

OCTOBER 2023

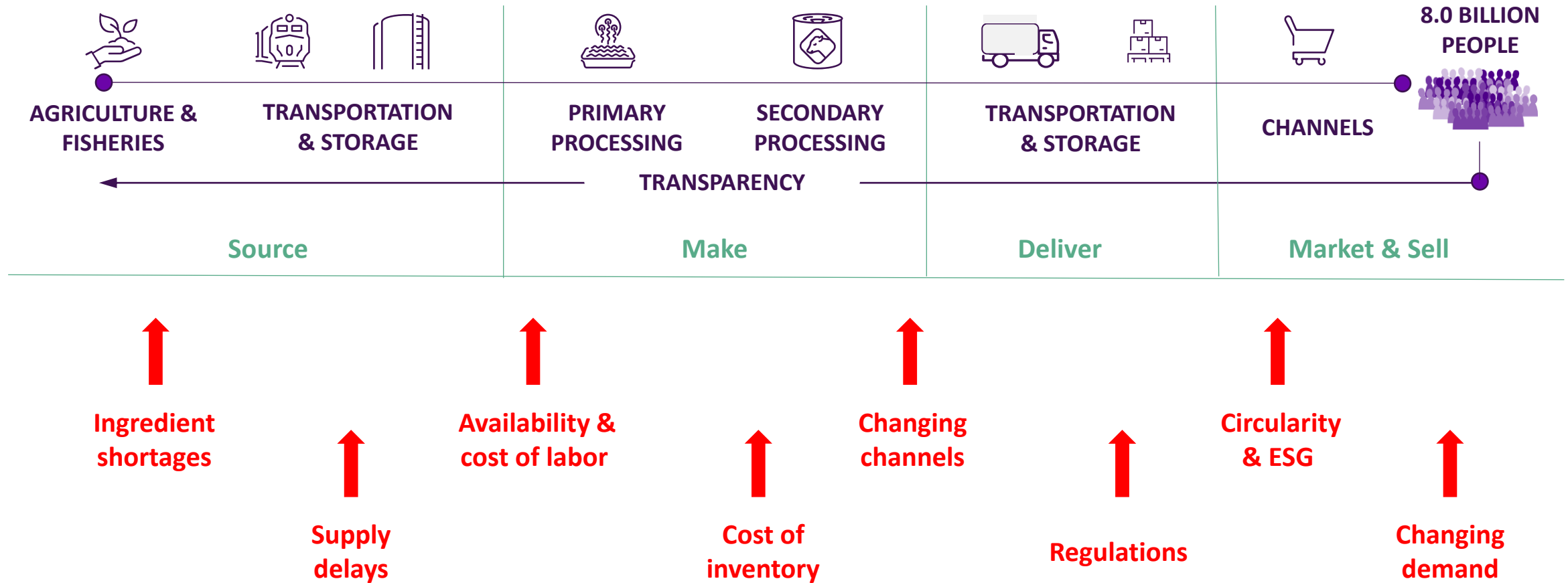
Industry cloud for consumer products

Keith Chambers, Vice President, Manufacturing Solutions

Ted Combs, Industry Principal, Consumer Products

AVEVA

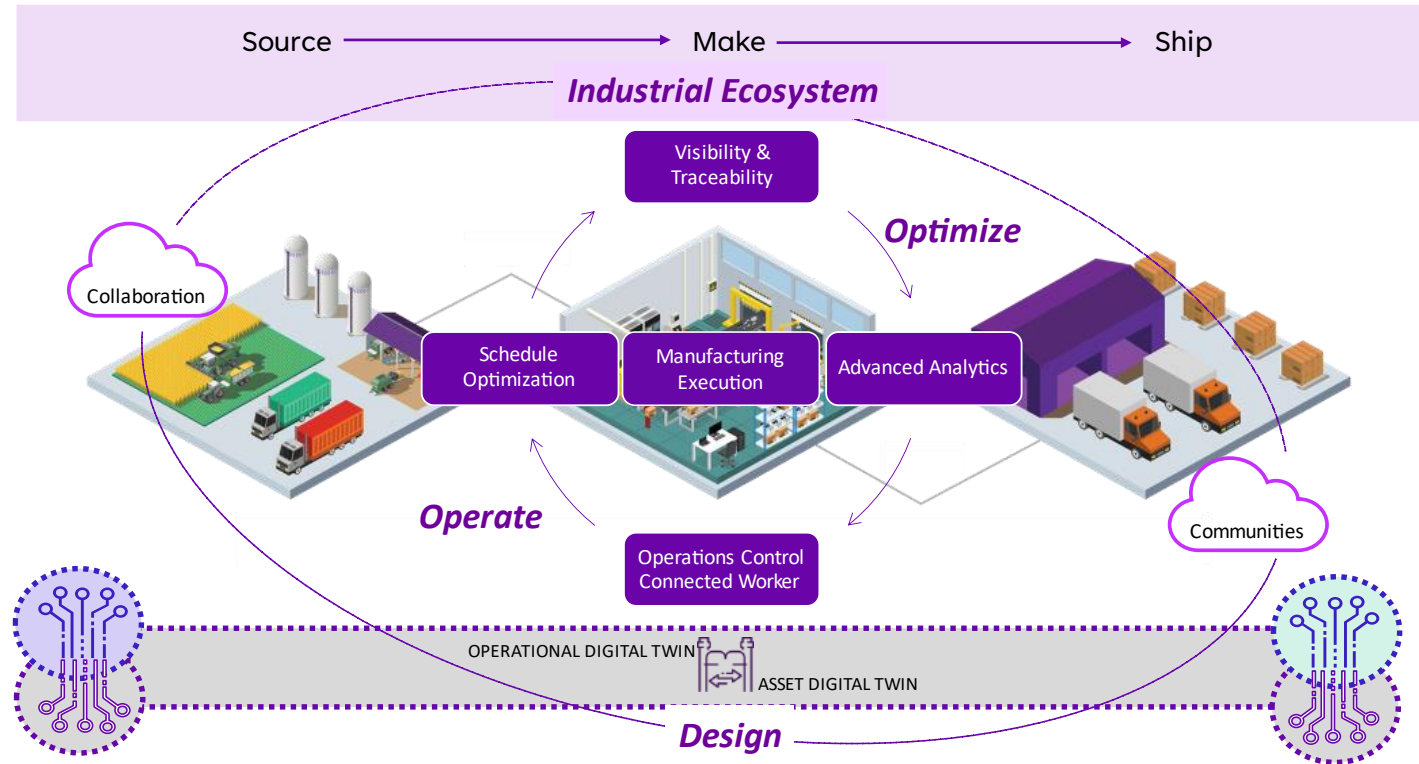
Evermore challenging Ecosystem



Manufacturers are digitally transforming to survive & thrive

Emergent Technology

-  Artificial intelligence
-  Cloud
-  Big data
-  Industrial IoT/Edge
-  Extended reality



Advanced technology is converging to provide a digital thread connecting demand, through the smart factory to delivery

The **challenges** AVEVA works to solve for CP manufacturers



Product quality & food safety

- Meet quality and safety standards
- Reduce waste
- Prevent product recalls
- Protect consumer preference and loyalty
- Track product and production history



Operational excellence

- Reduce production costs
- Increase production efficiency
- Improve yield & throughput
- Capture knowledge and insights
- Drive standardized work processes



Asset health

- Improve uptime
- Extend the life of aging equipment
- Reduce unplanned downtime
- Utilize condition-based and predictive maintenance



Energy, water & sustainability

- Manage the impact of volatile energy costs
- Improve water treatment and utilization efficiencies
- Meet sustainability targets
- Be a good corporate citizen



Connected ecosystem

- Share data with customers and suppliers
- Operate remotely
- Contribute to connected process and practice across entities
- Balance agility and efficiency

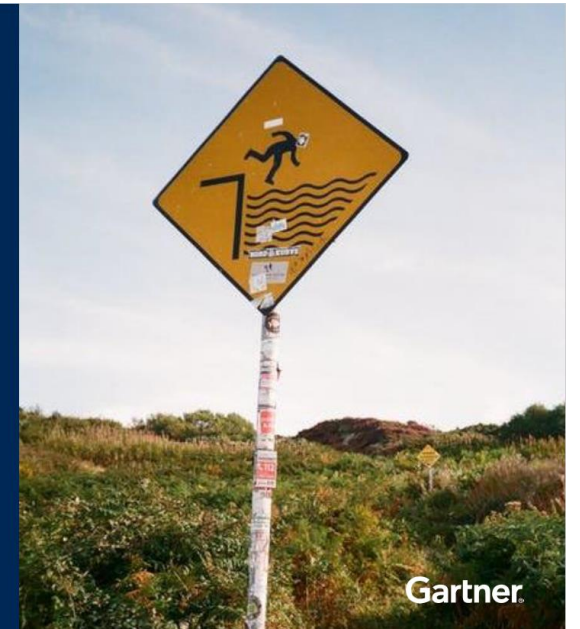
However, not all transformations succeed

**74% of organizations
have a smart
factory initiative**



3 © 2022 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. and its affiliates.

**By 2025, three out of
five manufacturers'
smart factory
initiatives will stall.**



7 © 2022 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. and its affiliates.

