

MAY 17, 2022

Engineering & Design: Accelerating Integration

Julien de Beer – Vice President, Engineering & Design Business

AVEVA



Delivering the Digital Twin

“

Few technology areas will have greater potential to improve the financial performance and position of a commercial global enterprise than Digital Twin.”

Gartner

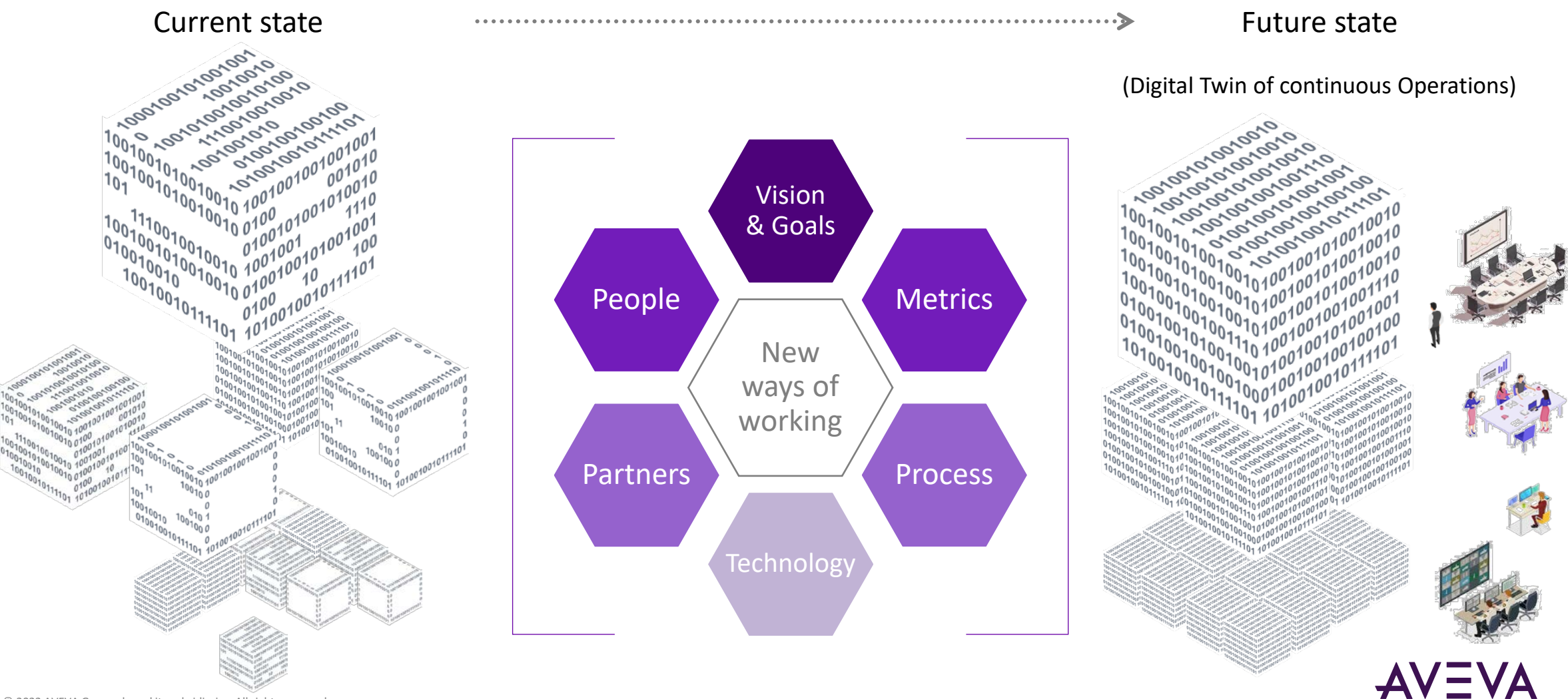
“

Digital Twin market is forecast to USD \$26.8 billion by 2025, showing a compound annual growth rate (CAGR) of 38%”

