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# From HMI-SCADA to Operations Control

Industrial Intelligence Summit

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**AVEVA**

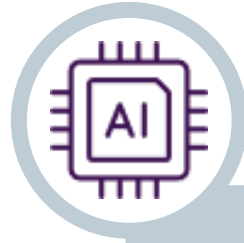
# Trends Influencing Industrial Operations

## Challenging Traditional Approaches



### Customer Trends

- Organizational Convergence
- Software Sprawl
- Resource Challenges
- Informational Silos Breakdown (IT/OT)
- Globalization/Consolidation
- Digital Transformation/Data Priority



### Technology Trends

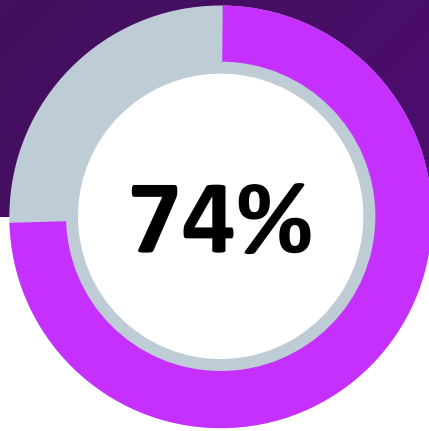
- Cloud Computing
- Containers
- Managed Services
- Artificial Intelligence
- Generative AI/LLM
- Unified Namespaces
- MQTT Brokers
- Data Ops
- IIoT



### Market Trends

- Inflation
- Distributed Workforce
- Geo-Political Events
- Digital Natives Become the Majority
- Cyber Security
- Increasing Rate of Change
- Sustainability
- Data Sovereignty

# Digital Transformation

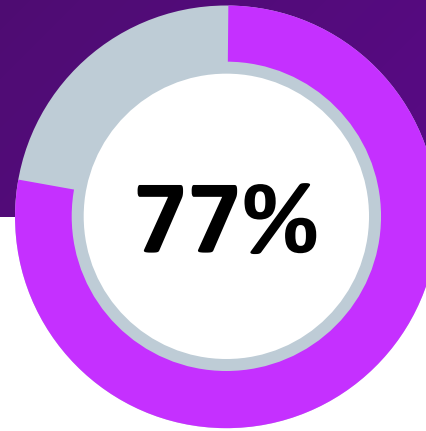


**74%**



Digital transformation is a top priority for **74%** of organizations.

Source: Flexera

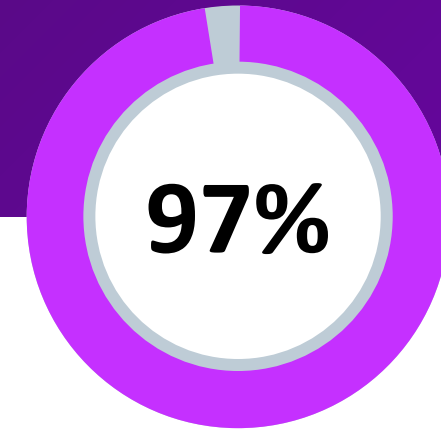


**77%**



**77%** of companies have already started their digital transformation.

Source: McKinsey & Company



**97%**



**97%** of companies say the COVID-19 pandemic sped up their digital transformation initiatives

Source: Twilio

# Digital Transformation

## What is it?

Digital transformation is a business strategy initiative that incorporates digital technology across all areas of an organization.

- *IBM*

Digital transformation is the process of integrating digital technologies into all parts of an organization, such as products, services, or operations, to deliver value to customers.

- *Coursera*

Digital transformation is the rewiring of an organization, with the goal of creating value by continuously deploying tech at scale.

- *McKinsey & Company*

Digital transformation is the process by which companies embed technologies across their businesses to drive fundamental change.

- *Accenture*

Digital transformation is a strategy for making data the primary commodity in your business.

- *Industry 4.0 Solutions*



# What activities benefit from access to operational data?

Leveraging operational data beyond monitoring and control





# Enabling Digital Transformation

## AVEVA Operations Control







CONNECT

# AVEVA Communication Drivers

PLC/RTU/DCS/IIOT/RDB/API

- **Comprehensive:** Connect to virtually any hardware data source through a collection of open standards (OPC/IEC/MQTT/Modbus) as well as proprietary protocols for all major vendors.
- **Edge Driven:** Reduce PLC connectivity configuration efforts by almost 50 percent with the ability to automatically read and structure a PLC program based on current schema.
- **Scalability:** Consolidate scattered architectures by running multiple, completely independent instances of the same driver in a single node.
- **Performance:** Improve your overall throughput and performance per driver and per node.





