

NOV 2022

Enterprise Visualization, a Step Change in Operational Awareness

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AVEVA

Agenda

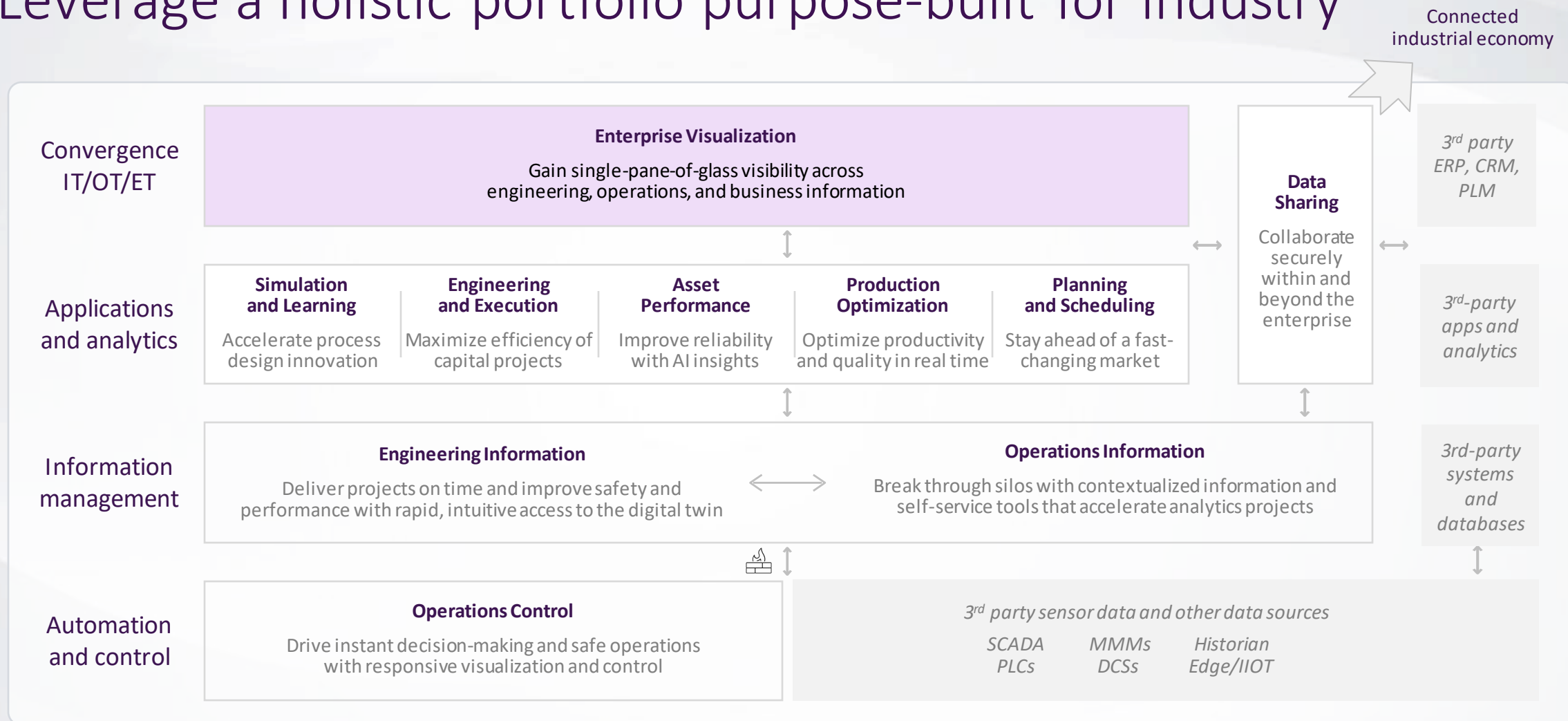
- Introduction
- It's not SCADA
- Systems of Systems approach
- Extensibility
- Demos and Templates
- Customer Success Stories