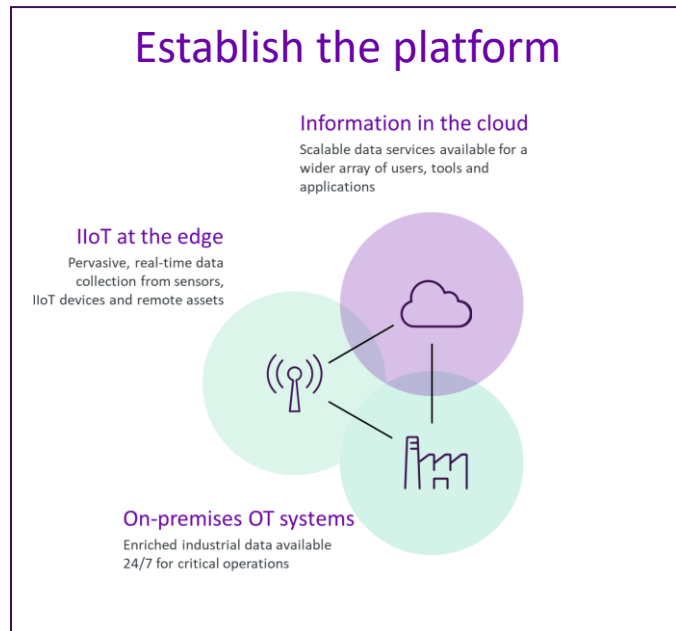
Source: "How to Extract the Full Value From Smart Factories", Simon Jacobson, Gartner, 2022

© 2023 AVEVA Group Limited and its subsidiaries. All rights reserved.

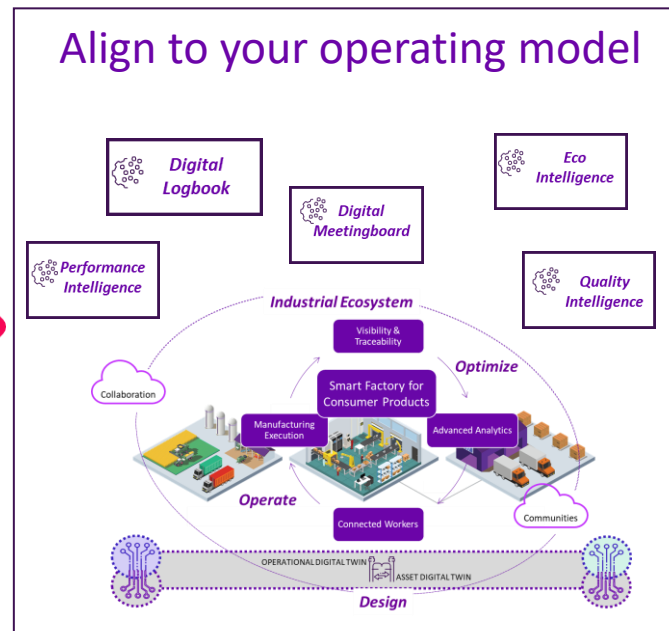
AVEVA

How to maximize the value from your smart factory

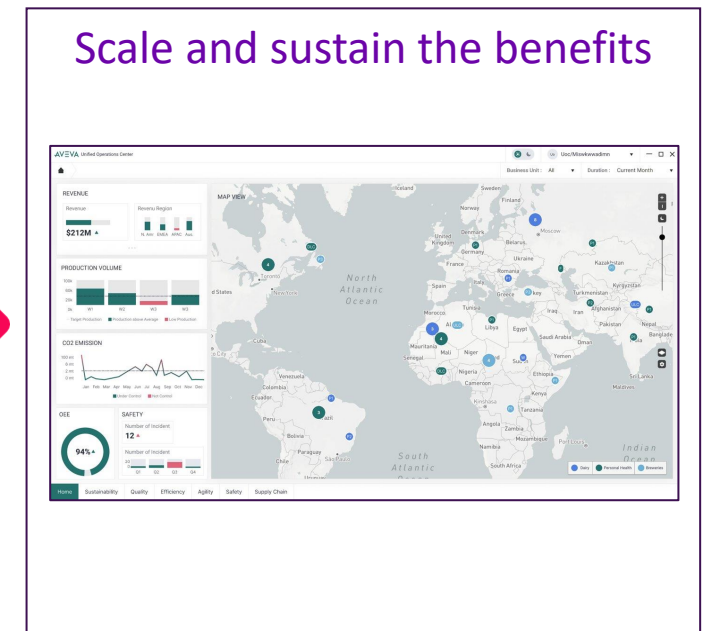
A hybrid/cloud portfolio, delivering smart factory use cases across the manufacturing network



Accessibility to data is the biggest barrier to realizing value.



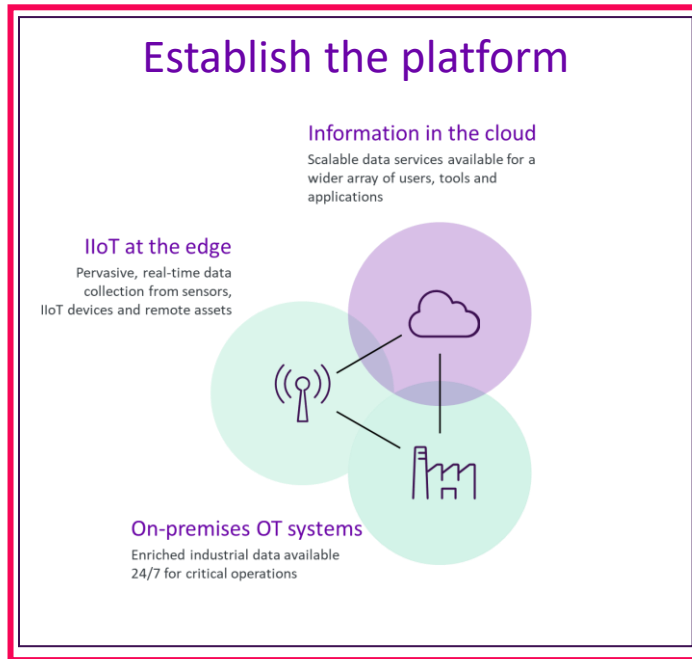
Old ways of working aren't viable, design your operating model to create a culture of performance.



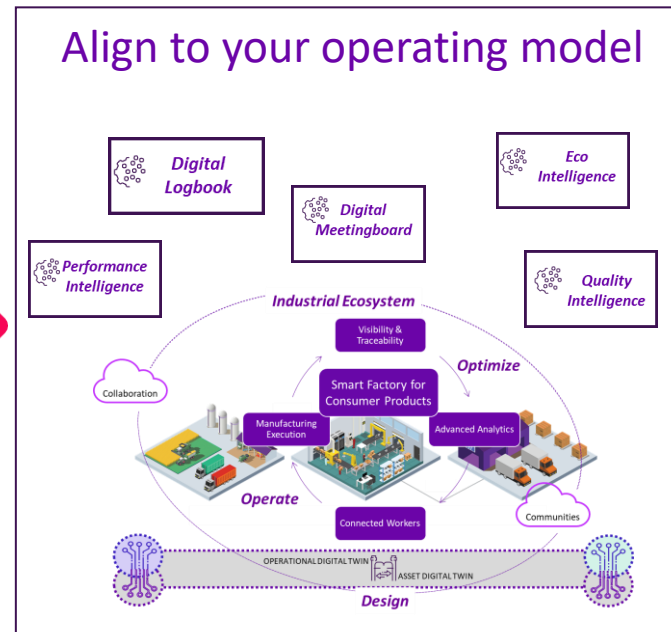
Leverage the benefits of your scale: best practices, cost of ownership, agility and resilience.

Our industry cloud vision for consumer products

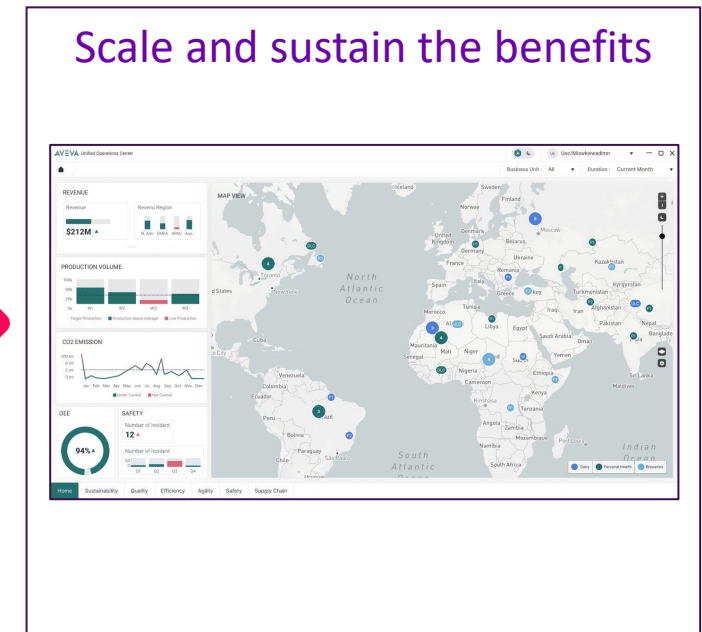
A hybrid/cloud portfolio, delivering smart factory use cases across the manufacturing network



Purpose-built to meet the demands and challenges of industrial information. Open and agnostic, connect to any data source.



Deliver net new value from smart factory use cases with a hybrid cloud approach.

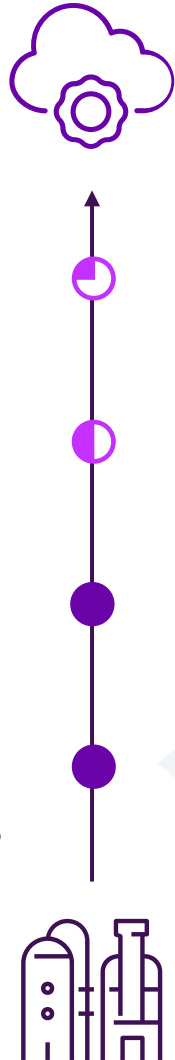


Scale the benefits across your manufacturing network. Share and collaborate across your ecosystem.

