



AVEVAWORLD

ACCELERATE INDUSTRIAL INTELLIGENCE

AVEVA WORLD MILAN, MAY 2026

Unified Name Space (UNS) and Beyond

Sree Hameed, Senior Manager – Smart Manufacturing, AVEVA

David Fitzgerald, Title, Deep Digital Solutions Group

AVEVA

AVEVA WORLD MILAN, MAY 2026

Agenda

UNS & Beyond

Understanding UNS

UNS Market Trends

UNS Use Cases

What is UNS?

Technology-Centric (Industry 4.0)

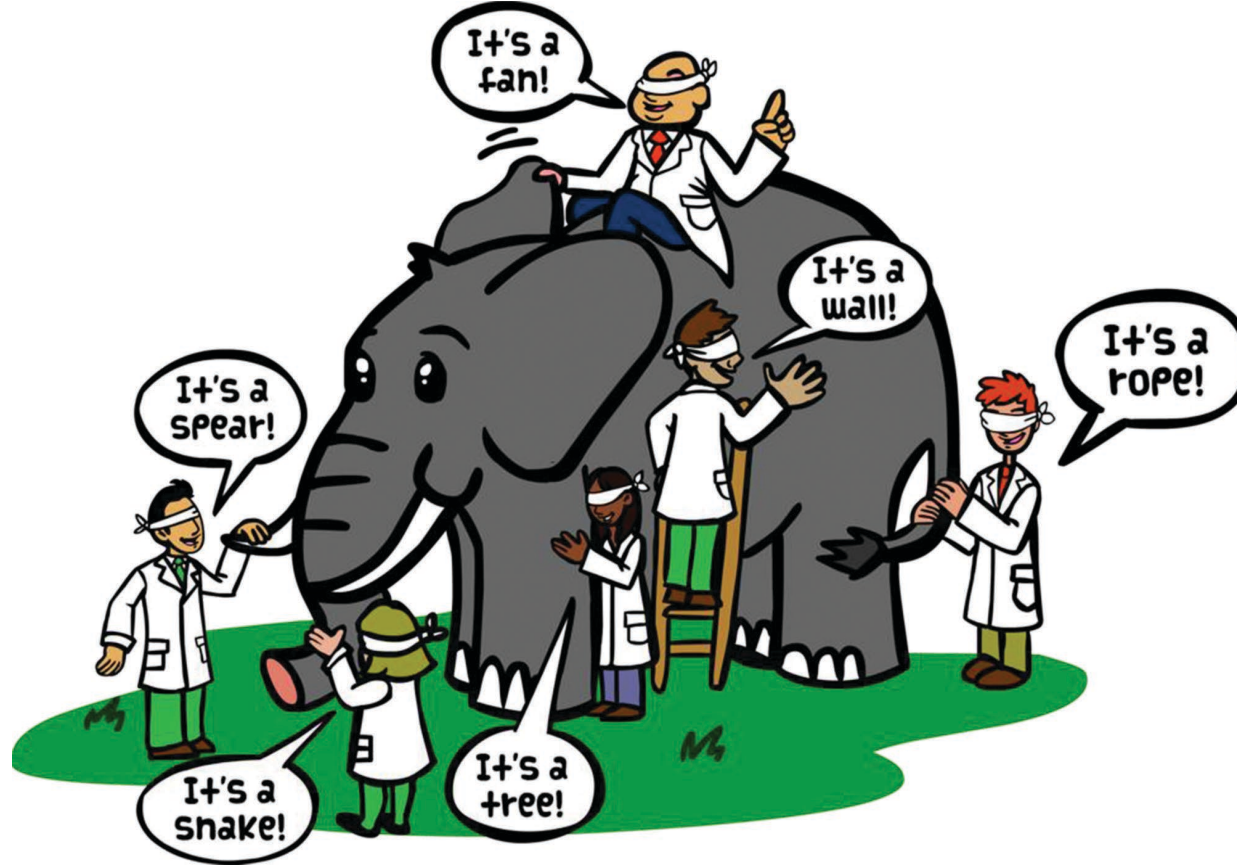
MQTT

MCP
(Model Context Protocol)

Knowledge
Graph

AI/ ML

...



Design Thinking (Problem Archetypes)

