MAY 2024

From HMI/SCADA to Operations Control

STRATEGIC VISION

Doug Warren- SVP, HMI/SCADA Business

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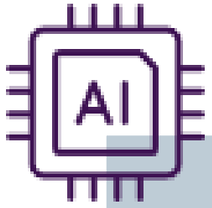
Trends Influencing Industrial Operations

Challenging Traditional Approaches

Customer Trends

- Organizational Convergence
- Software Sprawl
- Resource Challenges
- Informational Silos Breakdown
- 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
- Margin Pressure
- Distributed Workforce
- Geo-Political Uncertainties
- Digital Natives Become the Majority
- Cyber Security

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Key Strategic Initiatives to Improve Customer Success

Moving AVEVA from HMI/SCADA to Operations Control

Extend Use Cases	Consolidate the activities that the operations teams must execute to perform daily activities
Expand Access	Facilitate the access to data and the applications to empower a remote and mobile workforce.
Expand Models	The contextualization and normalization of data must be performed at the edge where the daily industrial operations are performed
Improve Lifecycle Management	Drive down the cost of building and maintaining the systems used to manage industrial operations from edge to enterprise.
Align Commercial Model	Remove barriers introduced by traditional commercial models that impair customers from executing to their optimal capabilities.

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Extend Use Cases

Consolidate the activities that the operations teams must execute to perform daily activities

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Technical evolution to AVEVA Operations Control

Proven history of market leading innovation

Human Machine Interface	Communications drivers	Process historian	Distributed SCADA	Industrial reports	SaaS data management	Operations Management Interface	Enterprise visualization	SaaS collaboration	Unified operations software	Industrial Intelligence Platform
1987	1990	1999	2003	2004	2016	2017	2018	2021	2022	2024
InTouch	Drivers	Historian	System Platform	Reports	Insight	OMI	UOC	Teamwork	AVEVA Operations Control	CONNECT

Edge

Supervisory

Enterprise

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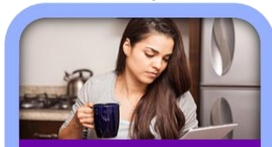
Operations – A Day in the Life

Enabled By AVEVA Operations Control – Hybrid Cloud Operations Platform

Traditional HMI/SCADA Scope

7:12 am


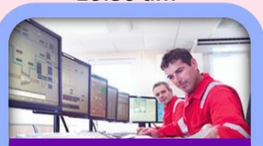
Preview Daily Activities

8:00 am

Receive Shift Handover

9:15 am

Plan Production/ Outages

10:36 am


Change Equipment Operational State

12:30 pm

Monitor Equipment Conditions

1:05 pm

On Demand Assistance

1:42 pm

Diagnose Equipment Problems

2:20 pm

Research Technical Documentation

3:02 pm

Investigate Process Abnormalities

4:20 pm

Receive Ongoing Training

6:20 pm

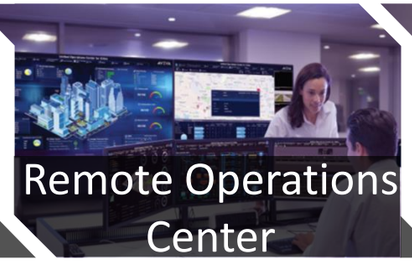
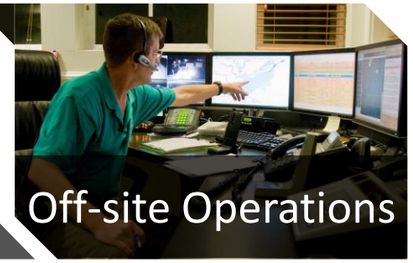
Review Daily Reports

5:00 pm

Deliver Shift Handover

Edge to Enterprise…

Building on a legacy of HMI/SCADA…

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

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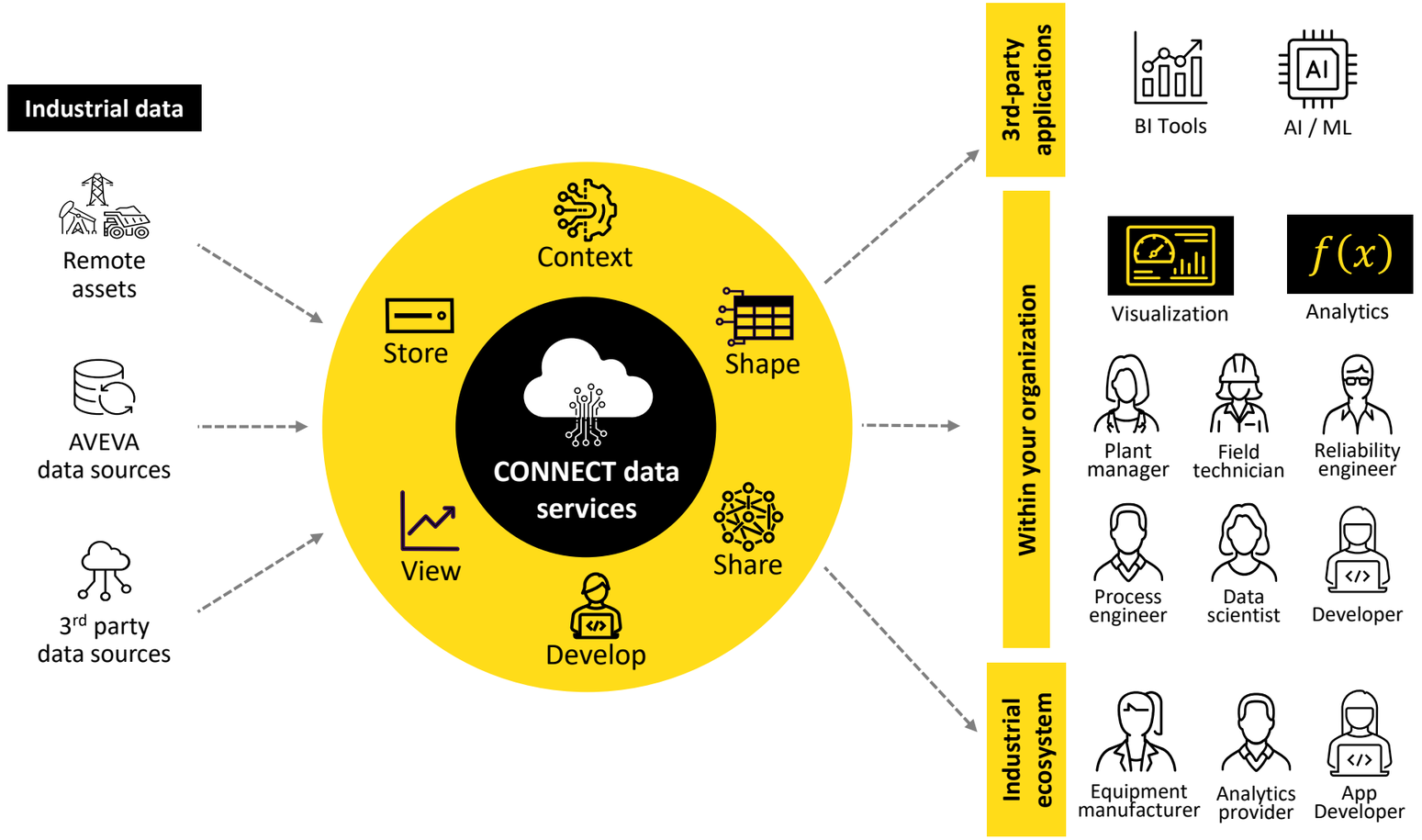
CONNECT data services (formerly AVEVA Data Hub)

Aggregate, contextualize, and share real-time industrial data



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HMI/SCADA Use Cases

- Self-serve visualization
- Advanced analytics
- Configuration management
- Industrial AI Assistant
- Data sharing / consolidation via Data Bricks or MS Fabric

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Expand Access

Facilitate the access to data and the applications to empower a remote and mobile workforce.