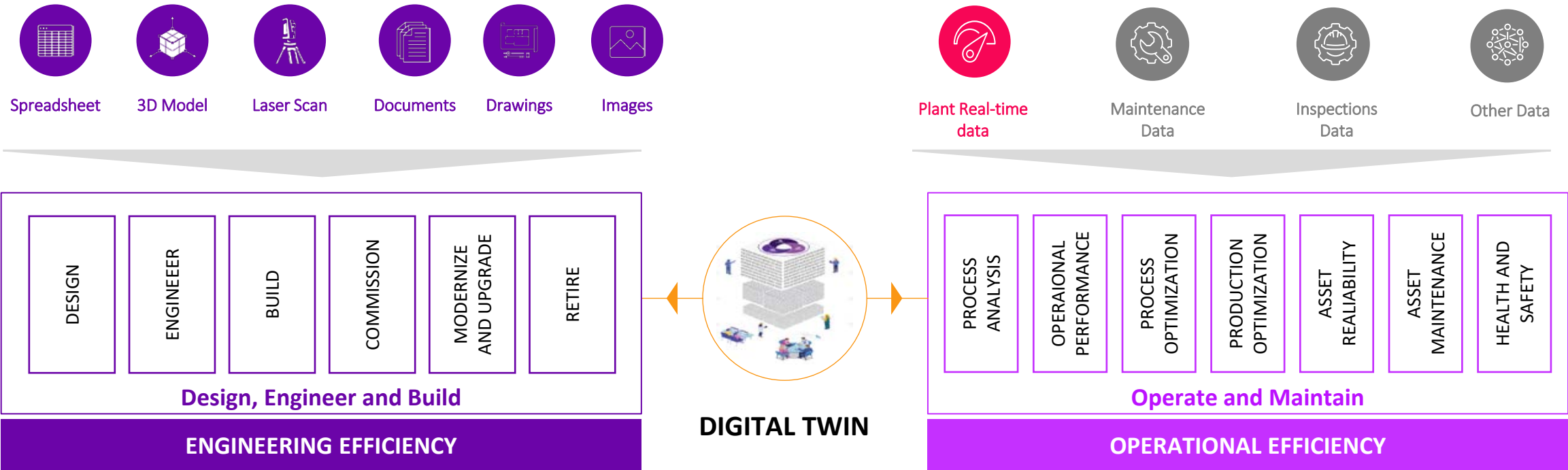
Bloomberg

Digital Transformation for the Plant of the Future

Why Digital Twins should be about a new world of work



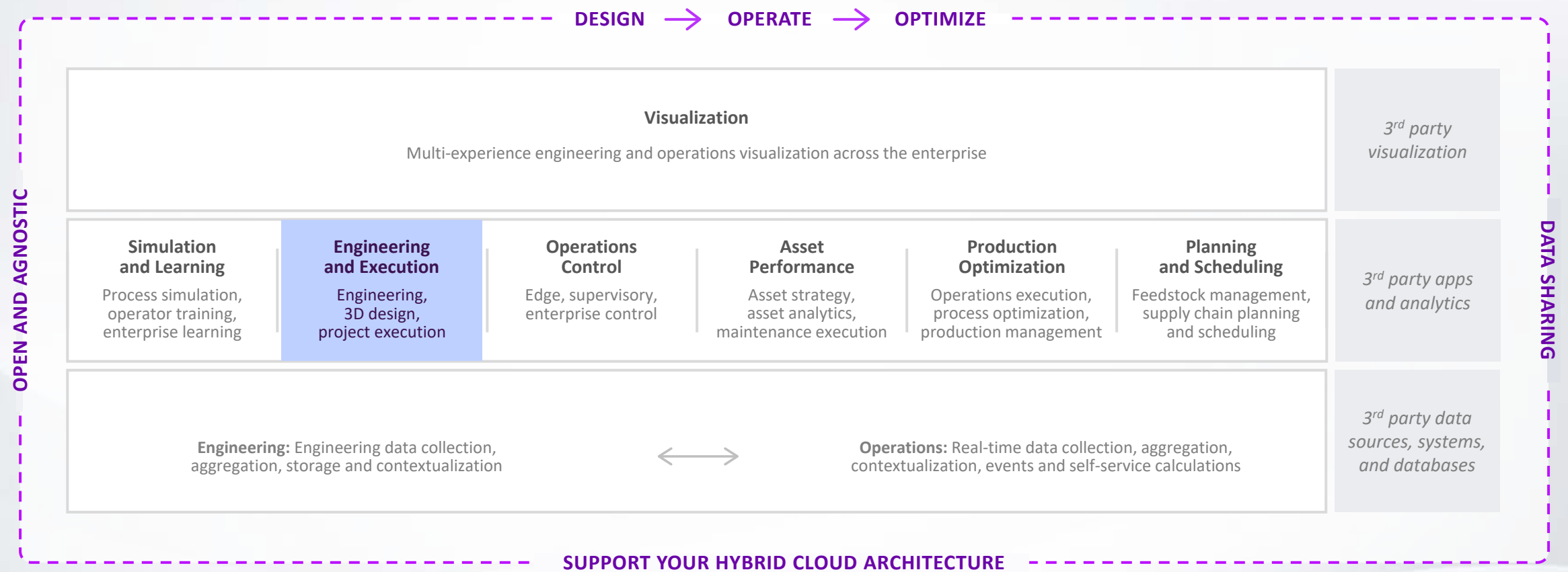
Creating a digital thread that enables information mastery across the asset lifecycle for faster and trusted decision making



Industrial Information Integrity (Enterprise-wide governance for compliance, consistency and completeness)

Delivering a complete digital thread, purpose-built for industry

Accelerate time to value with flexible, scalable, and trusted industrial hybrid SaaS solutions