NEUTRAL PLATFORM

Deliver a neutral industrial platform

To accelerate value creation from AVEVA *and partner* applications

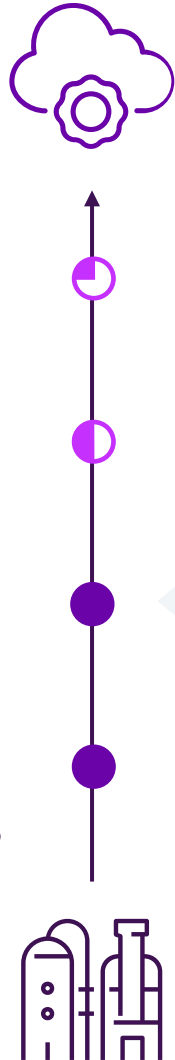


AVEVA™ Connect:
Access to applications and AVEVA Flex credit management

NEUTRAL PLATFORM

Deliver a neutral industrial platform

To accelerate value creation from AVEVA *and partner* applications



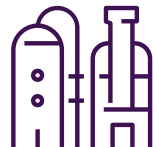
Data aggregation & sharing services (AVEVA™ Data Hub)

AVEVA Connect:
Access to applications and AVEVA Flex credit management

NEUTRAL PLATFORM

Deliver a neutral industrial platform

To accelerate value creation from AVEVA *and partner* applications



AVAILABLE
Partner applications

HERE
AVEVA apps
• Production performance use cases

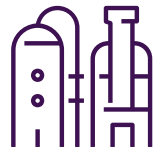
HERE
Connect visualization Services

AVAILABLE
Data aggregation & sharing services (AVEVA Data Hub)

AVEVA Connect:
Access to applications and AVEVA Flex credit management

NEUTRAL PLATFORM

Our strategic roadmap:
Accelerate value creation from AVEVA and partner applications with a neutral industrial platform



Partner apps

AVEVA apps

In-house apps



Connect
platform services

- Data services
- Visualization
- Modeling & analytics
- & more to come

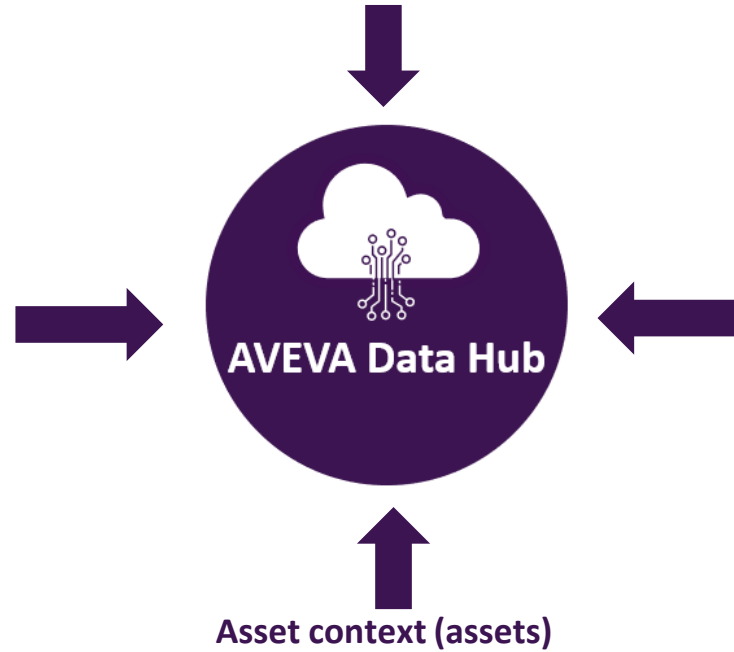
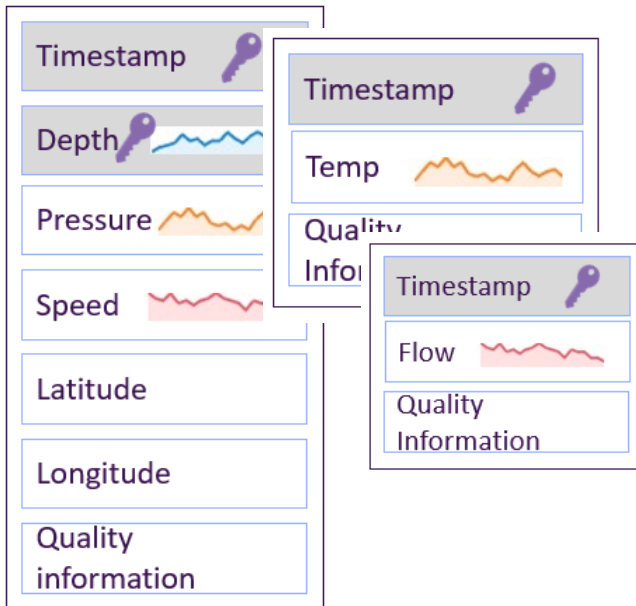
CONNECT Industrial intelligence-as-a-service

Connect data services – AVEVA Data Hub

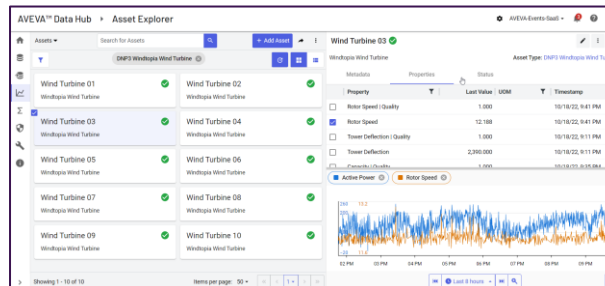
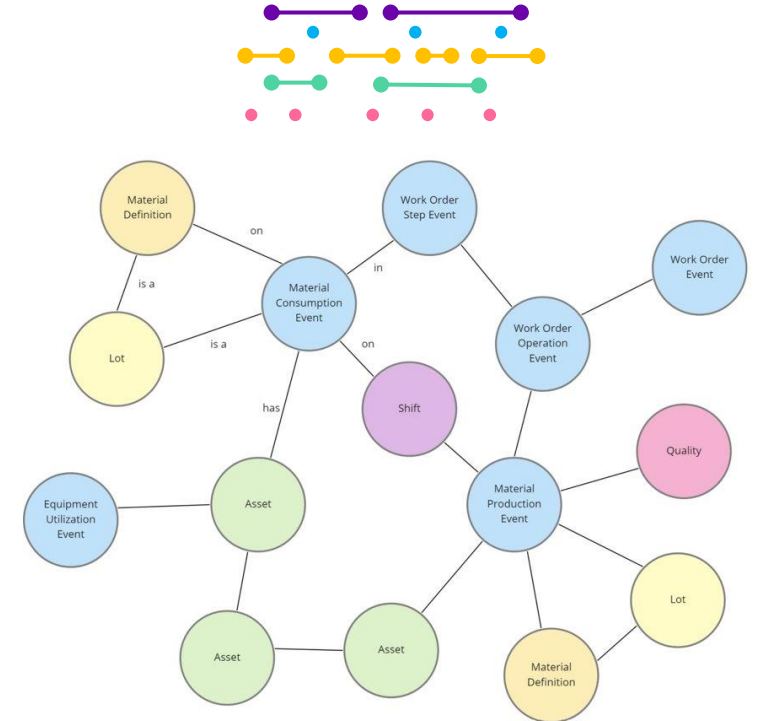
Expanding the footprint of our data management services

Engineering data: 1D, 2D, 3D (future)

Process data (streams)

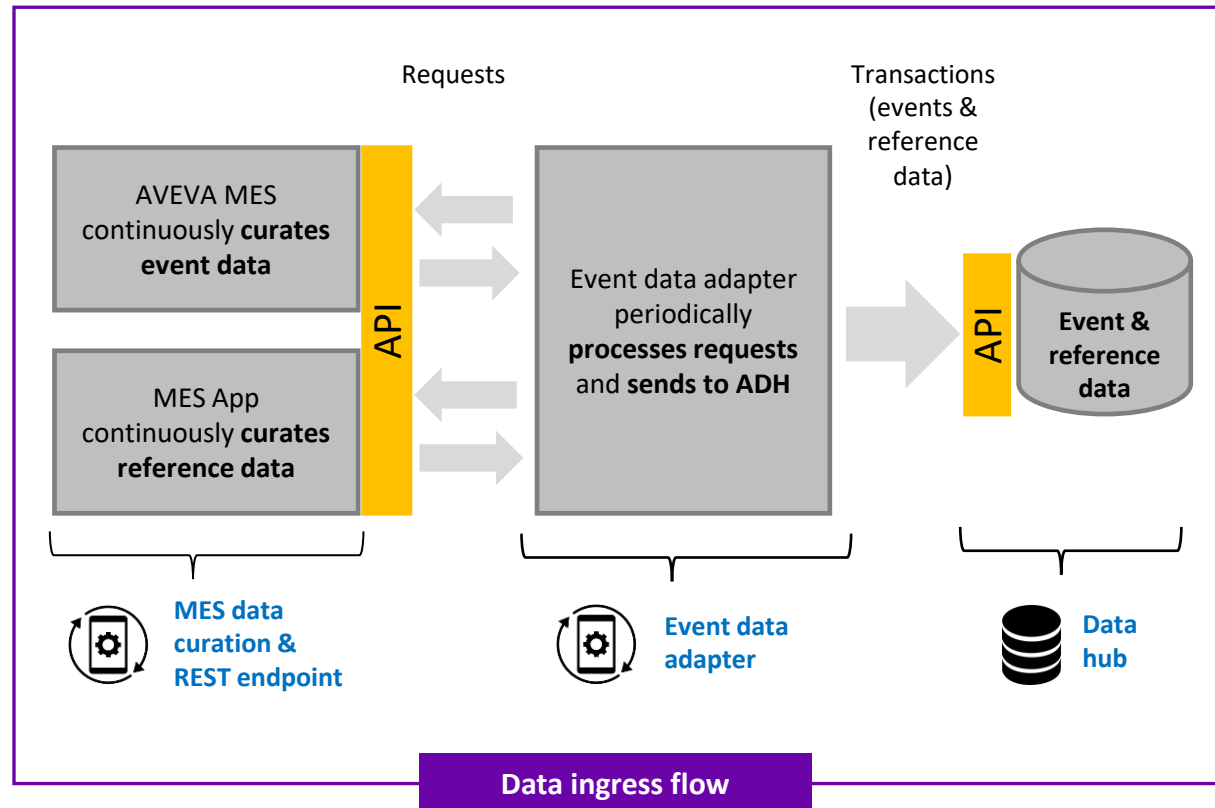


Events & context (MES events & reference data)