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User Experience

Consolidating AVEVA and External Applications to a Single Unified Experience

Reporting	Scheduling	Financials	EAM
Inventory	3D Modeling	ERP	Mapping / GIS
Documents	Analysis	CRM	Schematics
Training	Health & Safety	Standard Operating Procedures	Communications

OT/IT/ET Convergence

HMI / SCADA	Collaboration	OEE	Downtime Analysis
Historian	Trends	Alarm Management	PLC
Guided Analytics	Advanced Analytics	Vision System	Workflow
Batch	MES	Logbook	Energy Management
Recipe	Quality	Simulation	Digital Safety Management

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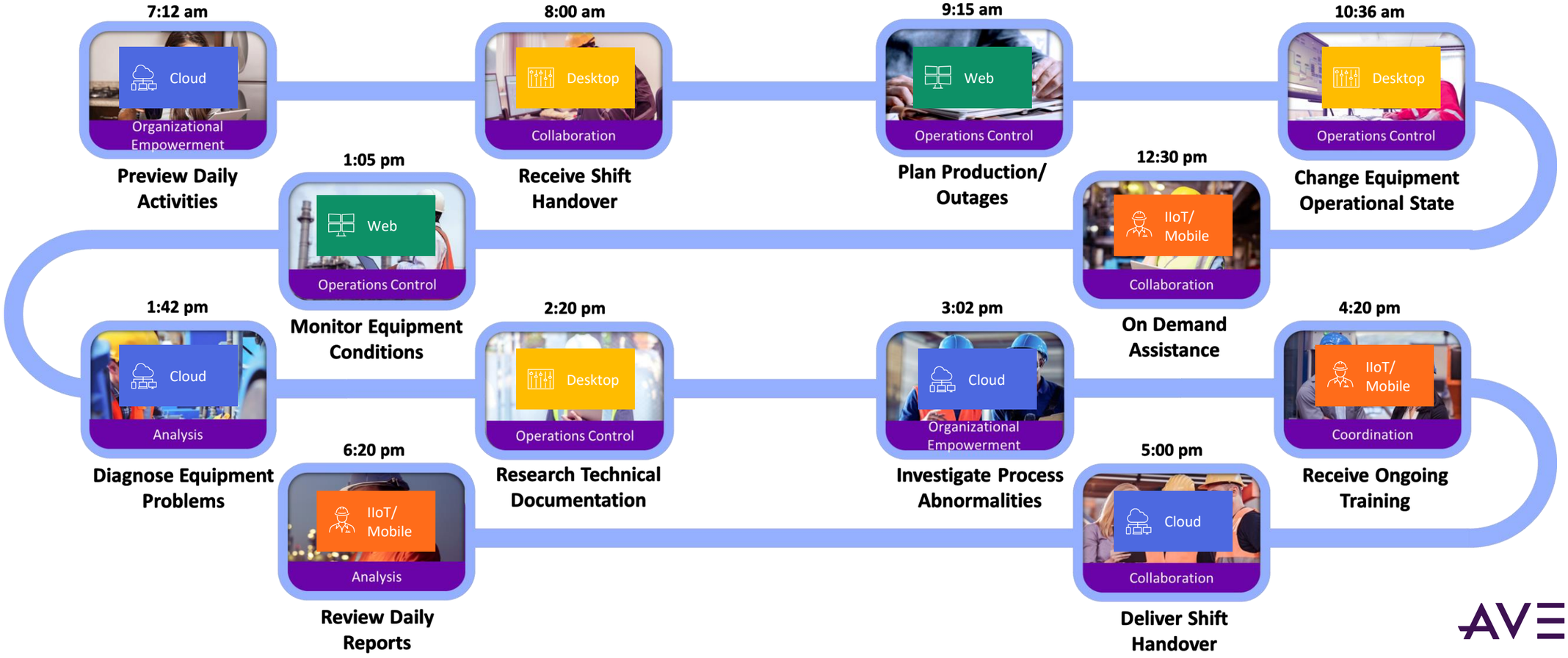
Operations – A Day in the Life

Enabled By AVEVA Operations Control – Hybrid SaaS Solution



Common Visualization Technology

Consistent experience and management from Edge to Enterprise

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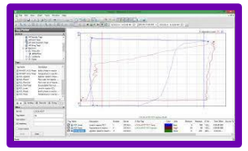
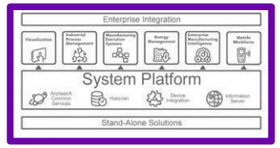
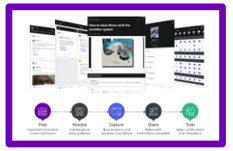
AVEVA Operations Control Configuration Data

Human Machine Interface	Communications Drivers	Process Historian	Distributed SCADA	Industrial Reports	SaaS Data Management	Operations Management Interface	Enterprise Visualization	SaaS Collaboration
HMI	Drivers	Historian	SCADA	Reports	Insight	OMI	UOC	Teamwork
								
Windows	Devices	Trends	Objects/Assets	Static	Tags	Content	Assets	Assets
Symbols	Status	Alarms	Areas	Live	Assets	Apps	Areas	Workstations
Faceplates	Alias	Events	Platforms	Dashboard	Alarms	Widgets	KPIs	Issues
Alarms	Protocols	Query	Data Sources		Charts	Layouts	Apps	People
Trends		Retrieval Mode	Templates		OEE	Nav Model	Widgets	Training
Events		Excel Report	Alarms		Dashboard	Context	Data Sources	Forms
Asset/Data		Asset/Data	Standards		Standards	Asset/Data	Standards	
Standards								

How do I define **Data** (in an industrial context)?

Streams | Asset Context | Analytics | Notifications | Lifecycle | Spatial Context

People View

System View

Data Streams | **Data Enrichment** | **Reference Content** | **Local Situation (3D, Laser)**

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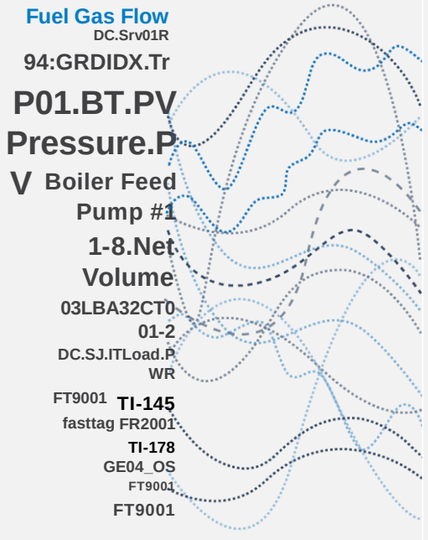
How do I define **Data** (in an industrial context)?