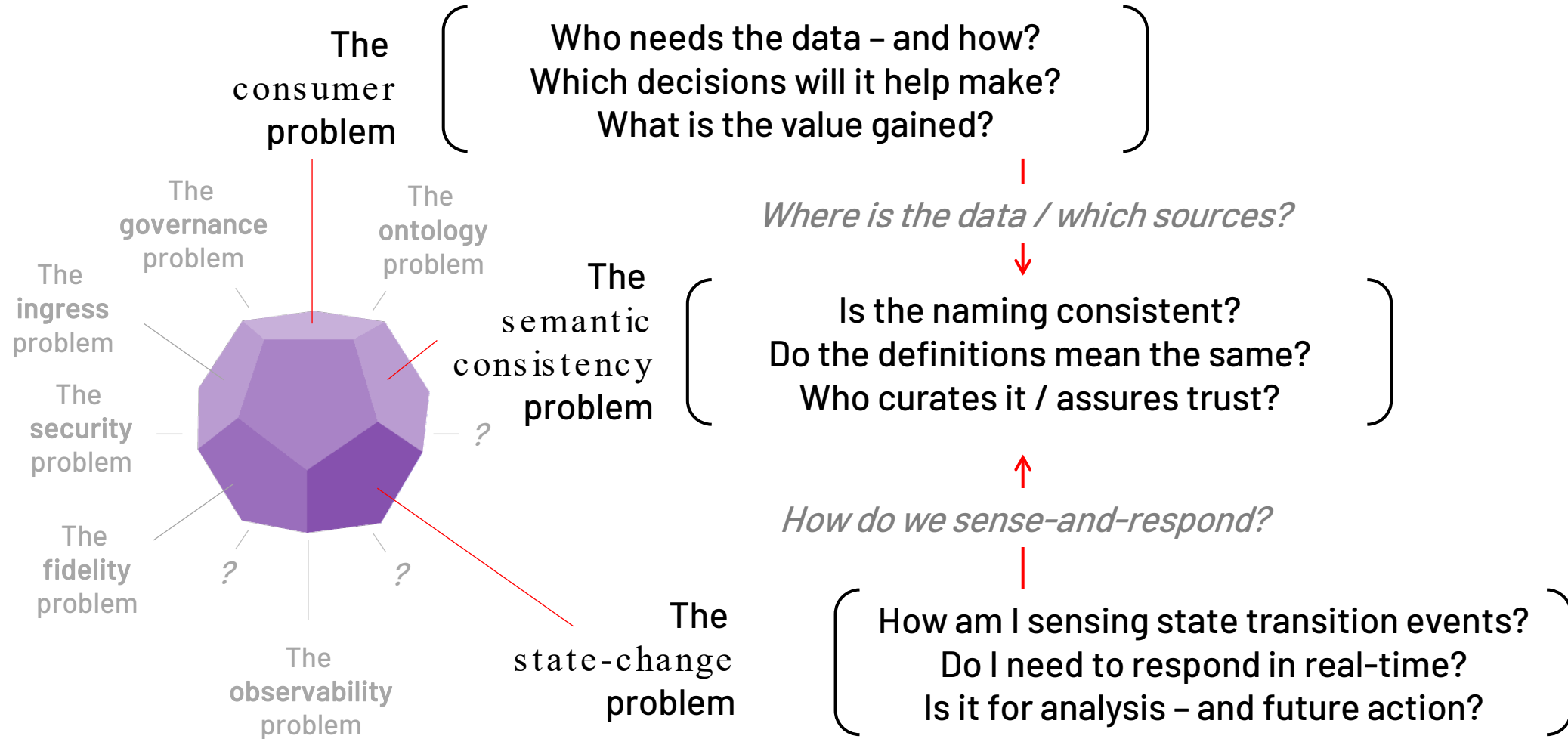
The
consumer
problem

The
semantic
consistency
problem

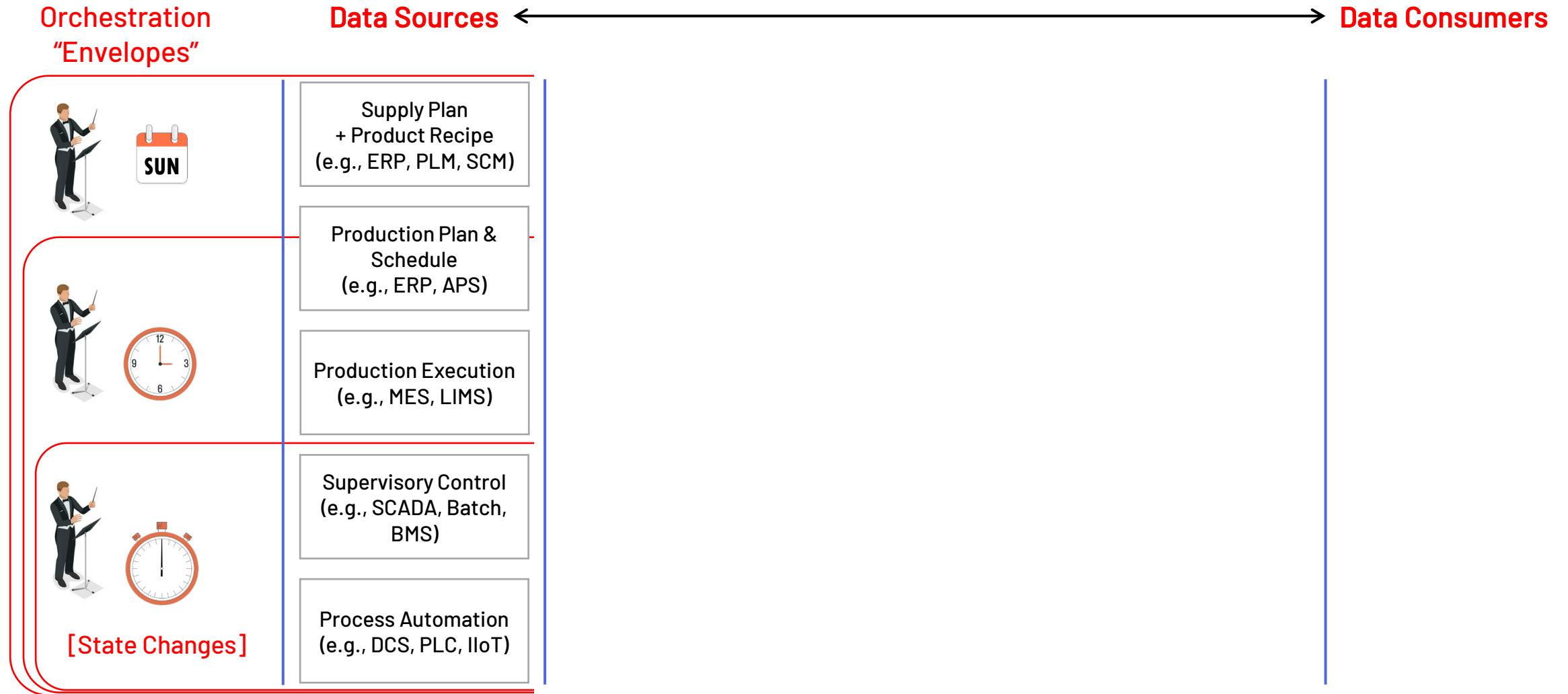
The
state-change
problem

...

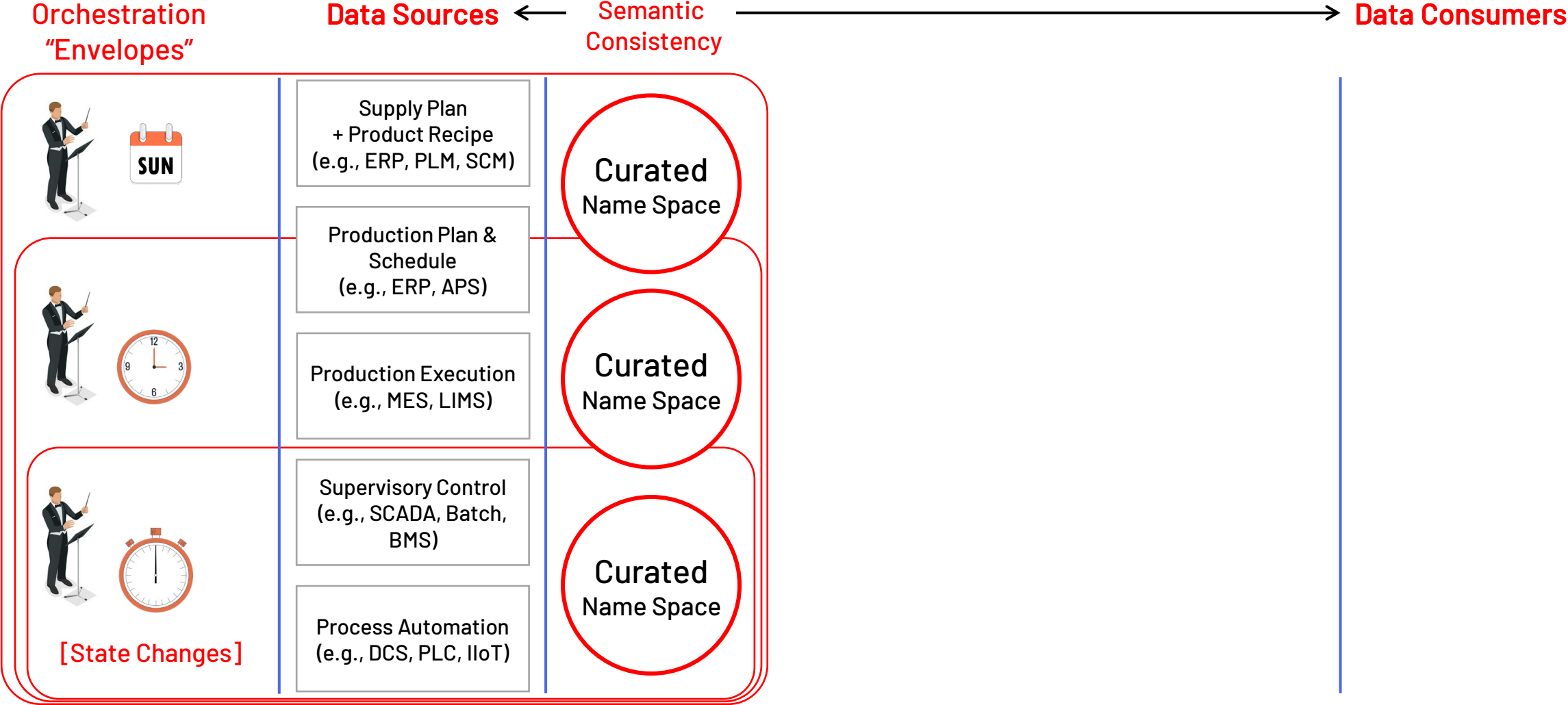
Some problems are more relevant to decision context



