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# Digital Twin Evolution in KBR

Keith Tallent

**AVEVA**



## Who We Are

We are powering progress throughout the world, helping our clients with their most complex projects and programs. No matter the mission, no matter the environment, we deliver

### A Century of Innovation

KBR's history is built on the pioneers that set the standard across a variety of industries. Today, we continue that legacy by developing groundbreaking solutions for government and industry clients.

### Our Foundation

#### M.W. Kellogg

In 1901, Morris Woodruff Kellogg opened M.W. Kellogg as a tiny pipe fabrication business in New York and grew it into a world-class engineering firm. Kellogg's engineering expertise and thirst for innovation led to the creation of new technologies and industry milestones, including the world's first catalytic cracking facility and Europe's first crude oil-based liquid ethylene cracking facility. In the 1960s, Kellogg revolutionized fertilizer production through the creation of a new ammonia process, making a rapid growth in global food production possible. Many of the innovations that originated in the Kellogg laboratory provided the foundation for the petroleum refining and petrochemical processing facilities and remain an important part of KBR today.

#### Brown & Root®

Brown & Root Engineering and Construction began operations in 1919 when brothers George and Herman Brown partnered with Herman's brother-in-law, Dan Root, to create a Texas-based construction company. Brown and Root began building roads but quickly expanded into other areas. After the end of World War II, Brown & Root set its sights offshore. In 1947, the company achieved a global milestone when it constructed the first offshore oil platform 43 miles off the coast of Morgan City, LA.

#### Kellogg Brown & Root®

KBR was created in 1998 when M.W. Kellogg merged with Brown & Root Engineering and Construction creating one of the world's premiere engineering, procurement, construction (EPC) and services companies. In 2006, the company separated from Halliburton and completed a successful initial public offering on the New York Stock Exchange. And through acquisitions – including Ecoplanning, Energo, Granherne, GVA, HTSI, PLINKE, SGT, Weatherly, Wyle, Centauri and more – we've grown to provide comprehensive science, technology, and engineering solutions for a wide range of markets, from aerospace and defense to industrial to intelligence and beyond.

### Our Future

KBR is always growing and evolving. As global demands change and markets transform, we'll be at the forefront, leading the way with innovative solutions and services that will solve tomorrow's challenges and define progress for years to come.