Introduction



Leverage a holistic portfolio purpose-built for industry



AVEVA Operations Control

Evolving HMI/SCADA to Operations Control

Enterprise Edition

Long Term Focus
(up to 1 Year)
Enterprise View
IT/OT Convergence



Command Center



Remote Operations Center



Casual User

Supervisory Edition

Medium Term Focus
(up to 1 Week)
Process View
OT Convergence



Control Room



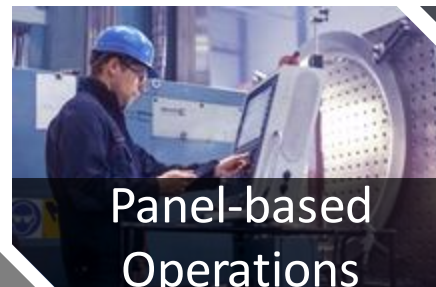
Area Workstation



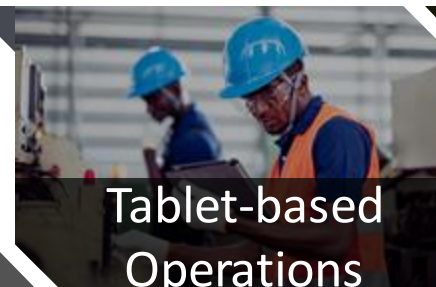
Mobile Supervisor

Edge Edition

Short Term Focus
(up to 1 Shift)
Work Cell View
Control Convergence



Panel-based Operations

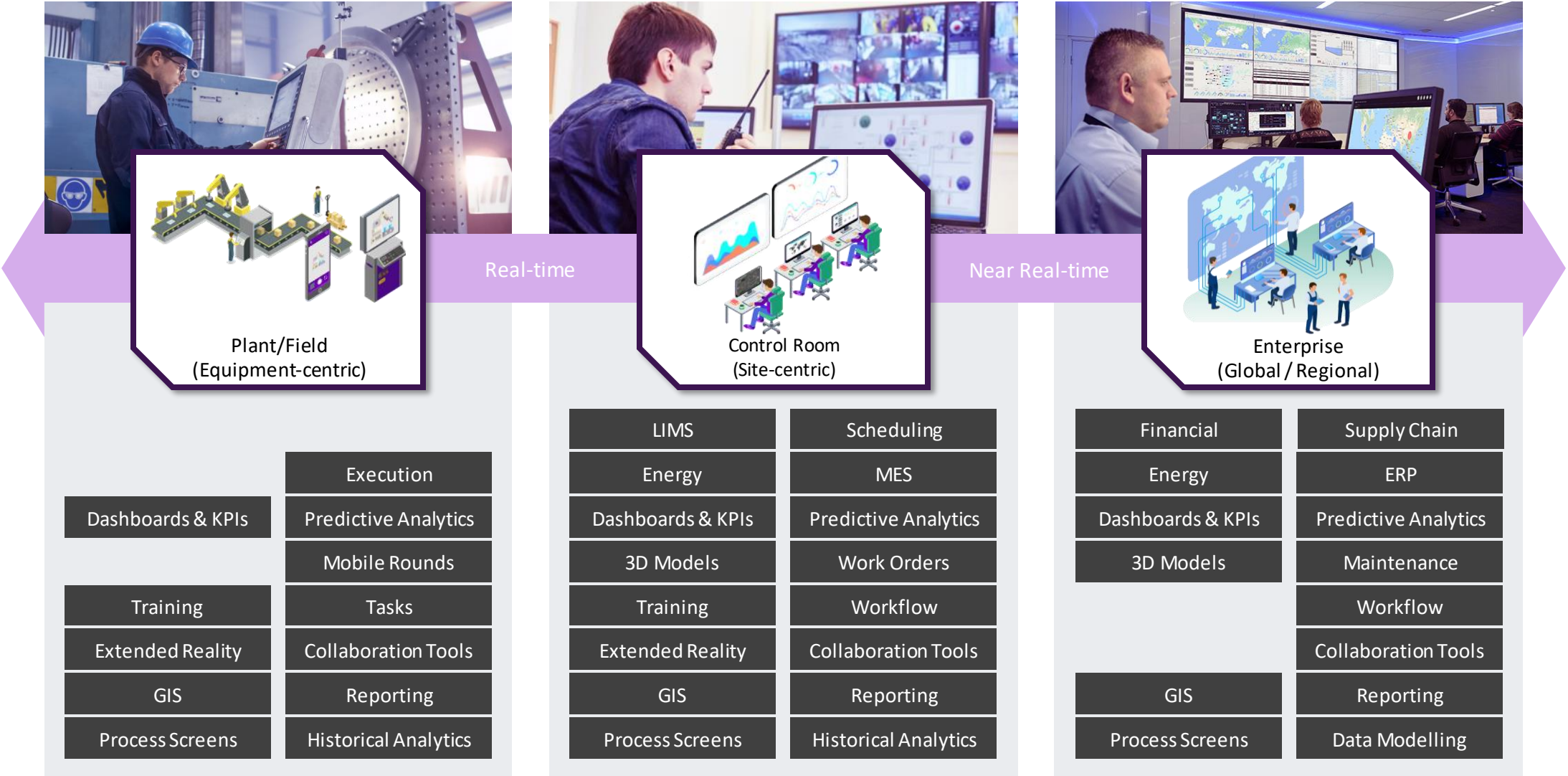


Tablet-based Operations



Off-site Operations

Operations Control to Enterprise Visualization





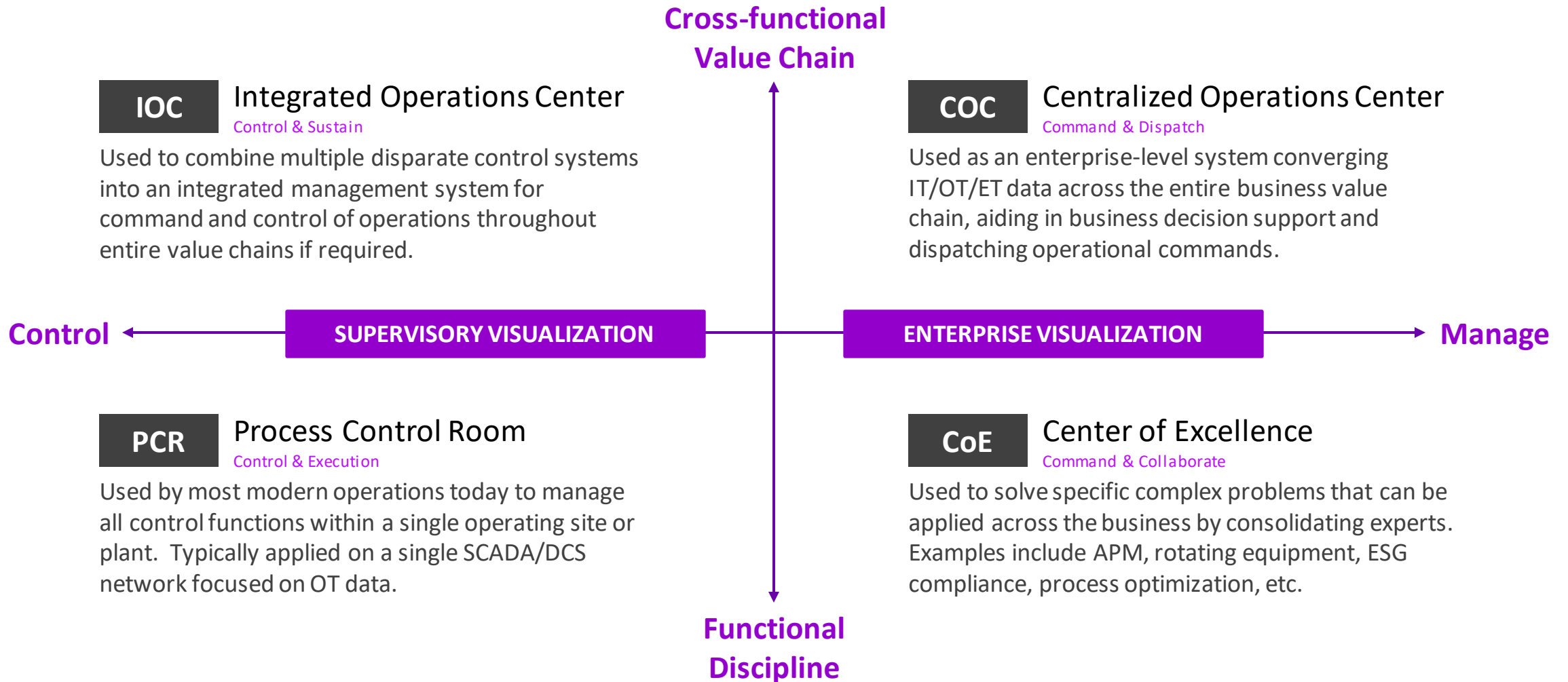