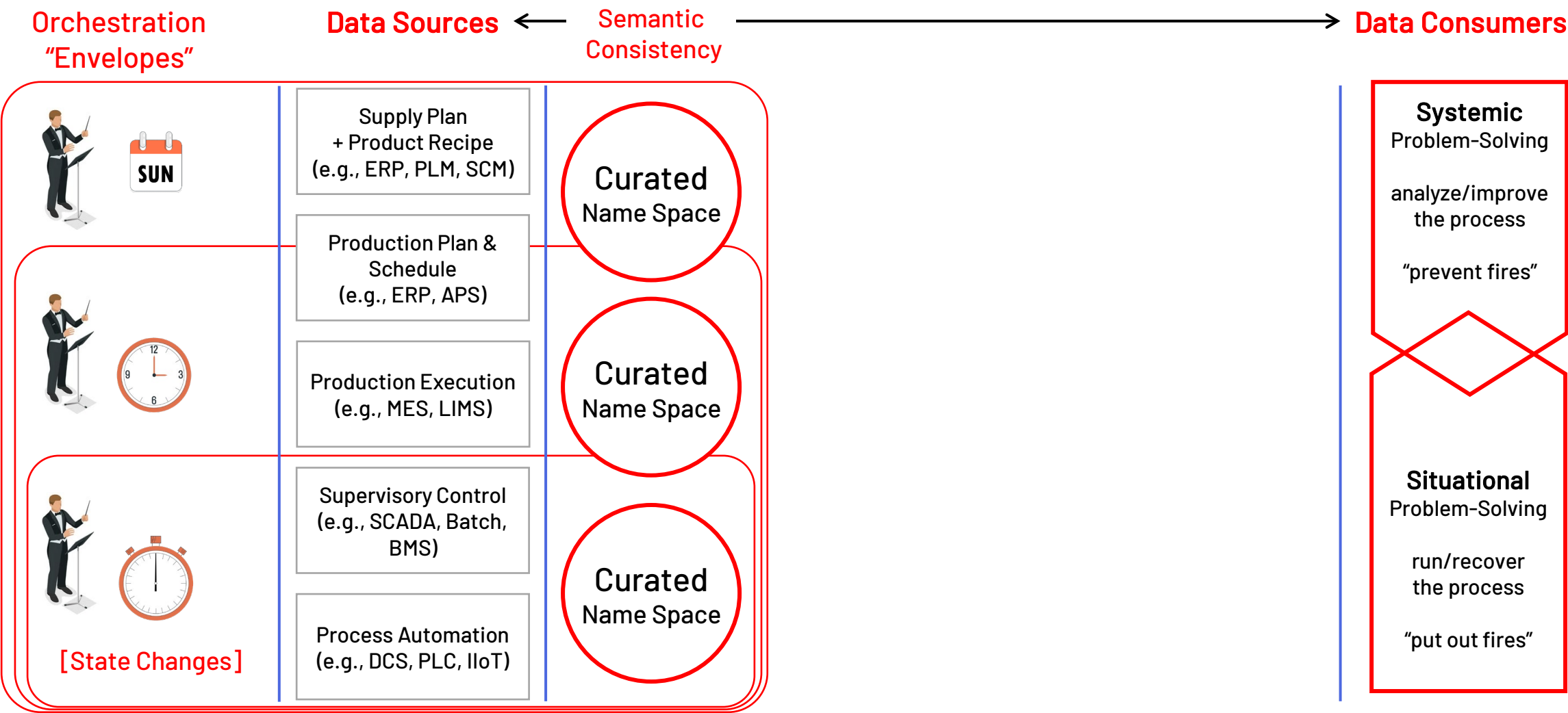
Concepts for consideration: Orchestration Envelopes



Concepts for consideration: Curated Name Space



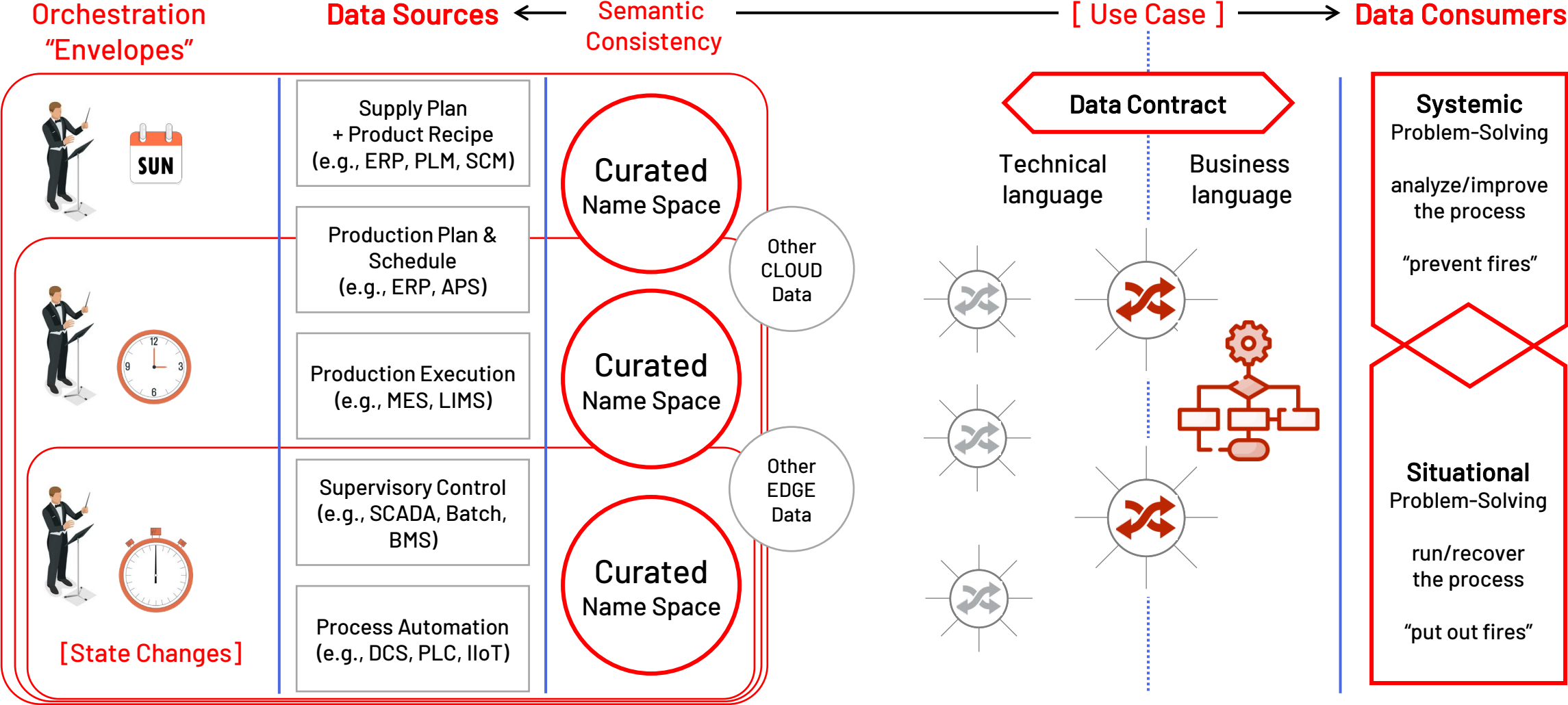
Concepts for consideration: Types of Problem-Solving



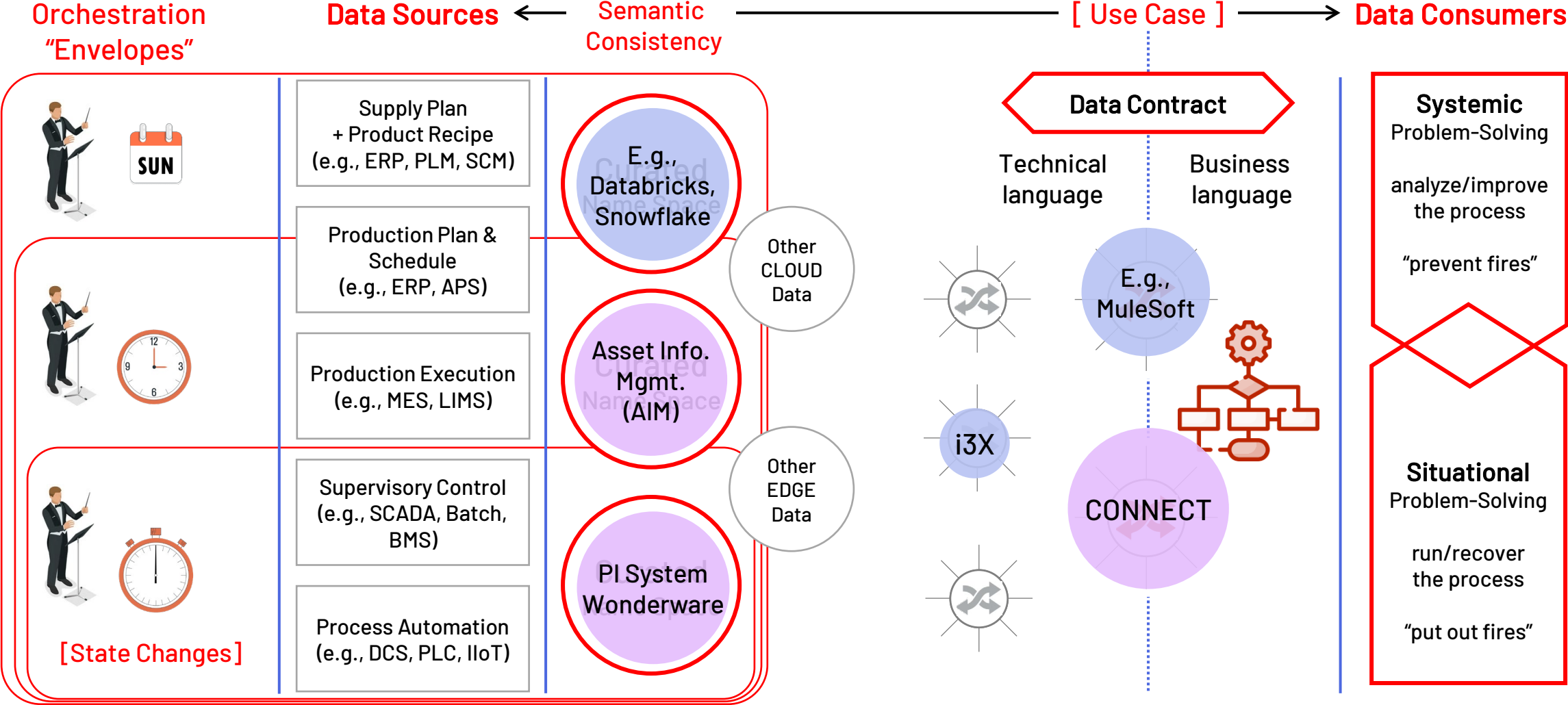
Best Practice: The SABMiller Manufacturing Way