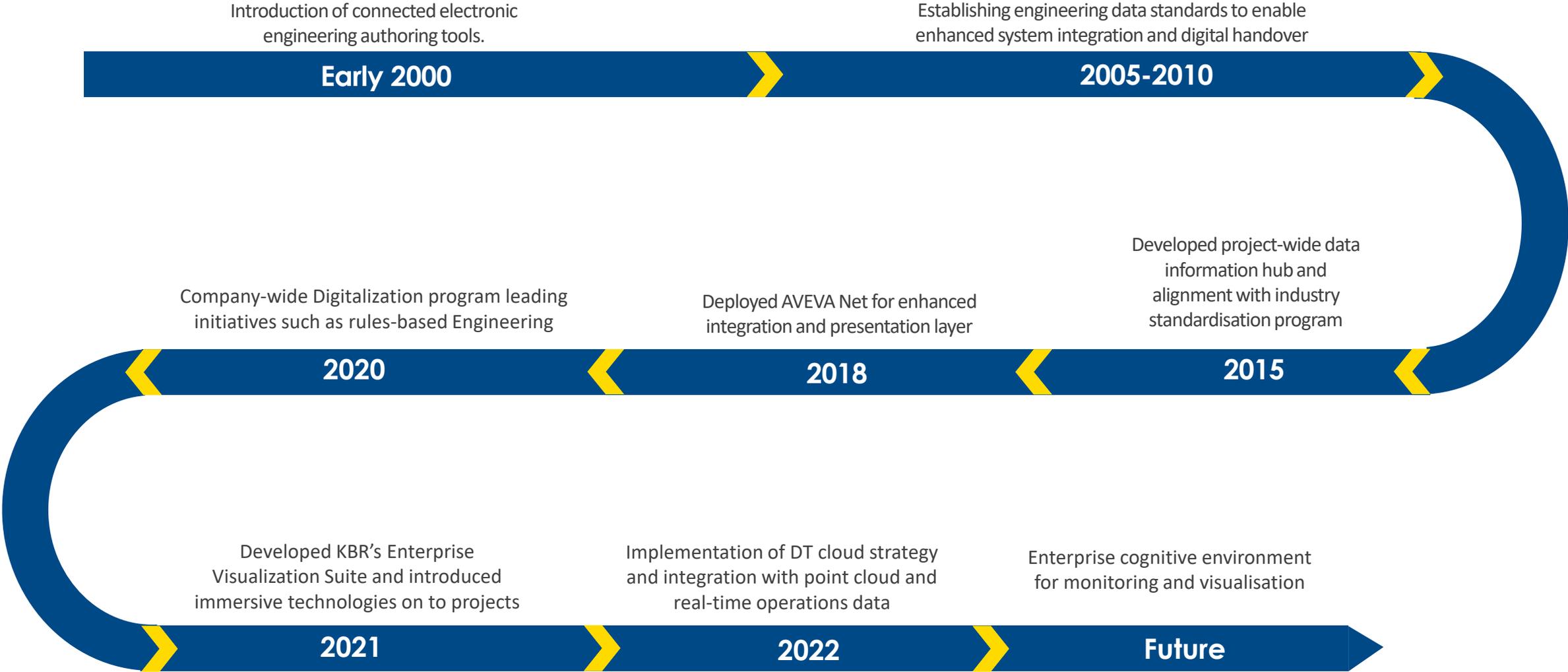


## What We Do

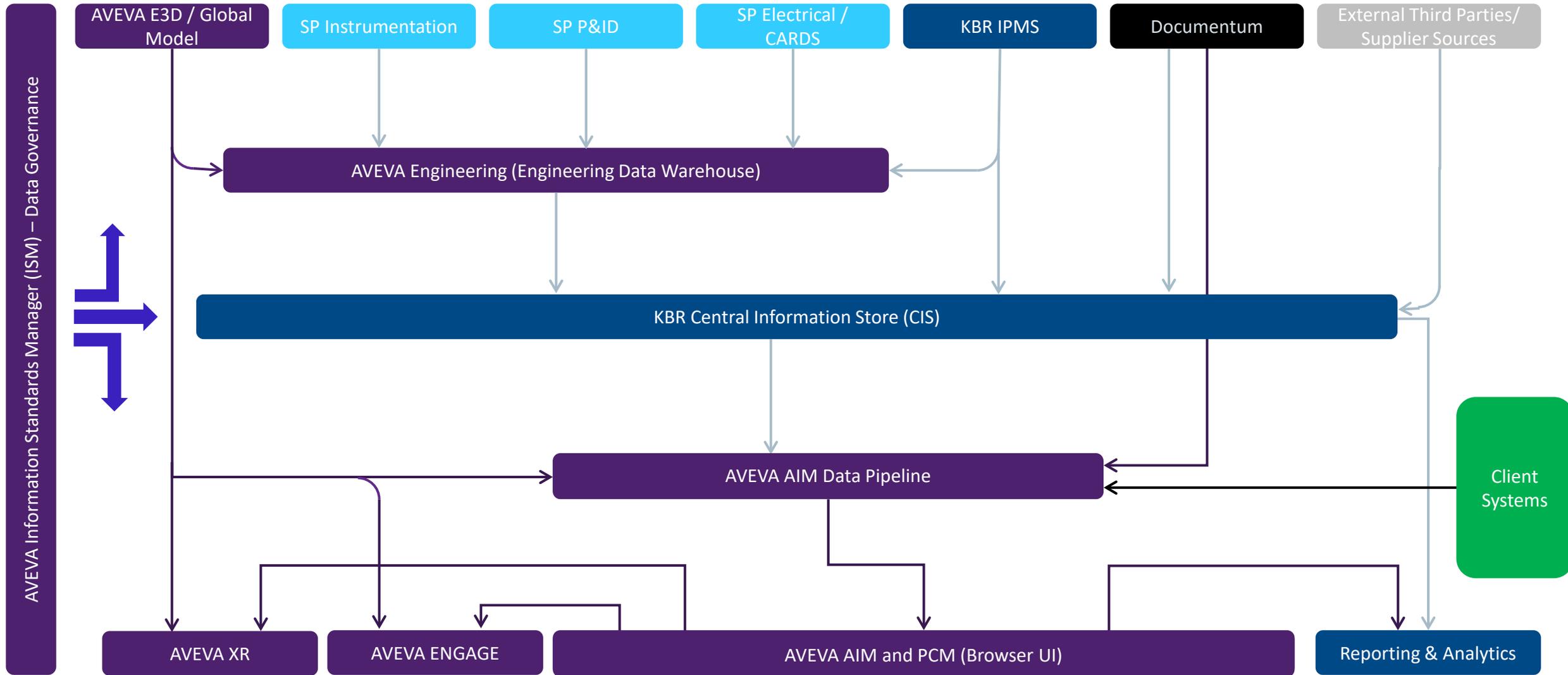
We deliver science, technology and engineering solutions to governments and companies around the world