# Enabling Digital Transformation

## AVEVA Operations Control

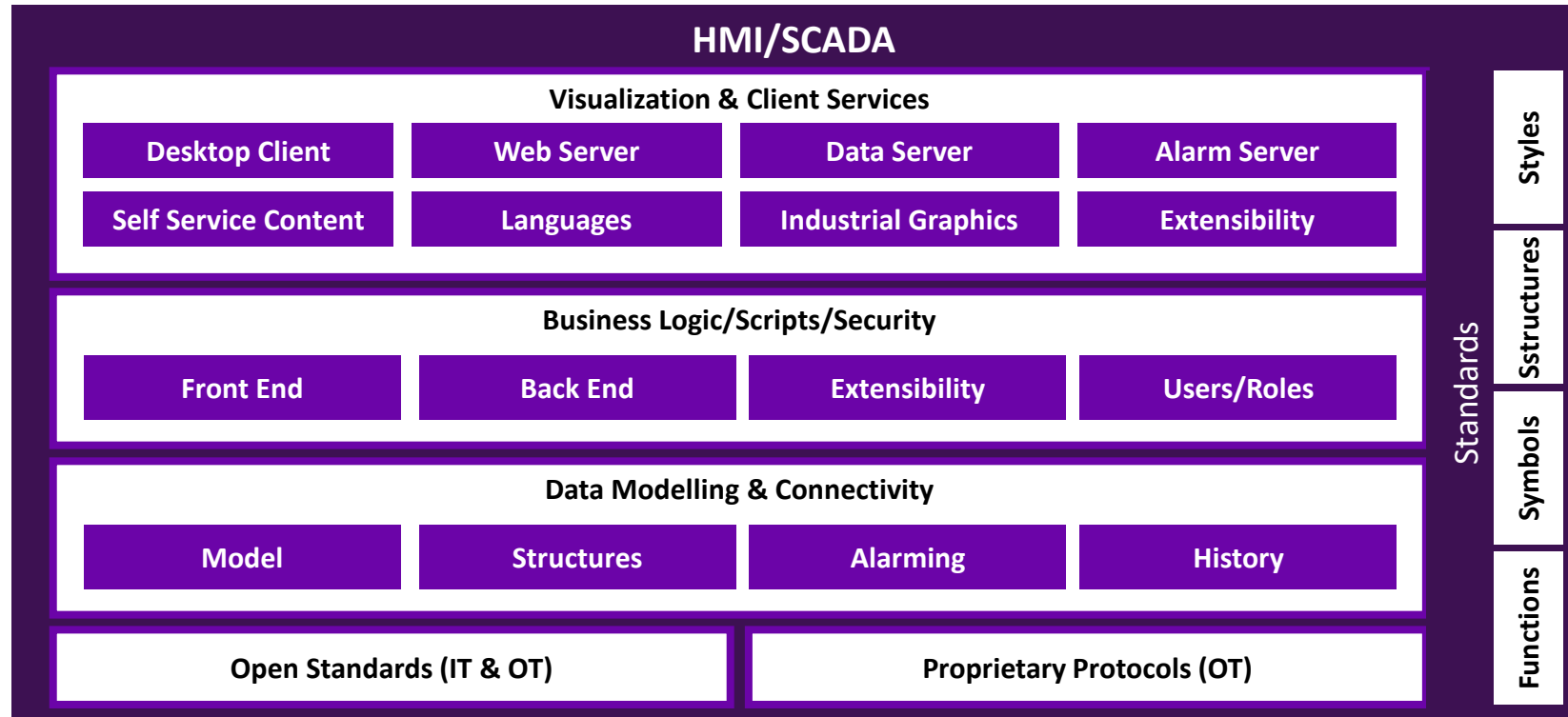


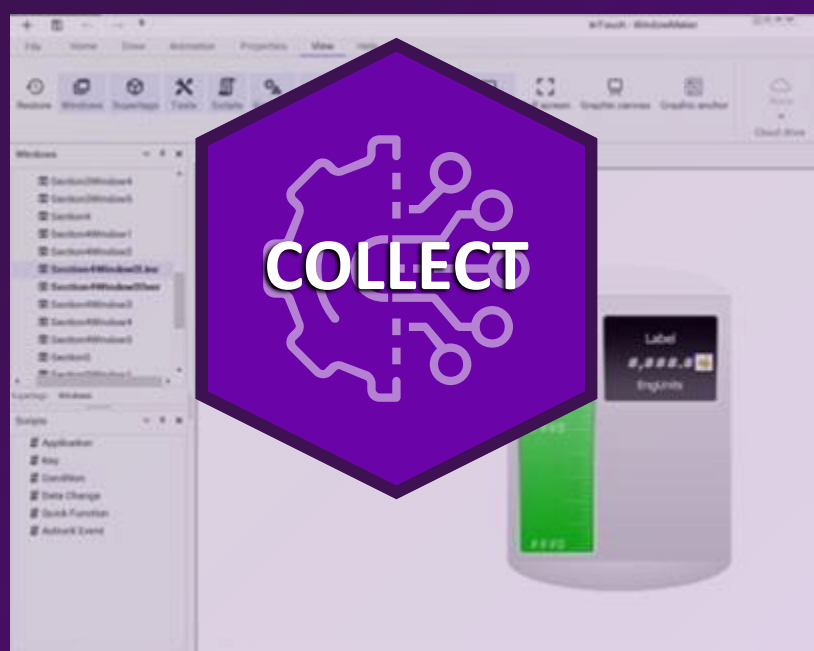




# HMI VS SCADA

Where are they similar?

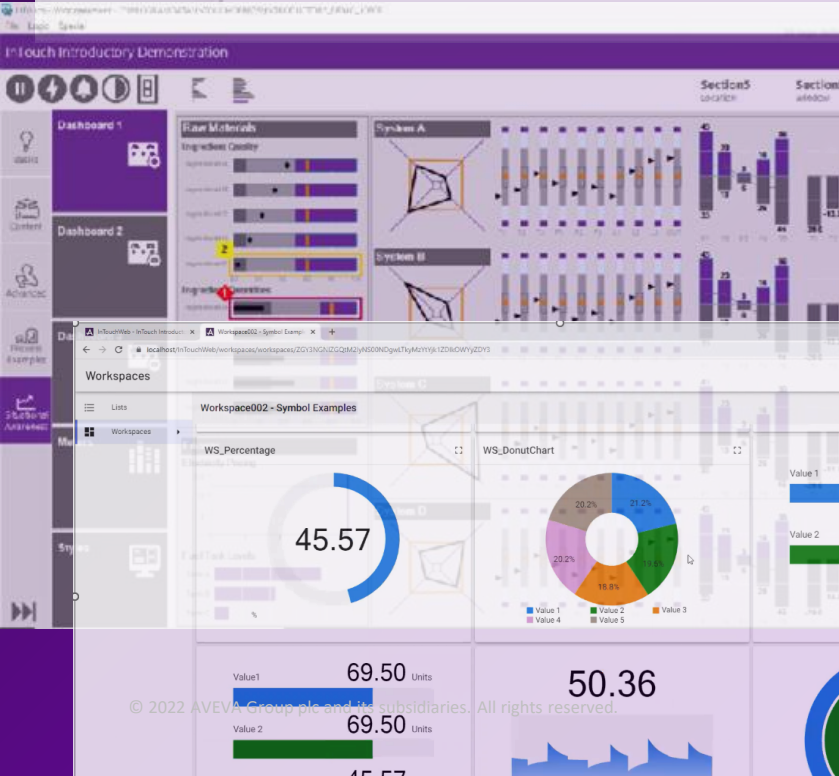




# AVEVA InTouch HMI/AVEVA Edge

## Human Machine Interface

- **Easy to get started** – Quickly create applications from small to medium sized.
- **Create consistent views of processes** - Gain meaning from your data to achieve less downtime and improve performance, safety and costs.
- **React in real time** - Visualize and control vital plant processes in real time to react strategically.
- **Simple commercial terms** – Free development license, unlimited tags, unlimited clients, and most comprehensive set of capabilities in the market.