Streams | Asset Context | Analytics | Notifications | Lifecycle | Spatial Context

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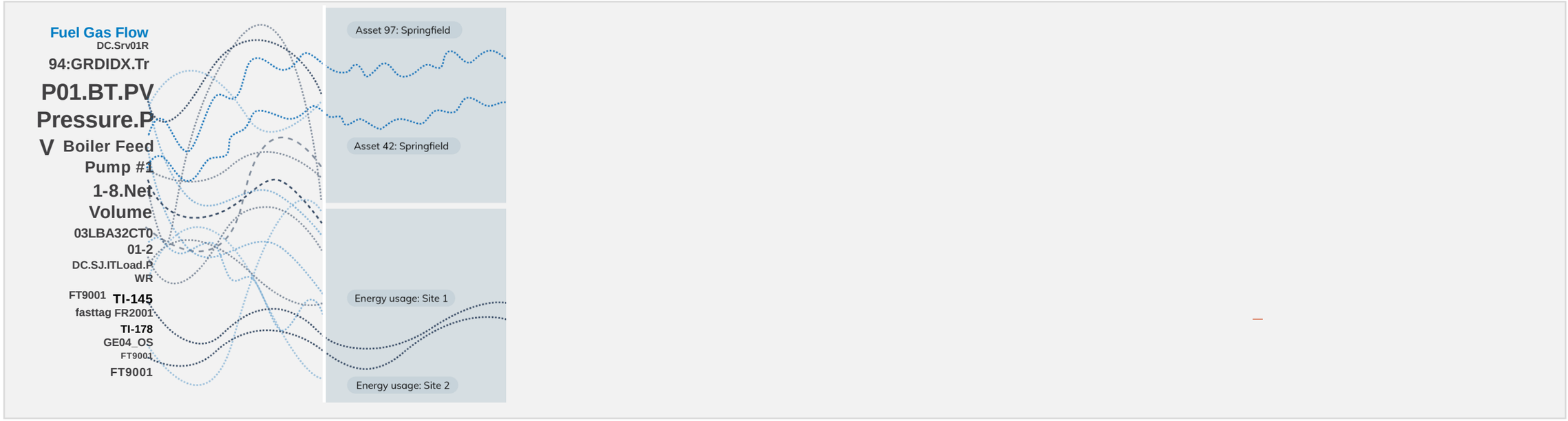

Streams | Asset Context | Analytics | Notifications | Lifecycle | Spatial Context

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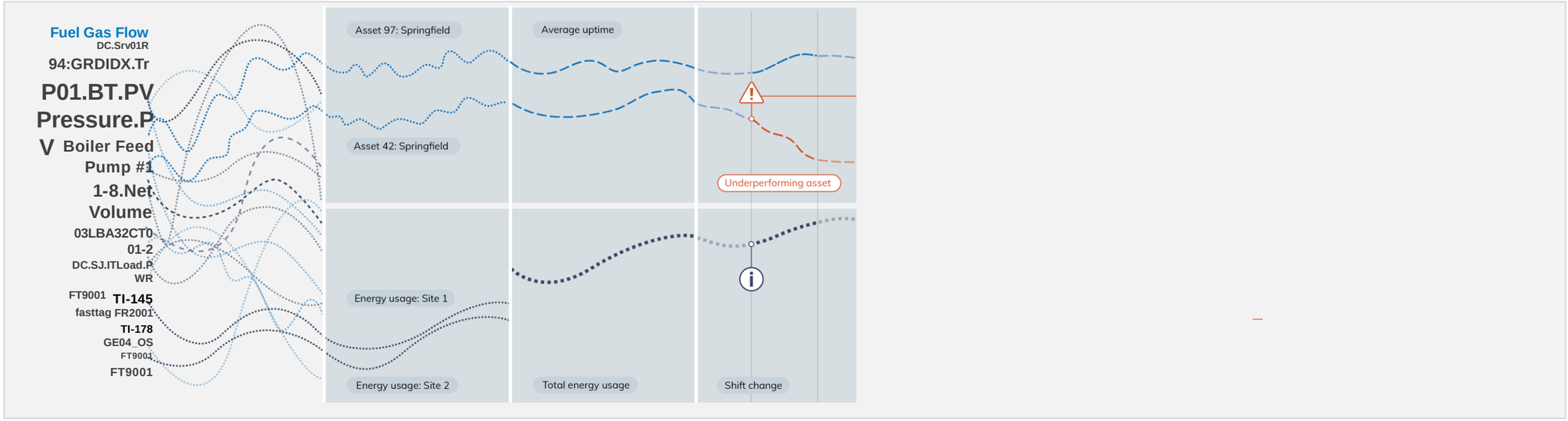

Streams | Asset Context | Analytics | Notifications | Lifecycle | Spatial Context

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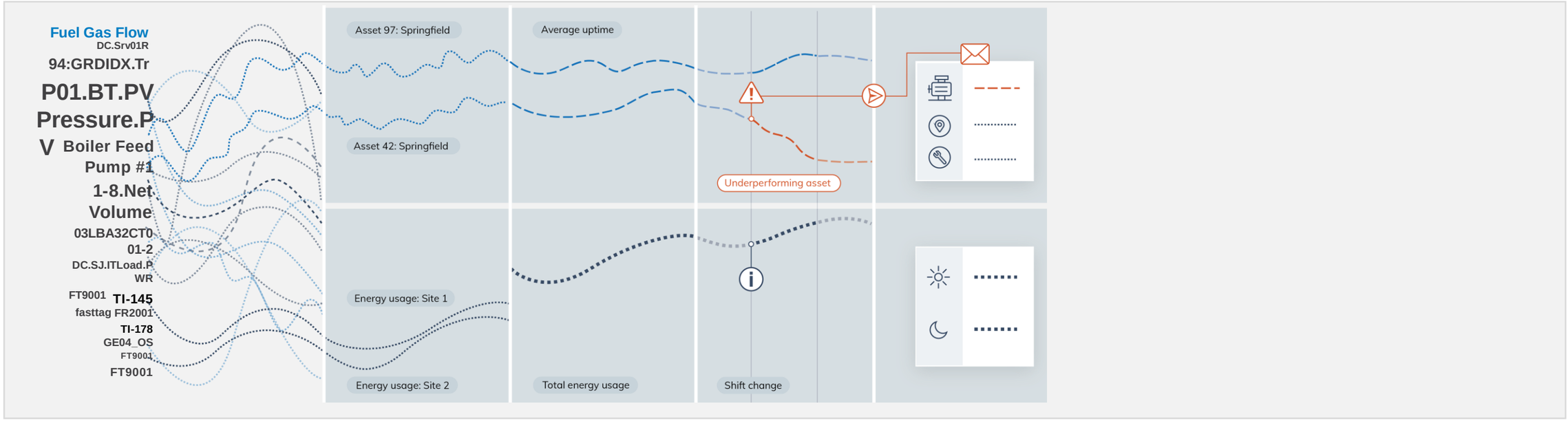

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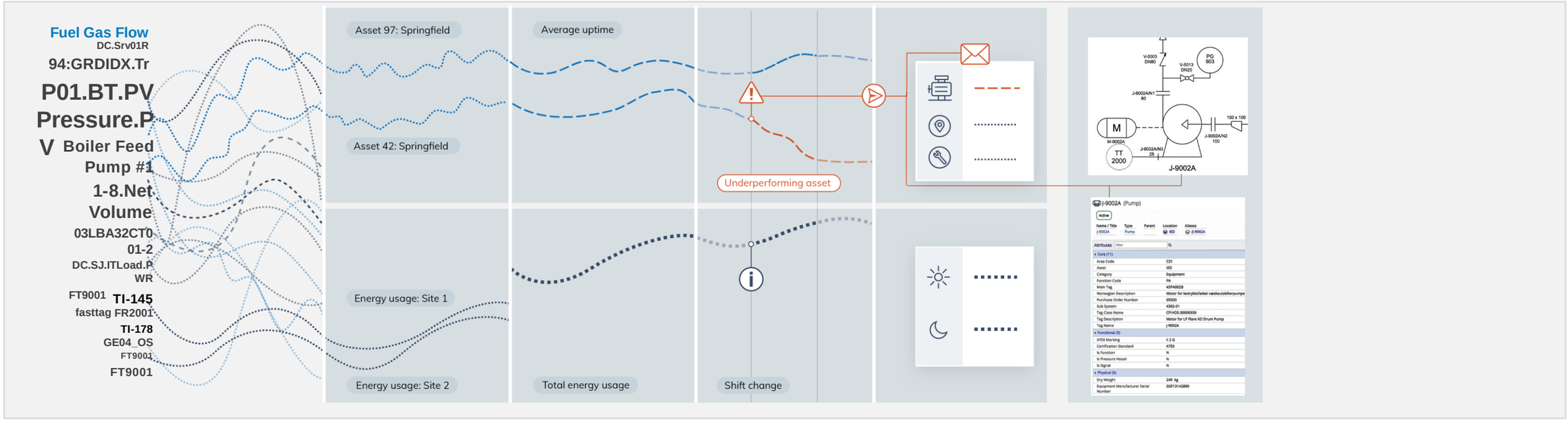

