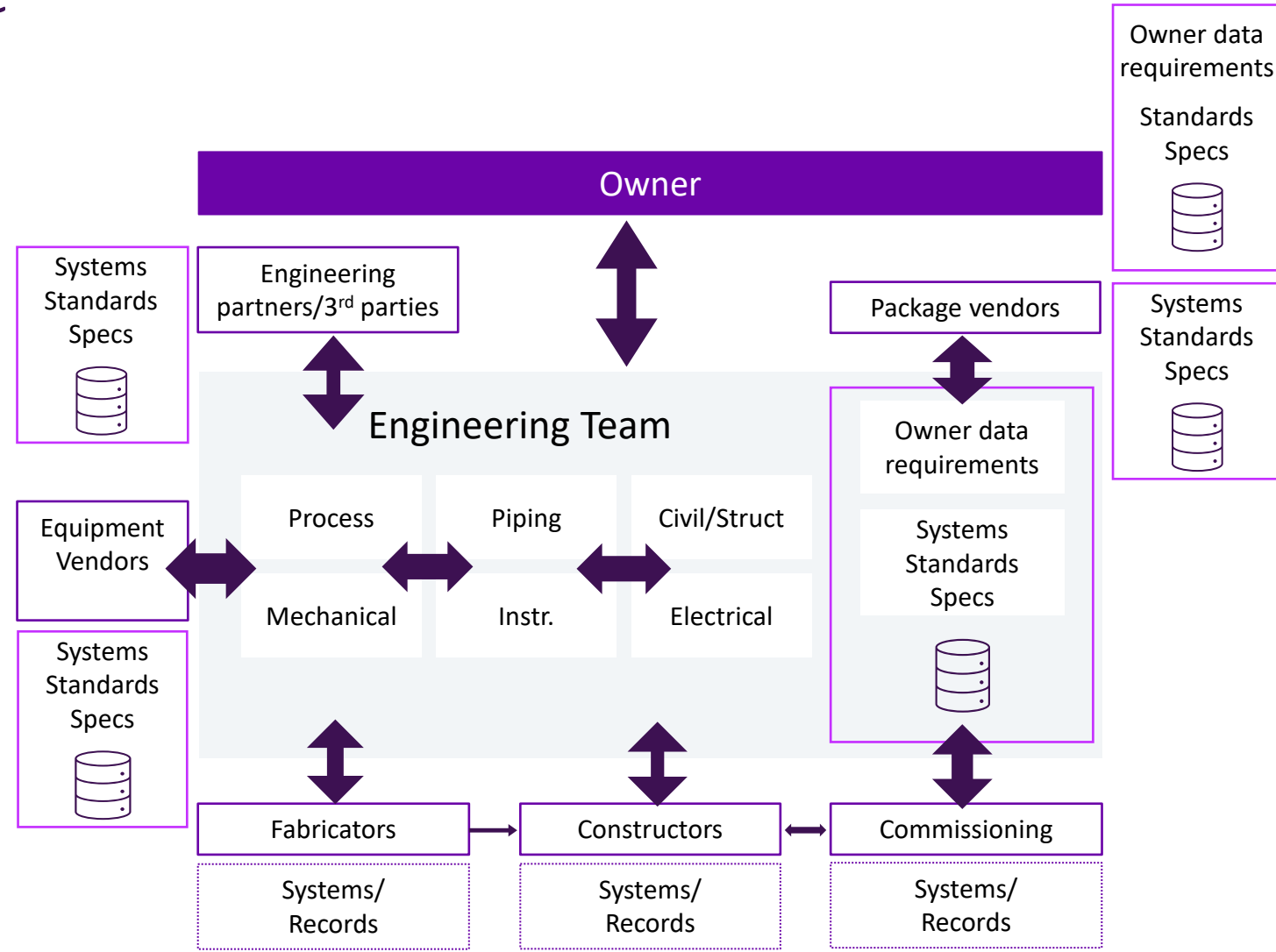# AVEVAWORLD

PARIS

OCTOBER 2024

AVEVA™ Unified Engineering

Present and Future

Ross Kilmurray - Director, Engineering & Design

The challenge
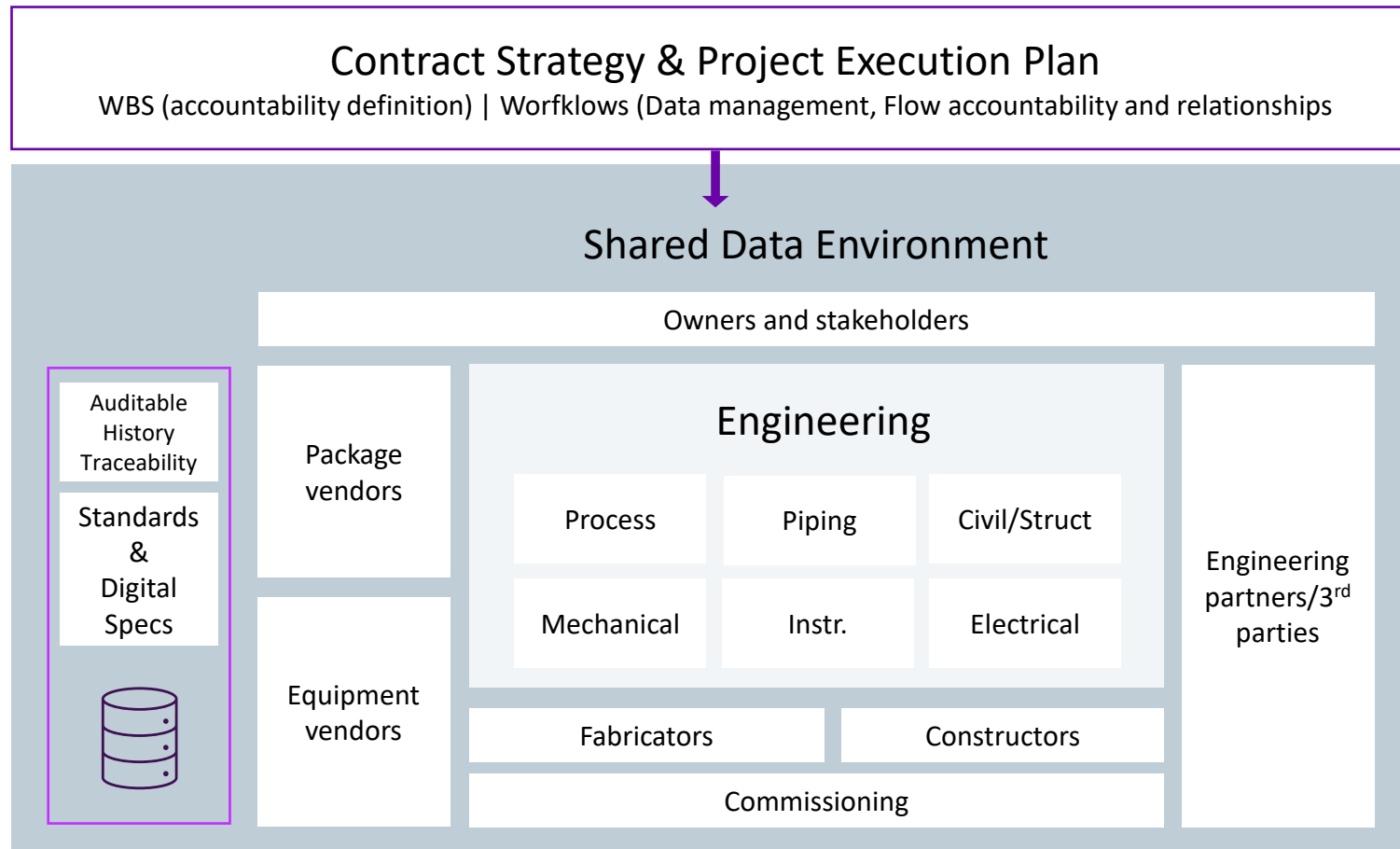

Engineering 3.0

Disconnected systems, teams and project data

The challenge

Contract Strategy & Project Execution Plan
WBS (accountability definition) | Worfklows (Data management, Flow accountability and relationships

Shared Data Environment

Owners and stakeholders

Auditable History Traceability

Standards & Digital Specs

Package vendors

Equipment vendors

Engineering

| Process | Piping | Civil/Struct |
| Mechanical | Instr. | Electrical |

Fabricators | Constructors

Commissioning

Engineering partners/3rd parties

Engineering 4.0