	Situational “put out fires”	Systemic / Strategic “prevent fires”
Trigger	Any failure Any deviation from standard	Loss and value analysis
When done	Immediately when the failure occurs Quick reviews during team meetings	Day shift during dedicated problem-solving time
By whom	Attending operator/artisan Attending team	Multi Disciplinary Team
Where	At the place where failure occurs	Team facilities
Focus	Restore the process. - What action can be done right now to prevent reoccurrence? Provide accurate information to day team.	- Understand the problem. - Eliminate the problem. Prevent reoccurrence permanently.
Minimum outcome	Problem solving card completed Quick fix routine generate	Process/System adjustment New standard

Concepts for consideration: Data Contract



Concepts for consideration: Federated architecture





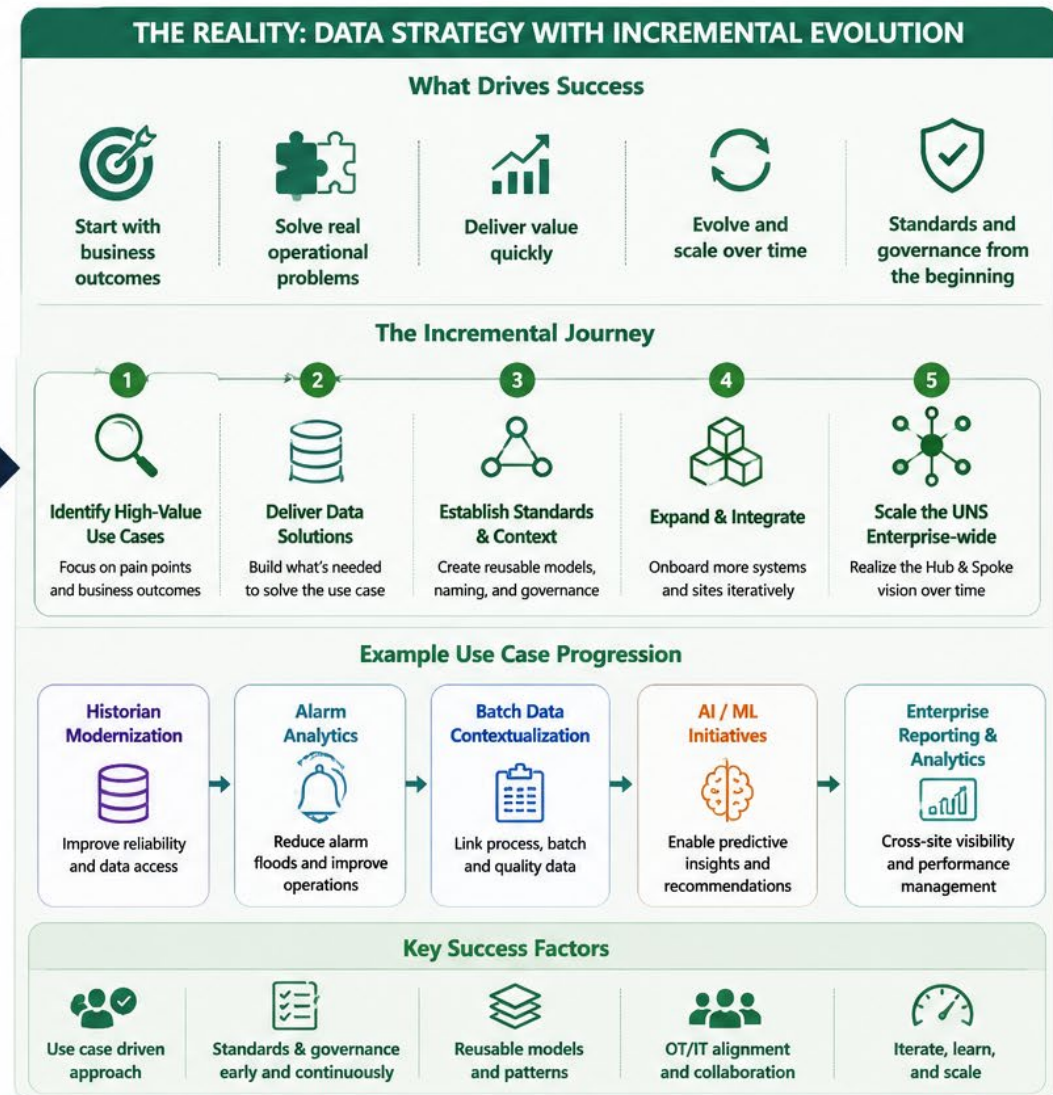
DEEP DIGITAL
SOLUTIONS GROUP

Unified Namespace

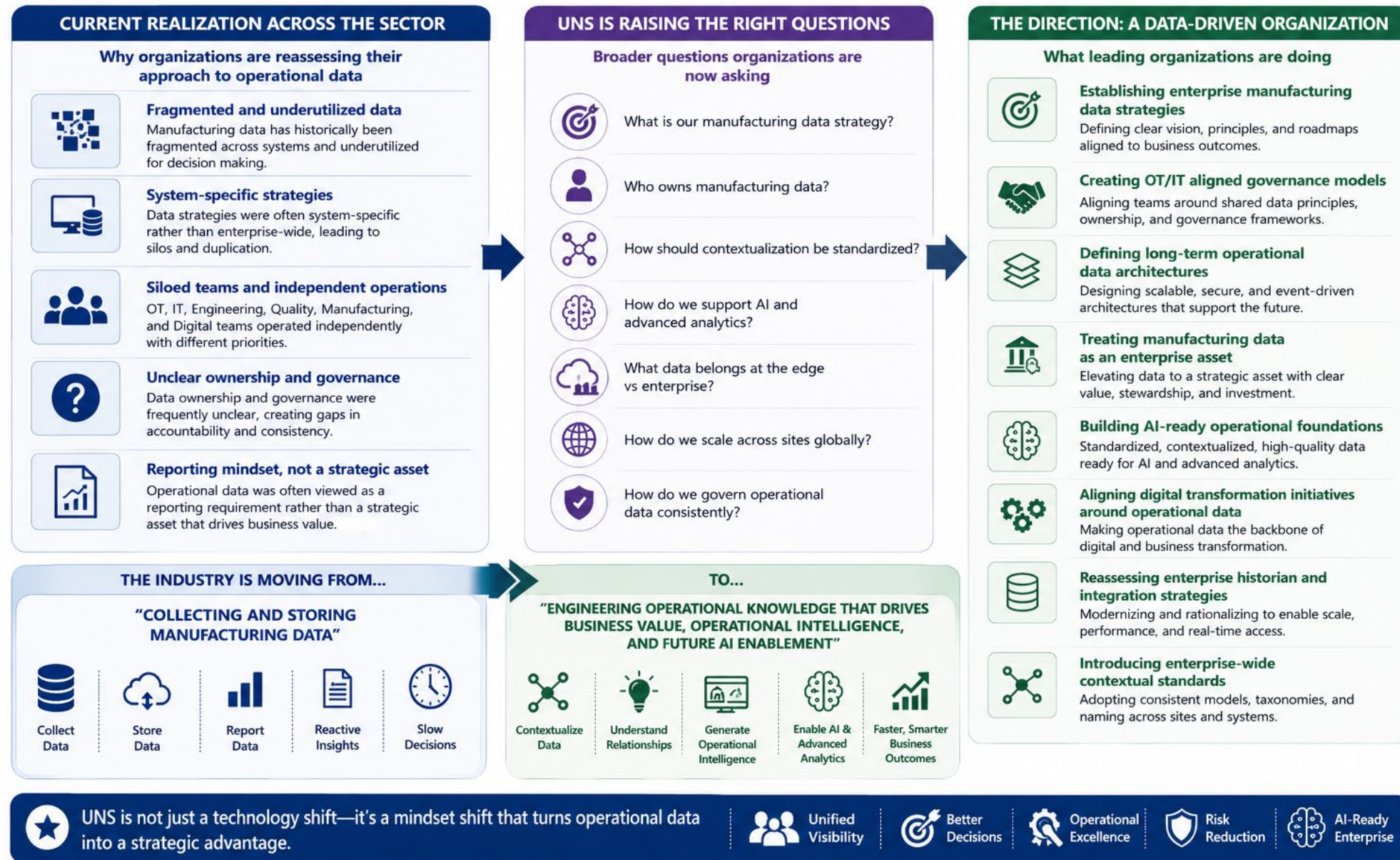
Current Market Trend

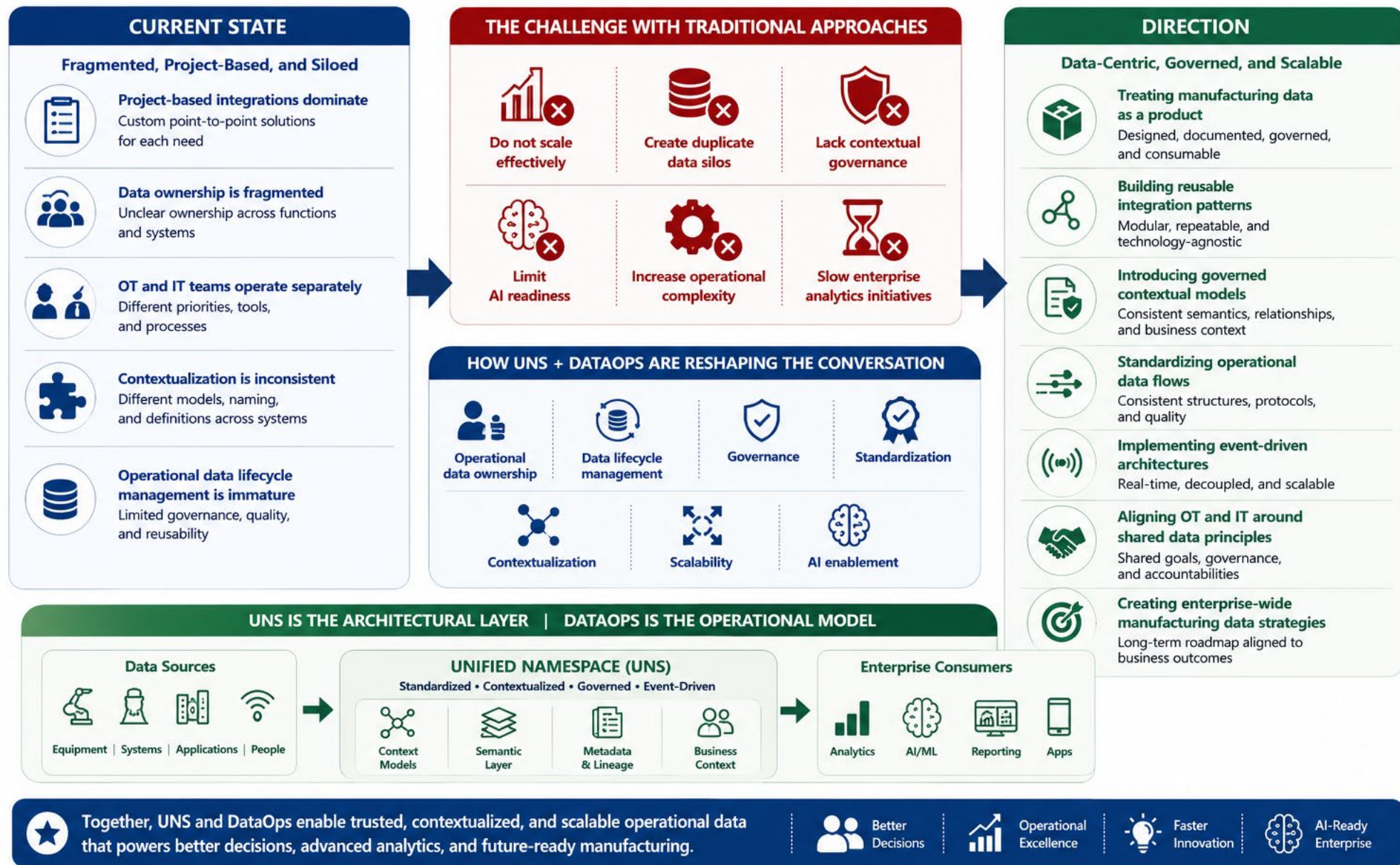
Speaker: David Fitzgerald

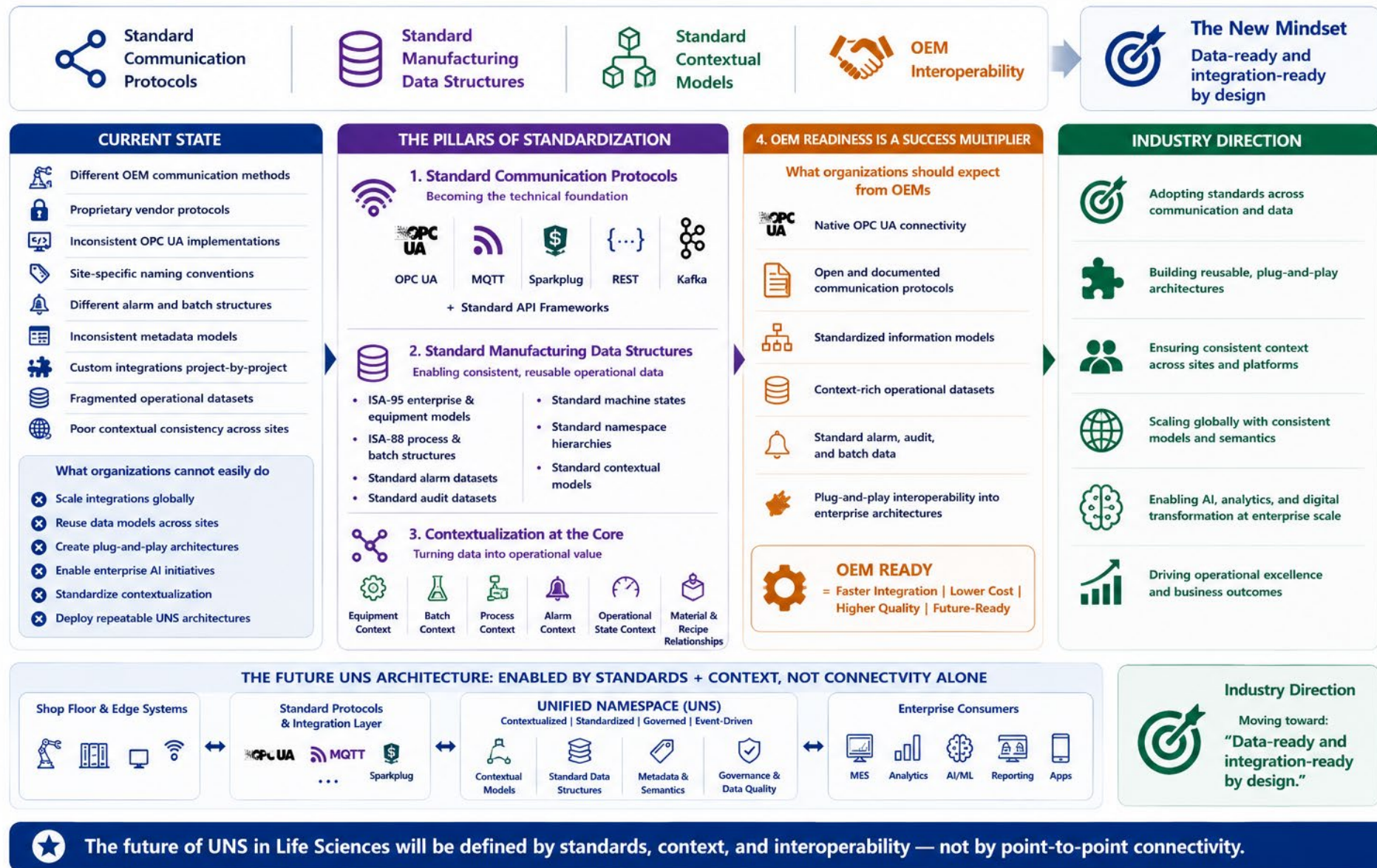
Head of Consulting



UNS is not a one-time project. It is a continuous evolution of people, process, standards, and technology — delivering real business value.







1 AI / PREDICTIVE IS A HUGE DRIVER TODAY

But You Already Have Significant Data