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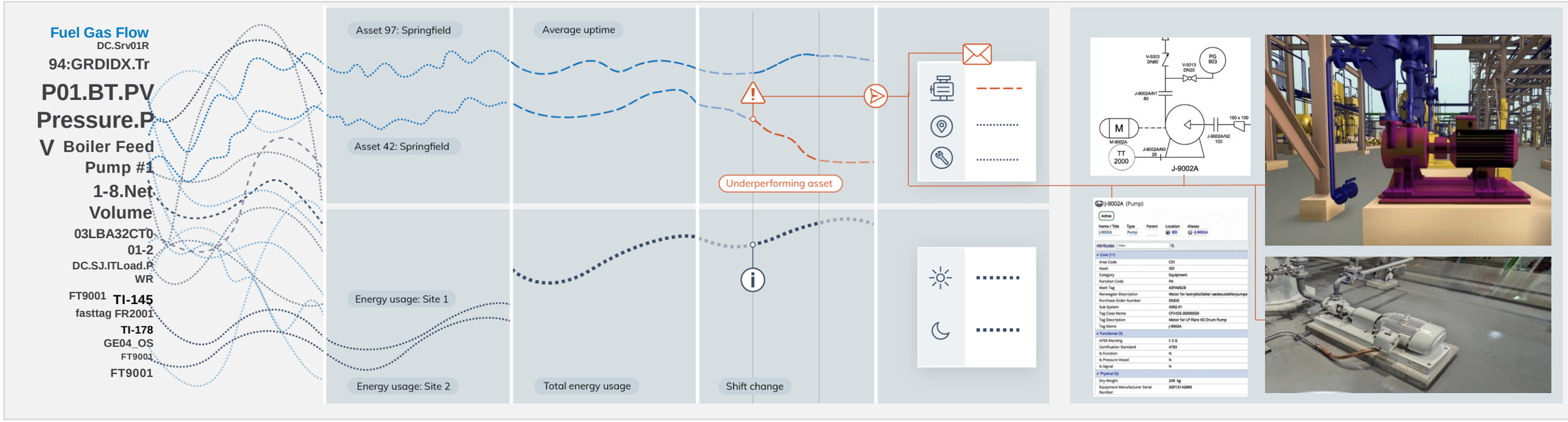

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People View

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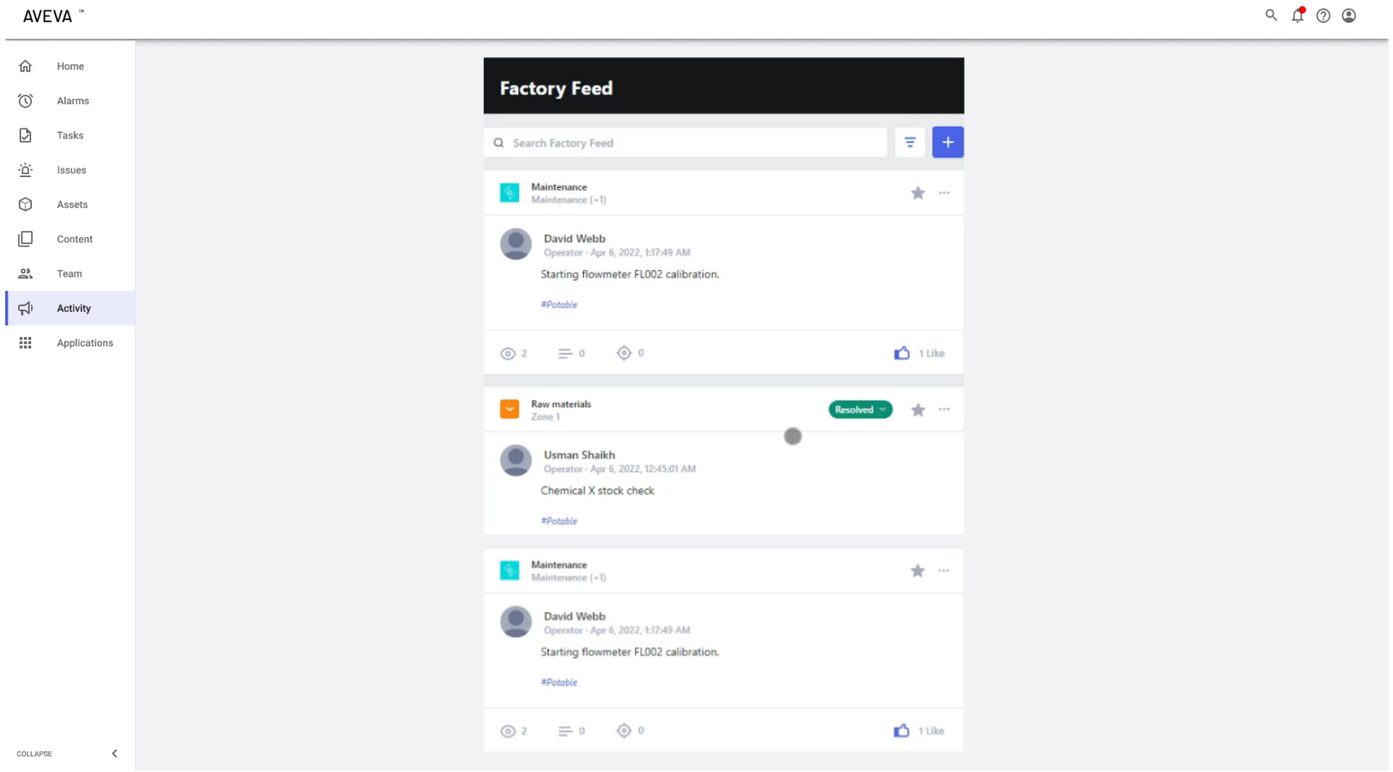
Future Vision

Pivot from multiple independent experiences to a single unified experience



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Expand Models

Drive down the cost of building and maintaining the systems used to manage industrial operations from edge to enterprise.