Connected systems, teams and project data

AVEVA

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
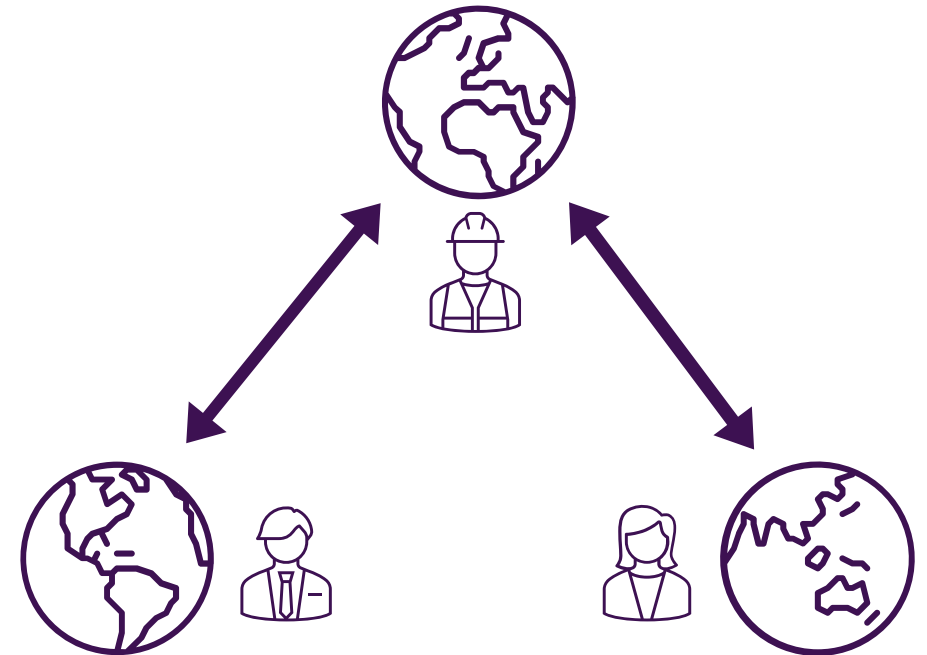
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The opportunity

1B$ Project

| 15% Savings | 150M$ |
| 10% Savings | 100M$ |

Savings

2% AVEVA™ Process Simulation

3% AVEVA™ Unified Engineering

8% AVEVA™ Project Execution

2% AVEVA™ Unified Learning

Total project cost breakdown

- Engineering
- Procurement
- Construction
- Misc

Pie chart: 10%, 10%, 40%, 40%

Impact

Reduce person-hours by **30% - 40%**

Reduce material costs by **11%**

Reduce field labor costs by **10%**
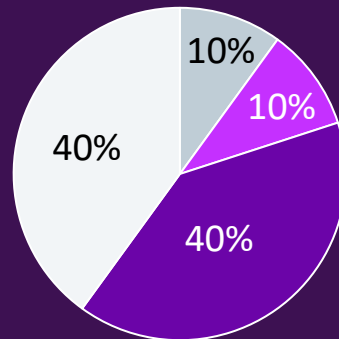
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What is AVEVA Unified Engineering?