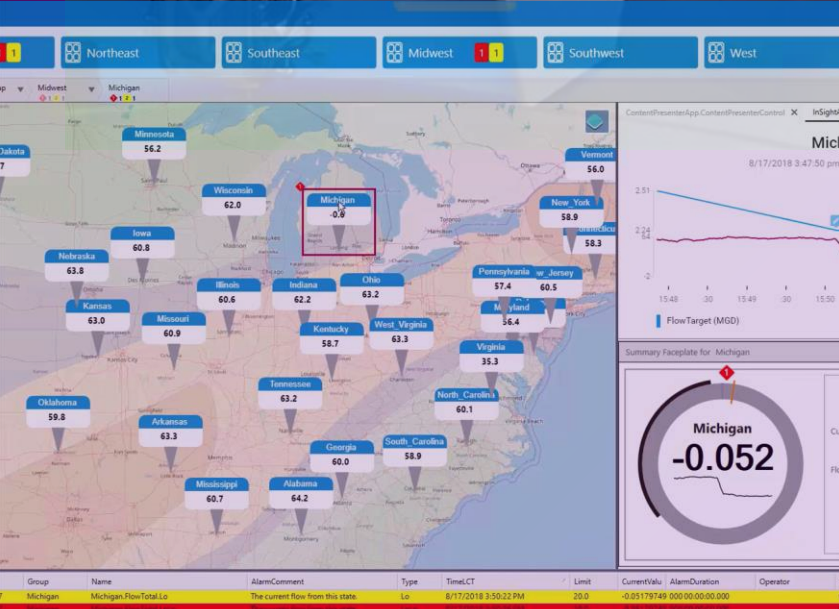




# AVEVA System Platform/AVEVA Plant SCADA

## Supervisory Control and Data Acquisition

- **Unlimited scalability** - Scale up from departmental solutions to enterprise-wide deployments.
- **Save time and development costs** - With comprehensive user definable standards, you can dramatically reduce time to value and reduce errors.
- **Enterprise-wide consistency** – Standards based approach to design and deployment ensures consistency across projects and partners.
- **Geographically distributed** – Centrally Manage widely distributed SCADA solutions as a single application with ease.
- **Data driven UI design** – Easily converge all of your organizations IT and OT applications into a single pane of glass.



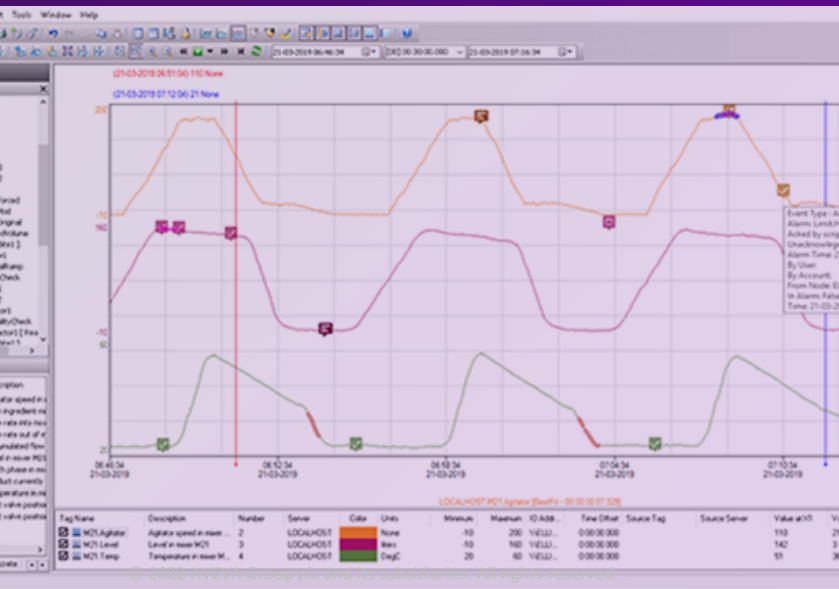
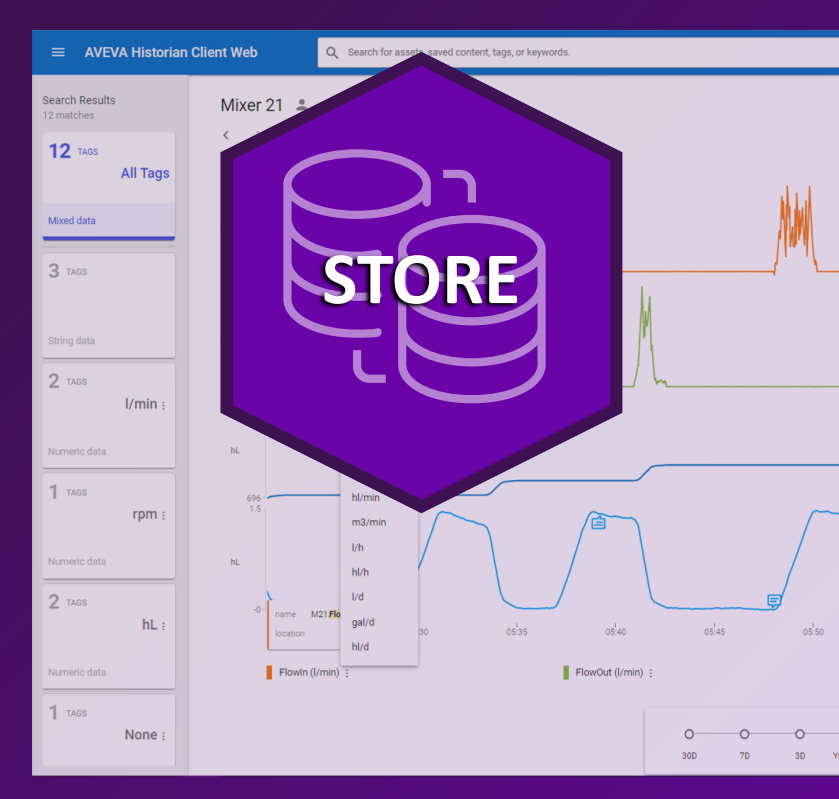




# Enabling Digital Transformation

## AVEVA Operations Control





# AVEVA Historian

## Process database integrated with operations control

- **Process database for operations control** - Tailored to the demanding needs of industrial processes across all industries, AVEVA Historian is the perfect companion to AVEVA's world-leading operations control solutions for HMI and SCADA.
- **Scalability and Performance**- AVEVA Historian simplifies the most demanding data reporting and analysis requirements.
- **Complete Record of Operational Data** - AVEVA Historian handles time-series data, as well as alarm and event data.
- **Uncompromising data integrity** - AVEVA Historian manages low bandwidth data communications, late-coming information, and even data from systems with mismatched system clocks.