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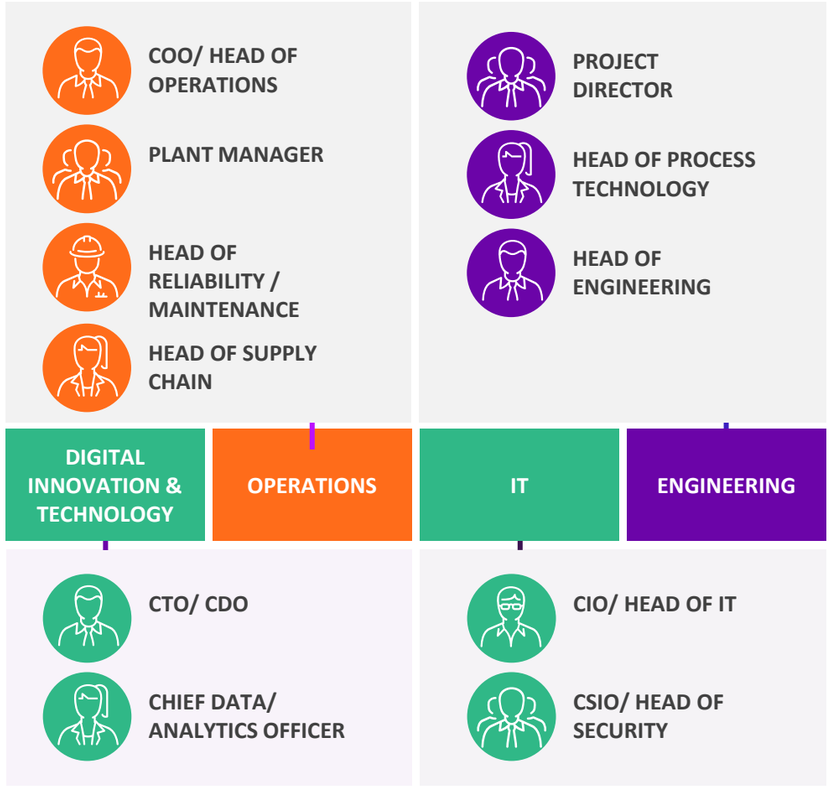
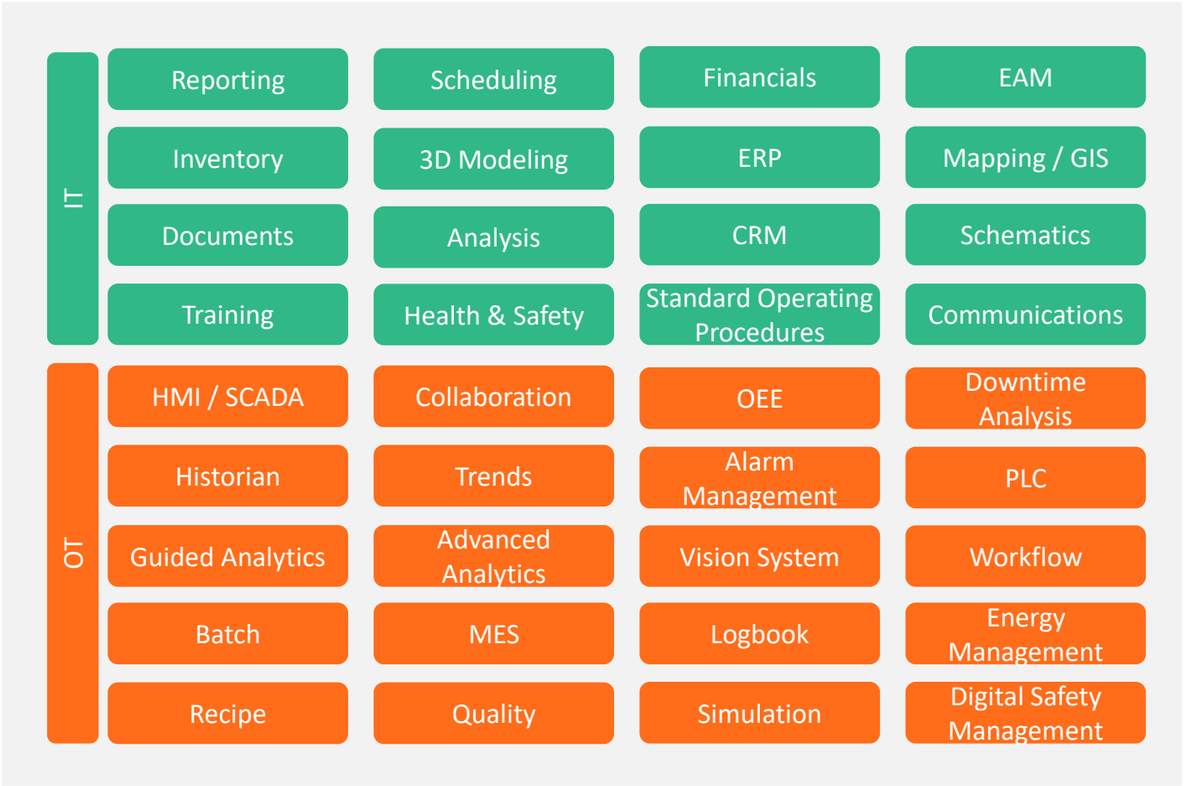
Increase Visibility to Siloed Systems/Groups

Independent Groups Established Systems to Meet Specific Goals (IT/OT/ET)





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Multiply digital threads enable your digital value chain

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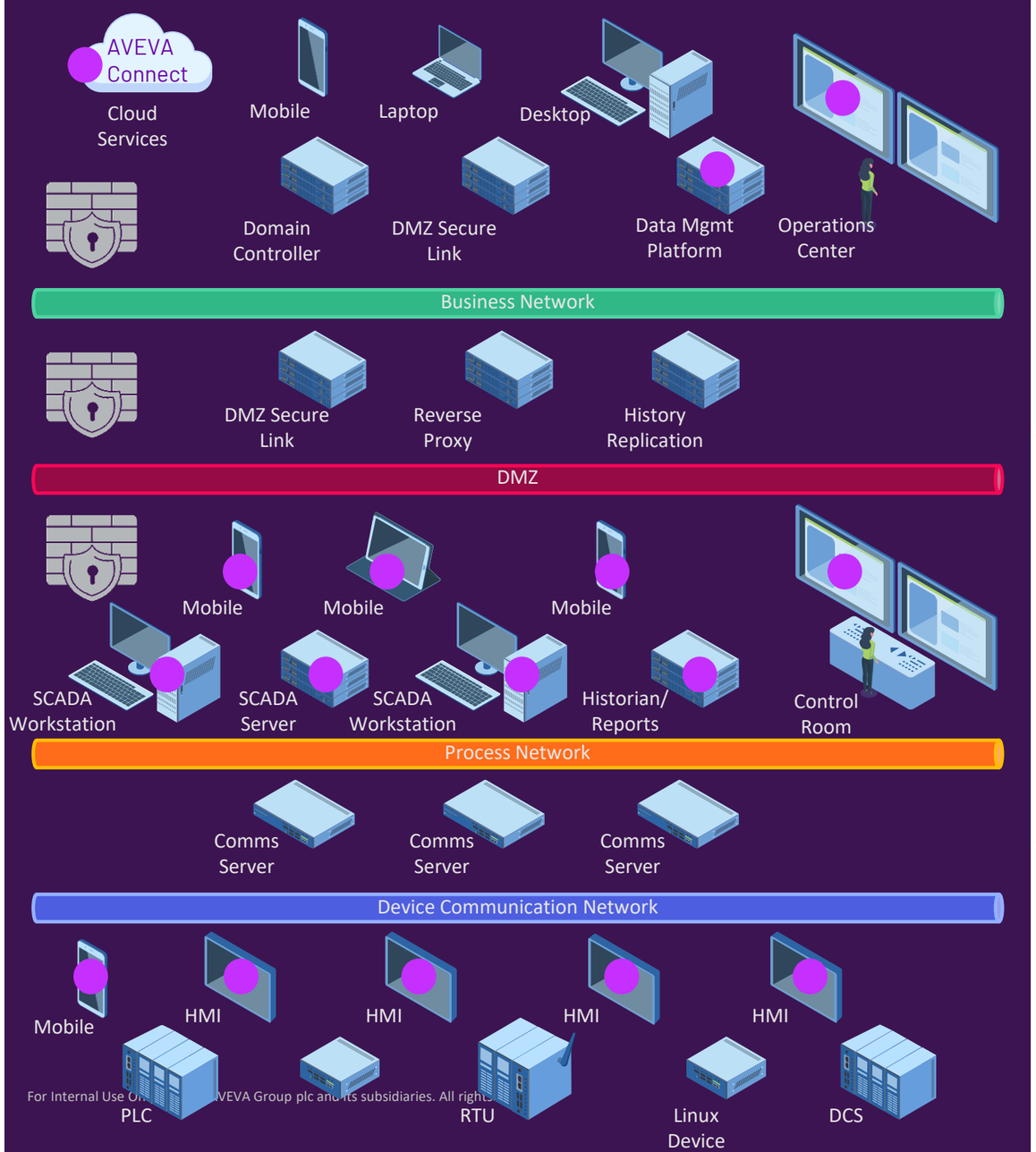