The Engineering facet of the Digital Twin – Four Paths

Balancing efficiency & sustainability across projects and operations



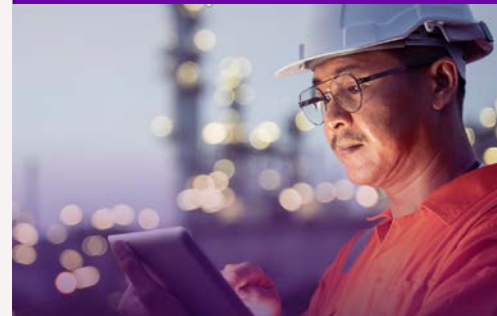
1. Engineer sustainable, digital greenfield plants



2. Execute efficient, digital capital projects



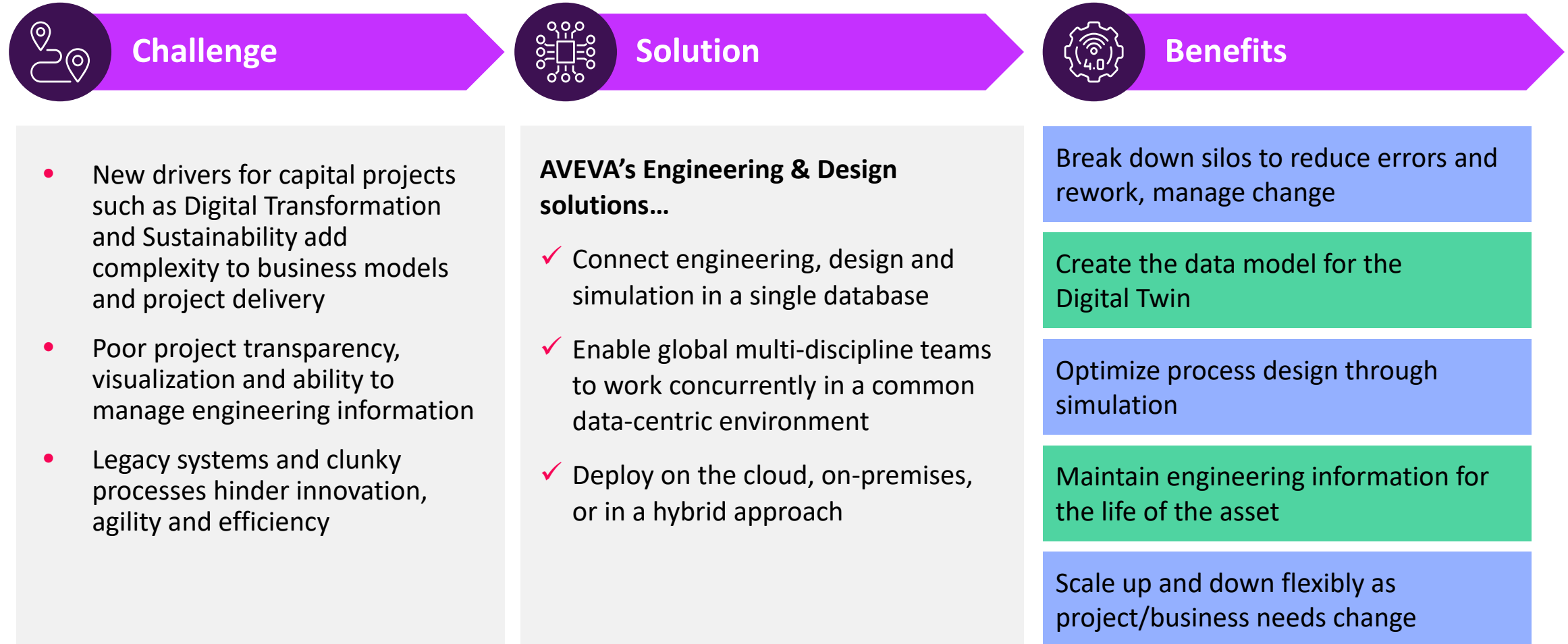
3. Transform brownfield plants to connected, digital facilities