A hybrid/cloud evolution

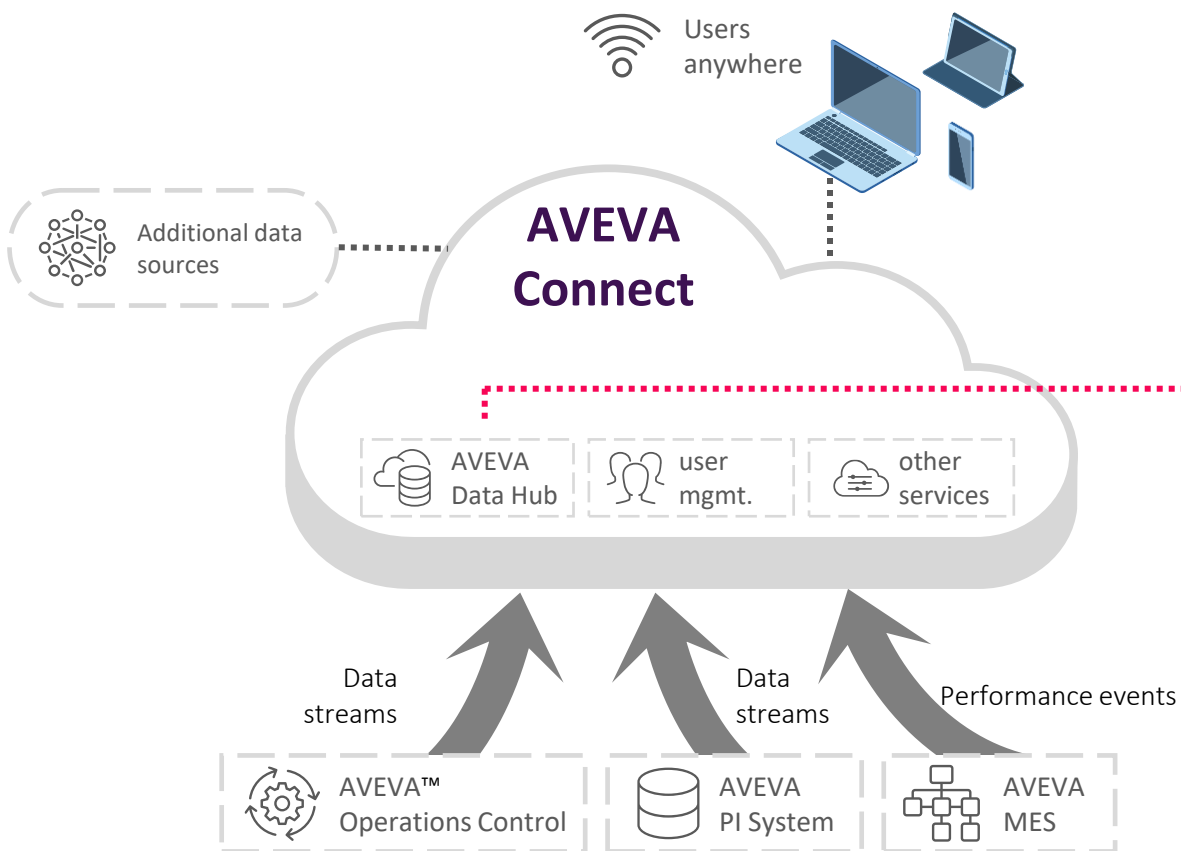
Event & reference data ingress to AVEVA Data Hub



- Data curation:
 - Specific to the dataset, Initial release will include MES performance data.
 - Future releases will add the full MES data model, and other products will also provide curated events (such as AVEVA™ PI event frames)
 - Data is pushed from MES to ensure on-premise updates are correctly reflected in AVEVA Data Hub (for instance reclassifying a downtime event)
- Data ingress:
 - A common event data adapter for AVEVA Data Hub
 - Creates the data graph within AVEVA Data Hub from reference data, event types and the relationships between them

Connect data services - AVEVA Data Hub

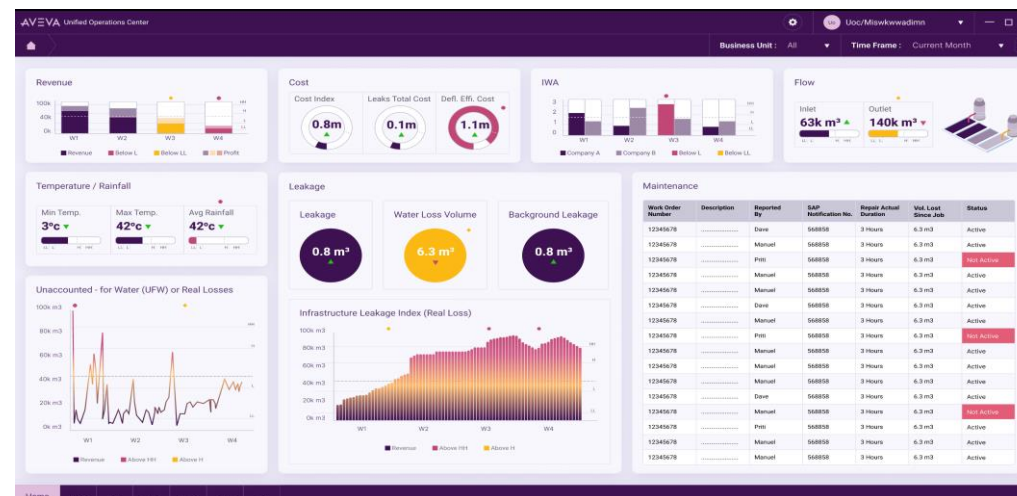
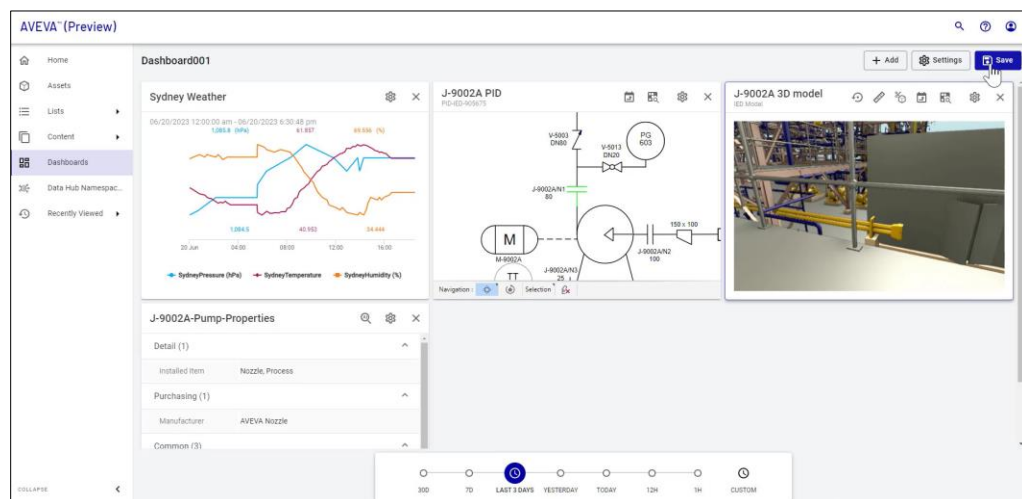
Delivering hybrid smart factory capabilities



- AVEVA Data Hub is being enhanced to:
 - Store event data.
 - Store reference data
 - Store & query rich relationships (GraphQL language)
- AVEVA manufacturing solutions are being enhanced to:
 - Integrate natively with AVEVA Data Hub
 - Provide out-of-the-box publishing of MES data, with guaranteed delivery
- Managed service provided by AVEVA in the cloud

