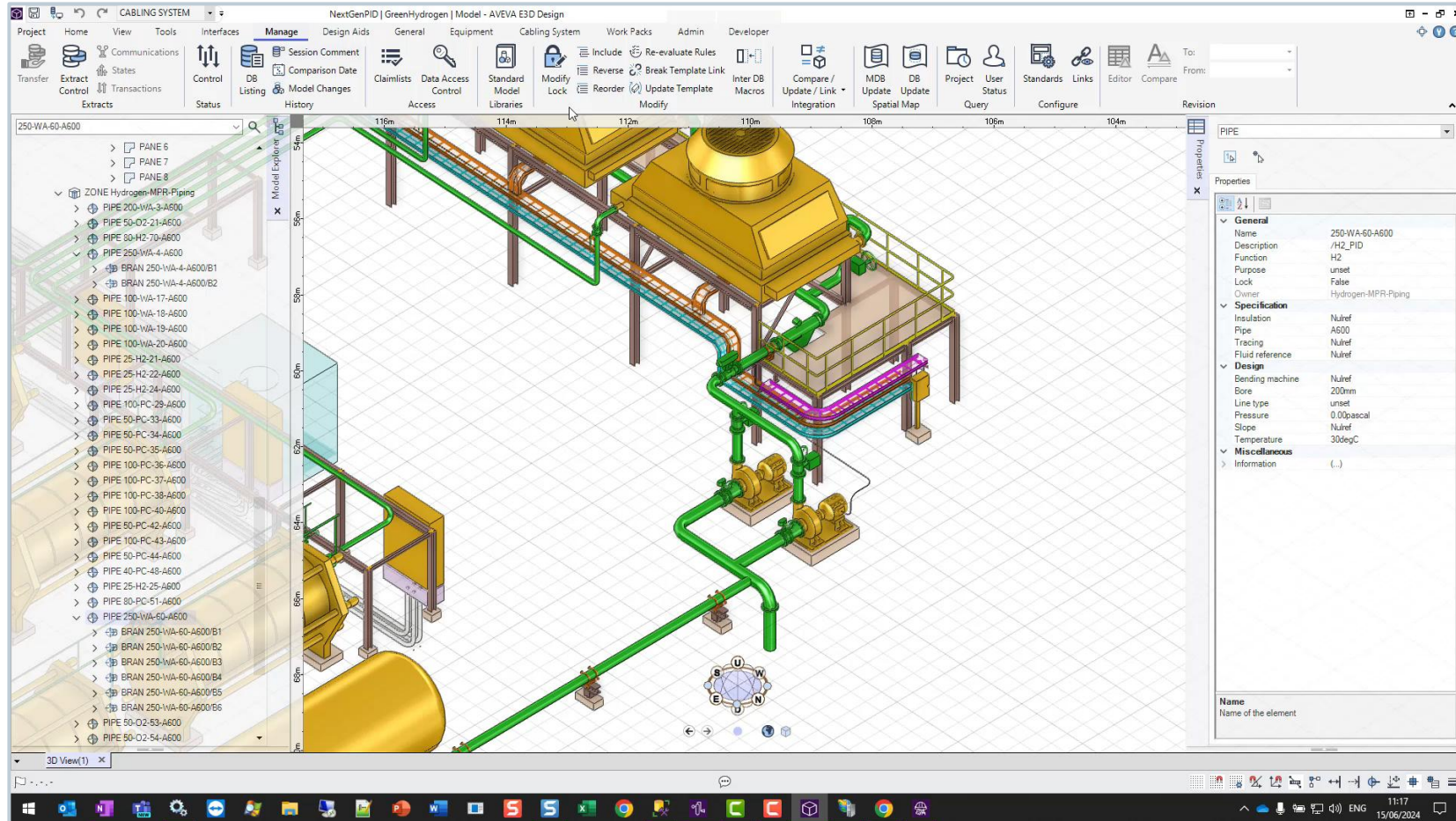
AVEVA™ E3D Design

Copy existing feedwater pump and modify connected piping



AVEVA™ E3D Design

Import cable by compare and update and route cable



AVEVA™ Engineering

Import length by compare and update from AVEVA E3D Design

The screenshot shows the AVEVA Engineering software interface with the 'COMPARE/UPDATE' window open. The window displays a table of cable connections and a 'Compare / Update' section with a list of cables and their attributes.