It's not about replacing everything.
It's about augmenting and unlocking value.

What You Likely Have Today

- Historians with years of process data
- Alarms & Events
- Batch & Recipe Data
- Equipment & Asset Data
- Operational Workflows and Execution Data

What You Should Do

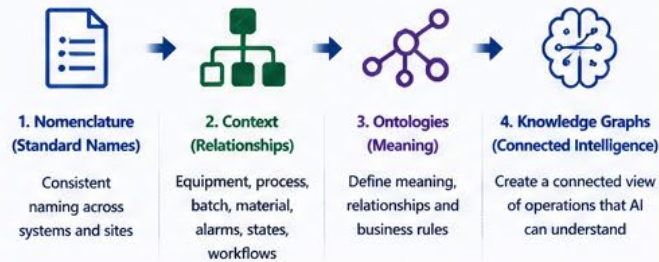
- Augment & contextualize existing data
- Improve quality, completeness and consistency
- Connect data across systems and sites
- Expose data for broader use and reuse
- Drive business value with AI, analytics and insights



More value comes from better use of existing data, not just from more data.

2 AI REQUIRES MORE THAN DATA

From Data to Usable AI: The Flow to Trustworthy Answers



Why It Matters

- Provides semantic understanding
- Ensures accuracy and traceability
- Prevents hallucinations
- Makes AI trustworthy and actionable

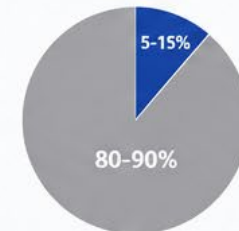


Good data + Context + Ontologies + Knowledge Graphs
= AI you can trust and act on

3 MANUFACTURING DATA STRATEGIES NEED TO CHANGE

Manufacturing Data Enables Everything— But Gets Only a Small Percentage of Investment

Typical Investment Today



- Other Programs**
(Automation, MES, ERP, Quality, Infrastructure, Analytics, etc.)
- Manufacturing Data Strategy**
(Standards, Context, UNS, DataOps, Governance, Quality)

What's Needed



Make Manufacturing Data Its Own Program