It's not Scada

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Differences between SCADA & Enterprise Visualization

Attributes	Basic - SCADA	Advanced - SCADA	Enterprise Visualization
Application Example	Compressor Station, process unit, power plant, wind or solar site	Mining site, Windfarm, entire refinery remote operations, offshore platforms	Hydrocarbon supply chain, Pit to port mining, multisite renewables, transmission and distribution network, ISO
Usage Differentiation			
Primary User Persona	Unit or site level operations	Site or regional operations	BU or Corporate Operations, Maintenance, EHS&S, Financial
Collaboration across groups	No	Sometimes	Key capability and competitive advantage
Daily Users	5 to 20	20 to dozens	Dozens to 1000s
Installation Network- backend	OT	OT	IT - Data Centers (private/public/onsite), Cloud IaaS, SaaS
Supervisory or direct control	Yes, extensive	Yes, extensive	No, rarely but possible if required
Data Differentiation			
Process Graphics (PID based)	90-100%	90-100%	5-10%
OT/IT/ET visualized %	100/0/?	80/10/10	40/50/10
PI System as source of OT data %	0%	0-10%	90-100%
IT Data Sources	1-3 (LIMS, CMMS)	1-5	10-200
Data Points	I/O Counts, connected devices	I/O Counts, connected devices, IT data points	Data Points per connected IT system or major process asset

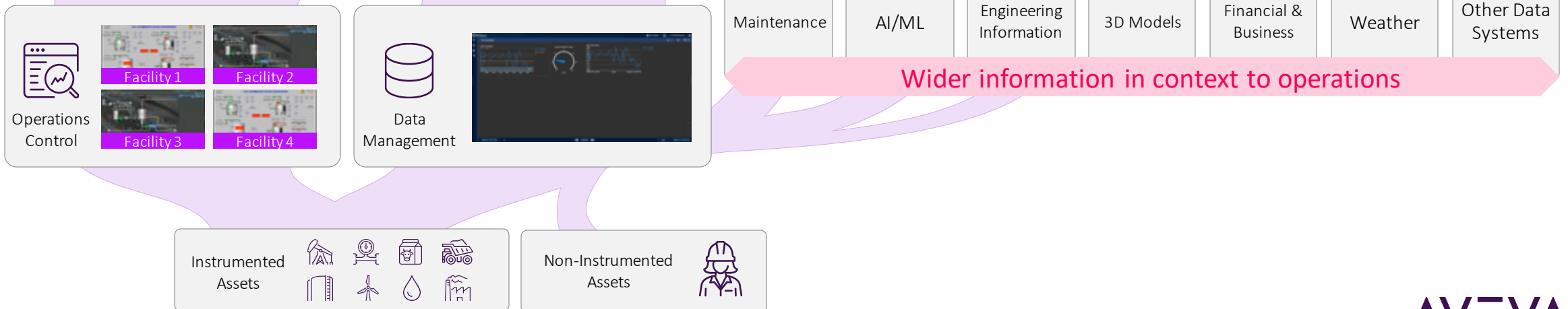
Differences between operations centers



Scaling beyond traditional operations control

Enterprise visualization

- High-level perspective
- Consolidated content
- Enriched data in context
- Connected workforce enablement
- Operating environment for decisions