Table 1: Cable Connections

Display Name	Description	From Connector	To Connector	Cores	Connected From	Connected To	Terminated From	Terminated To	Cable Catalogue No
CABL-MCC-001-K1/M				=8053.	MCC-001	K1/MOTOR			CABO-DEFLEX-3C1..
CABL-MCC-002-E1/M				=8053.	MCC-002	E1/MOTOR			CABO-DEFLEX-3C1..
CABL-MCC-001-K2/M				=8053.	MCC-001	K2/MOTOR			CABO-DEFLEX-3C1..
CABL-MCC-002-E2/M				=8053.	MCC-002	E2/MOTOR			CABO-DEFLEX-3C1..
CABL-MCC-002-E3/M				=8053.	MCC-002	E3/MOTOR			CABO-DEFLEX-3C1..
CABL-MCC-002-E4/M				=8053.	MCC-002	E4/MOTOR			CABO-DEFLEX-3C1..
CABL-L301-JB-001				=8053.	L301	JB-001	L301		CABO-SE-Instrument..
CABL-JB-001-CAB-001-01				=8053.	JB-001	CAB-001	=805328449/4683		CABO-DEFLEX-3C1..
CABL-F60 01-JB-002-01				=8053.	FICSA-60 01	JB-002	FICSA-60 01	TS-0001	CABO-OFLEX-2C-P..
CABL-F60 01-JB-002-02				=8053.	FICSA-60 01	JB-002	FICSA-60 01	TS-0002	CABO-SE-3x2
CABL-JB-002-ACTU/60 01-01	/CABD-SE-3x2			=8053.	JB-002	ACTU/60 01	TS-0002		CABO-SE-3x2
CABL-JB-002-ACTU/60 01-02	/CABD-OFLEX-2..			=8053.	JB-002	ACTU/60 01	TS-0001		CABO-OFLEX-2C-P..
CABL-CABINET-001-JB-002-01				=8053.	CAB-001	JB-002	TS-0007	TS-0006	CABO-DEFLEX-11..
CABL-P2/TERM-JB-002-01				=8053.	P2/TERM	JB-002	TS-0008	TS-0006	CABO-SE-3x2
CABL-E1/MOTOR-JB-002-01				=8053.	E1/MOTOR	JB-002			CABO-SE-3x2
CABL-ACTU001-CAB-001-01				=8053.	ACTU001	CAB-001	ACTU001	=805328449/47..	CABO-SE-3x2
CABL-MCC-001-P1/B/MOTOR..				=8053.	MCC-001	P1/B/MOTOR			CABO-DEFLEX-11..

Table 2: Cable Cores

Reference	Description	Name	From End Lug	To End Lug	Cable Lugs	Core Carrying Potential	Cable Core Catalogue No	Propagated Signals	Connected Channe
Cores		CableCore 1 of..				Phase1(Normal)	CORE-OFLEX-110-75..		
Cores		CableCore 2 of..				Phase2(Normal)	CORE-OFLEX-110-75..		
Cores		CableCore 3 of..				Phase3(Normal)	CORE-OFLEX-110-75..		
Cores		CableCore 4 of..				PhaseN(Normal)	NEUTRALCORE-OFLE..		

Table 3: Compare / Update

Accept	NAME	Matched	Matched Against	Number of Differences	Changed Attributes	Attributes to be
<input type="checkbox"/>	CABL-MCC-002-E1/M	Linked	Cable	2	DesignLength;Ro..	DesignLength;
<input type="checkbox"/>	CABL-MCC-002-E2/M	Linked	Cable	2	DesignLength;Ro..	DesignLength;
<input type="checkbox"/>	CABL-MCC-002-E3/M	Linked	Cable	2	DesignLength;Ro..	DesignLength;
<input type="checkbox"/>	CABL-MCC-002-E4/M	Linked	Cable	2	DesignLength;Ro..	DesignLength;
<input type="checkbox"/>	CABL-F60 01-JB-002-01	Linked	Cable	1	DesignLength	DesignLength
<input type="checkbox"/>	CABL-F60 01-JB-002-02	Linked	Cable	1	DesignLength	DesignLength
<input type="checkbox"/>	CABL-JB-002-ACTU/60 01-01	Linked	Cable	1	DesignLength	DesignLength
<input type="checkbox"/>	CABL-JB-002-ACTU/60 01-02	Linked	Cable	1	DesignLength	DesignLength
<input type="checkbox"/>	CABL-CABINET-001-JB-002-01	Linked	Cable	1	DesignLength	DesignLength
<input checked="" type="checkbox"/>	CABL-MCC-001-P1/B/MOTOR-01	Linked	Cable	3	DesignLength;Ro..	DesignLength;