AVEVA

AVEVA Unified Engineering

A collaborative, integrated, cloud-based, preconfigured, data-centric, performant solution for complex projects

Multi-discipline
Full integrated 1D/2D/3D data-centric engineering and design tools

Flexible user access
Desktop app or browser access

Time to value
Fast speed of deployment/shortest time to value

Accessible everywhere
Multi-location, multi-region, multi-organization access to common project environment with appropriate data access controls and "cross-account billing"

Backwards compatible
Ease of migration from legacy products

Ease of administration
Usage/management reporting with user self-service admin

AVEVA

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Time to value

Out-of-the-box content

AVEVA Unified Engineering
1D/2D/3D

| P&ID | Electrical & Instrumentation | Datasheets | Process | Mechanical | 3D model |

Master library project			APS/ACP/ISP
AVEVA Engineering			**AVEVA E3D Design**
Data model	E&I symbols and libraries	Mechanical datasheets	Sample project
Mechanical and E&I datasheet templates	Sample 1D data	Electrical datasheets	International standard pipe fittings
Mechanical grids	AIM interface	Instrumental datasheets	Generic materials data
Electrical grids	Sample p&ids	PFD symbols (ISO 10628)	Popular vendor fittings
Instrumental grids	Sample pfds	Electrical standard symbols	Standard pipe material specs
PFD symbols	Import/export views	Instrumental standard symbols	Cable trays, pipe supports, HVAC parts
P&ID symbols	Integration configurations	Grids	Mining equipment
Process datasheets	P&ID Symbols (ISO 10628)	Lists	

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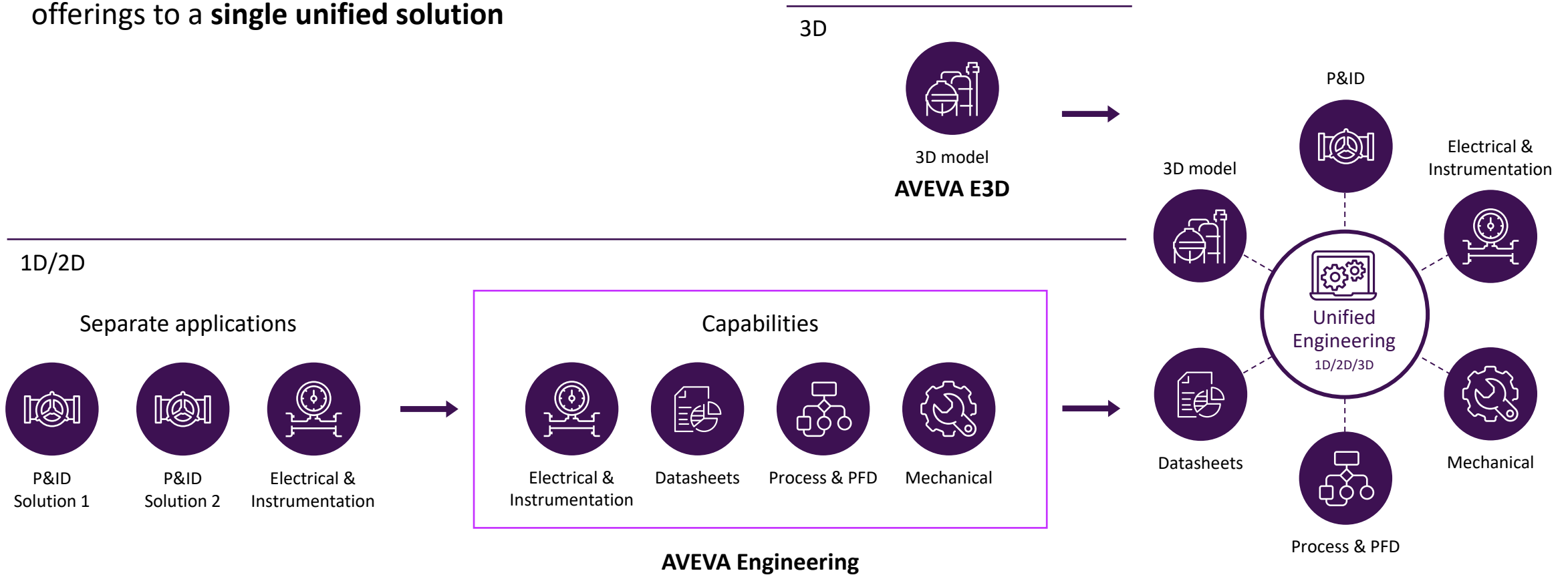Ease of migration from legacy products

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Usage/management reporting with user self-service admin