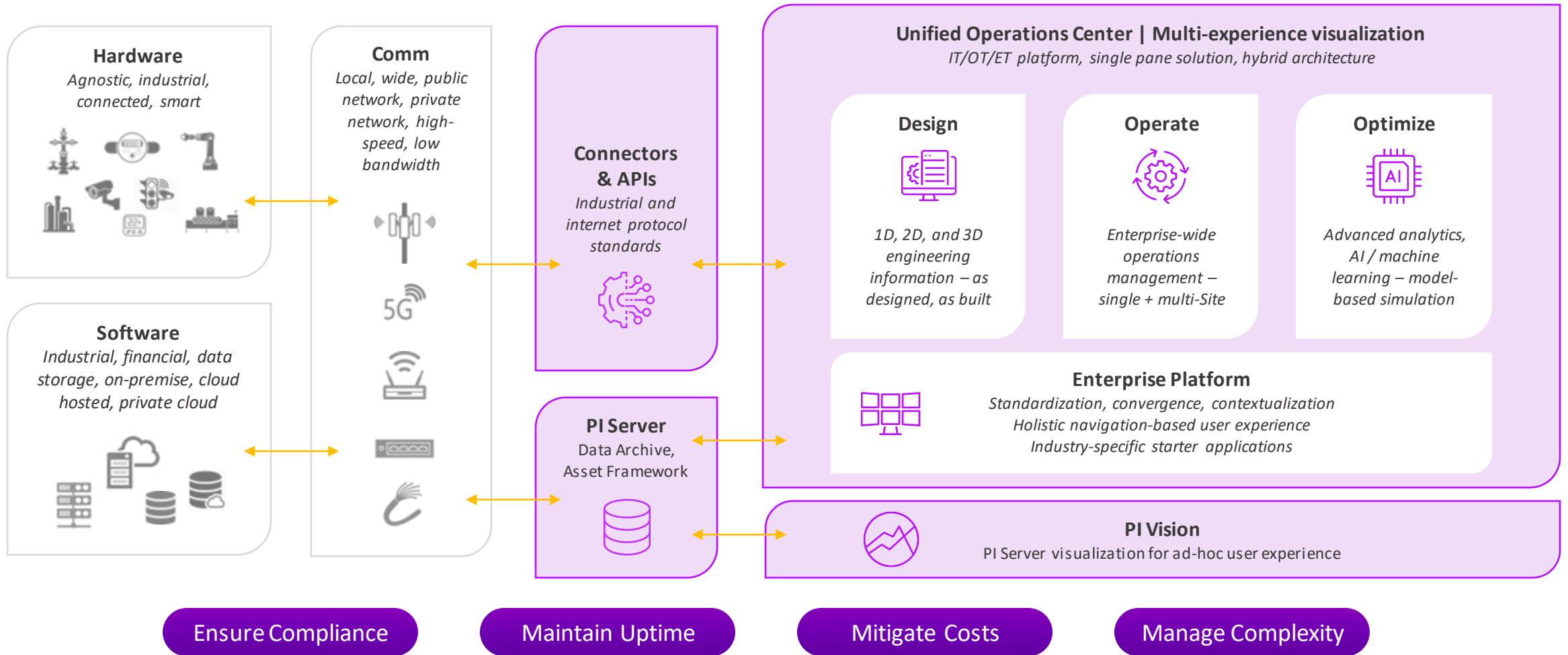




System of Systems

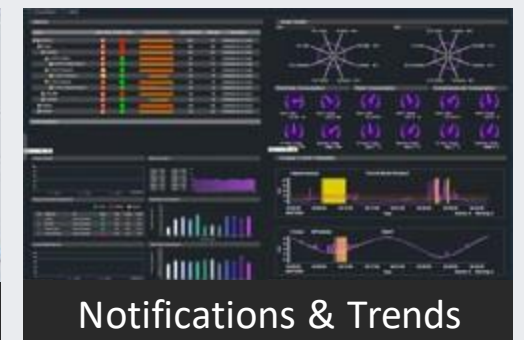
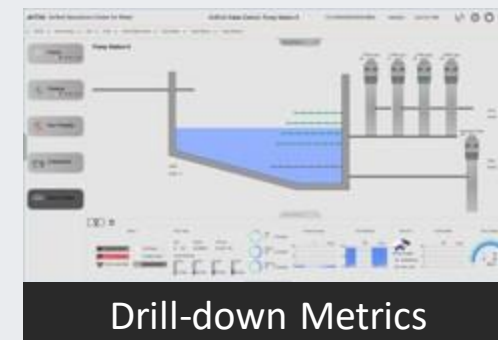


System of systems approach



AVEVA Unified Operations Center

- ▲ Hierarchy of linked KPIs
 - Global
 - Regional
 - Plant/Facility/Operations
 - Equipment
- ▲ Supervisory control
- ▲ Map-based / GIS content
- ▲ Cross-functional collaboration
- ▲ Connected workforces
- ▲ Contextualized 3D models
- ▲ Regulatory alerts
- ▲ Infuse AI and ML