Table 4: Engineering Attribute

Engineering Attribute	Design Database Value	Engineering Value
NAME	CABL-MCC-001-P1/B/MOT..	CABL-MCC-001-P1/B/MOTOR-01
DesignLength	38764mm	
RoutingStatus	10	
RouteNodes	=805328452/119805	

Table 5: Command Window

Command Window
NameplateConnectedElectricalPower3Phase 0kW
NameplateConnectedElectricalPowerPhase 1 0kW
NameplateConnectedElectricalPowerPhase 2 0kW
NameplateConnectedElectricalPowerPhase 3 0kW
NameplateConnectedReactivePower3Phase 0VAr
NameplateConnectedReactivePowerPhase 1 0VAr
NameplateConnectedReactivePowerPhase 2 0VAr
NameplateConnectedReactivePowerPhase 3 0VAr
NameplateConnectedFullLoadCurrent3Phase 0Ampere
NameplateConnectedFullLoadCurrentPhase 1 0Ampere
NameplateConnectedFullLoadCurrentPhase 2 0Ampere
NameplateConnectedFullLoadCurrentPhase 3 0Ampere
PhaseDisplayName unset
EquipmentFrequency 50Hertz
EquipmentNoOfPhases 3
EquipmentProjectVoltage 415Volt
SpareApparentPower 0kW
SpareCurrent 0Ampere
SpareNoDiversityFactorConnectedApparentPower 0kW
SpareNoDiversityFactorConnectedCurrent 0Ampere
SpareNoDiversityFactorConnectedAbsorbedPower 0kW
SpareNoDiversityFactorConnectedReactivePower 0VAr
SpareAbsorbedPower 0kW
SparePowerFactor 1
SpareReactivePower 0VAr
StandbyApparentPower 0kW
StandbyCurrent 0Ampere
StandbyNoDiversityFactorConnectedApparentPower 0kW
StandbyNoDiversityFactorConnectedCurrent 0Ampere
StandbyNoDiversityFactorConnectedAbsorbedPower 0kW
StandbyNoDiversityFactorConnectedReactivePower 0VAr
StandbyAbsorbedPower 0kW