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Tiered Data Models

Enterprise

Supervisory

Edge

PLC | RTU | DCS | DEVICE | Database | MES | API | OT | Datalake | ERP | MQTT | IT

Entity/Asset

PLC | RTU | DCS | DEVICE | Database | MES | API | OT

Object/Asset

PLC | RTU | DCS | DEVICE

UDT/Asset

- Model
- Data Source
- Application

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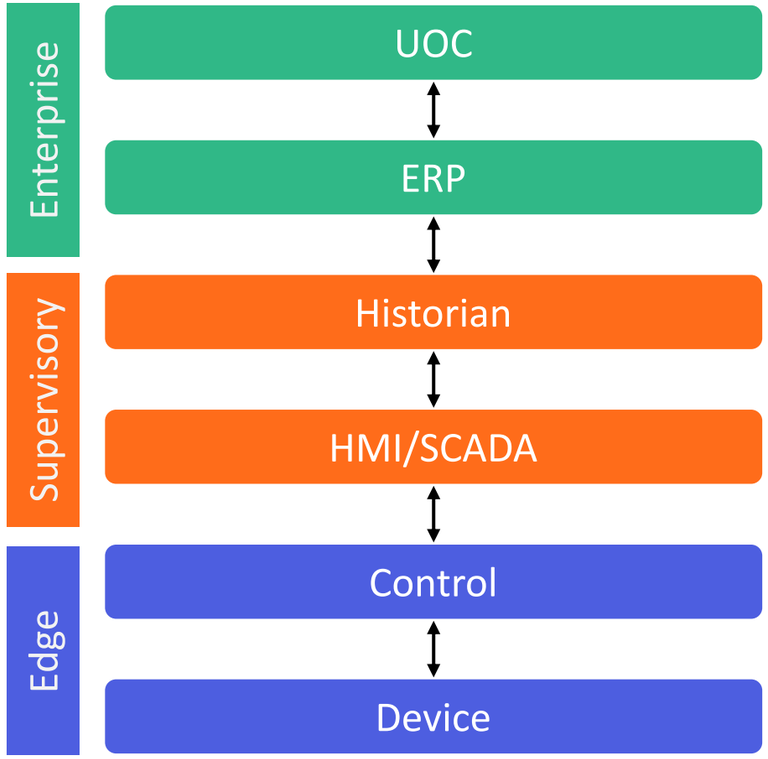
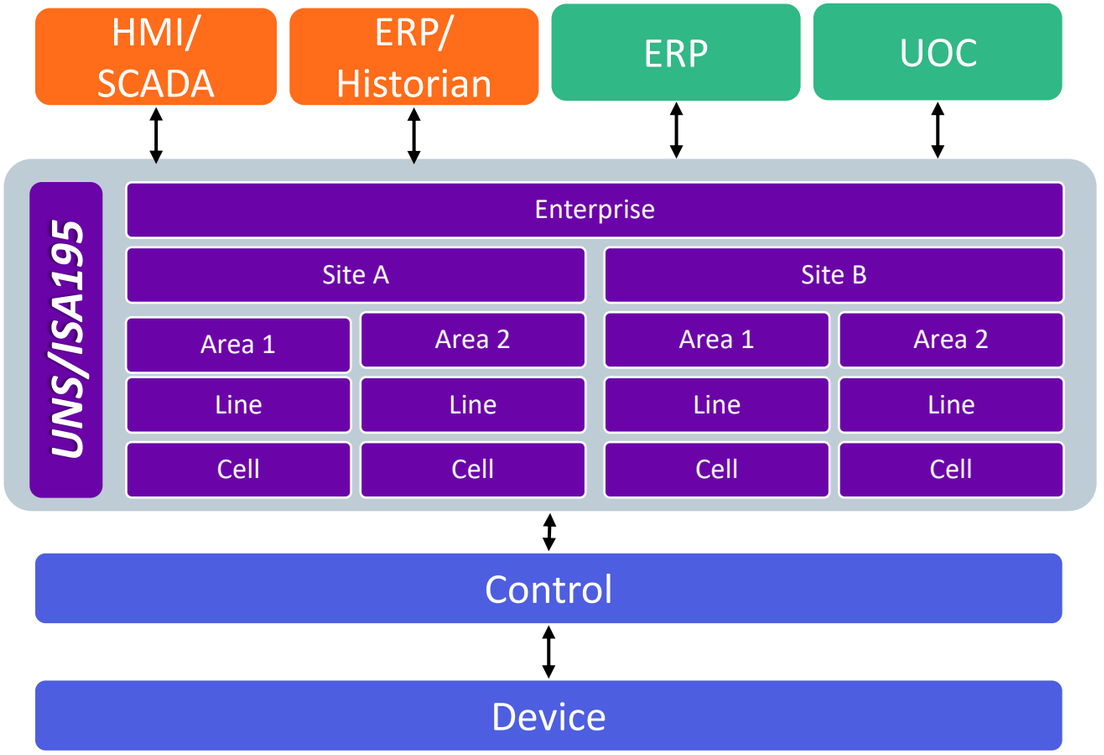
Purdue vs Unified Namespace (UNS)

Concept not Architecture

- Purdue Model



- UNS Model



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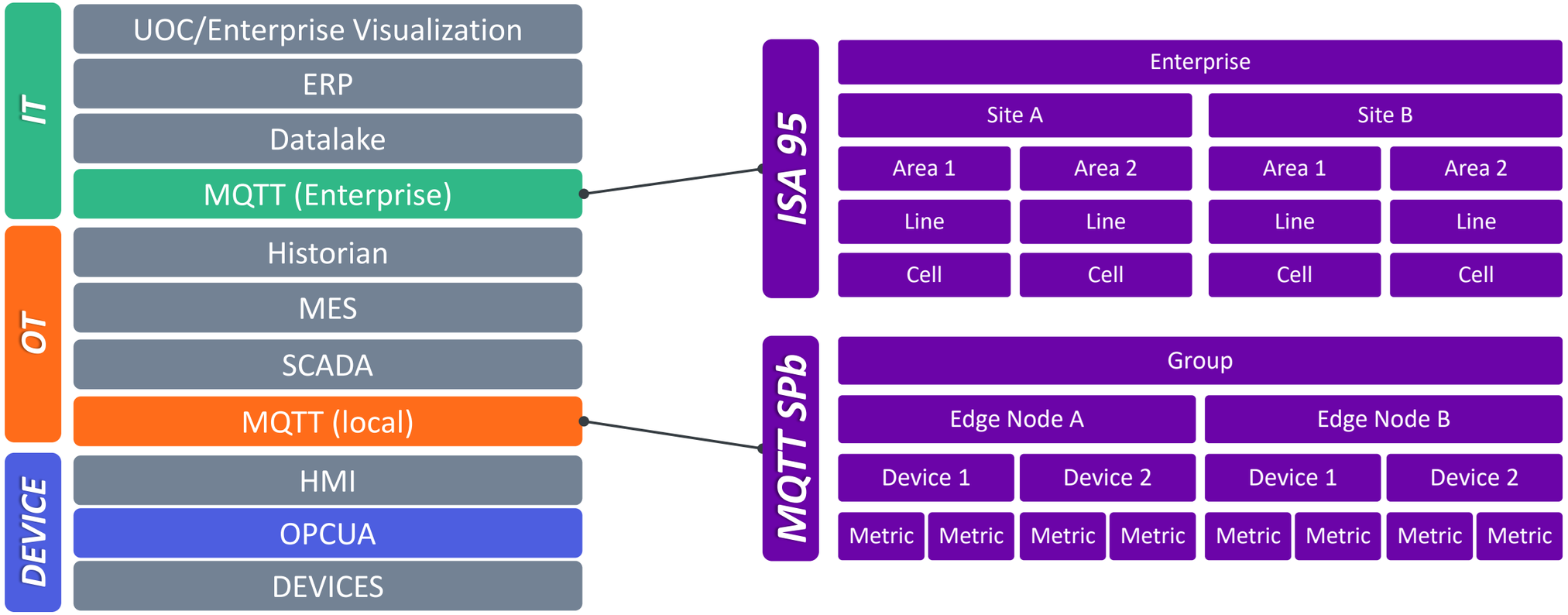
Example: Unified Namespace (UNS) Across an Enterprise

