AVEVA™ Unified Engineering – Integrating design/build with operations/optimization for Power & Utilities

Mary Fernandez, Presales Technical Consultant
Agenda

- Design ➔ operate ➔ Optimize
- Digital twin
- AVEVA™ Point Cloud Manager
- AVEVA™ E3D Design
- AVEVA™ Asset Information Management
- Q&A
Delivering a complete digital thread, purpose-built for industry

Accelerate time to value with flexible, scalable, and trusted industrial hybrid SaaS solutions
Transform the way your teams work

Breaking down silos

- Engineering
- Operations
- Developer
- C-suite
Transform the way your teams work

Enabled by a **virtual representation** of your assets, processes and sites: The **digital twin**
Industrial information is at the heart of the living digital twin

Frictionless exchange of information fuels innovation and confidence
AVEVA Point Cloud Manager

Overview

• Trusted living point cloud, single source of truth for the as-built geometry
• Hardware-agnostic approach supports project needs by ensuring the right hardware is used for the right job
• Scalable, robust and reliable enterprise-wide or project-specific resource management
• Easy and flexible interface lets users display, enter and visualize complex information

Benefit areas

• Improve project quality
• Optimize materials availability, and minimize waste and surpluses
AVEVA Point Cloud Manager

AVEVA Point Cloud Manager on AVEVA Connect

- Point Cloud Manager Administration
- Point Cloud Resource Production
- Managed Cloud Storage

- Point Cloud Data Download
- Point Cloud Data Handover

AVEVA Digital Twin

AVEVA UE

3rd Party Design Tool Integrations

3rd Party URL Link

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40% reduction in the delivery time of structural drawings and global deployments are now set up in days, not months.

Challenges

• Compliance with industry, company, and project standards
• High cost of doing business in Australia
• Traditional surveying techniques can be slow and costly

“When we ran a trial of AVEVA E3D Design, we found that getting drawings out in this way would reduce the delivery time of structural drawings by 40%. That’s a lot. 40% saves a lot of money, especially if you’re looking at massive projects such as the Apache Energy project.”

Jim Wright
Design Team Lead, Atkins
AVEVA E3D Design

The most advanced and powerful 3D engineering design software, enabling clash free, multi-discipline collaboration on the cloud to maximize engineering and design efficiency.

• Rapid deployment and project start-up
• Increased design efficiency
• Easier regulatory compliance with automatic drawing production
• Breakdown disciplinary silos through clash-free design to avoid costly, unsustainable rework and on-site retrofits
• Integration of as-built laser scan data allows users to update and correct any non-compliant construction without the need to be on site
Features & capabilities

High level overview

• Efficient, intuitive usability
• Multi-discipline
• Inbuilt clash detection
• Laser data merged directly with model
  • Ability to demolish parts of the point cloud and represent laser in drawings
  • Maintain a living, up-to-date point cloud
• Drafting integrated with model
  • Quickly produce scale drawings
Needed fast, efficient, effective engineering & design tools capable of handling the complexities of large-scale nuclear projects

Extensive use of AVEVA engineering & design software for fast, efficient design

Improved productivity, quality & design consistency. Improved collaboration with partners. Easier monitoring of design status*

* Full presentation available on AVEVA YouTube site
AVEVA Asset Information Management

- Engineering efficiency and transparency
- Scalable using SaaS/hybrid architecture
- Create an evergreen digital twin platform for operation and maintenance
- Data governance, quality and completion
- Quick access to data in context
- Improve handover and operational readiness
- Reduce unplanned downtime, risk and maintenance cost, and drive carbon efficiency
How AVEVA Asset Information Management works

Data Source 1
Capture

Data Source 2
Interpret

Data Source n
Consolidate

AVEVA Information Standards Manager

Data Capture Rules
- Common Data Model
- Tag & Doc Classes
- Attribute Classes
- Units of Measure

Data Interpretation Rules

Data Consolidation Rules
- Object Naming Rules
- Attribute Expected Values
- Lifecycle Maturity Rules
- Industry Standards Mapping

Dashboard

Data Quality and Maturity Reporting
Completeness
Conformance
Consistency

Intelligent Documents
3D Model Streaming
Point Cloud Visualisation
In-Context Web Integration

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Ørsted uses AVEVA™ Unified Engineering and AVEVA Asset Information Management in the cloud to drive efficiencies across its wind farm, hydrogen and carbon capture design projects. Connecting engineering teams in the cloud streamlines collaboration, driving best practices across the organization while the AVEVA Asset Information Management software enables optimization of the asset performance using predictive analytics.

- Improved design processes and data transparency with seamless integration throughout the engineering lifecycle
- Increased cross-functional collaboration based on shared data and resources
- Optimized engineering efficiency
Our proven success

- **Improve CAPEX efficiency**: More than 200 construction clashes detected and avoided.

- **Enable agility and resilience**: Delivered over $4 million savings in 2 years.

- **Shift to green energy mix**: Optimized renewable generation production, resulting in savings of more than $7 million per year.

- **Promote workforce empowerment**: $260 thousand saved in a single early detection.

**Shanghai Laogang Project**

**Leading Canadian Generation Company**

**XcelEnergy**

**Southern Company**
Trusted by the power industry
Why AVEVA?

Sparking industrial ingenuity with trusted information and data-led insights

- **2000+** R&D Capacity
- **6500+** Employees
- **4300+** global strategic partners including Microsoft, AWS, and others
- **20,000+** Customers worldwide
- **Over 1000** power plants depend on AVEVA solutions to monitor **500,000+** megawatts
- **50+ Years** of leadership in industrial software with open and agnostic approach

- **16%** of Revenue reinvested in R&D
- **20,000+** Customers worldwide
- **4300+** global strategic partners including Microsoft, AWS, and others
- **Over 1000** power plants depend on AVEVA solutions to monitor **500,000+** megawatts
- **50+ Years** of leadership in industrial software with open and agnostic approach

- **Industry Expertise**
- **Complete Digital Thread**
- **Collaborative Approach**
- **Ability to Scale**
- **Flex**

Industry Expertise with deep domain knowledge and experience
Integrated digital tools across the industrial lifecycle
in designing customer specific solutions and value cases
up from proof of concept to enterprise solution
subscription model provides enterprise-wise licensing flexibility to maximize your return

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Mary Fernandez

Presales Technical Consultant

• AVEVA
• Mary.Fernandez@AVEVA.com
Questions?
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State your name and company.

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

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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