Table 6: Command Window

Command Window
P1/B/MOTOR

Table 7: 3D Cables

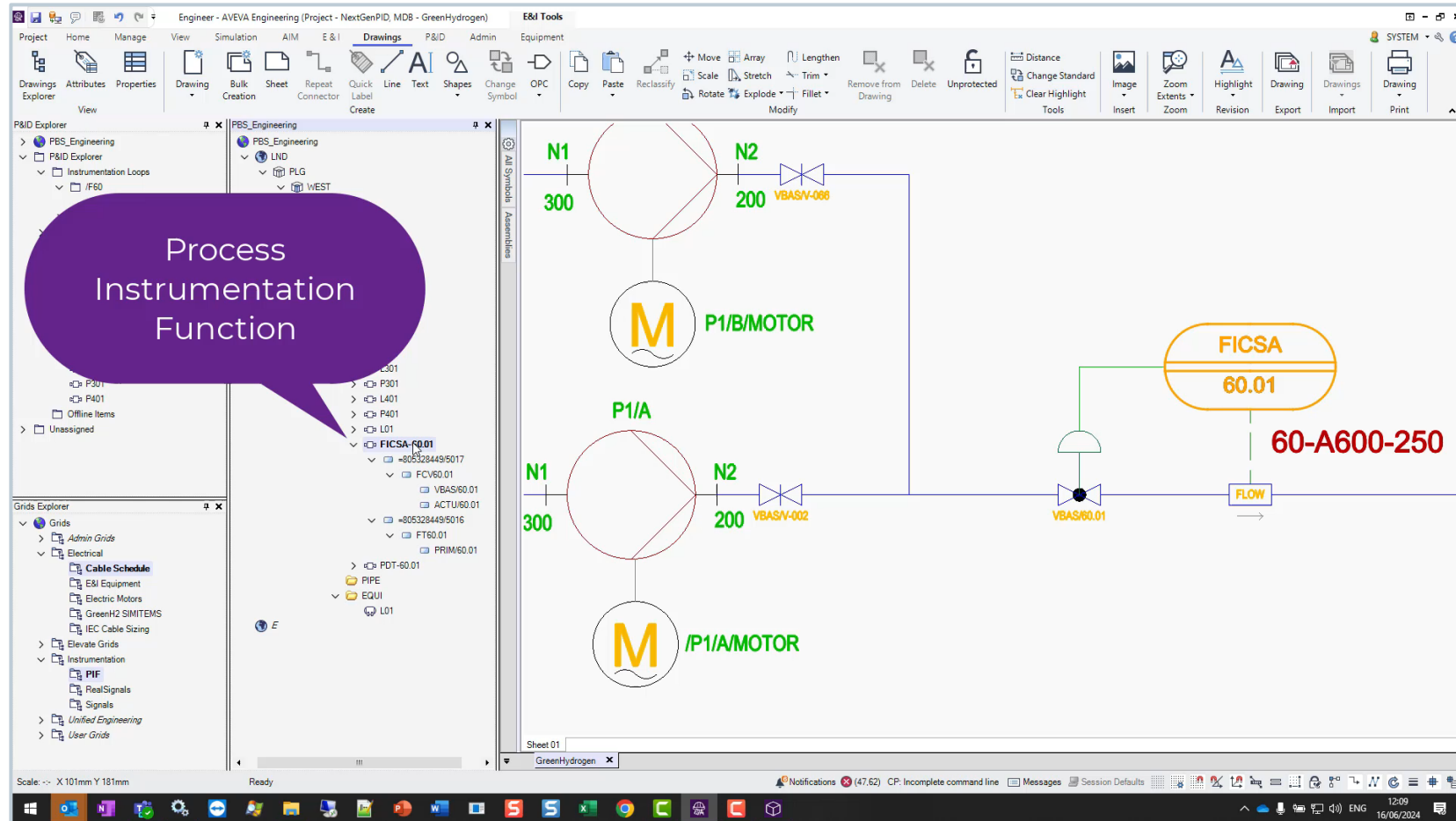
3D Cables
15 Items - 13 different

Table 8: Attribute Details

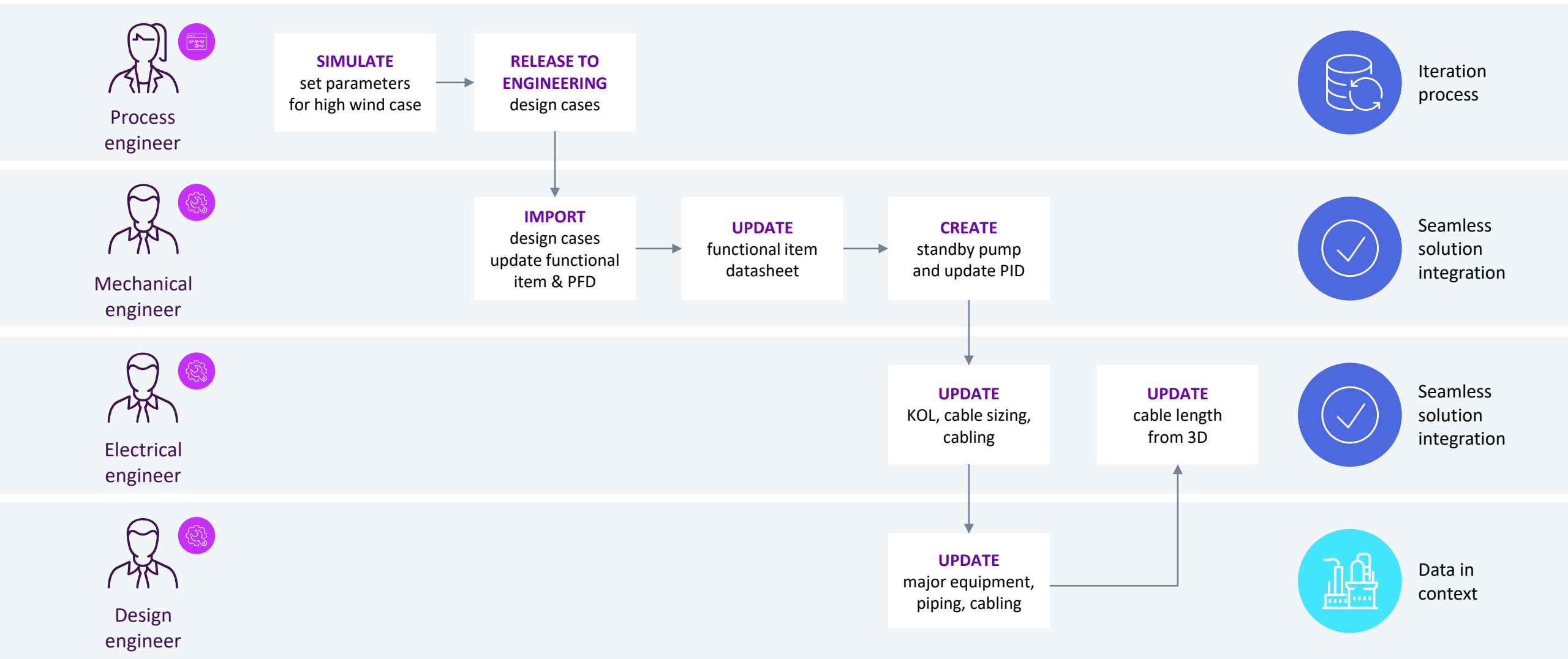
Attribute Details
1 record(s) selected

AVEVA™ Engineering

Review the flow control loop



AVEVA™ Unified Engineering 3.0



The opportunity



Reduce time to value

Out-of-the box content and reference projects to simplify the initial project configuration, make teams immediately effective and reduce the time to value



Streamline collaboration

Enable better collaboration between the project stakeholders minimizing errors and accelerating project execution to deliver projects on time and on budget



Workforce optimization

Integrated environment reduce the need for manual and low value activities freeing up resources for more valuable tasks and optimize the need for project resources



Maximize margins

Reduce cost throughout capital projects leading to:

50% faster FEED stage

40% increase in engineering efficiency

15% reduction in TIC

Recommended sessions

Babcock and Wilcox : Unlocking ROI: How B&W Achieved Efficiency with AVEVA Unified Engineering

Tuesday, 8th April 25 @ 1:45 pm
Room 2000

AP Consultoria : Digital Transformation in Engineering - AVEVA UE and AI for Multidisciplinary Projects

Tuesday, 8th April 25 @ 2:30 pm
Room 2009/2011

MAIRE Group : Supporting Advanced IE&C and Sustainability Projects execution

Tuesday, 8th April 25 @ 3.15 pm
Room 2001/03

Seamlessly migrating your legacy E&I and P&ID data to AVEVA Unified Engineering

Wednesday, 9th April 25 @ 11:15 am