4. Maintain your digital twin to operate safely and sustainably

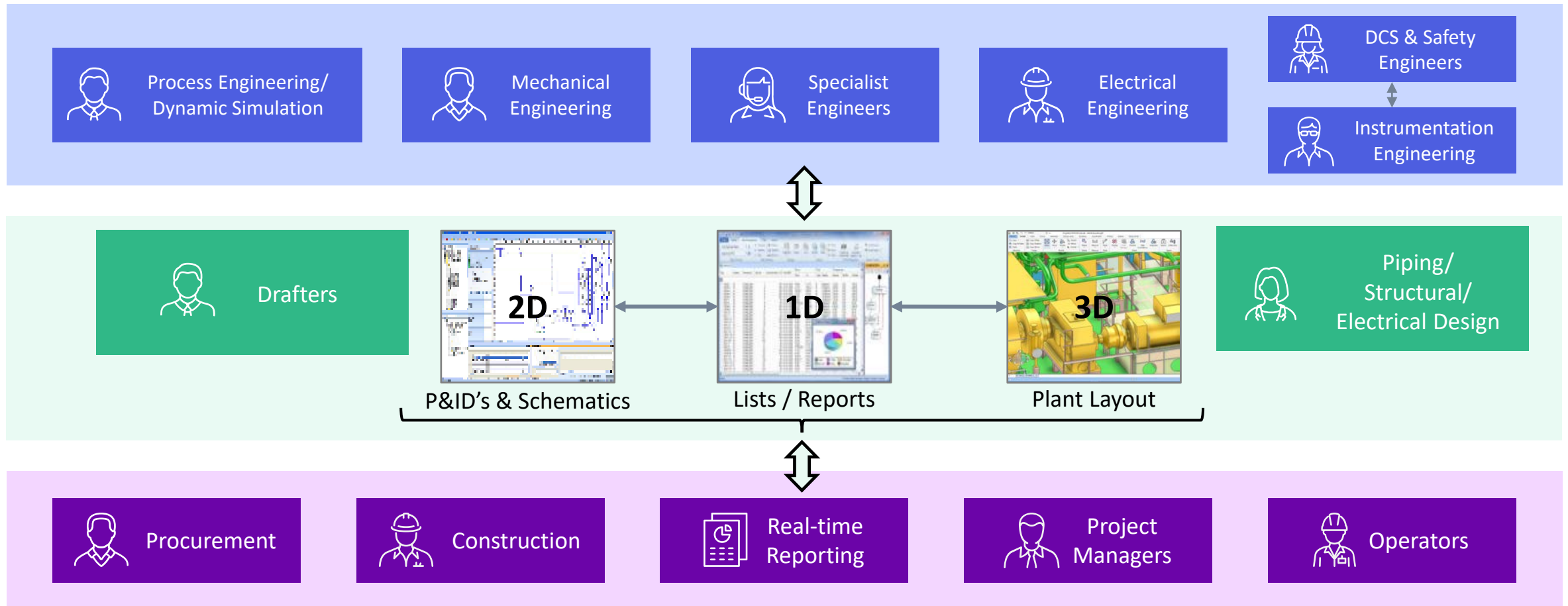


AVEVA Engineering & Design



AVEVA Unified Engineering

1D, 2D, 3D multi-discipline engineering and design in a single, common database



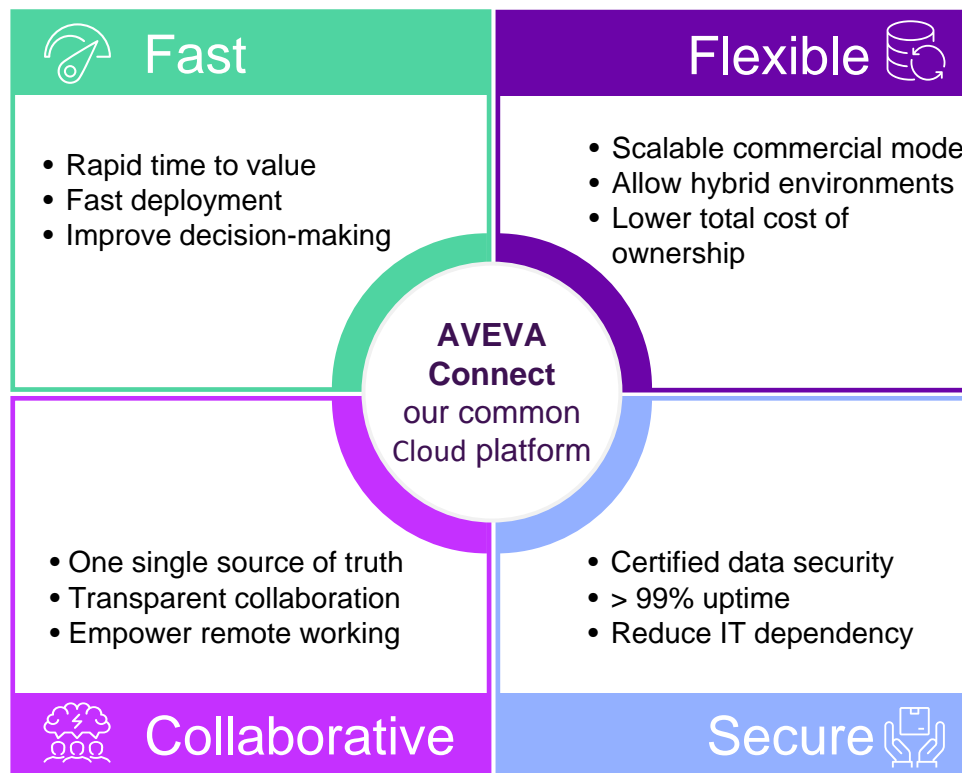
Digital acceleration with AVEVA software in the Cloud

Drive business resiliency and sustainability. Transform faster, reduce costs and easily scale.