Connect visualization services

Composable dashboards with self-service and pre-defined experiences

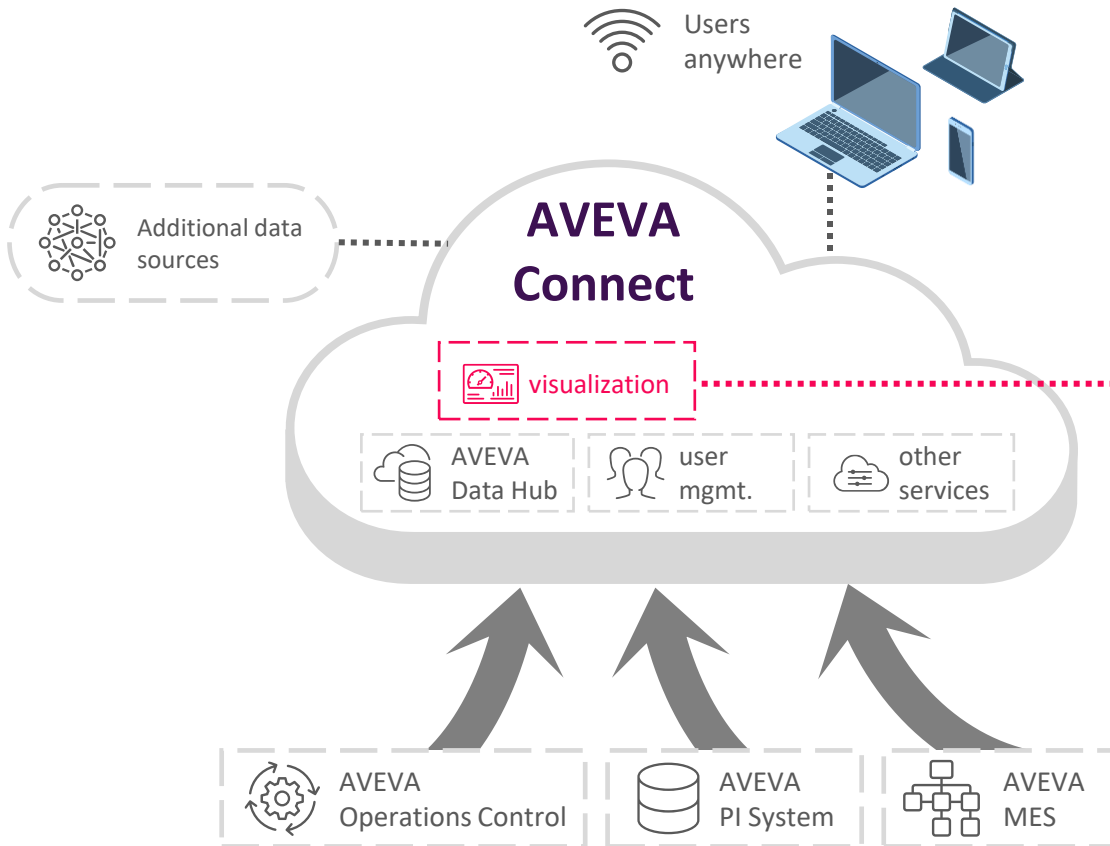


- Self-service dashboard creation in a browser, accessible on any device
- Craft unique experiences by role and use case need
- Save, edit, and share displays

- Rich experiences with complex multi-level navigation and drill-down, including:
 - Process analysis
 - Maps and GIS data
 - Production events
 - Video surveillance
 - Graphical elements library
 - Operational Tower views
- Engineered dashboard development tools, for a highly visual and interactive experience

Connect visualization services

Rapid information synthesis for the citizen analyst



- Two dashboard types:
 - *Self-service* – user created views assembled from a default and customized/imported content library
 - *Pre-defined* – engineered views providing a more structured and interactive visualization experience
- Craft many dashboards for different use cases and data visualization needs
- Incorporate data from both AVEVA Connect and third-party sources
- Assemble lists of assets and previously associated content for easy review
- Manage user creation permissions, access to each visualization type, and individual dashboards

Modeling and analytics services – AVEVA™ Advanced Analytics

Combine your existing data with AI-enabled applications for faster and smarter decisions



AVEVA Data Hub is system of record for AVEVA Advanced Analytics – direct read/write data in/out of AVEVA Data Hub

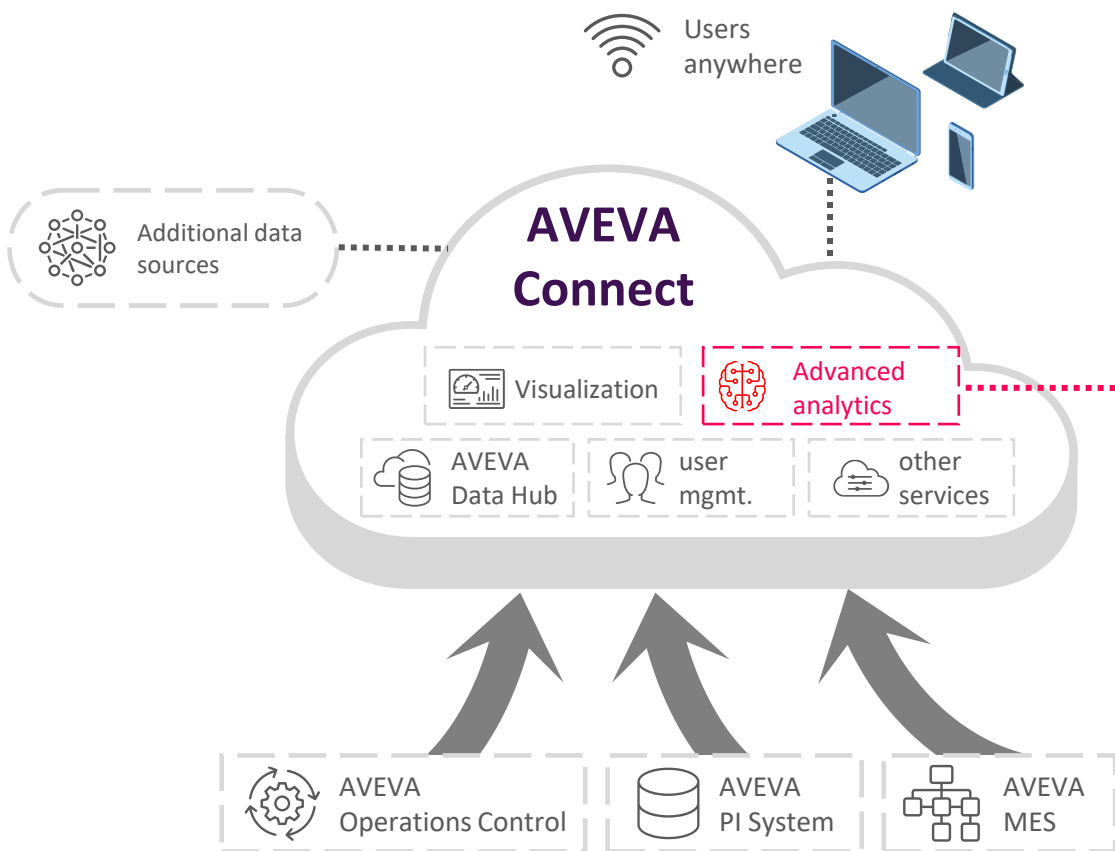
Calculations
First principal models
Machine learning models
Alerts & recommendations

Quality throughput
Energy efficiency
Digital services

Create “Classes” that can apply calculations and models to tens, hundreds, or thousands of assets or processes

Modeling and analytics services – AVEVA Advanced Analytics

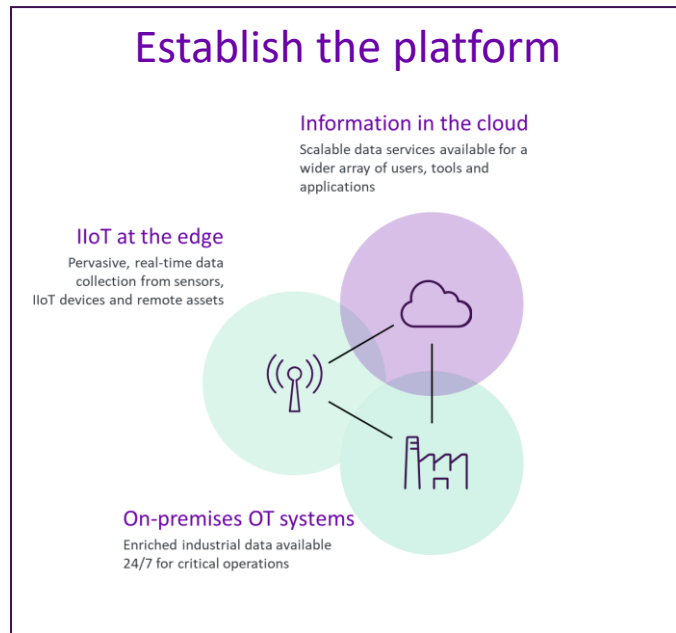
Rapid information synthesis for the citizen analyst



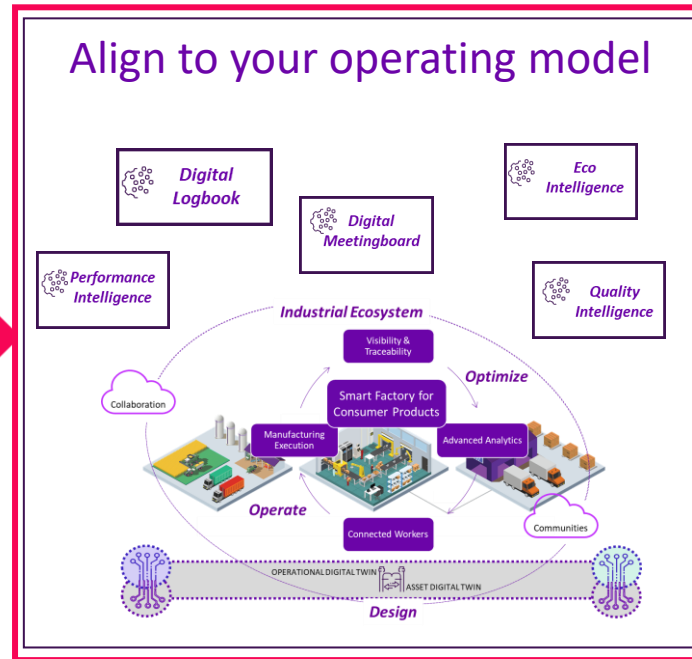
- Complete framework for AVEVA Advanced Analytics
 - Adapters for several source types in addition to AVEVA Data Hub (native)
 - Calculation engine with flexible equations, statistics, data flows, scripting, etc. (aka Threads)
 - Flexible AI applications, from easy wizard configuration, to data science scripting
 - Analysis of historical and current data in various tables and charts with operational recommendations
 - Alert and incident management
 - Automated ML model refresh
 - Scale across thousands of assets or processes