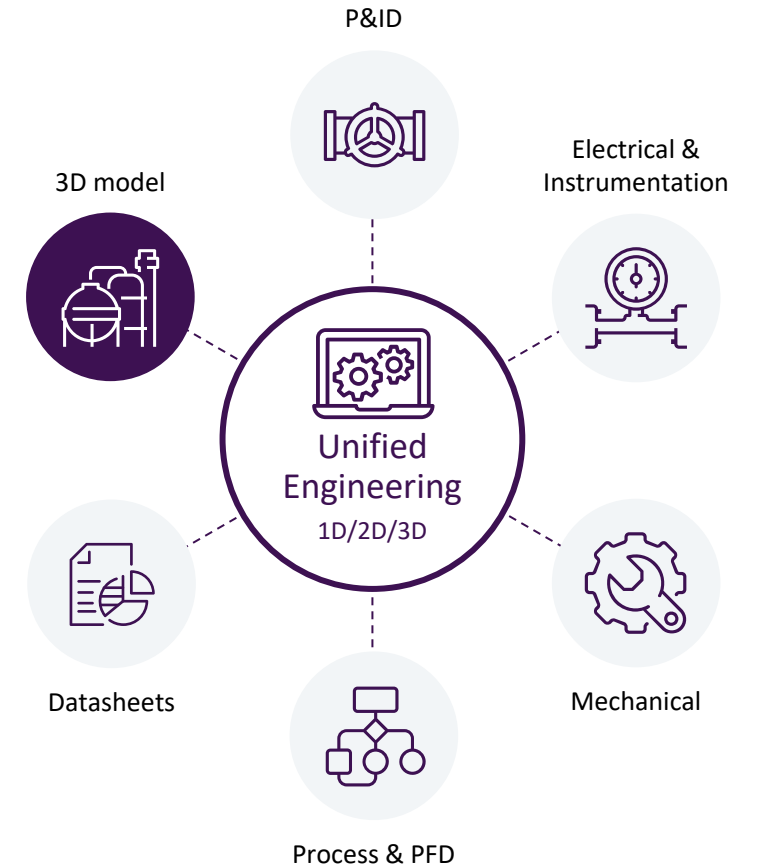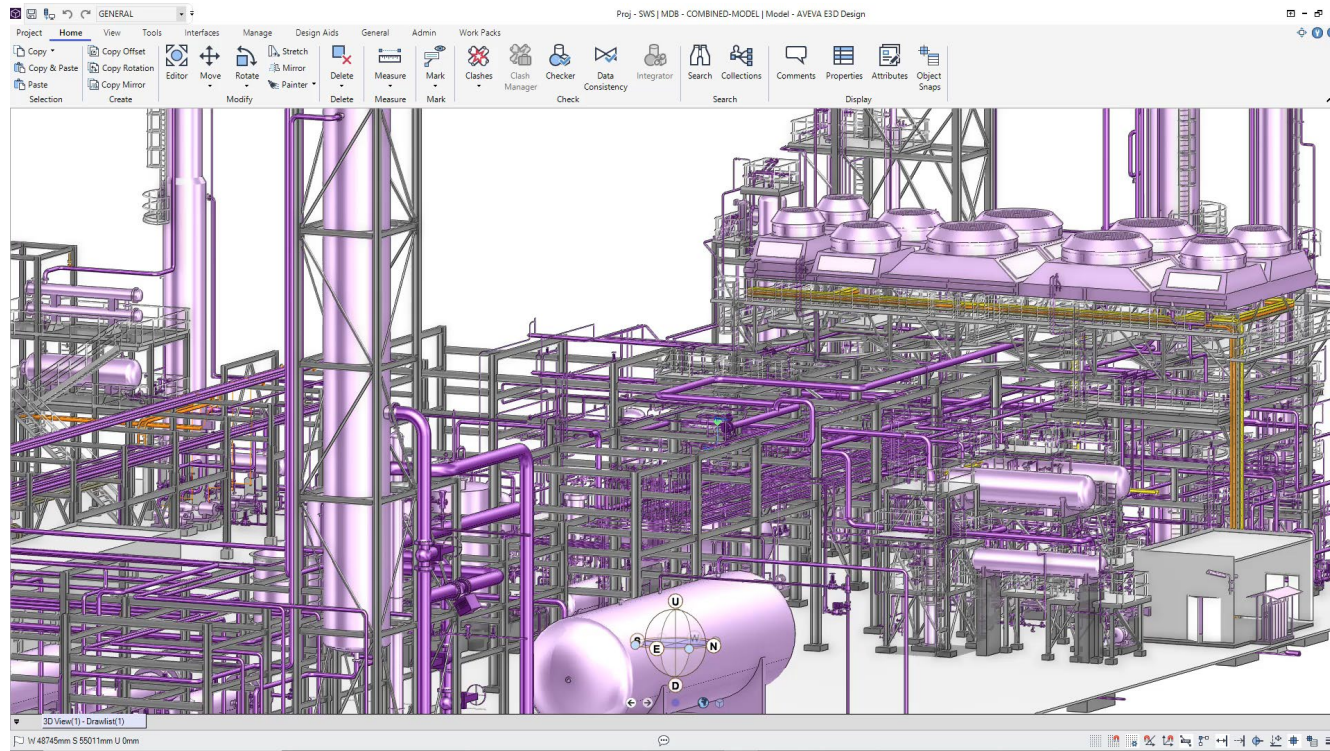AVEVA