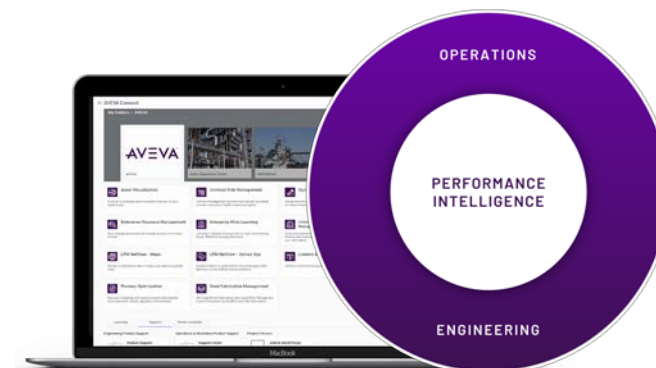
5,000+
Cloud customers globally

110,000+
unique user sessions per week

>20%
efficiency gain by moving to Cloud



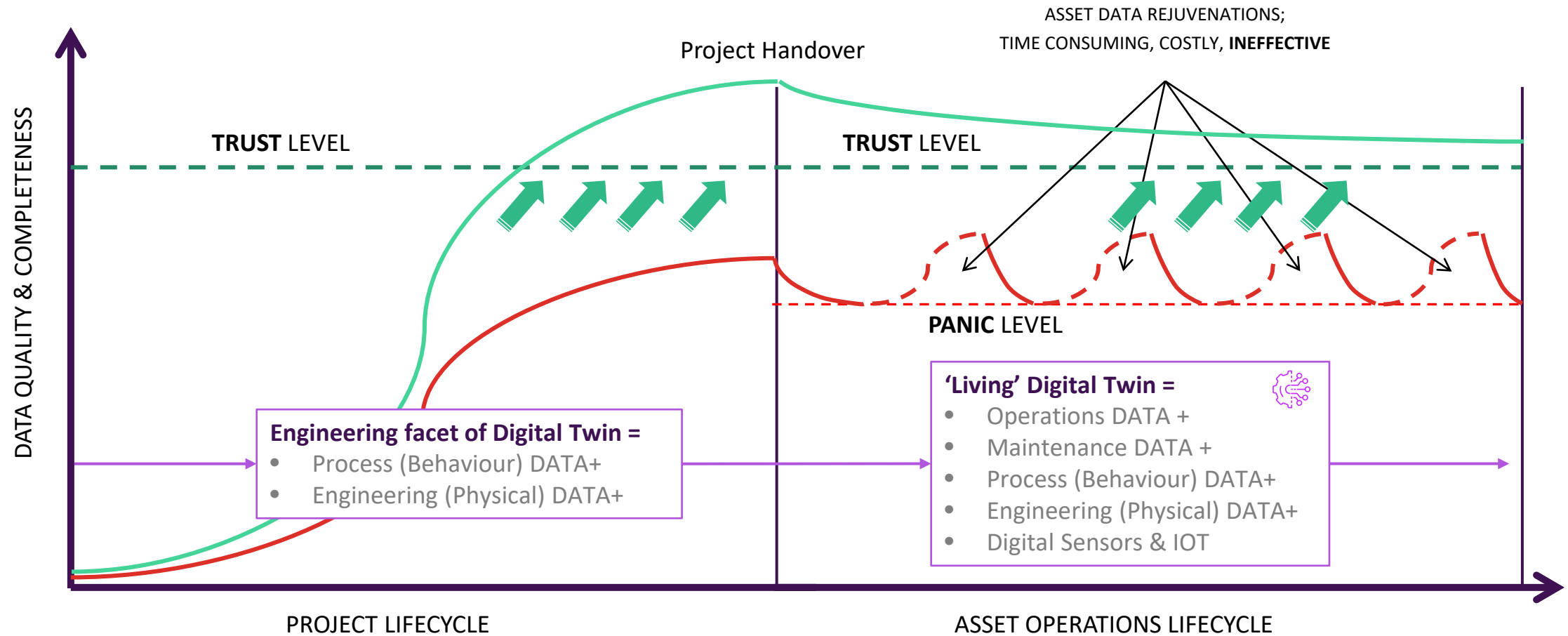
The broadest and deepest industrial software with seamless collaboration in a single out-of-the-box Cloud hub



Proven technology and expertise helps **reduce time to value** and **improve business agility**

AVEVA's Digital Twin solution is built on a low-carbon cloud platform, leveraging [Azure](#) and [AWS](#)

Delivering the Digital Twin: Unified Data from CAPEX into OPEX



Proven Business Outcomes (\$)



FRONT END ENGINEERING AND DESIGN

50% faster Front-End Engineering and Design (FEED) stage – **Large IOC**

More qualitative information available earlier, enabling earlier and better-informed Final Investment Decision



ENGINEERING EFFICIENCY

Improved engineering efficiency by **30%** thanks to the **unique** unified solution for Engineering & Design – **Large IOC**

25% reduction in engineering hours (\$135M) – **BP Angola**



TOTAL COST OF OWNERSHIP

Significant performance improvements leading to **15%** Total Cost of Ownership (TIC) reduction – **Southern Company**