Our industry cloud vision for consumer products

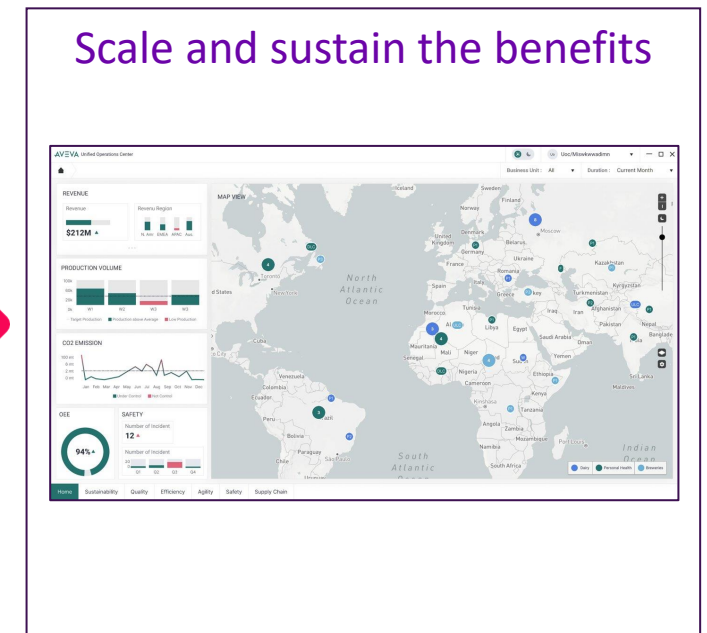
A hybrid/cloud portfolio, delivering smart factory use cases across the manufacturing network



Purpose-built to meet the demands and challenges of industrial information. Open and agnostic, connect to any data source.

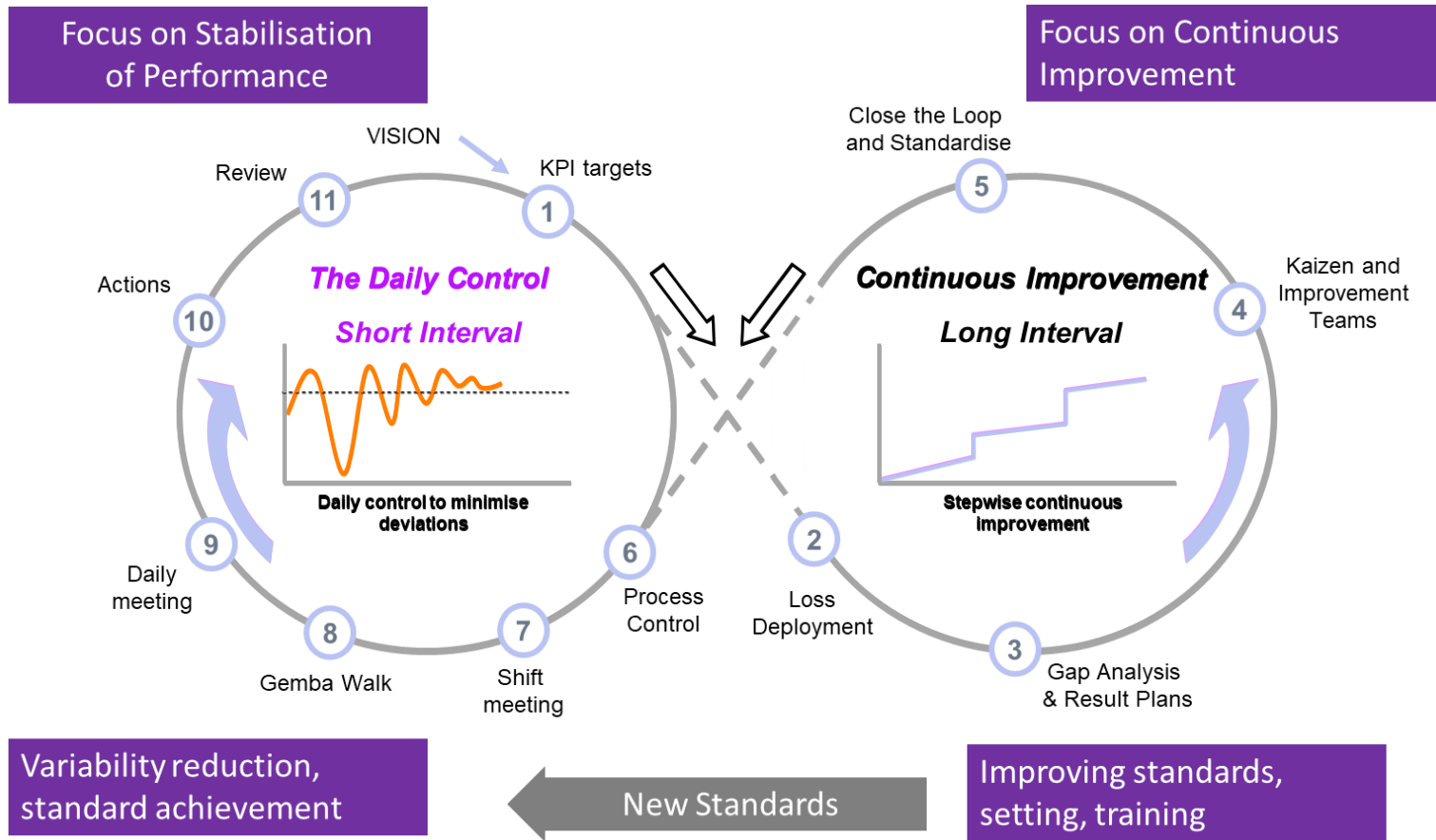


Deliver net new value from smart factory use cases with a hybrid cloud approach.



Scale the benefits across your manufacturing network. Share and collaborate across your ecosystem.

Align to your operating model



- Empower employees at every level with visibility and actionable insights
- Industrial cloud platform provides key capabilities for visibility, understanding and collaboration
 - What is the plan
 - How am I doing against the plan
 - What do I need to do
 - Who can help me
 - How do I engage them
 - How can I improve

Smart factory use cases

Enhancing sense and respond decision making

- Knowledge sharing**
- On the job content creation
 - Instructions, video and trouble shooting



- Predictive throughput**
- Production Rate
 - Run length
 - Cycle time
 - Material cost/unit production



- Predictive energy efficiency**
- Energy cost
 - Unit production



Issue resolution

- Capture, track and resolve Issues
- Call for help with local or remote SMEs



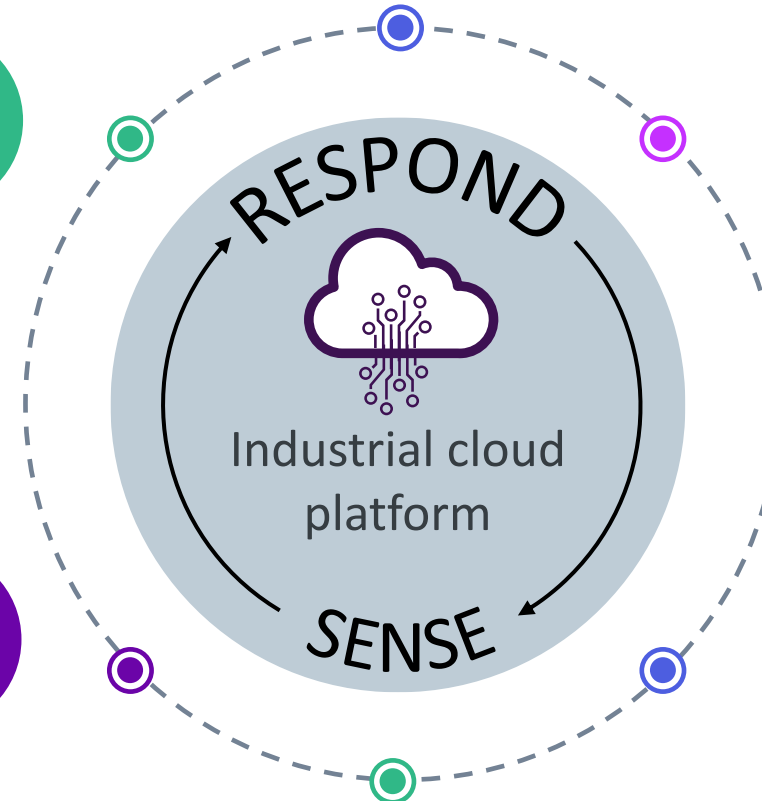
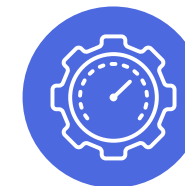
Skills management