- ▲ Workflow integration
- ▲ Reporting integration
- ▲ Maintenance integration
- ▲ Incident reporting & SOPs
- ▲ Revenue/financial
- ▲ PI Server & PI Vision integration
- ▲ Video surveillance
- ▲ Extensible apps



Converges IT, OT, ET, and IoT data systems into a **single pane solution**



Converges Features & Functionality; for Monitoring & **Command\Control**



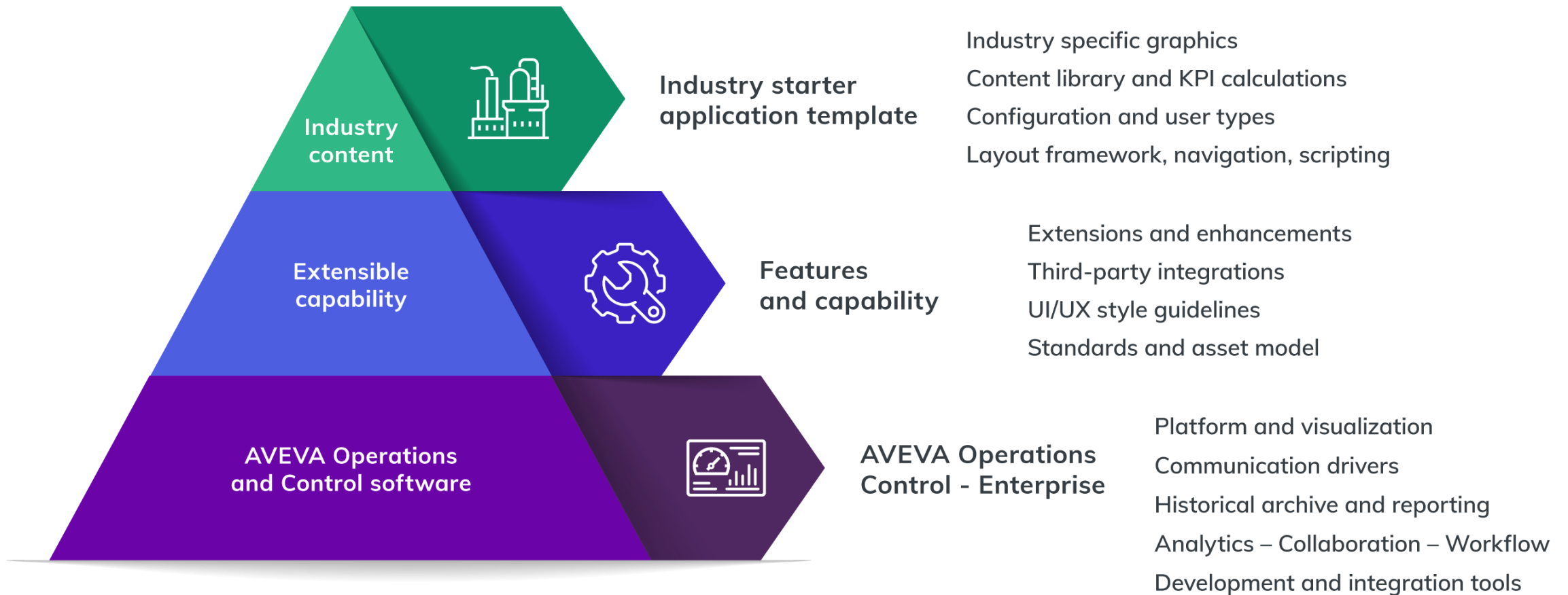
Out-of-Box **Industry Content**; **accelerate** development and ensure **scalability**