# Enabling Digital Transformation

## AVEVA Operations Control







# AVEVA Historian Clients & Reports for Operations

Complete set of tools for rich visualization of operational data

- **Complete coverage** – Trend analysis, query builder, real time dashboarding, Excel add-in and detailed reports are all included capabilities.
- **Contextual operational insights** - Better insights into your business – know what’s happening, what’s happened and what is likely to happen. Get immediate access to relevant data for more informed decisions. Expose hidden opportunities for reducing operational costs and improving asset performance.
- **Report With Ease** - Significantly reduce report development time, simplify report modification, and empower transformation of raw data into attractive, information-filled reports.



# Enabling Digital Transformation

## AVEVA Operations Control







**VISUALIZE**

# Operations Management Interface

Common process visualization technology across AVEVA



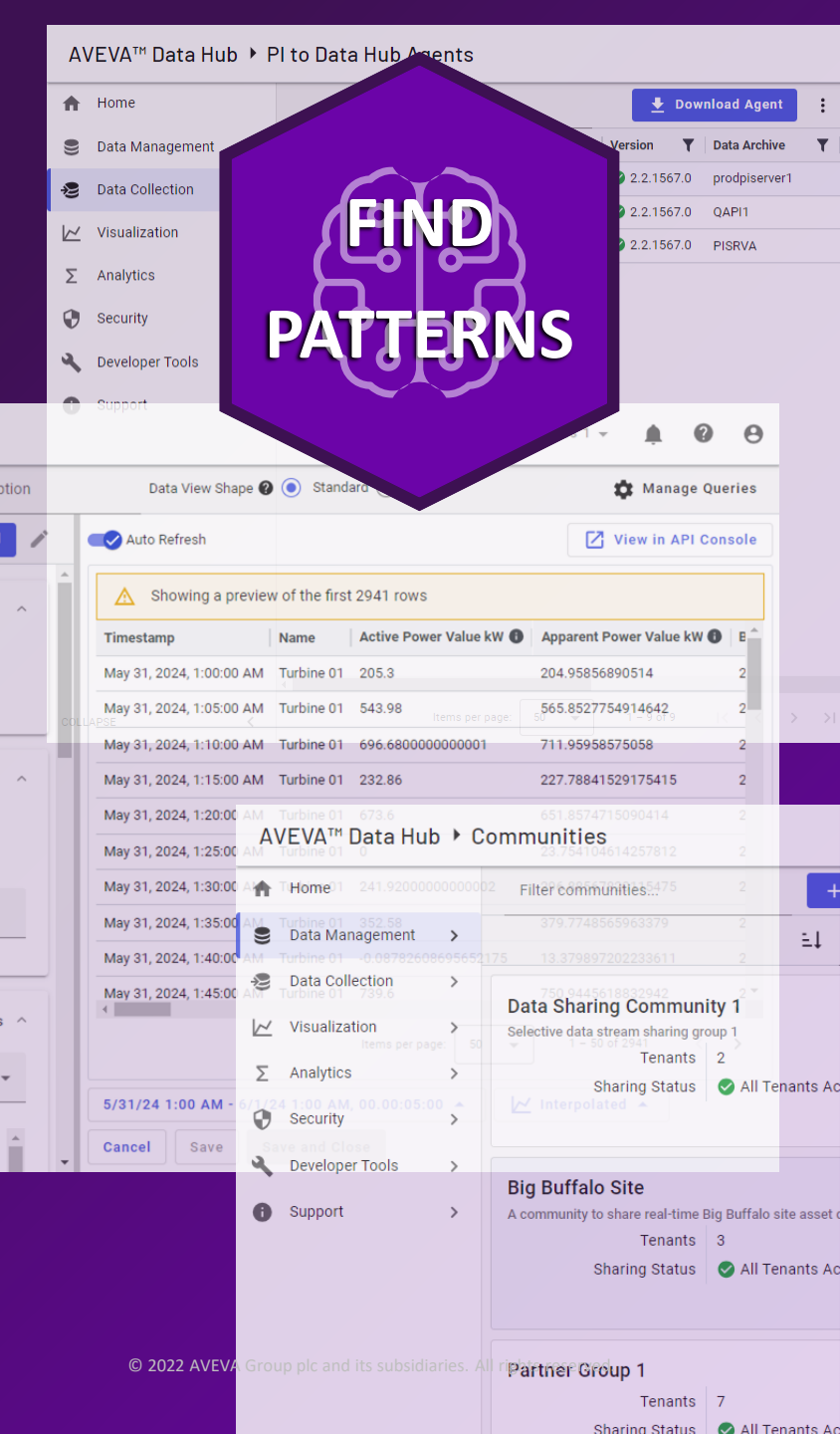




# Enabling Digital Transformation

## AVEVA Operations Control





# CONNECT Data Services/AVEVA Insight

Streamlined, real-time data aggregation and sharing in the cloud

- **Open, agnostic data ingress** - Ingest data from any source with ease, including native integrations with AVEVA™ PI System™, AVEVA™ Historian, and AVEVA Edge Data Store.
- **Storage of sequential data and context** - Securely store real-time industrial data and add relevant context. Ingress sequential data, including time-series, in a database independent and separate from control systems.
- **Customizable data views** - Customize views of your data and enable visualizations to reflect directly into applications like PowerBI, Grafana, and AI/ML tools.
- **Connected community** - Share data securely to external sources and across multiple tenants, and maintain granular control over the data shared with each business partner.