- Deliver and track training
- Accelerate upskilling and certifications



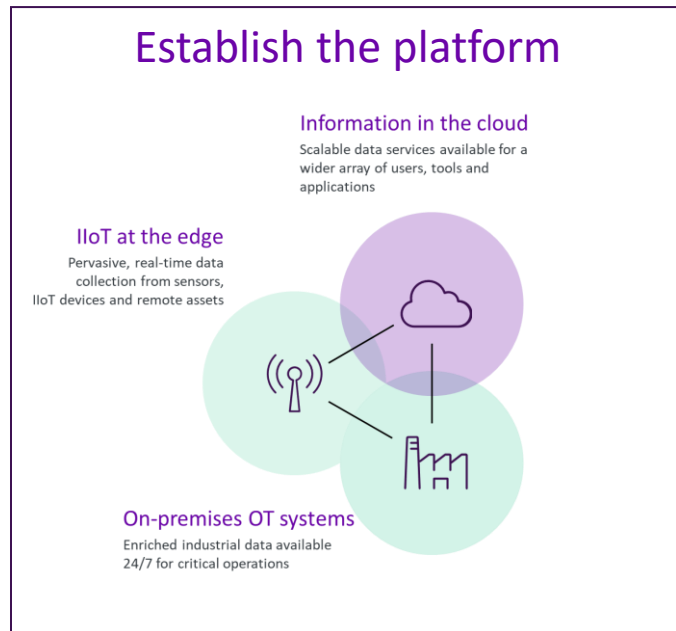
Predictive quality

- Run CpK
- First pass quality %

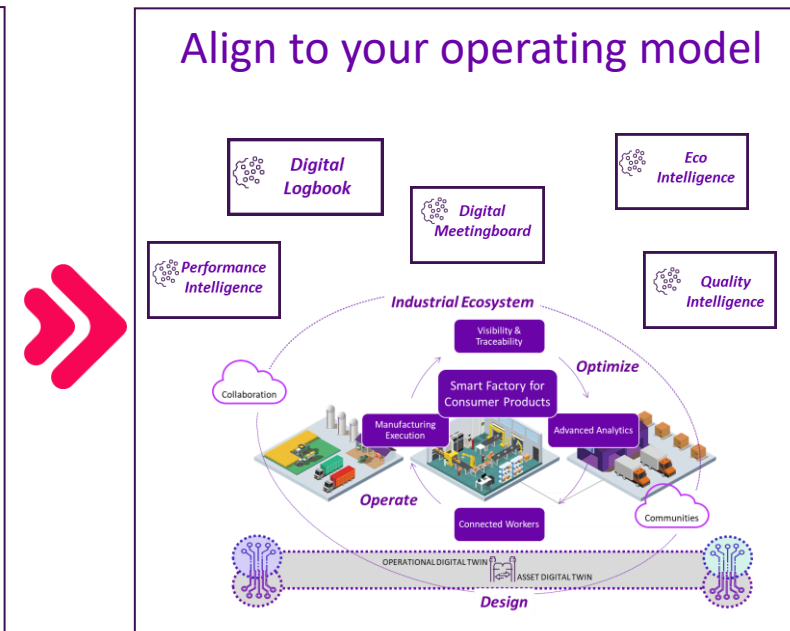


Our industry cloud vision for consumer products

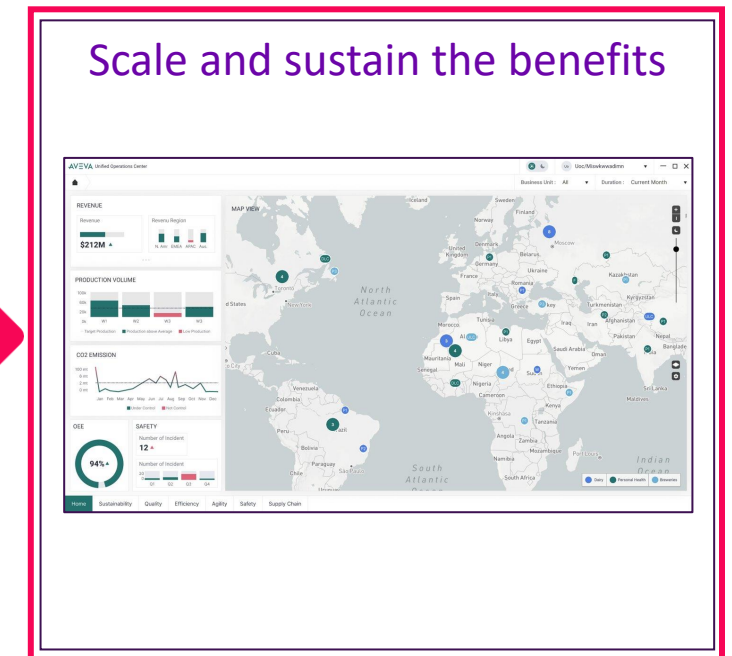
A hybrid/cloud portfolio, delivering smart factory use cases across the manufacturing network



Purpose-built to meet the demands and challenges of industrial information. Open and agnostic, connect to any data source.



Deliver net new value from smart factory use cases with a hybrid cloud approach.



Scale the benefits across your manufacturing network. Share and collaborate across your ecosystem.

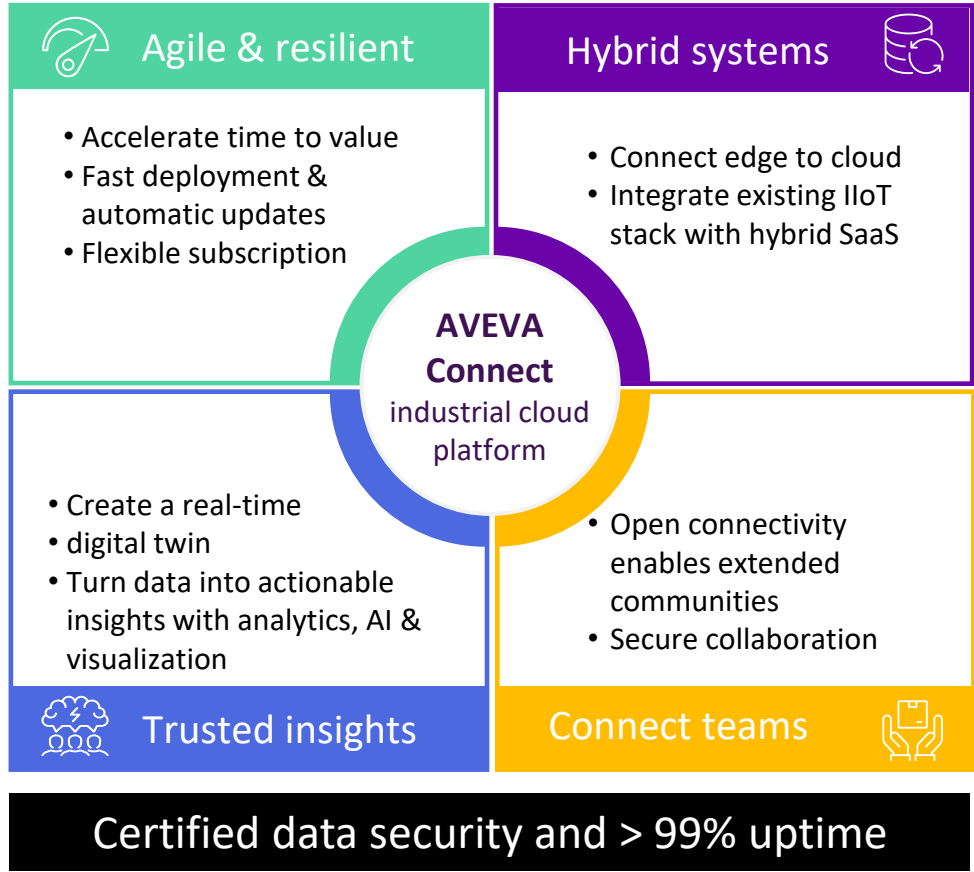
Business benefits of our industrial cloud platform

How our customers are accelerating their digital transform and scaling faster on the cloud

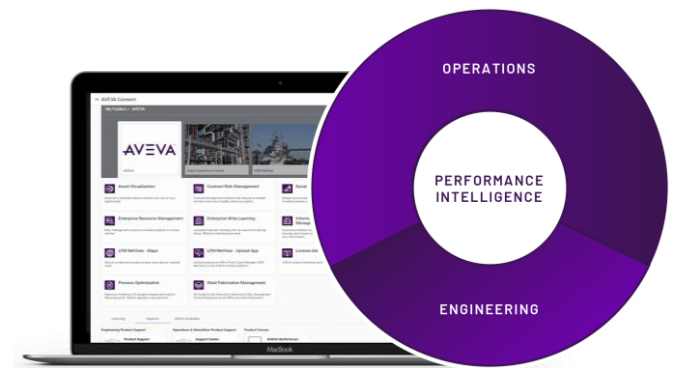
Working with
6,400+
cloud customers globally