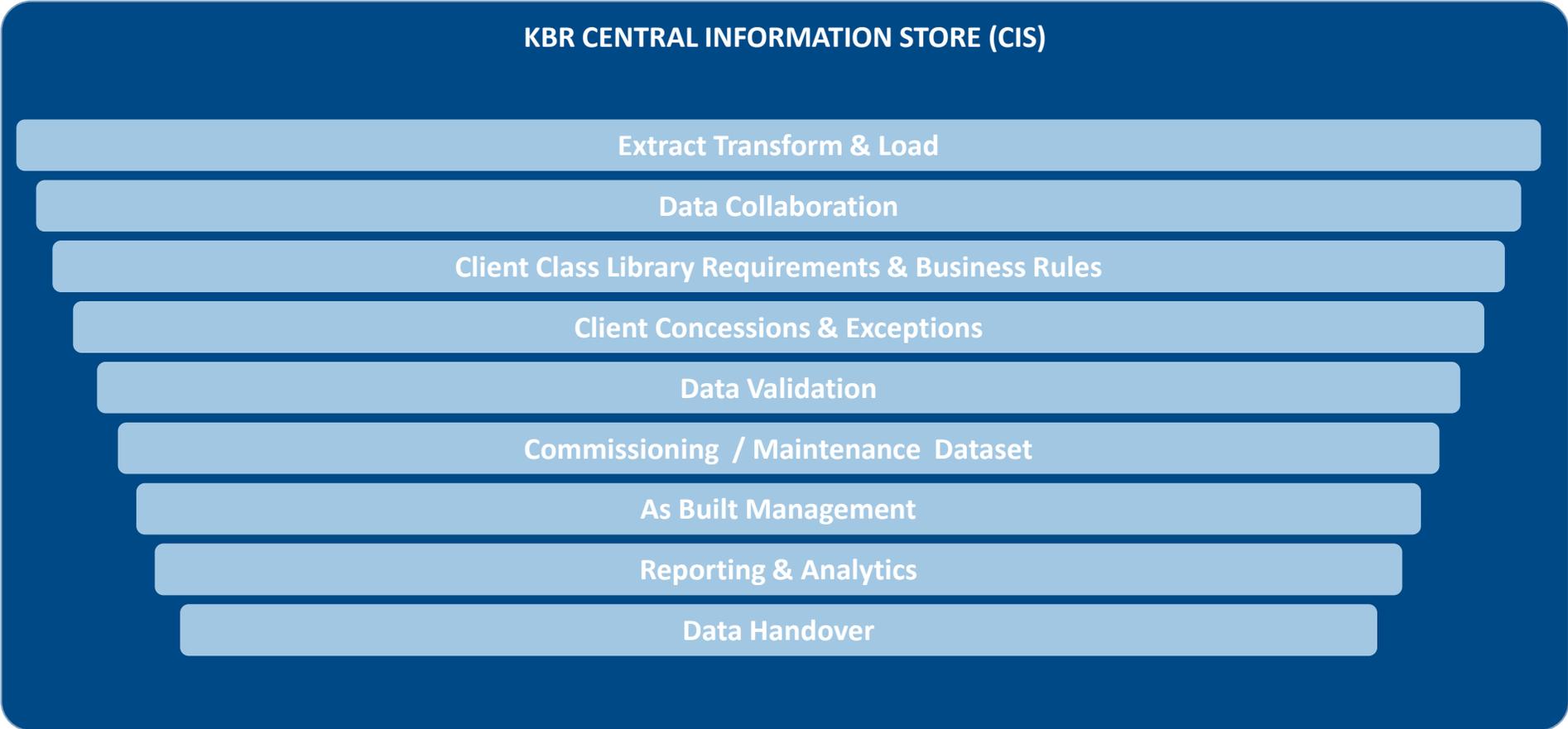
# Our Journey



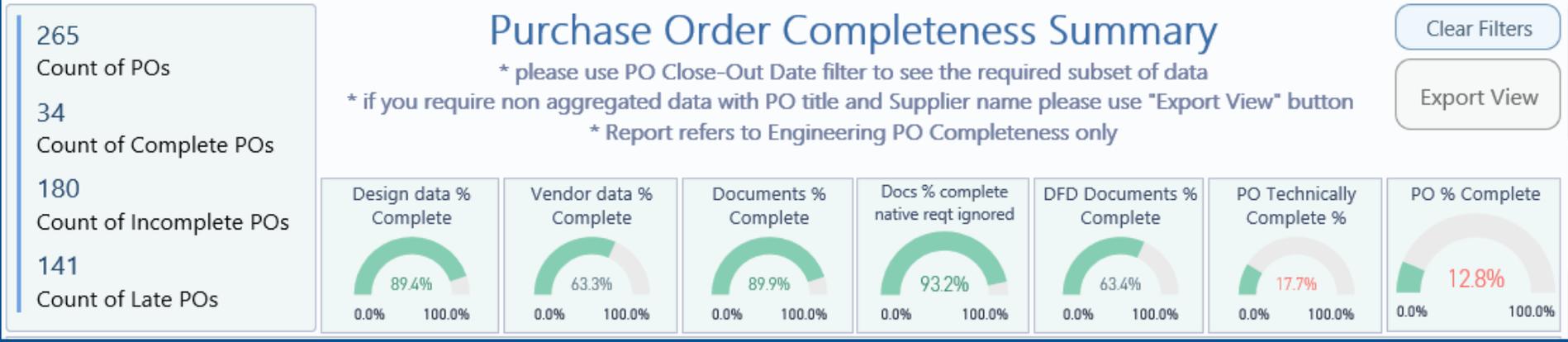