- Dedicated ownership
- Dedicated budget
- Clear roadmap
- Defined outcomes
- Measured business value

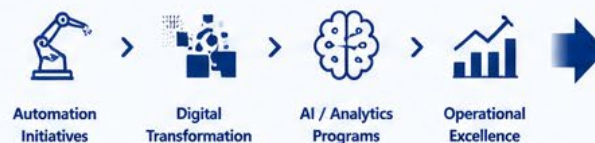
Invest in the foundation
that enables all enterprise data usage at scale.

4 LEADERS CHANGE. INITIATIVES CHANGE. DATA FOUNDATION SHOULD NOT.

Leaders Change



Initiatives Change



But the Data Foundation Remains



- Standards
- Context & Ontologies
- Governance
- Quality
- Accessible, Trusted Data



Strong Data Foundation
Enables Every Future
Initiative—Today and
for Years to Come.



Manufacturing data is not a project. It is a foundational enterprise capability.
Own it. Fund it. Grow it. Protect it. It is the key to unlocking AI, driving value, and staying future-ready.



The background of the slide is a dark blue field filled with a complex network of thin, light blue lines connecting numerous small, glowing blue dots. The dots are more densely packed on the left side, creating a bright, star-like cluster, and become sparser towards the right. The lines form a web-like structure that spans the entire width of the image.

Use Cases

Real-world projects, real lessons

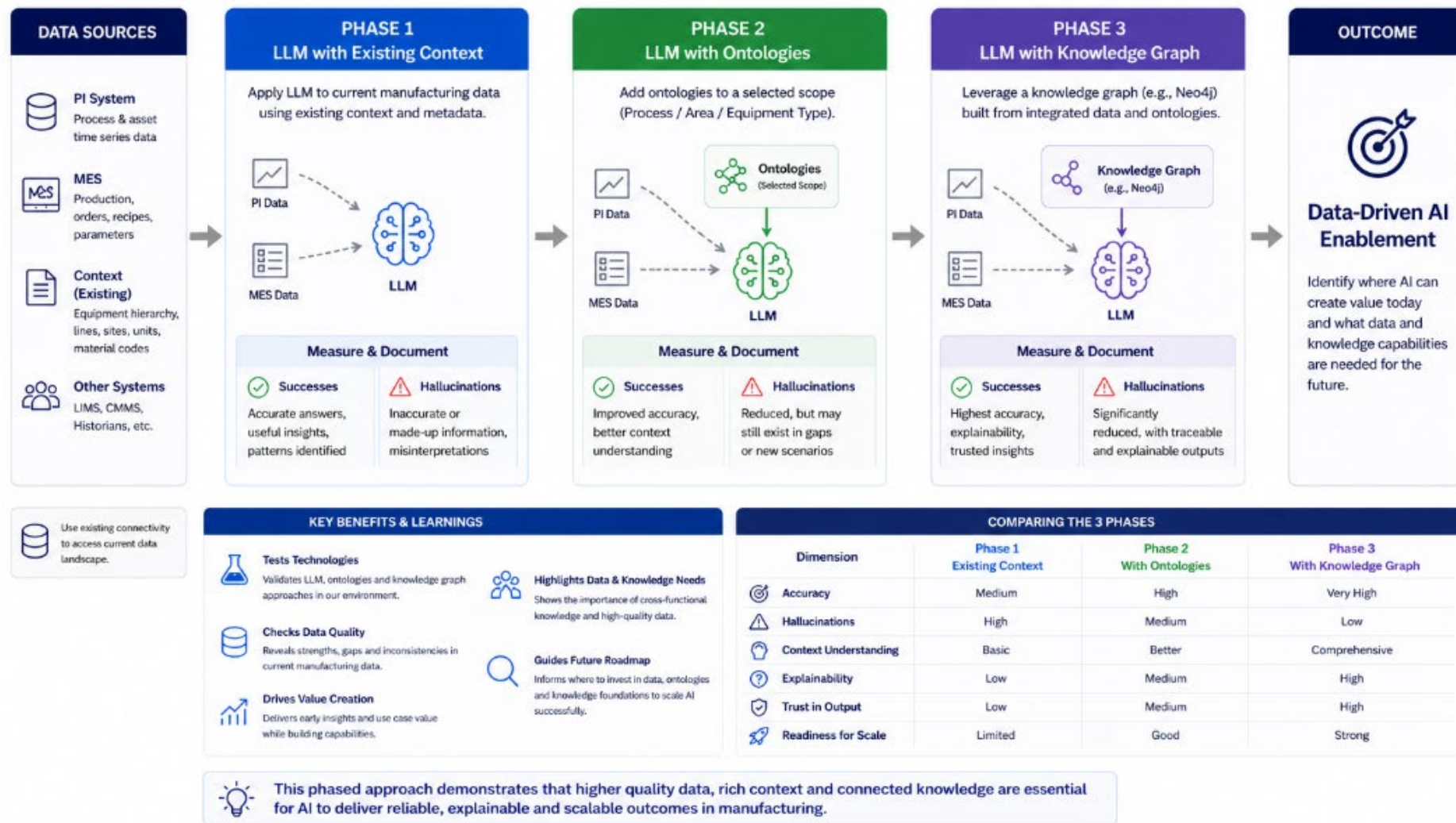
Example Use Case: Applying LLMs to Manufacturing Data

Evaluate the impact of context, ontologies and knowledge on LLM performance using real manufacturing data.