PROJECT EXECUTION

Reduced Capital Project Costs by **10-15%**. – **Evonik**

30,000+ daily users of Engineering & Design software



Global chemicals leader is using AVEVA's cloud-based EPC 4.0 engineering solutions to build a state-of-the-art chemical plant in the US, using our portfolio for every stage of this CAPEX project

Cloud-based solution enabled progress throughout pandemic, to stay a year ahead of the competition to supply the US market with more environmentally-friendly chemical products

Subscription deal gives Rohm expanded access to our portfolio

Follow-on multi-million business for Unified Learning for Workforce Enablement

FORTESCUE
FUTURE
INDUSTRIES



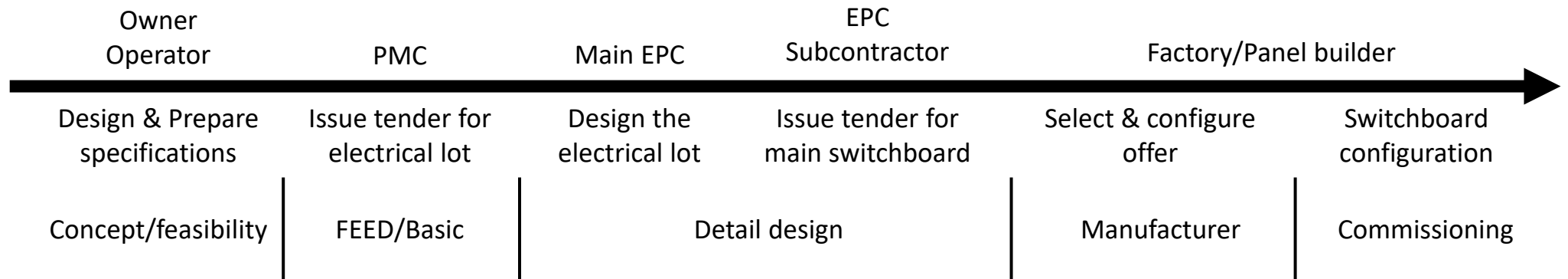
FFI selected AVEVA's Unified Engineering, Enterprise Resource Management and Asset Information Management solutions to design their new hydrogen project as a platform blueprint, with first installations planned for Queensland, Australia. FFI is already working with global EPCs to incorporate FFI Standards as designated engineering design activities on the platform.

By using AVEVA's Unified Engineering software in green hydrogen plant design, FFI's teams can optimize operational design using the in-built templating function.

AVEVA E3D Design provides visualization tools that increase efficiency, improve collaboration and drive sustainability throughout the materials and design process, helping to lay the foundations of the digital twin and drive to successful project execution.