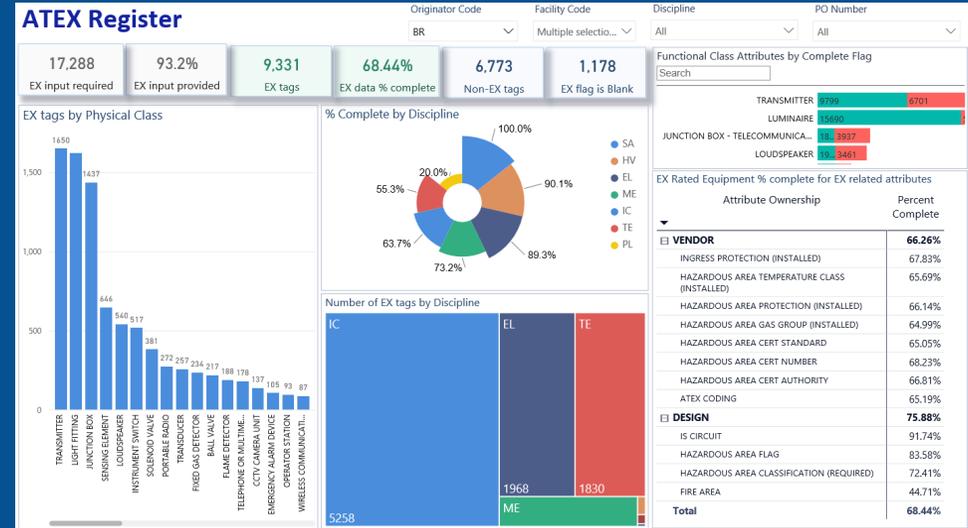
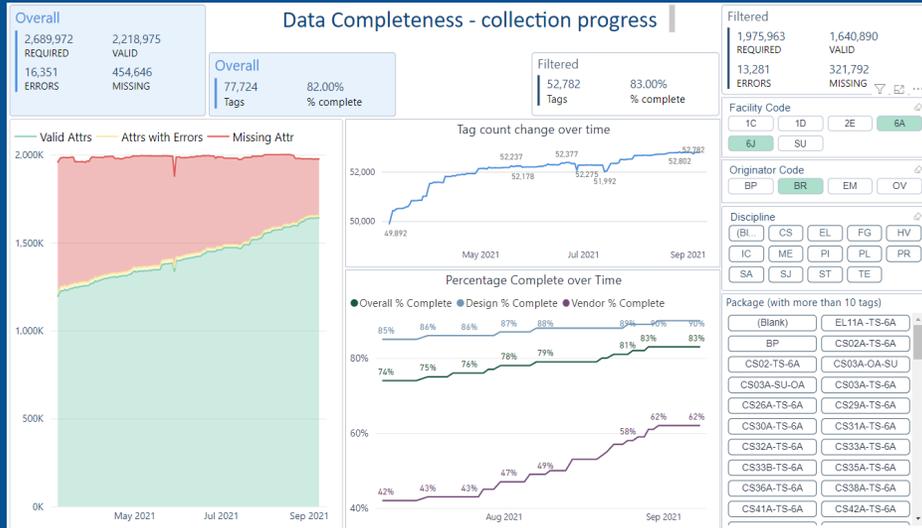
# Engineering Digital Twin – AIM-A on Cloud