MQTT Focus – Collapsing the Purdue Model



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Improve Lifecycle Management

Challenge the traditional IT/OT boundaries and practices to drive the access to data across an organization.

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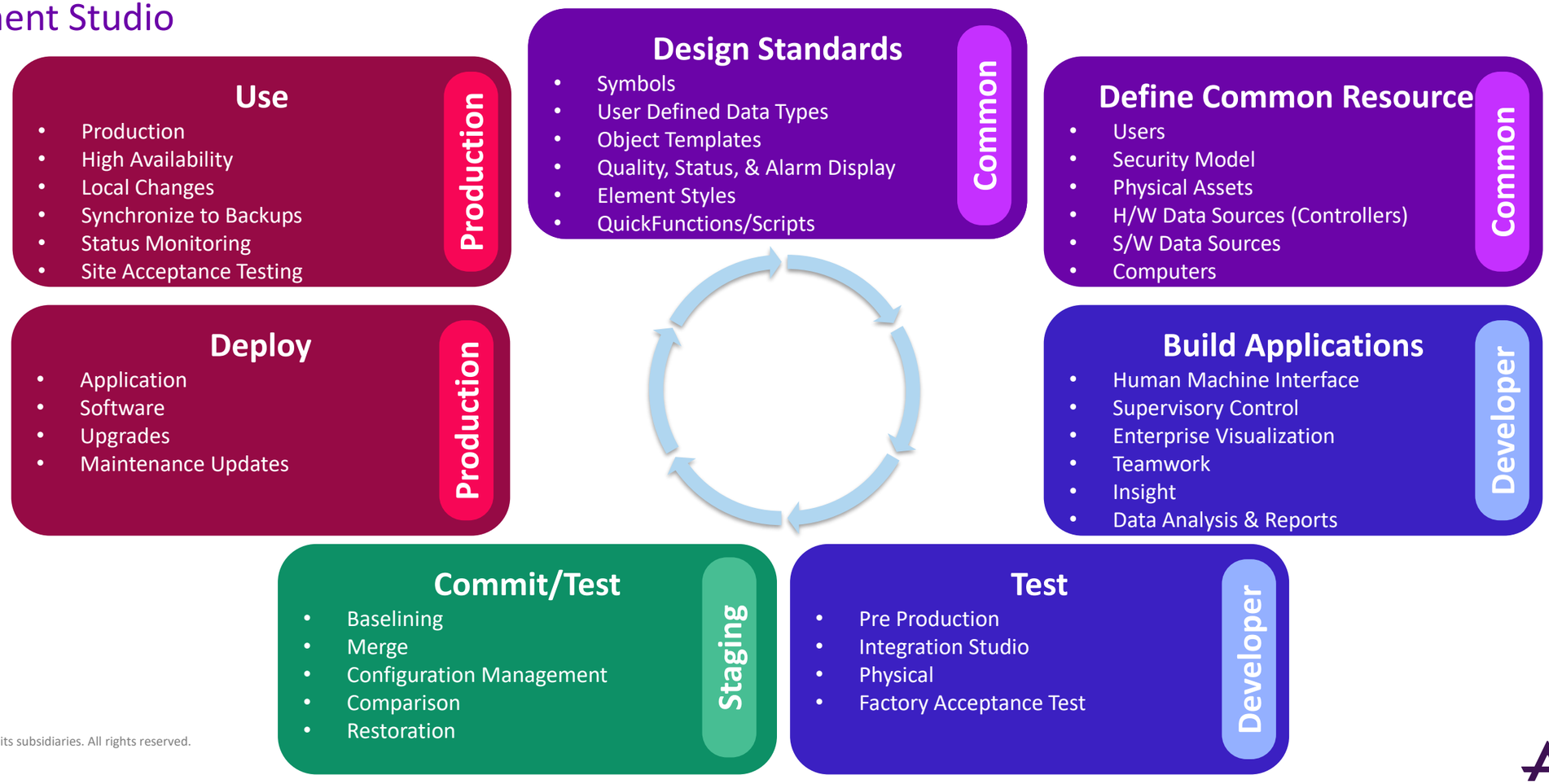
End to End Lifecycle Management

Development Studio



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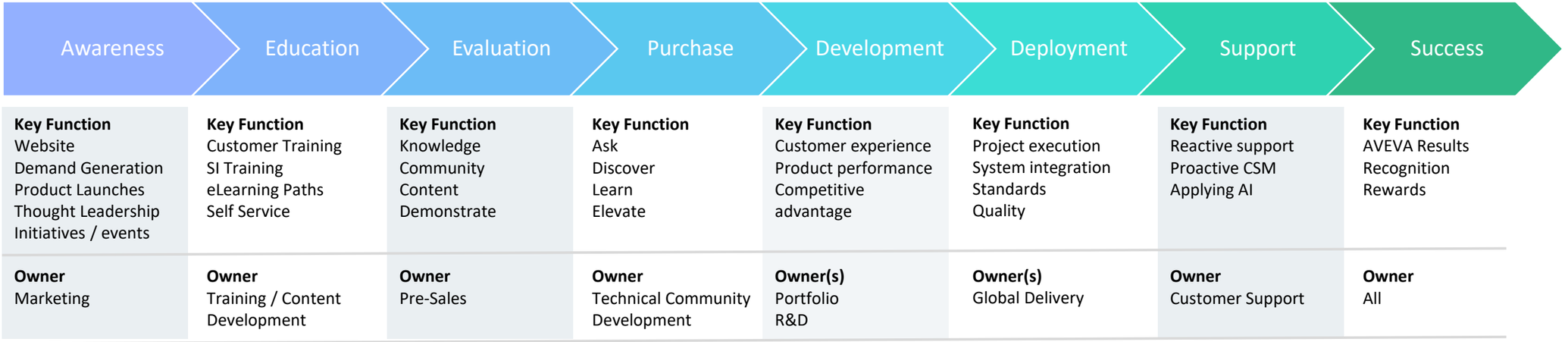
From our customer's perspective



...the Buyer's Journey

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Ask → Forums

Discover → Products

Learn → Training

Elevate → Video Content

Utilize → Content

Socialize → Comms

Suggest → Idea Portals

Success → Recognition

Join the HMI / SCADA technical community today!

https://softwareforums.aveva.com/heroes-hq

AVEVA

HEROES HQ

First 3 months of Heroes HQ - (FEB 8 – APR 30)

1,764 new members

37,662 viewed content

41% partners

35% customers

17% other

7% AVEVA

8,541 engagements

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Align Commercial Model

Challenge the traditional IT/OT boundaries and practices to drive the access to data across an organization.