Objective

Understand how data context, ontologies and knowledge graphs improve AI accuracy, reduce hallucinations and drive real manufacturing value.



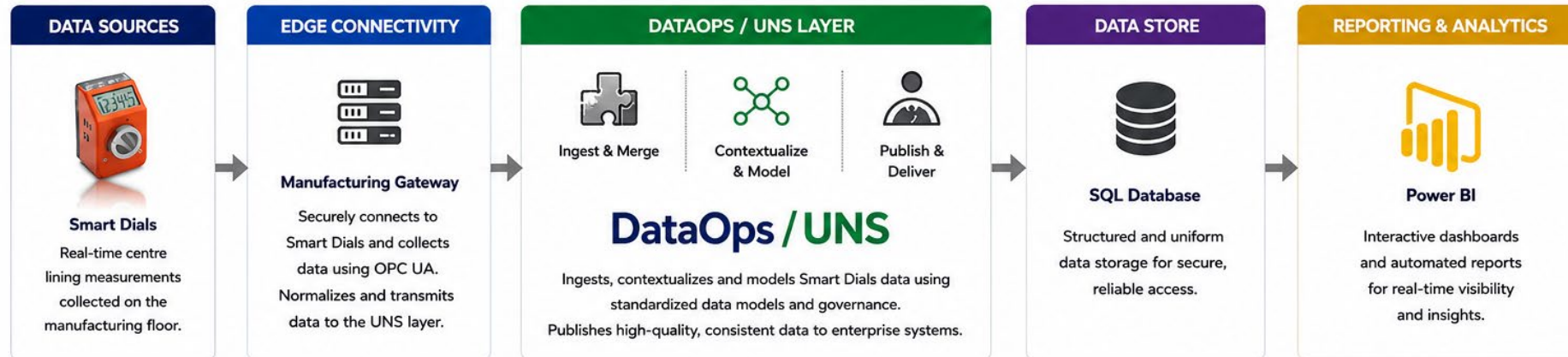
Example Use Case: Smart Dials Centre Lining Reporting

Automating and standardizing Centre Lining calibration data collection and reporting to improve OEE, operator autonomy and decision-making.



Objective

Provide accurate, timely and standardized Centre Lining reports to enable operators to take action faster and reduce paper-based reporting.



CHALLENGE

- Disperse Smart Dials across multiple packaging lines.
- Manual collection and paper-based reporting.
- Inconsistent data formats and calculation methods.
- Limited visibility and delayed insights.
- High effort in compiling reports for reviews.



APPROACH

- Connect Smart Dials via Manufacturing Gateway using OPC UA.
- Collect and contextualize data in DataOps / UNS layer.
- Standardize data model and calculations.
- Store data in SQL database with a consistent schema.
- Visualize and distribute reports through Power BI.



BENEFIT

- Cost effective data transfer and storage.
- Standardized reports with consistent calculations.
- Faster access to data improves OEE.
- Operators can act on real-time insights.
- Automated reporting reduces manual effort and paper.



KEY BENEFITS & OUTCOMES



Cost Effective
Low cost data transfer and storage.



Improved OEE
Real-time insights enable faster operator action.



Standardized Reporting
Consistent calculations and formats.



Operator Autonomy
Operators access data easily and take action.



Reduced Effort
Automated reports eliminate manual compilation.



Paperless Operations
Remove paper from the manufacturing floor.

DATA FLOW SUMMARY



Smart Dials



Manufacturing Gateway



DataOps / UNS



SQL Database



Power BI



From real-time measurement to actionable insights – delivered consistently and automatically.

WHY IT MATTERS



Reliable, timely and standardized Centre Lining reports empower operators, improve OEE, and support data-driven decisions across the organization.



Real-time data. Standardized reporting. Smarter decisions. Higher OEE. | Enable operators. Eliminate paper. Drive performance.

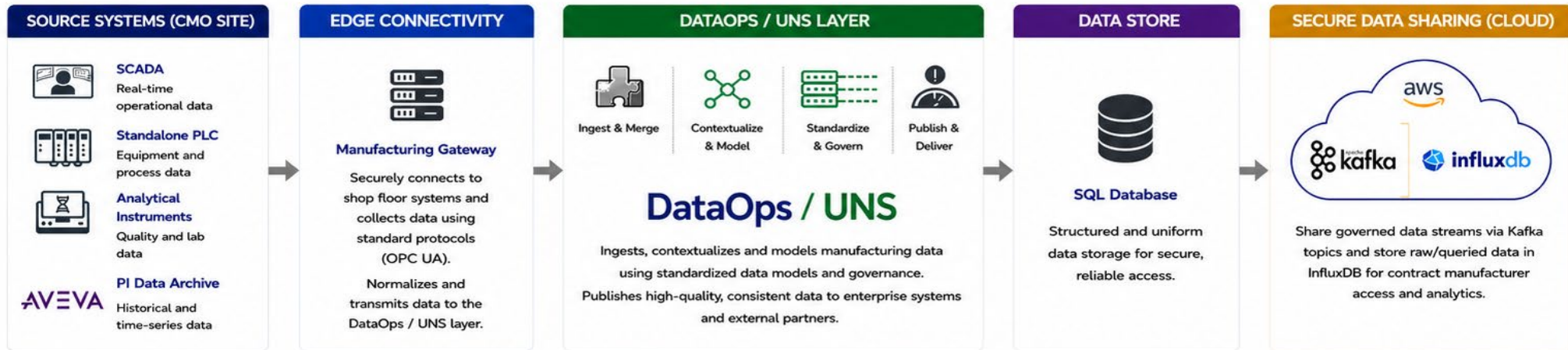
Example Use Case: Contract Manufacturing Data Sharing

Securely and efficiently share manufacturing data with contract manufacturers to drive transparency, improve collaboration and make better business decisions.



Objective

Enable secure and governed sharing of manufacturing data with contract manufacturers to ensure transparency and better decision-making.



CHALLENGE

- CMO makes multiple products for different customers.
- Contract manufacturers require visibility into specific production and quality data.
- Data is spread across multiple systems and formats.
- Manual data extraction and sharing is time-consuming and error-prone.
- Security, consistency and governance must be ensured while sharing data externally.

APPROACH

- Connect all relevant Lot/Batch, process, quality and equipment data to DataOps / UNS via Manufacturing Gateway.
- Identify each customer by LOT/ID and segregate the data accordingly.
- Standardize and contextualize data using governed data models.
- Push data per customer to dedicated Kafka topics.
- Store all raw data and curated views in InfluxDB for customer access, visualization and investigation.
- Ensure security, governance and audit across the data sharing pipeline.

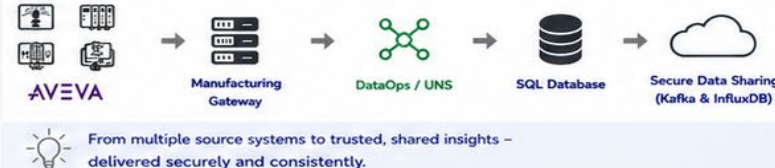
BENEFIT

- Contract manufacturers get timely, relevant and secure access to the data they need.
- Improved transparency and collaboration across the supply chain.
- CMO can provide differentiated service and strengthen customer trust.
- Faster issue resolution and better production outcomes.
- Supports compliance and audit requirements.