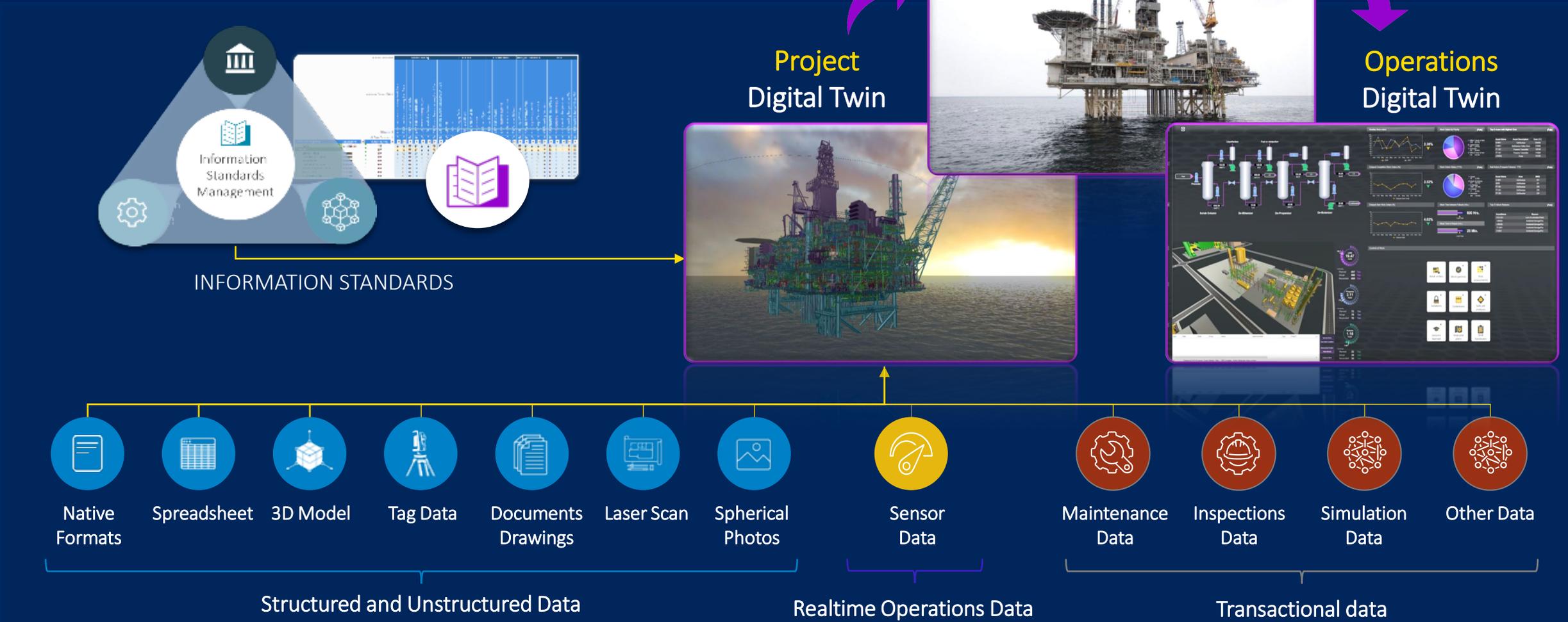
# What is KBR CIS



# Example of CIS Enhanced Data Analysis and Reporting



# The bp ACE O&M Digital Twin

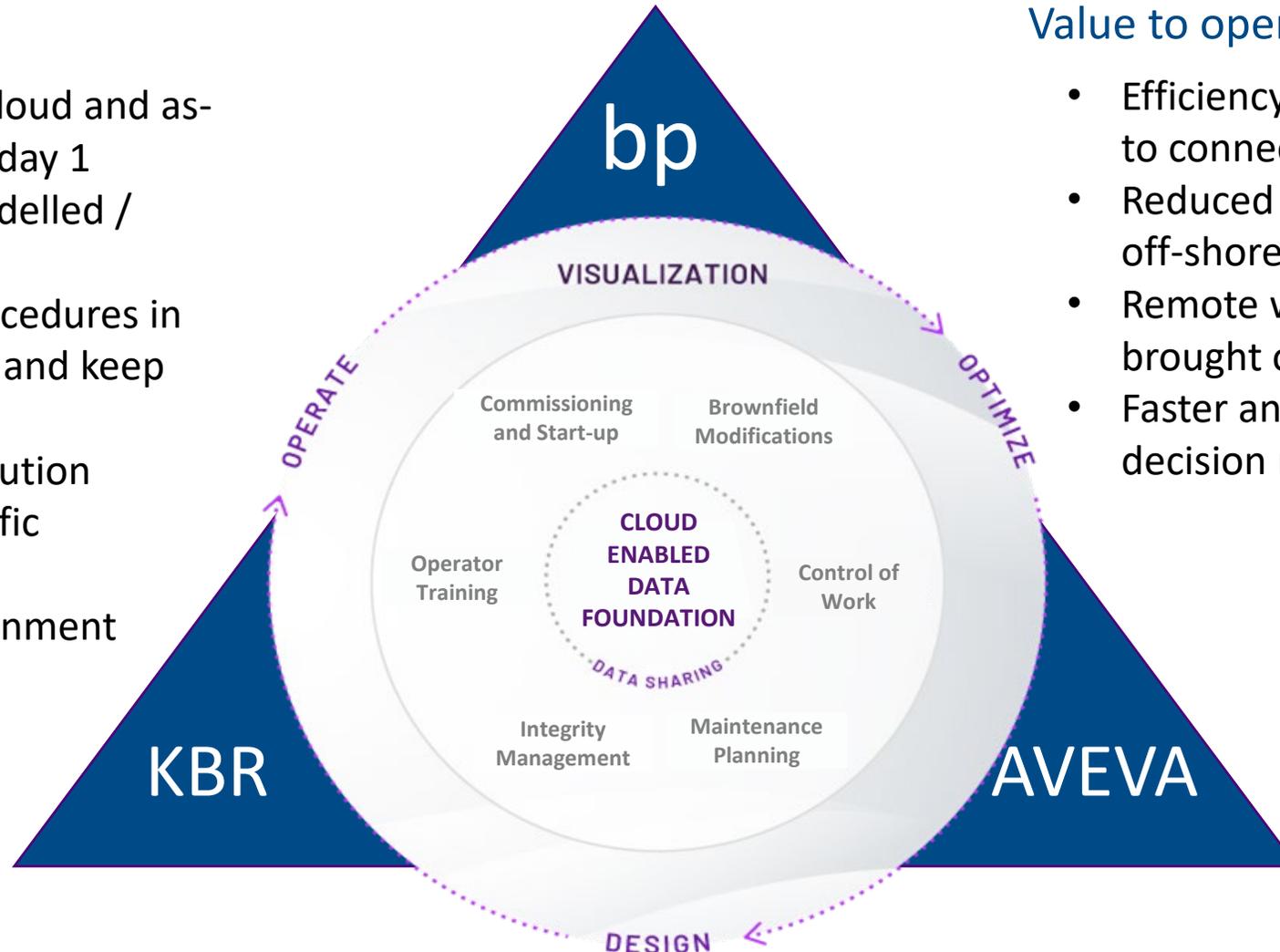


All in a single connected environment accessed via a standard web browser

# The bp ACE O&M Digital Twin

## Key Features

- Trusted living point cloud and as-built 3D model from day 1
- Vendor packages modelled / scanned
- Organisation and Procedures in place to update data and keep models current
- Cloud based SaaS solution
- Not locked into specific technologies
- Single Sign On environment



## Value to operations and maintenance

- Efficiency gains from rapid access to connected information
- Reduced cost due to fewer trips off-shore
- Remote working, offshore jobs brought onshore
- Faster and better informed decision making