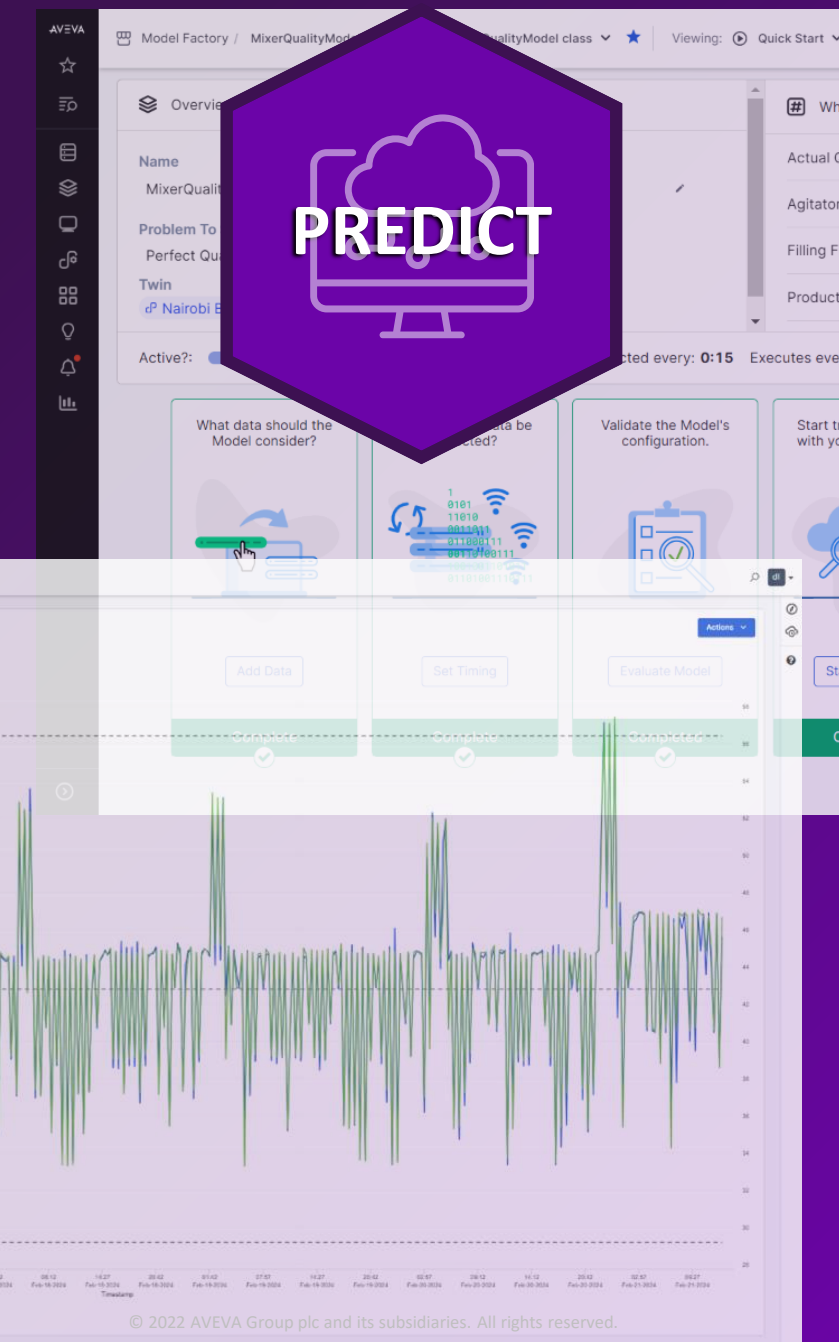


# Enabling Digital Transformation

## AVEVA Operations Control







# AVEVA Advanced Analytics

Transform your data into actionable insights

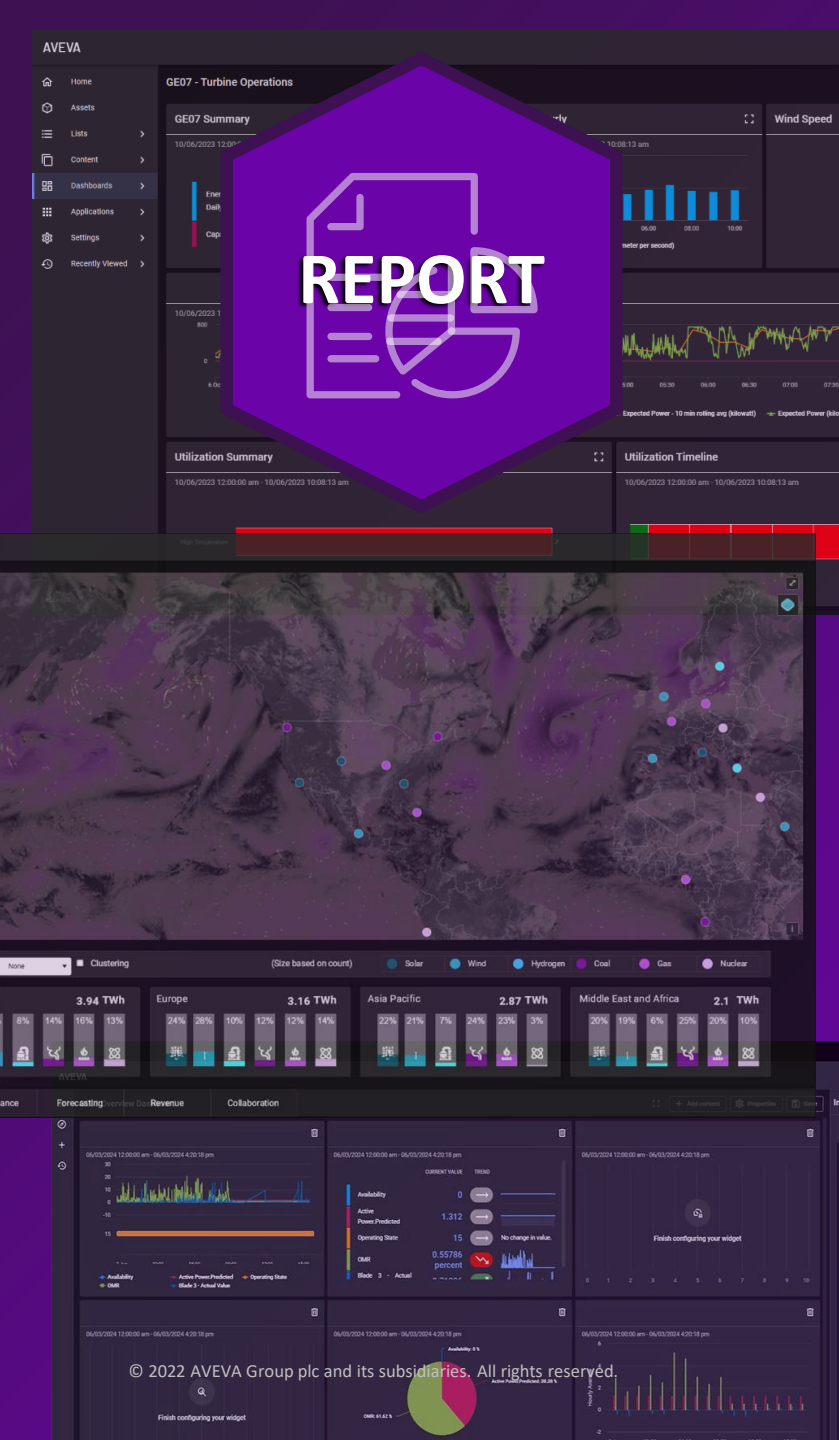
- **Predict** - Predict process outcomes and asset behavior using cloud-based AI and machine learning (ML) at scale.
- **Analyze** - Create AI-driven models, run analytics, and visualize results, all in a no-code environment.
- **Prescribe** - Get system-generated prescriptive recommendations to make the right decisions to improve sustainability, throughput, and quality. Receive real-time alerts in the event of process or quality deviations to course-correct during production processes.