KEY BENEFITS & OUTCOMES



DATA FLOW SUMMARY



WHY IT MATTERS



Reliable and governed data sharing empowers contract manufacturers with the right information, improves transparency, and drives better outcomes for everyone.



Trusted data. Transparent collaboration. Better decisions. Stronger partnerships. | Enable secure data sharing. Build trust. Drive value.

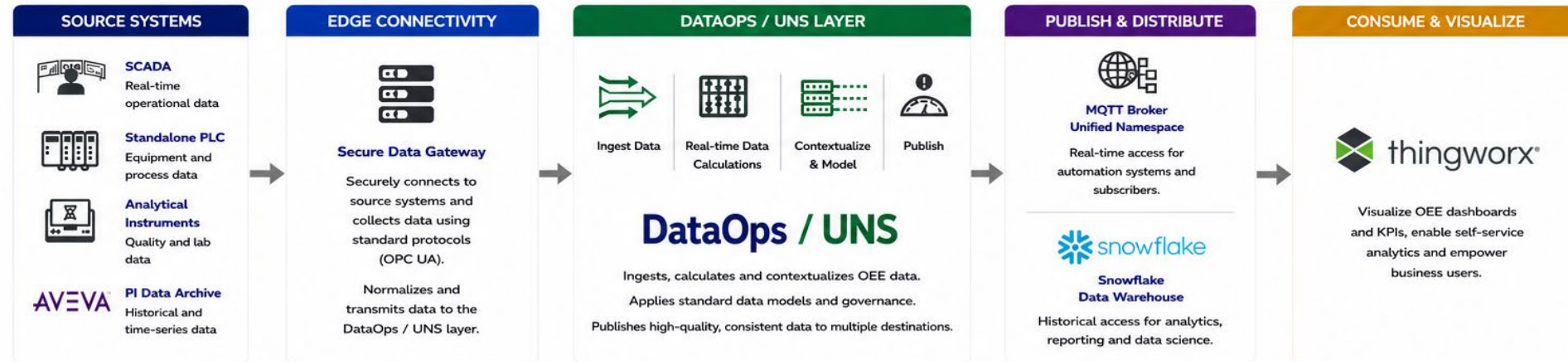
Example Use Case: OEE Data Calculation Replication and Accessibility

Replicate and make OEE data easily accessible across platforms to empower teams, drive consistency and support data-driven decision making.



Objective

Replicate OEE data calculations and make it widely accessible to support automation teams, business stakeholders and optimization initiatives.



CHALLENGE

- OEE data exists in multiple and sometimes siloed data sources.
- Data analytics/calculations performed in data historian, lead to reliance on local sites to implement and maintain.
- Limited accessibility for automation teams, business users and optimization groups.
- Inconsistent calculations and definitions across platforms.
- Difficult to scale and reuse OEE calculations enterprise-wide.

APPROACH

- Connect natively to disparate data sources via secure gateway.
- Perform OEE calculations in the DataOps / UNS layer using standardized models.
- Replicate calculations previously performed in historian in a centralized, governed environment.
- Publish OEE data to MQTT broker for real-time access and to Snowflake for historical analytics.
- Make data available in ThingWorx for visualization and dashboards.

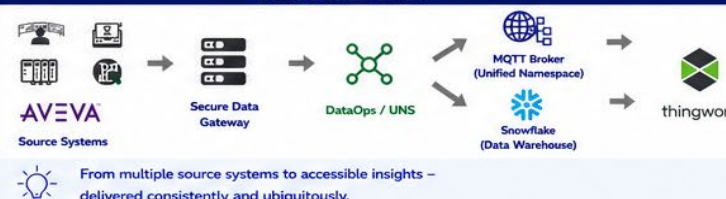
BENEFIT

- Information is easily accessible to automation teams, business stakeholders and optimization groups.
- Reduces reliance on individual sites for calculations and data access.
- Enables consistent, governed and reusable OEE metrics.
- Supports real-time monitoring and historical analysis.
- Empowers data-driven decisions and process optimization.

KEY BENEFITS & OUTCOMES



DATA FLOW SUMMARY



WHY IT MATTERS



By replicating and making OEE data widely accessible, organizations empower every team to act on insights, improve performance and drive continuous optimization.



Consistent calculations. Trusted data. Accessible insights. | Enable teams. Optimize performance. Drive results.

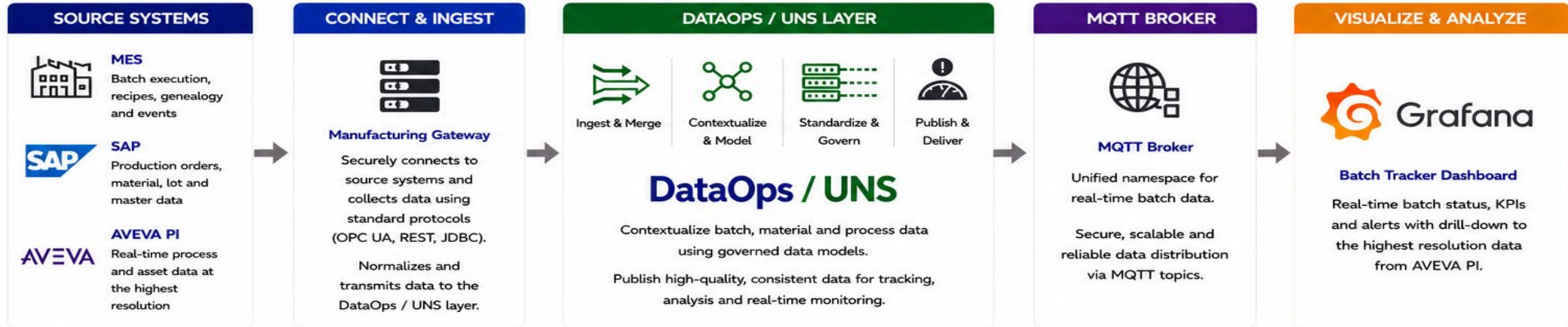
Example Use Case: Batch Tracking and Drill-Down

Unify batch information from MES, SAP and AVEVA PI with contextual data in a single platform to provide real-time batch visibility and drill-down to the highest data resolution.



Objective

Provide a unified batch tracking solution that gives operations and quality teams real-time visibility and the ability to drill down to the highest resolution data from PI.



CHALLENGE

- Batch data is siloed across MES, SAP and PI systems.
- Difficult to correlate business, execution and process data.
- Operators lack real-time visibility into batch progress and quality.
- No easy way to drill down to the highest resolution data when investigating issues.
- Manual reporting is time-consuming and error-prone.



APPROACH

- Connect to MES, SAP and AVEVA PI via Manufacturing Gateway.
- Ingest and merge batch, material and high-resolution process data into DataOps / UNS.
- Apply standard batch data models and governance.
- Deliver data via MQTT broker for real-time dashboards.
- Enable drill-down in Grafana to the highest resolution PI data for any batch, unit or time range.



BENEFIT

- Real-time, end-to-end batch visibility in a single dashboard.
- Drill-down to the highest resolution process data from PI.
- Faster issue detection and root cause analysis.
- Improved batch quality, yield and on-time performance.
- Reduced manual effort and reporting time.
- Trusted, governed data for operations, quality and leadership.

KEY BENEFITS & OUTCOMES



End-to-End Visibility

See the full batch lifecycle from order to completion.



Drill-Down to Root Cause

Investigate issues down to the highest resolution data from PI.



Real-Time Monitoring

Monitor batch progress, KPIs and alerts in real time.



Improved Quality & Yield

Catch deviations early and maximize batch outcomes.



Operational Efficiency

Reduce manual reporting and speed up decision-making.



Trusted & Governed Data

Single source of truth with governance and security.

DATA FLOW SUMMARY



WHY IT MATTERS



A unified batch tracking solution empowers teams with real-time insights, accelerates issue resolution and drives better product quality and customer satisfaction.



Unified data. Real-time visibility. Drill-down to the highest resolution.

Track every batch. Resolve issues faster. Deliver quality.

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 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.

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