Exstensibility

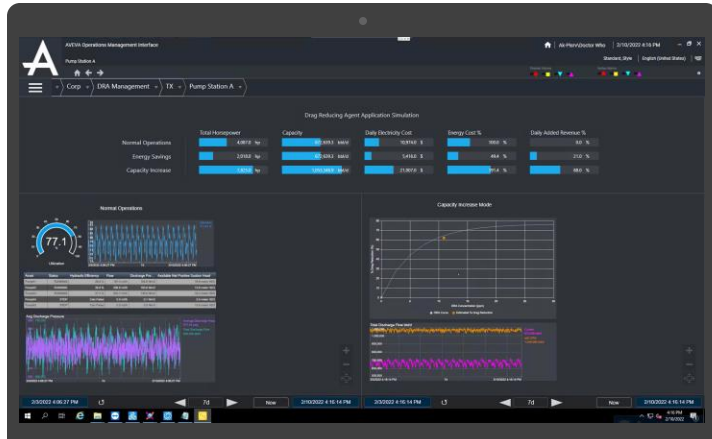
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Building blocks of AVEVA Unified Operations Center

Industry templates provides a base structure that you can customize

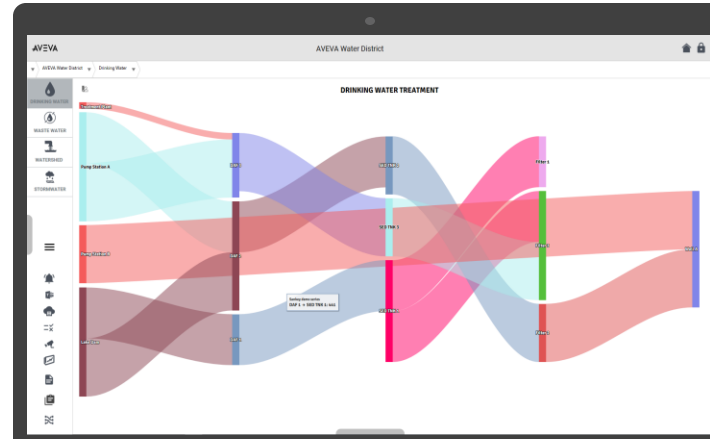


Extensibility



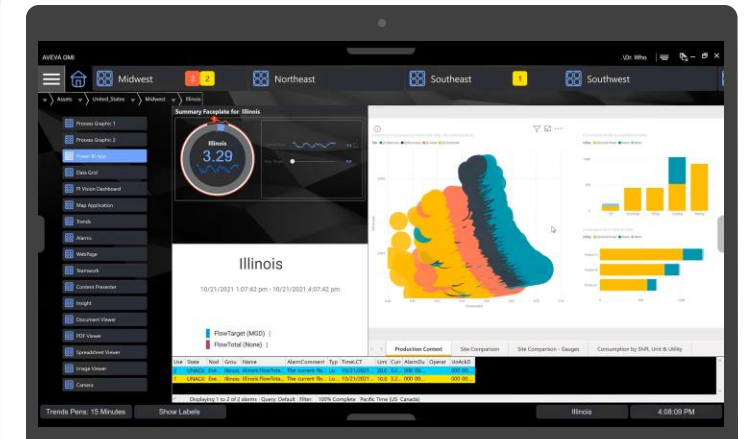
AVEVA PI Vision

Integrate existing AVEVA PI Vision dashboards, benefiting from navigational context between selected content.