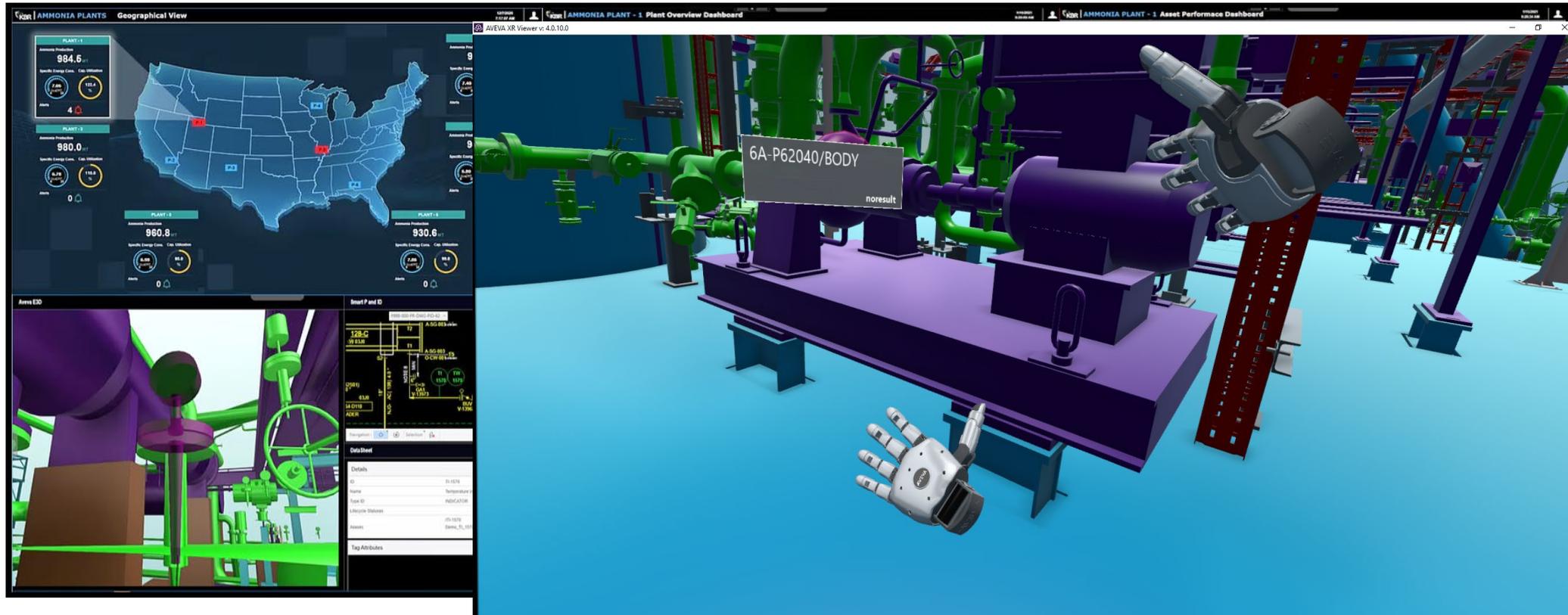
# Azeri Central East Digital Twin



# The Future...

Continue expanding the O&M Digital Twin environment using KBR Enterprise Visualization Suite which is based on the AVEVA Unified Operations Center to offer Enterprise level cognitive environment for operations monitoring and visualisation.

Expanding the Digital Twin into the realm of emerging immersive technology via AVEVA XR to give a further extension to visualization layer with connected data and documents and start the journey into the industrial metaverse.



# Digital Twin Evolution in KBR



## Challenge

- Deploying an easy to access and easy to use single connected environment that can display critical data and is extendable over a facilities life cycle



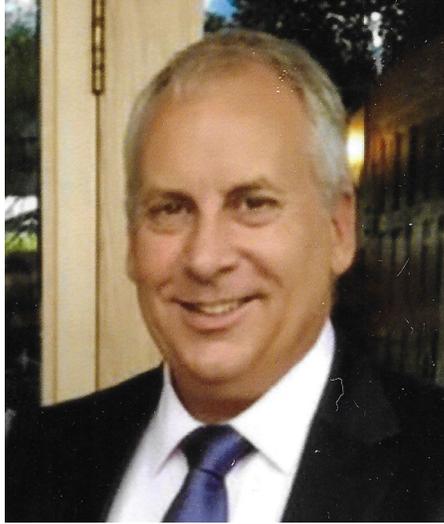
## Solution

- Deploying AVEVA AIM-A on cloud based on an established, proven and trusted data foundation data layer and workflows.



## Benefits

- Efficiency gains from rapid access to connected information
- Faster and better-informed decision making
- Increased automation of workflows
- Improved reporting and analytics
- Enhanced collaboration



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# Questions?

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State your name and company.



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#### ABOUT AVEVA

AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

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. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

Learn more at [www.aveva.com](https://www.aveva.com)