# Enabling Digital Transformation

## AVEVA Operations Control





# CONNECT Visualization Services

Cloud based visualization using self-service and pre-defined content

- **Self-service dashboards** - User-created dashboarding experience built from an included content library allowing for flexibility to address unique data visualization needs and root cause investigation.
- **Pre-defined dashboards** - Engineered views providing a more structured and interactive visualization experience focused on tracking an understood perspective with a consistent visualization.
- **Organize and share** - Build and organize lists of assets and previously associated content for easy sharing with other users.
- **Industrial AI Assistant** - Question-and-answer tool to quickly find and summarize information by asking natural language queries through a chat interface.

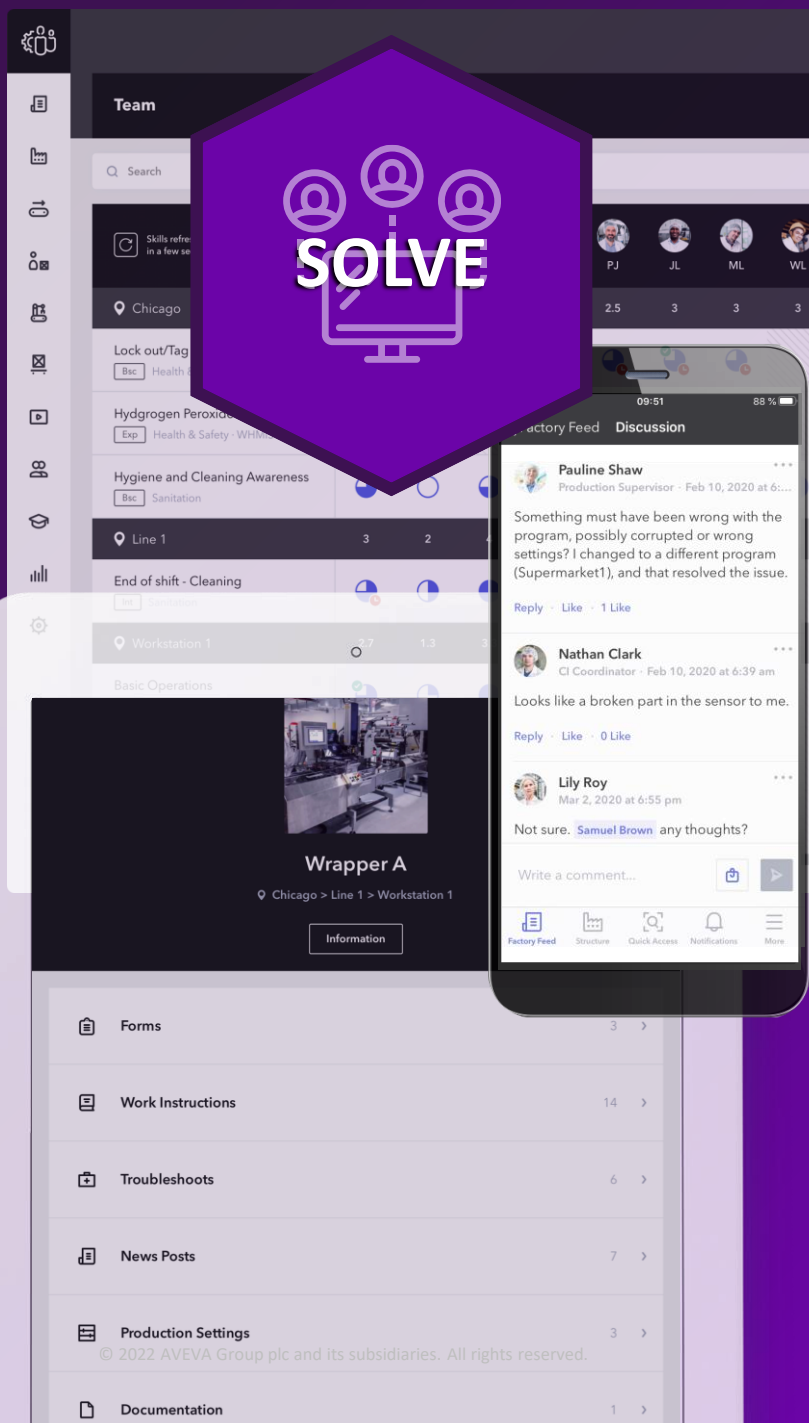




# Enabling Digital Transformation

## AVEVA Operations Control





# AVEVA Teamwork

## Collaborative Industrial Operations

- **Digital knowledge** - Scan QR codes to quickly access a standardized library of instructions, videos and troubleshooting content.
- **Skills management** - Deliver and track training for new hires, upskilling and certifications with a review pane to view pending and completed training.
- **Collaboration** - Connect with workers across shifts and facilities to solve problems. Share insights in a logbook and continuously grow the archive of knowledge.
- **Issues management** - Capture, track and resolve problems through call for help escalation and collaboration with subject matter experts.