Per week
105,000+
unique user sessions

Customers experience at least
20%
efficiency gain by moving to the cloud

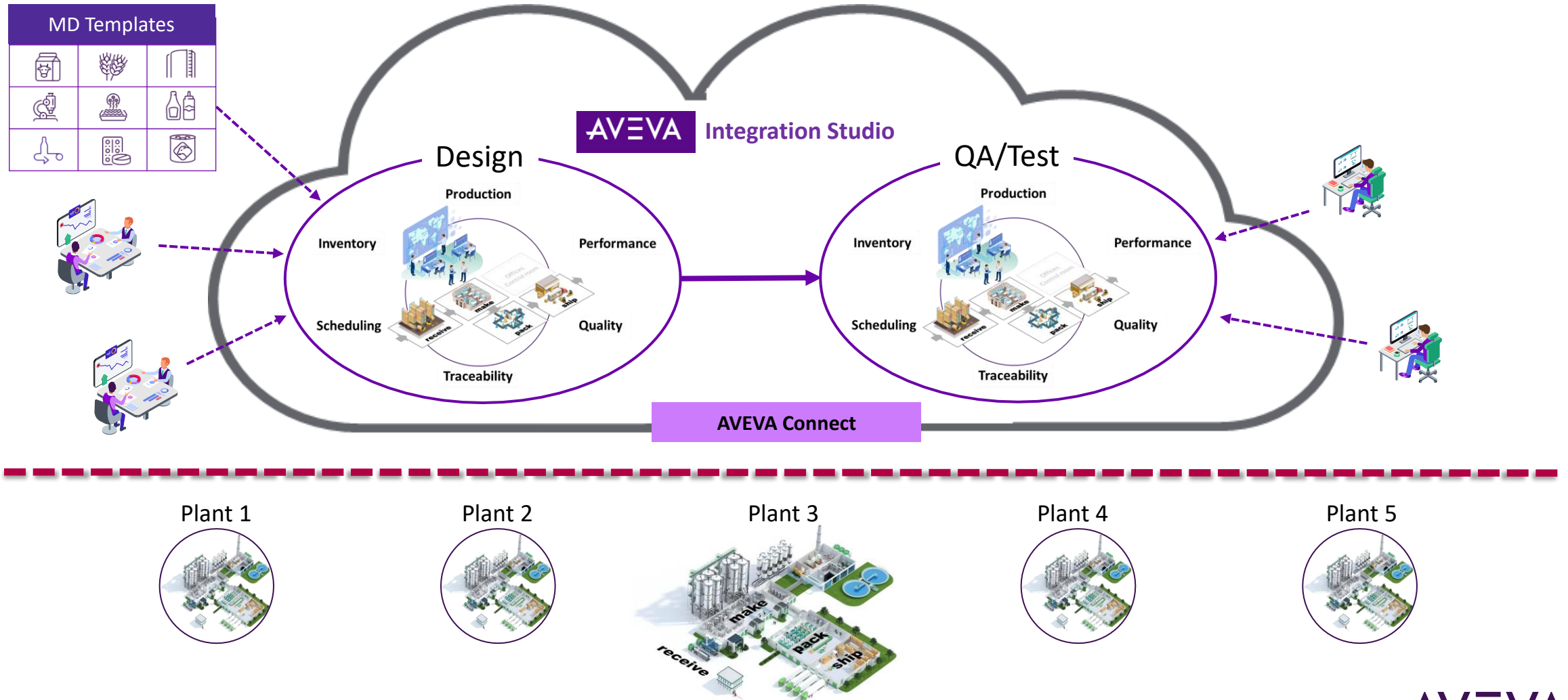


The broadest and deepest industrial software with seamless collaboration in a single industrial cloud platform



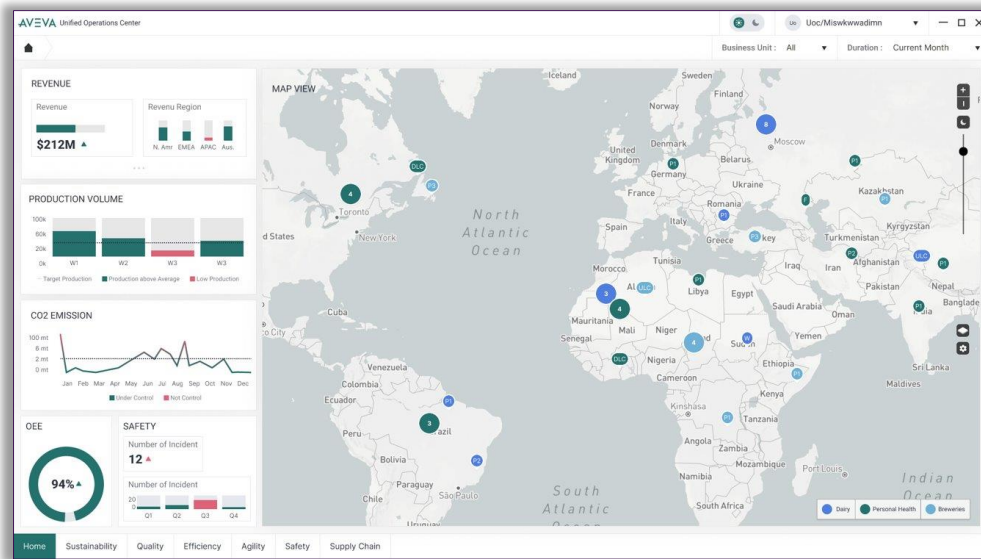
Our proven technology and expertise helping you **reduce the time to value** and **improve your business agility**

Standardize best practices across your manufacturing network



Enterprise visualization

Our industrial cloud platform can scale across your entire business for insight and accountability



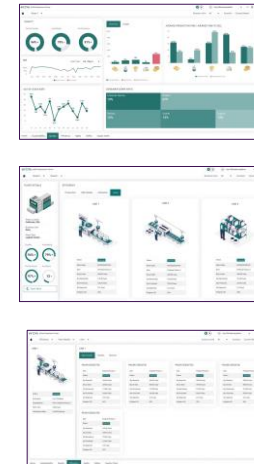
Sustainability



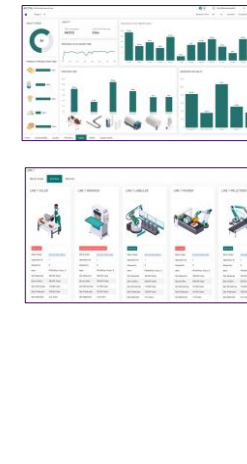
Efficiency



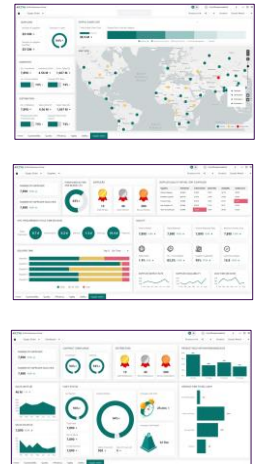
Quality



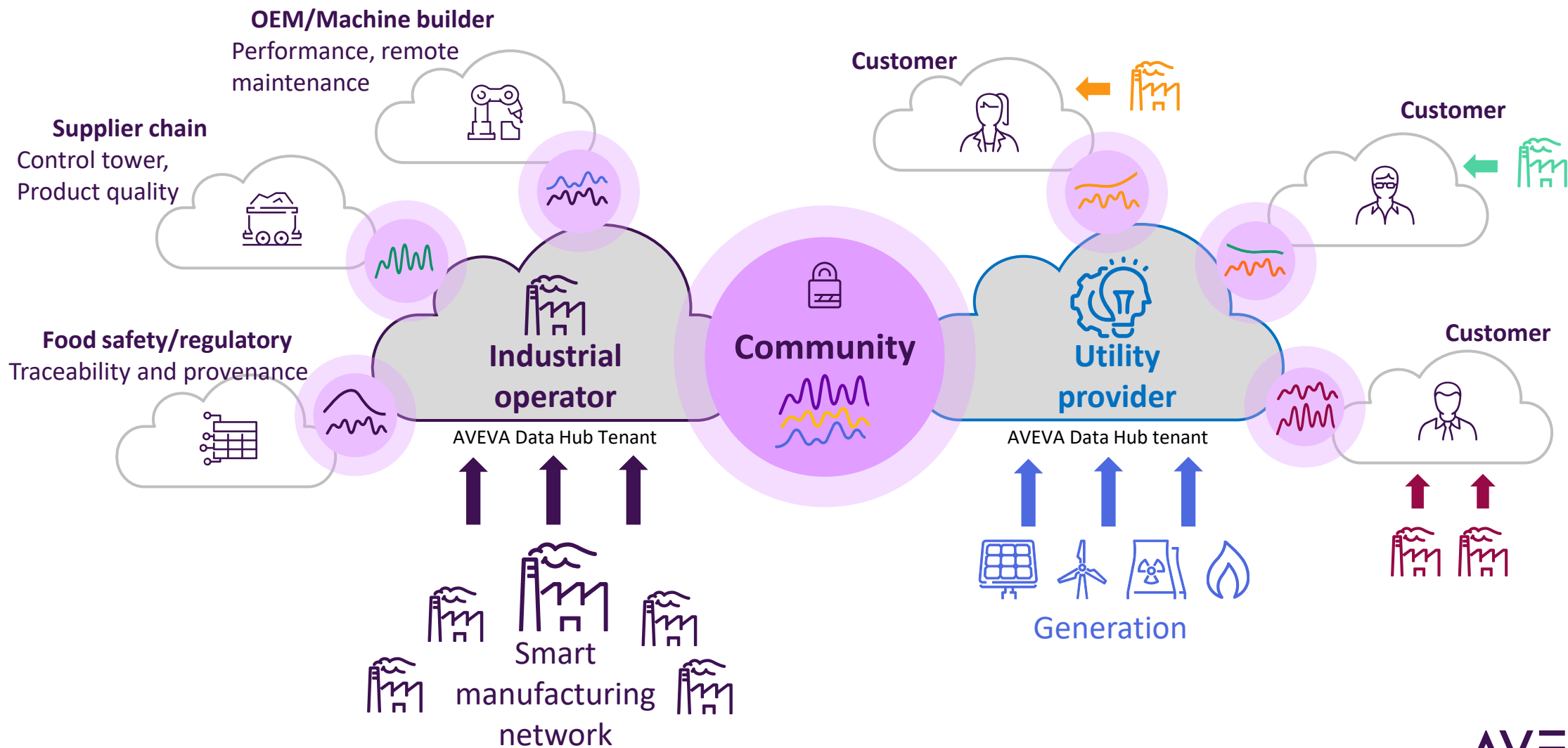
Agility



Supply chain



Connected community: Powering your industrial ecosystem



In Closing

Establish the platform

To unlock value, data must be accessible, secure and trustworthy. A common foundation, which eliminates silo's and provides context is essential.

Align to your operating model

Deploy the capabilities of the cloud to drive a performance culture within your smart factory.

Scale and sustain the benefits

Leverage best practices, enterprise-wide information visualization and data sharing with an eco-system to multiply the benefits/

Learn more....

Expo
Checkout the consumer products story at the Expo Tower.

Wednesday, 9:20
AVEVA Data Hub is storing something new, and it's a "must-see" event.

Wednesday, 2:10
Get more out of your data with AVEVA Advanced Analytics

Thursday, 2:10
Real-time operations visibility for consumer products manufacturers

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.

 [linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

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