AVEVA Unified Engineering

Evolution to a single unified solution

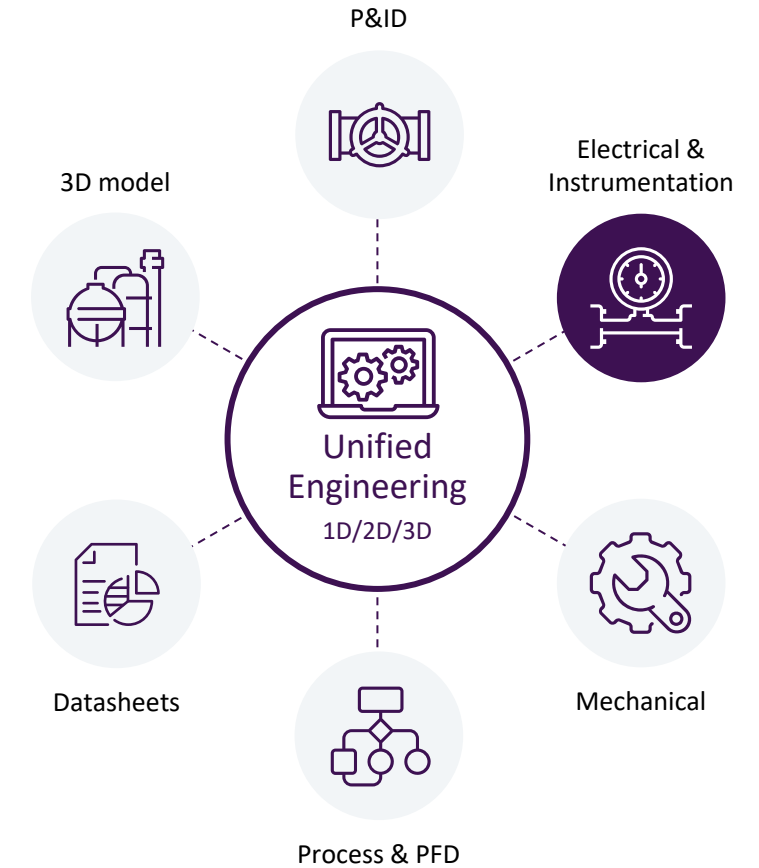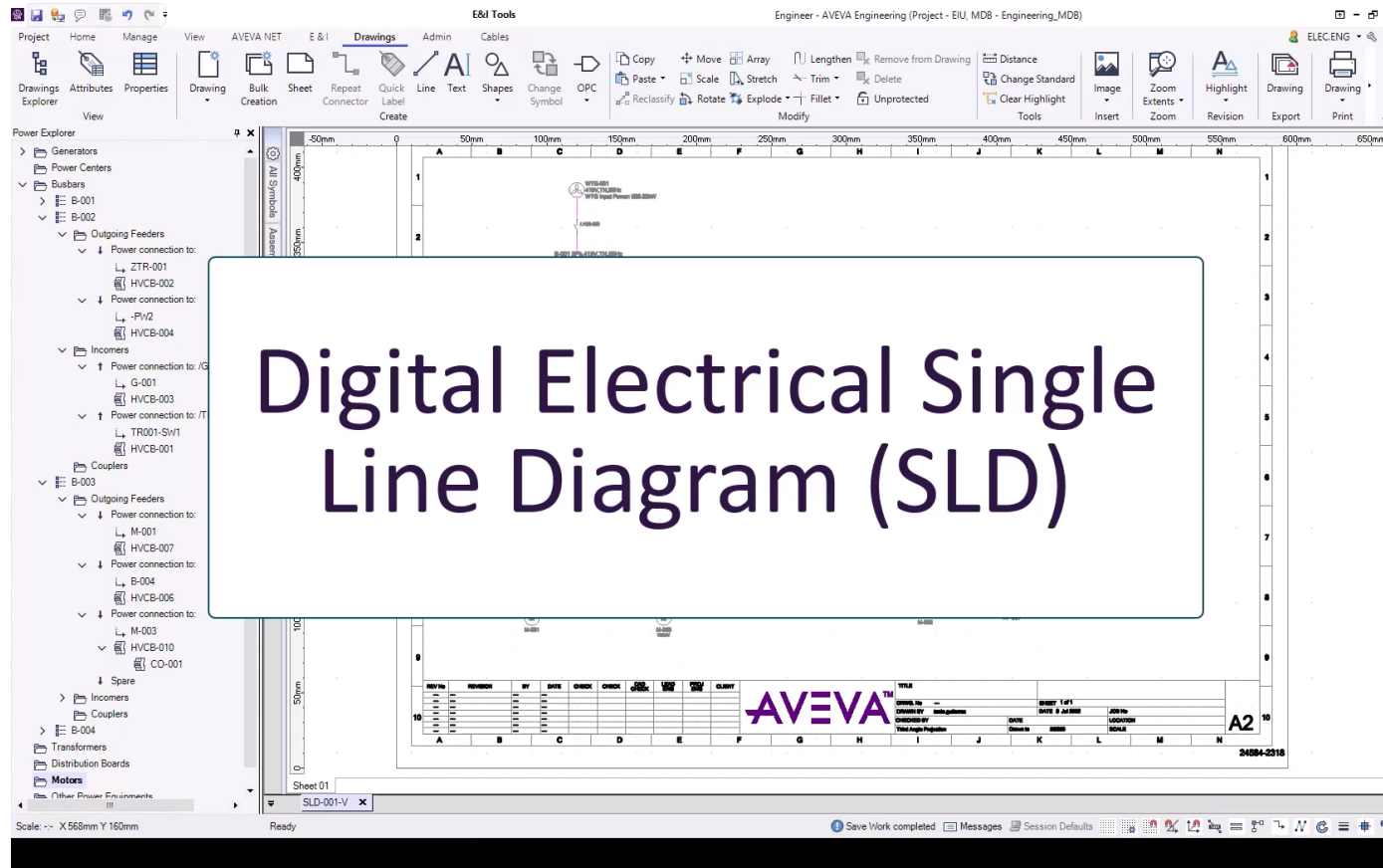Evolving from separate commercial and technical offerings to a **single unified solution**

3D

3D model
AVEVA E3D

1D/2D

Separate applications

P&ID
Solution 1

P&ID
Solution 2

Electrical &
Instrumentation

Capabilities

Electrical &
Instrumentation

Datasheets

Process & PFD

Mechanical

AVEVA Engineering

P&ID

3D model

Electrical &
Instrumentation

Unified
Engineering
1D/2D/3D

Datasheets

Mechanical

Process & PFD

3D functionality – AVEVA E3D Design

AVEVA Unified Engineering

Process, PFD and P&ID functionalities

AVEVA Unified Engineering

E&I functionality

AVEVA Unified Engineering

Digital Electrical Single Line Diagram (SLD)