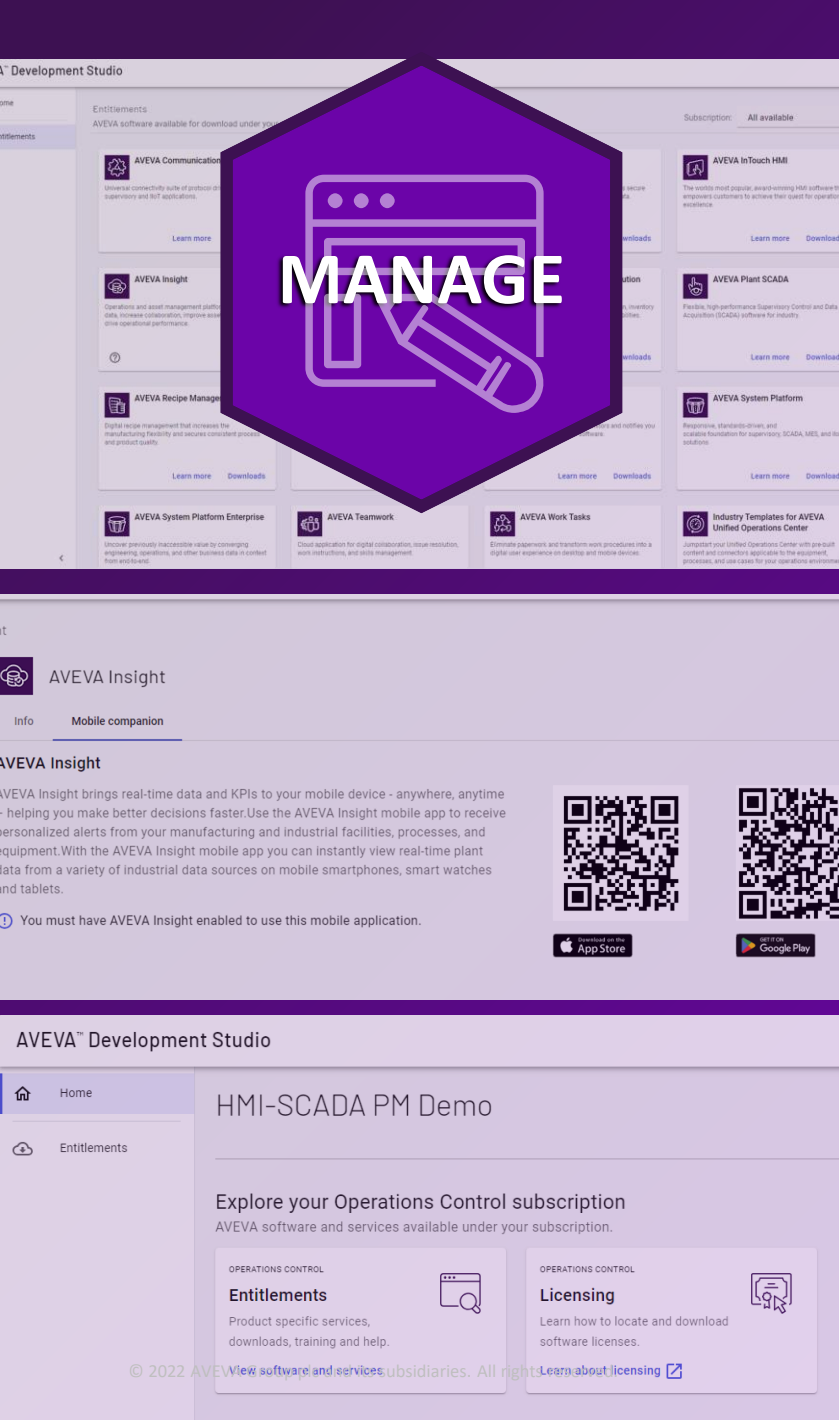


# Enabling Digital Transformation

## AVEVA Operations Control





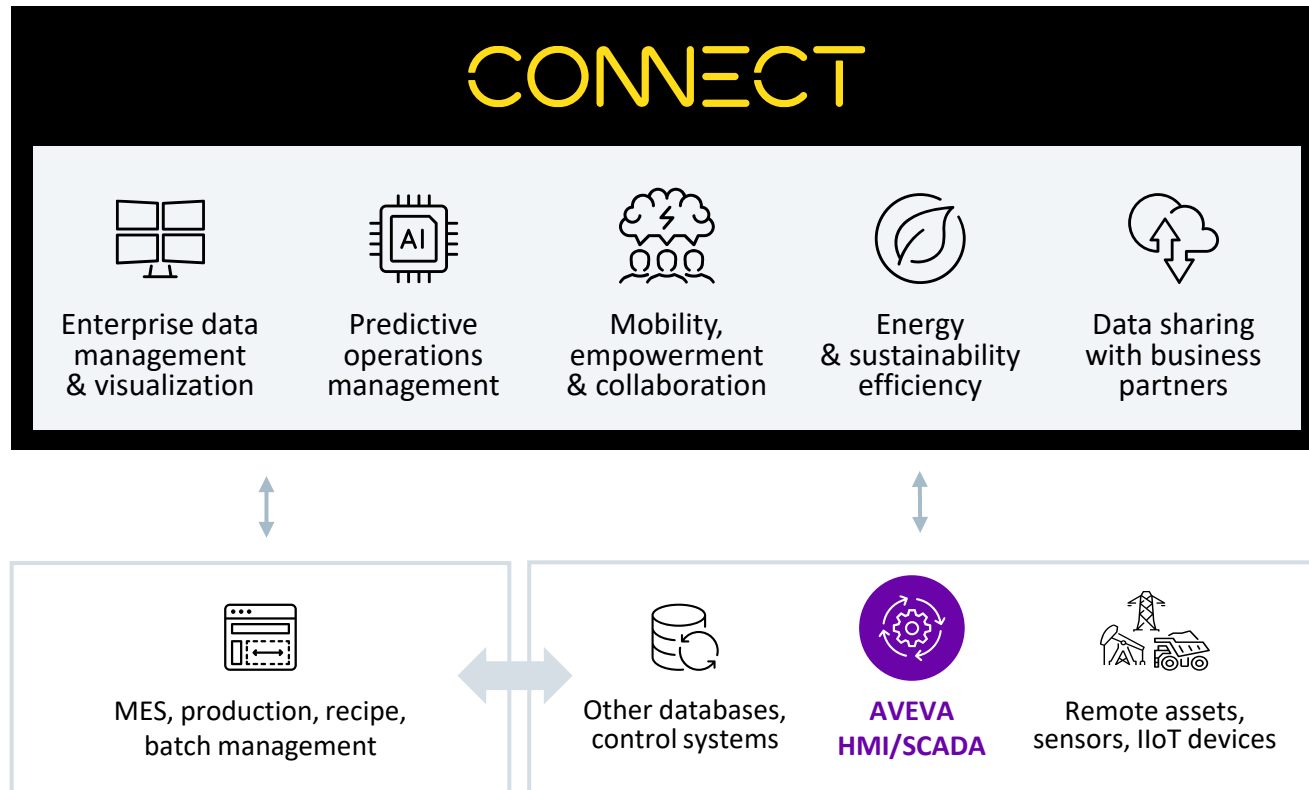


# AVEVA Development Studio

## Centralized Lifecycle Management

- **Reduce HMI Engineering Cost and Effort** - The template-based approach to HMI/SCADA engineering enables reuse of data across multiple applications while encouraging adoption of company standards.
- **Normalization and Contextualization** - AVEVA Development Studio uses a single unified Plant Model that logically represents your processes, physical equipment, and industrial systems to make the design and maintenance of your HMI SCADA systems more consistent and efficient.