Sankey Diagrams

Visualize energy, financial, and material paths, on a regional or national level to locate the most important contributions to a flow.

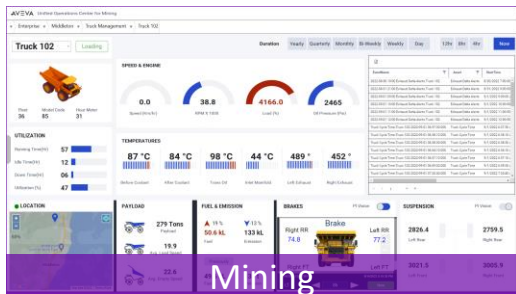
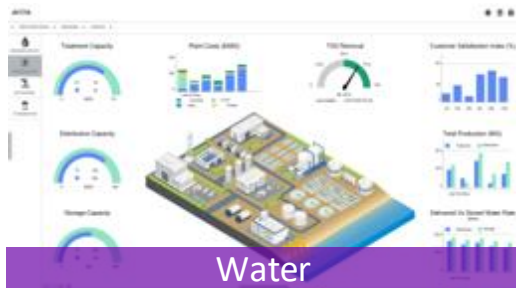


Microsoft Power BI

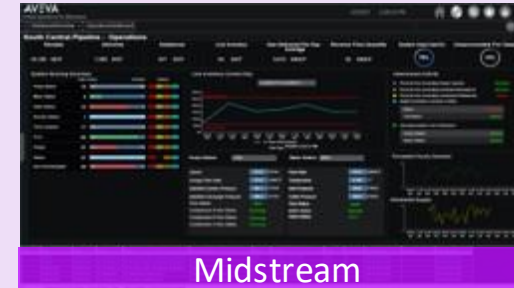
Show Power BI reports with dynamically configure dashboards based on the current context or configuration of the application.

Demos and Templates

Industry templates for AVEVA Unified Operations Center



General Availability



Early Access



Conceptual

Enterprise operations performance visibility in real-time

Rich intelligence offers a high-level perspective

Drill down by site to individual assets using hierarchical navigation and intuitive visualization

Merge data types to understand deeper context between various aspects of operations

Real-time visibility to critical events as they occur, improving responsiveness

Detailed operational analysis to maximize efficiency and ensure resource availability

Holistic view of impacts from upstream and downstream operational disruptions or outages

Innovative approach to alarm management, emphasizing actionable alerts



User Stories



Kohima Smart City

AVEVA's Unified Operations Center helps create blueprint in sustainable smart city innovation

Integrated cross-city command center and technology platform optimizing the management and efficiency of the city's smart services

Deployed remotely to manage traffic, energy consumption using smart street lighting, city pollution monitoring and public address system



Saudi Aramco

Saudi Aramco remotely implemented AVEVA Unified Operations Center

Early value chain optimization using 3D engineering model

Improved visibility for faster decision making

Installation completed remotely securely & to time, during lockdown



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Nutrien

Improved efficiency using
operational data and insight from
the PI System and
AVEVA Unified Operations Center

Real-time data empowers the team to
proactively troubleshoot and problem
solve operational challenges in nitrate
production

Better cross-team collaboration using
shared data

Streamlined data-transfer between teams
and plants



AVEVA

AVEVA Operations Control

User-centric software subscription for industrial operations, from edge to enterprise.

Operational visibility

Gain a clear perspective into operations relative to the user's role through superior visualization applications.

Data analysis

Drill-down through information layers and leverage tools that allow users to examine data in detail.

Digital thread

Ensure everyone can interpret the same outcomes and remove the burden of recreating data sets and insights.



Collaboration

Bring teams together and promote operational continuity through messages, chat and calls for help.

Coordination & Learning

Develop skillsets and retain knowledge digitally to reduce onboarding and time away from operations.

Vendor agnostic

Software purpose-built for industry and leveraging a wider set of AVEVA and 3rd party devices and applications.

Questions?

Please wait for the microphone.
State your name and company.



Please remember to...

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



Thank you!

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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