- P&ID
- 3D model
- Electrical & Instrumentation
- Unified Engineering 1D/2D/3D
- Datasheets
- Mechanical
- Process & PFD
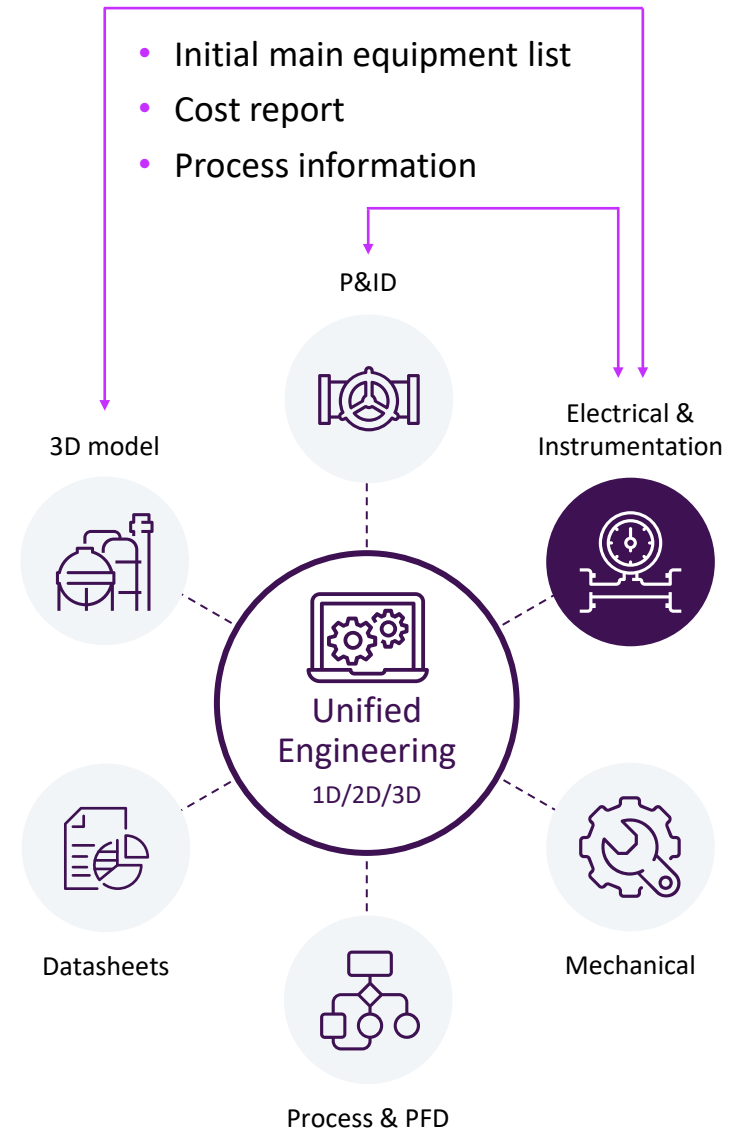
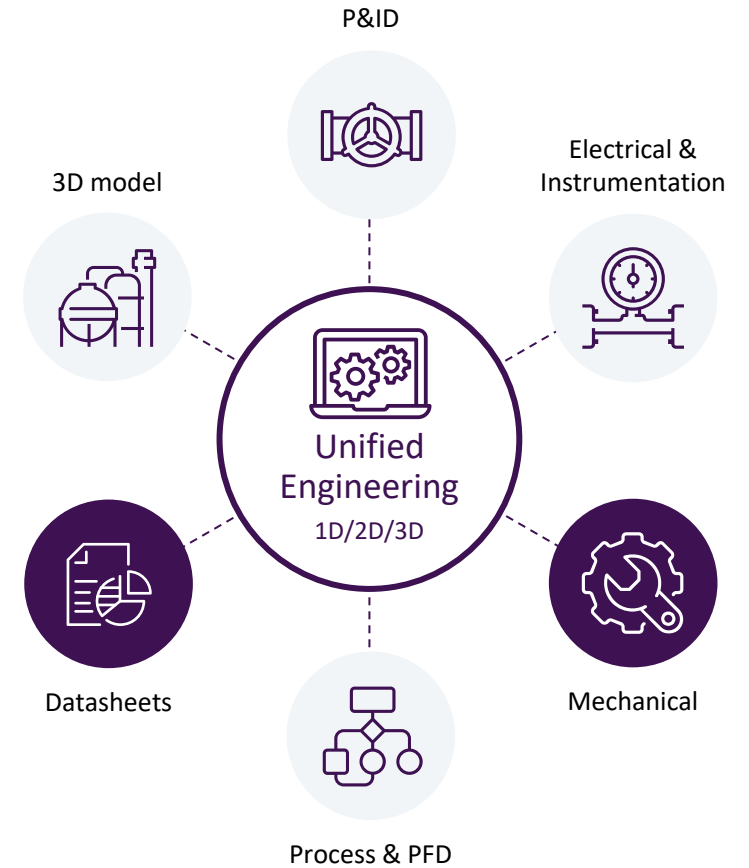# E&I functionality

AVEVA Unified Engineering

- Space reservations, initial equipment layout, MV cable routing initial design
- Equipment layout
- Cable tray design & cable routing
- Detail drawings