Partnerships in Engineering



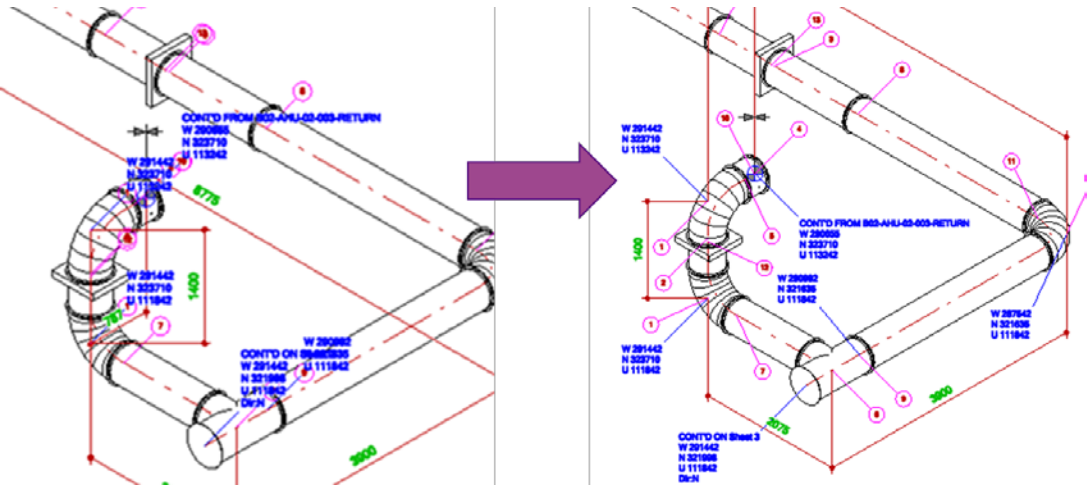
etap

AVEVA

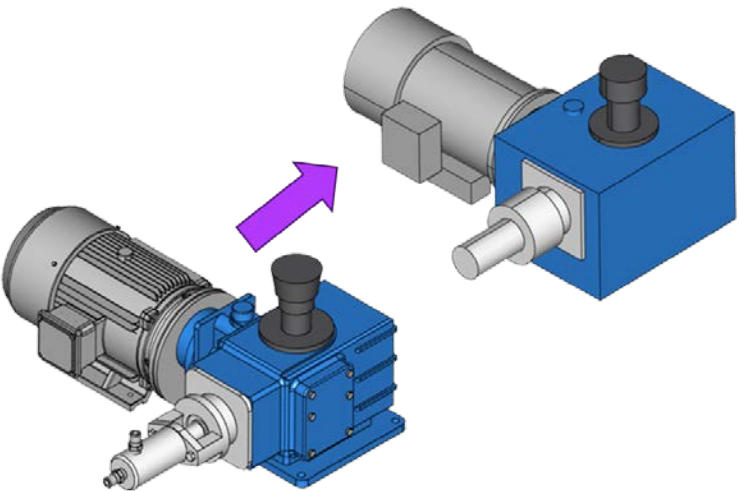
IGE+XAO
GROUP

- Digital Continuity → From Engineering to Operations
- Under-optimized Power System increases budget and footprint by **+20%**
- Manpower, maintenance and energy cost constitute **~50%** of total cost