Room 2005/2007

Saipem : From EPC DIGITAL PLATFORM to AI for Engineering

Wednesday, 9th April 25 @ 2:15 pm
Room 2005/2007

Engineering and Capital Projects Improvements – Community session

Thursday, 10th April 25 @ 10:00 am
Room 2009/2011



Questions?



Please wait for the microphone.
State your name and company.

Please remember to...

Navigate to this session in the mobile app to complete the survey.

Visit us in the:

- AVEVA Unified Engineering 3.0 Demo, after the lunch
- Design & Build booths at Innovation Zone
- Day 3 Engineering & Capital Projects Community Group

Thank you!



Visit us!

Stop by these booths in the innovation zone for demos and additional information:

Extend value through AVEVA Unified Engineering - Booth 56

Get a deep dive on AVEVA Unified Engineering and AVEVA Deliverables Management

Engineer the plant of the future – Booth 47



This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.

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ABOUT AVEVA

AVEVA is a world leader in industrial software, providing engineering and operational solutions across multiple industries, including oil and gas, chemical, pharmaceutical, power and utilities, marine, renewables, and food and beverage. Our agnostic and open architecture helps organizations design, build, operate, maintain and optimize the complete lifecycle of complex industrial assets, from production plants and offshore platforms to manufactured consumer goods.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. The company is headquartered in Cambridge, UK.

Learn more at www.aveva.com