- Initial main equipment list
- Cost report
- Process information

P&ID

3D model

Electrical & Instrumentation

Unified Engineering
1D/2D/3D

Datasheets

Process & PFD

Mechanical

AVEVA

1D/2D common functionality

Datasheet, datasheet list, list management

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The "Office 365" of engineering and design solutions

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Unified Engineering Evolution

Products

Suite

Hybrid

Unified Engineering Evolution

Products

1D
2D
3D

Suite

Unified Engineering (a la carte)

1D
2D
3D

UEoC (VM)

1D
2D
3D

Hybrid

P&ID

3D model

Electrical & Instrumentation

Unified Engineering 1D/2D/3D

Datasheets

Mechanical

Process & PFD

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AVEVA Unified Engineering

Central Project Data
(Multi-tenant, multi-project)

Spectrum Data Service

Connect a cloud region to enable browser access to the project data

Connect multiple sites to the project data

Transition between desktop and browser access to the project data and maintain user identity/access rights/credit consumption

AVEVA Unified Engineering: Communities
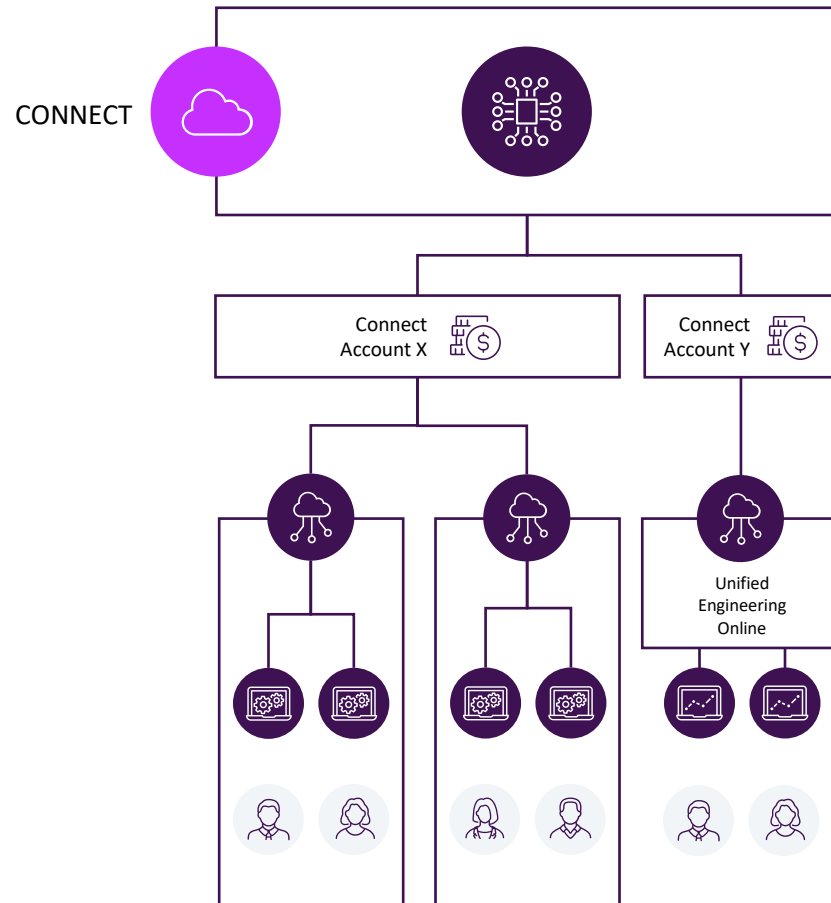
- 'Communities' (multiple accounts)
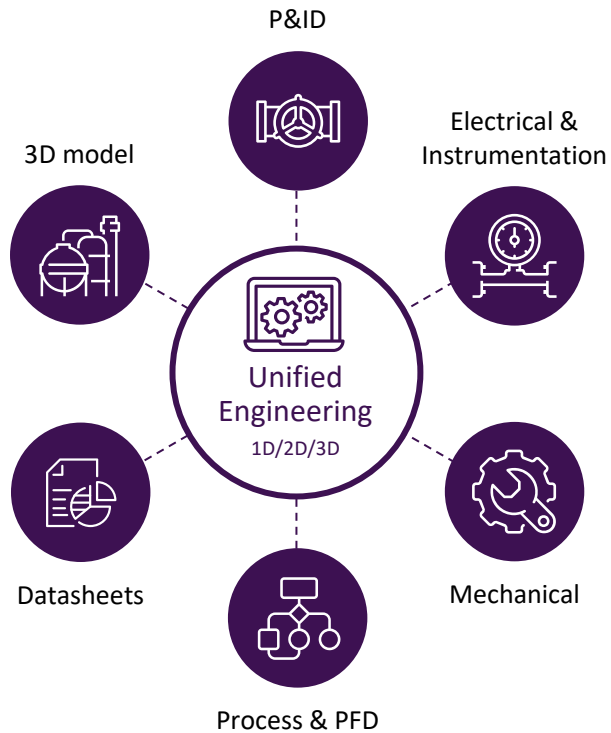- AVEVA E3D and AVEVA Engineering

- Manage **own** Flex credits
- 'Bring your own license'

- Granular permission and access control
- Managed via communities

- 'Online' SaaS delivery

- Manage **own** users
- Bring your own customization

CONNECT

Connect Account X

Connect Account Y

Unified Engineering Online

AVEVA Unified Engineering

Unified Engineering 1D/2D/3D

- P&ID
- Electrical & Instrumentation
- Mechanical
- Process & PFD
- Datasheets
- 3D model

On-premises

All On-Premise

Software and data fully hosted by customer

Hybrid

Hybrid Cloud

Software installed on-prem, project data in the cloud using the Spectrum data service

Online

Online

All applications are accessible via online access. Fully Hosted SaaS.