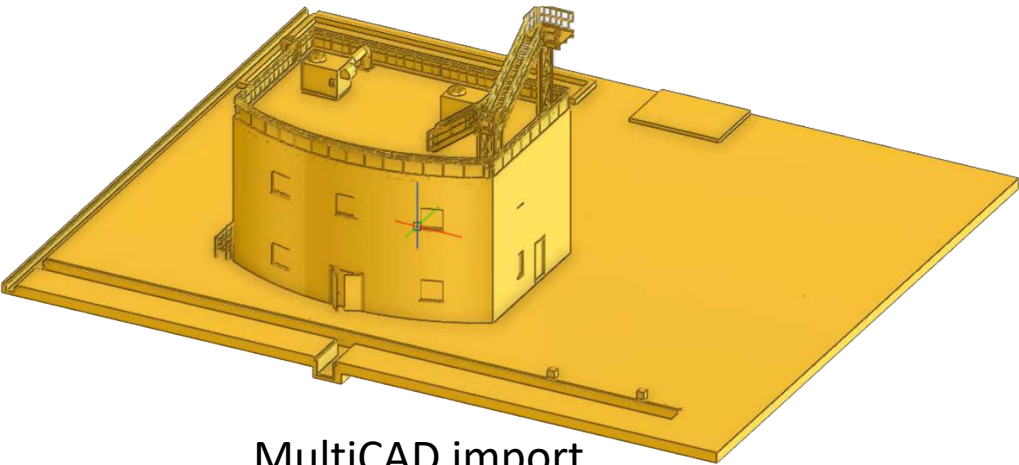
Partnerships in Design



Whitespace Optimizer



Model Simplification



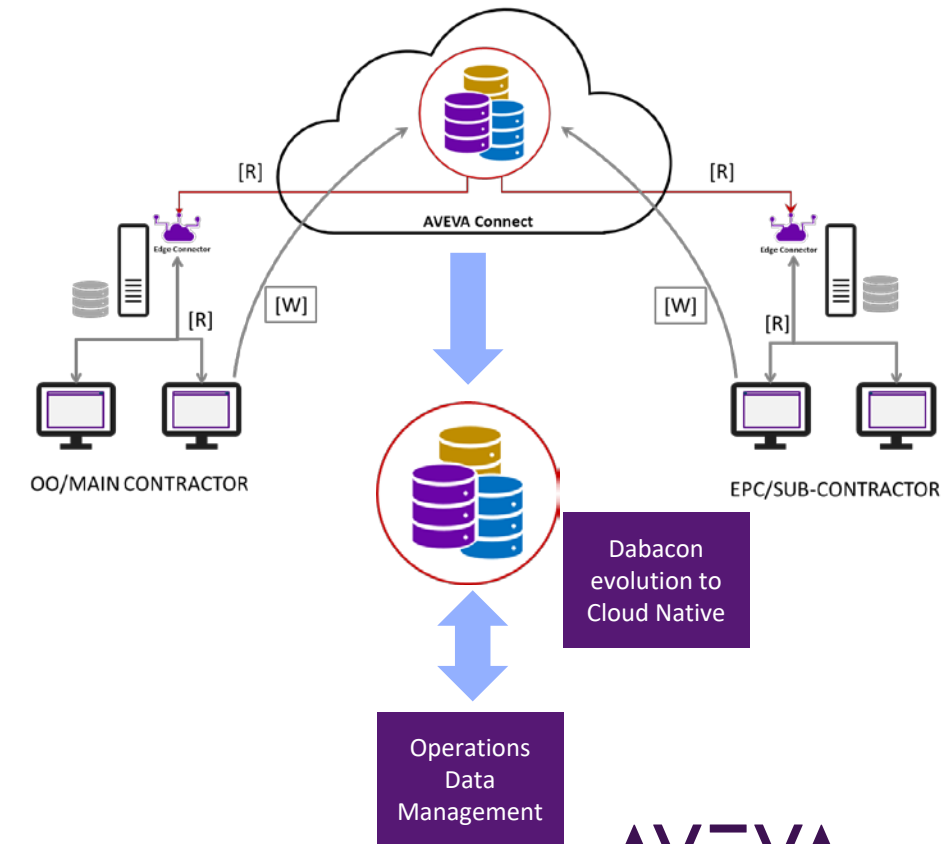
MultiCAD import



CADENAS library integration

AVEVA Unified Engineering Roadmap

- All Authoring Solutions on Dabacon
 - Electrical and Instrumentation
 - Next Generation P&ID
- Cloud UE Enhancements / Connect Evolution
 - Appstream vs AWS Workspaces – Enable Cloud UE Option in greater number of Regions and supporting Data Residency in countries
- Integration Enhancements
 - Secure File Share
 - AVEVA Engineering Integration Service (AEIS) Evolution of Data source to Data Source
 - REST API for applications & Corporate standardized Integration Central Cloud Data Management (Spectrum) – AVEVA E3D Design (Q1 2023)
- Hybrid Common Cloud Offer for Multi-site, Multi-region, Multi-organizations
 - 3D only Q2 2023
 - Adding 1D/2D/3D Q4 2023
 - Merge with Cloud Browser access Q21 2024
- Dabacon Evolution – Core Tech evolution to Cloud Native



Engineering must see

Day 3 Presentation

Improve efficiency by utilizing
AI/ML in AVEVA E3D Design
- Brett Parker

Day 3 Presentation

Integrating E3D and ERM: Cats
& Specs & Advanced Work
Packaging
- Barry Holton

Day 3 Presentation

Maximize the Value of 3D Point
Cloud Data with an integrated
Information Management &
Engineering Solution in the
Cloud
- Andy Davidson

Recent Virtual Conference

Future Digital Twin conference
(30/31 March 2022 - virtual)

Engineering the Plant of the
Future
- Julien de Beer

Visit the Engineering Booth

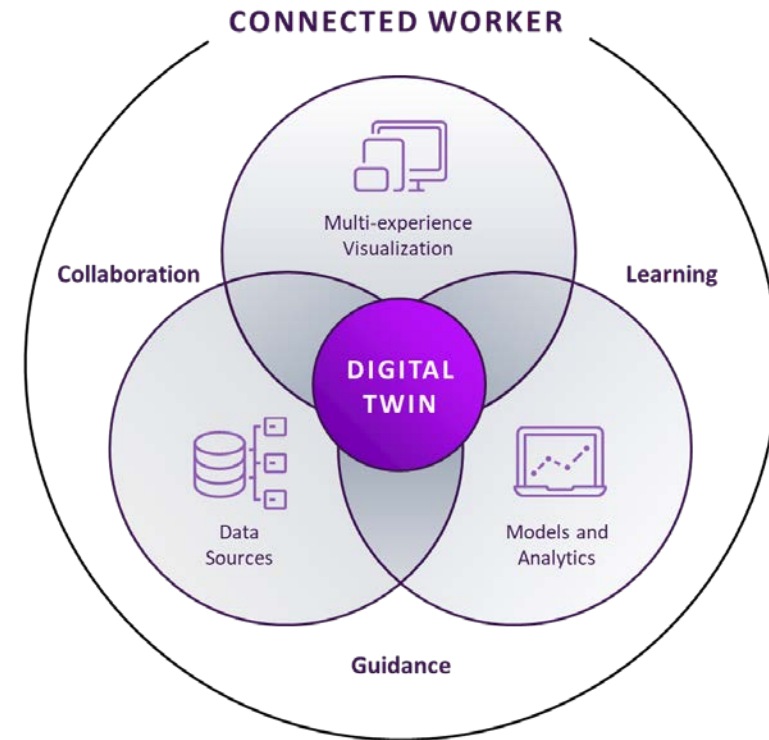


Wrapping Up



Digital Twin =
Unlimited
Potential

- **Digital twins** go way beyond a 3D model
- Put **data at the heart** of everything you do; it will give you **unlimited insights**
- Your Industrial Assets are on a Journey: the **next stop is AI**
- AVEVA's Engineering & Design solutions help you improve the **FEED stage to be 50% faster** and **increase engineering efficiency by 30%**
- AVEVA can be your partner in building the right set of solutions to bring your Digital Twin to life.



Thank You

Contact for more information:


julien.debeer@aveva.com


LinkedIn:



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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 [@avevagroup](https://twitter.com/avevagroup)

ABOUT AVEVA

AVEVA is a global leader in industrial software, driving digital transformation and sustainability. By connecting the power of information and artificial intelligence with human insight, AVEVA enables teams to use their data to unlock new value. We call this Performance Intelligence. AVEVA's comprehensive portfolio enables more than 20,000 industrial enterprises to engineer smarter, operate better and drive sustainable efficiency. AVEVA supports customers through a trusted ecosystem that includes 5,500 partners and 5,700 certified developers around the world. The company is headquartered in Cambridge, UK, with over 6,500 employees and 90 offices in over 40 countries.

Learn more at www.aveva.com