- **Improve System Maintainability** - AVEVA Development Studio extends system lifecycle and maintainability through centralized application management and deployment in networked environments.

# CONNECT extends value for our HMI/SCADA customers



Make industrial data available beyond the OT network

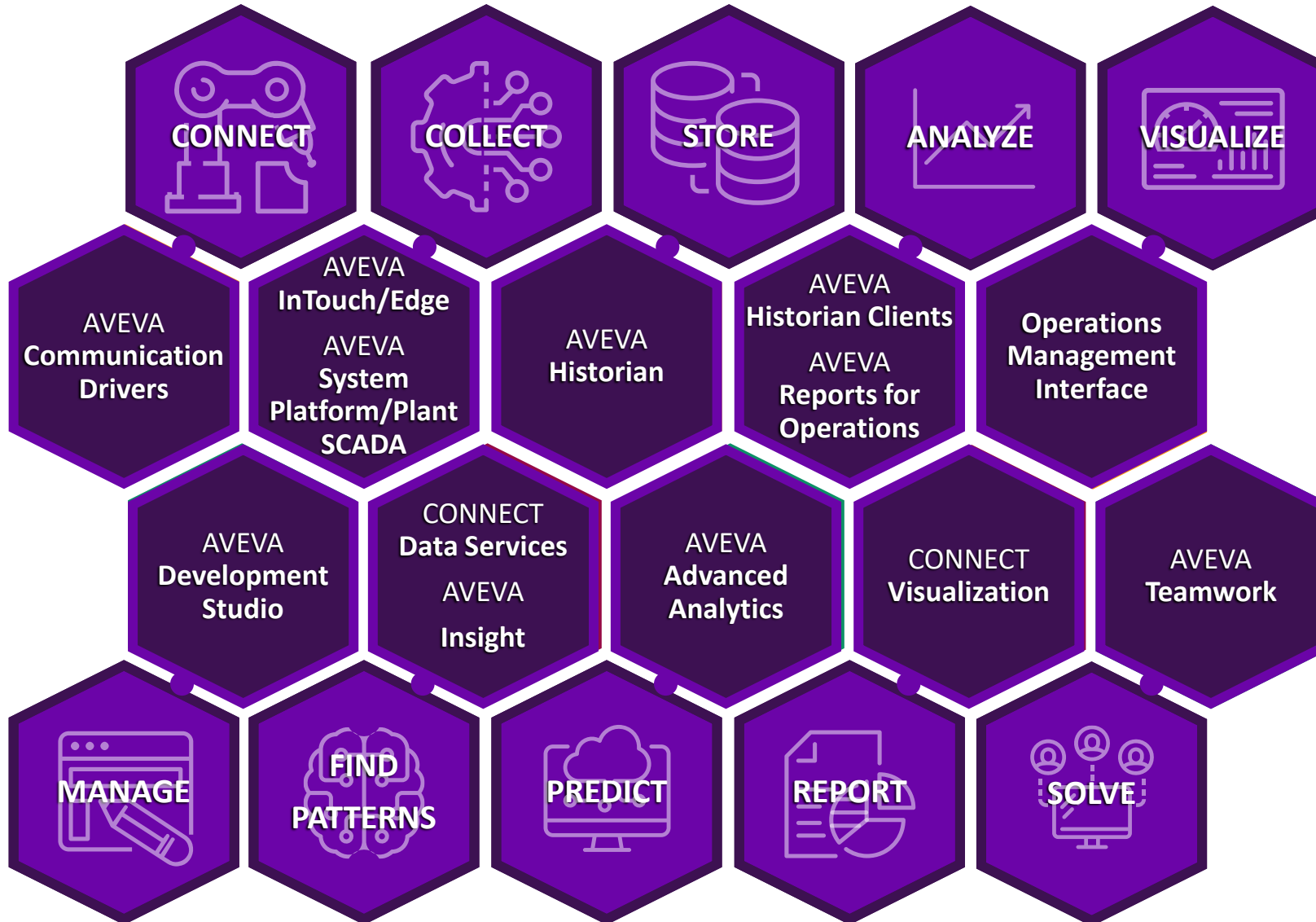
Visibility across sites with edge to cloud and data sharing communities

Rich persona-based visualization experiences

Analytics capabilities to handle complex calculations and AI models

Connectivity, with automated data ingress (no coding) and native integration (APIs)

# AVEVA Operations Control



Empowering Digital Transformation with the power to choose the configuration, architecture and deployment options that best meet your objectives



THANK YOU!