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AVEVA UNIFIED ENGINEERING

Business Value

AVEVA

Business value

Reduce time to value

Out-of-the box content and reference projects to simplify configuration and drive reduction in time to value

Streamline collaboration

Enable engineers to complete deliverables faster, and with greater transparency and maturity to deliver projects on time and on budget

Reduce cost, risk and delays

Minimize engineering errors and accelerate project execution to deliver:

50% faster FEED stage

40% increase in engineering efficiency

5% reduction in TIC

Maximize margins

Reduce cost throughout capital projects while improving the quality and reliability of engineering deliverables

AV∃VA

AVEVA UNIFIED ENGINEERING

Roadmaps

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Unified Engineering Roadmap

Version 3.0 – Q4 2024

On-premises

All On-Premise

Software and data fully hosted by customer

Hybrid

Hybrid Cloud

Software installed on-prem, project data in the cloud using the Spectrum data service

- Full 1D/2D/3D capability
- Communities phase 1
- Deployable on-premise or hybrid

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Unified Engineering Roadmap

Version 4.0 – Q3 2025

On-premises

All On-Premise

Software and data fully hosted by customer

Hybrid

Hybrid Cloud

Software installed on-prem, project data in the cloud using the Spectrum data service

Online

Online

All applications are accessible via online access. Fully Hosted SaaS.

- Communities phase 2
- Additional regional availability throughout 2025
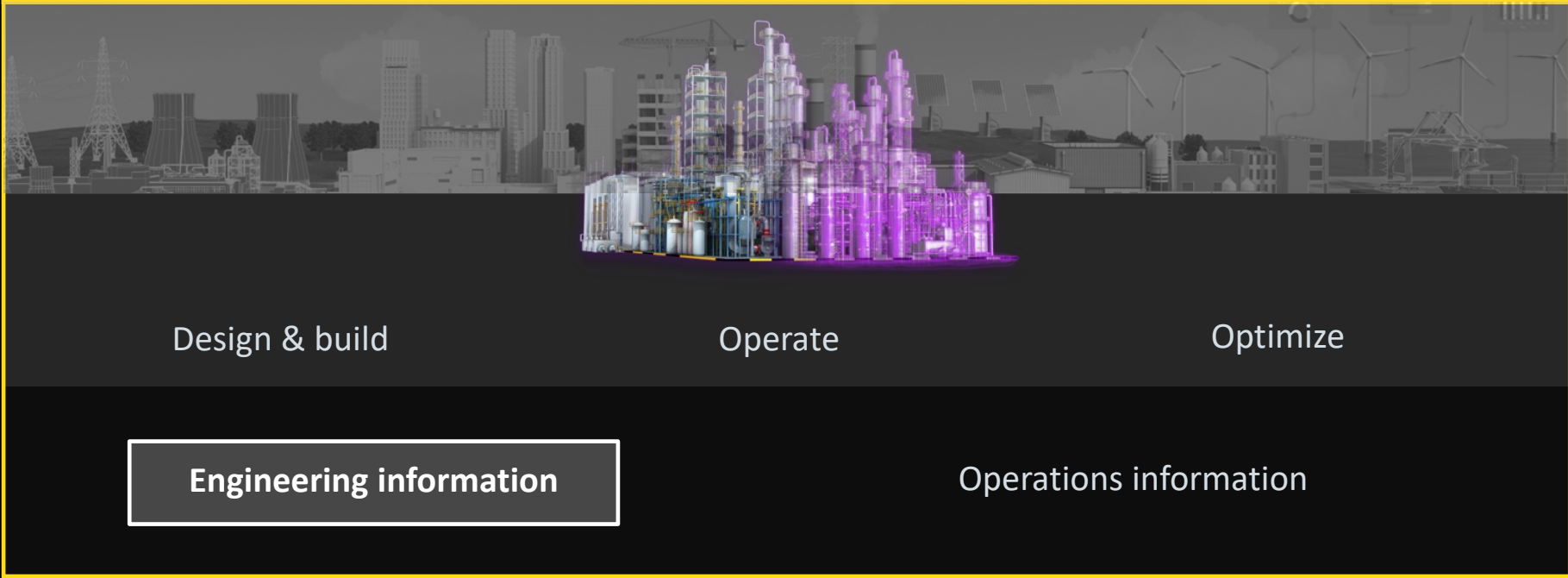- Online (streamed) access

AVEVA

TRUSTED INTELLIGENCE   **ACTIONABLE INSIGHT**   **UNIFIED EXPERIENCE**   **EMPOWERED ECOSYSTEM**

CONNECT

Seamless experience

Applications and analytics

Information

Partners

Design & build   Operate   Optimize

Engineering information   Operations information

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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.

And please visit us on the Digital Twin booth in the Innovation Zone to learn more and see a demo...

Thank you!

AVEVA

Recommended Sessions

Técnicas Reunidas Journey to SAAS

Técnicas Reunidas

Tuesday, October 15 @ 3:15 pm

WACKER Chemie AG increases efficiency with cloud-hosted engineering environment

WACKER Chemie AG

Wednesday, October 16 @ 9:45 pm

Connecting design stages through the 3D Model - from Basic to Execution with AVEVA E3D

Petrobras

Wednesday, October 16 @ 11:30 am

AVEVA's Engineering Portfolio Panel Discussion

AVEVA, Wood, Petronas, Caliqua AG

Wednesday, October 16 @ 5:00 pm

Capital project synergy: EPCs and OOs in the energy transition

Engineering Roundtable Discussion

Thursday, October 17 @10 am

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.

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linkedin.com/company/aveva

@avevagroup

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

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