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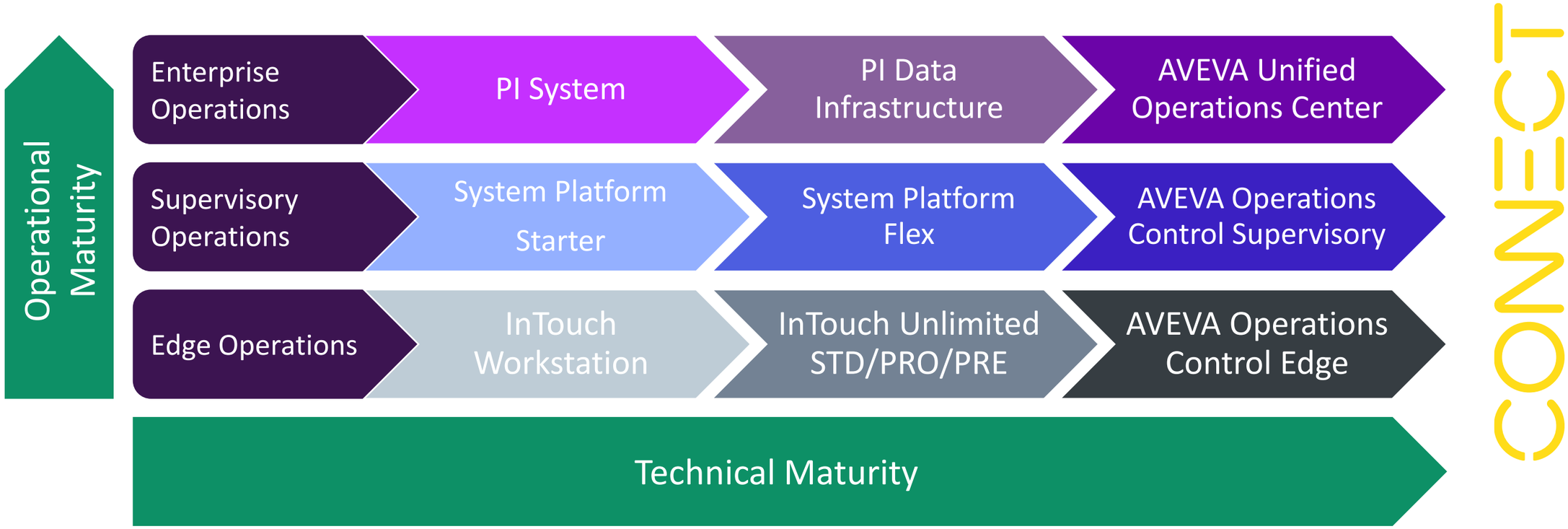
Advancing Customers through the AVEVA Operations Portfolio

Customers begin with low technical and operational maturity



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Pivot from product to portfolio

AVEVA Operations Control strategy

Visualization
- Industrial graphics
- Common visualization technology

Model
- Assets/definitions
- Templates
- Data structures (UDT)

Integration
- Open standards
- Communications
- Interoperability/ security

Management
- Development Studio
- Integration Studio
- Edge Management

Collaboration
- Teamwork
- Users
- Issues/knowledge

Data/Analytics
- Data Hub
- PI System
- Historian/clients
- Reports
- CONNECT

Extensibility
- Core technology
- Open scripting languages

Experience
- Entitlement access
- Licensing

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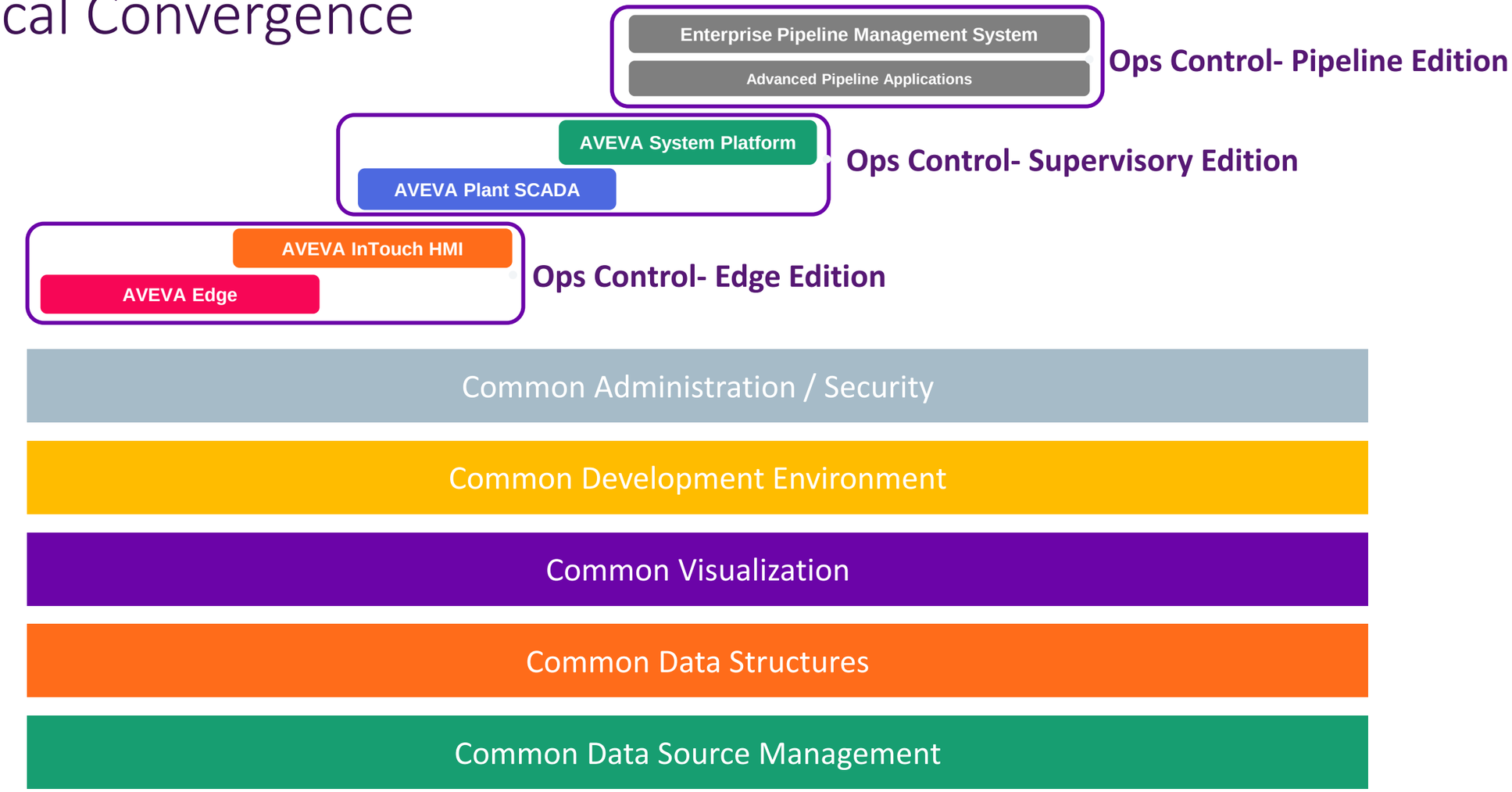
Technical Convergence



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AVEVAWORLD
PARIS 2024
October 14-17, 2024
Palais des Congrès de Paris

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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

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