

Building an AI-Native Data Platform

How AstraZeneca Uses Graph Technology to Deliver Context, Interoperability, and Scalable AI



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Would you let AI decide what you wear?

The context behind trusted AI



An outfit for the wrong day



Context

Weather and agenda
Dress code



Constraints

Available clothes
Budget



Memory and adaptation

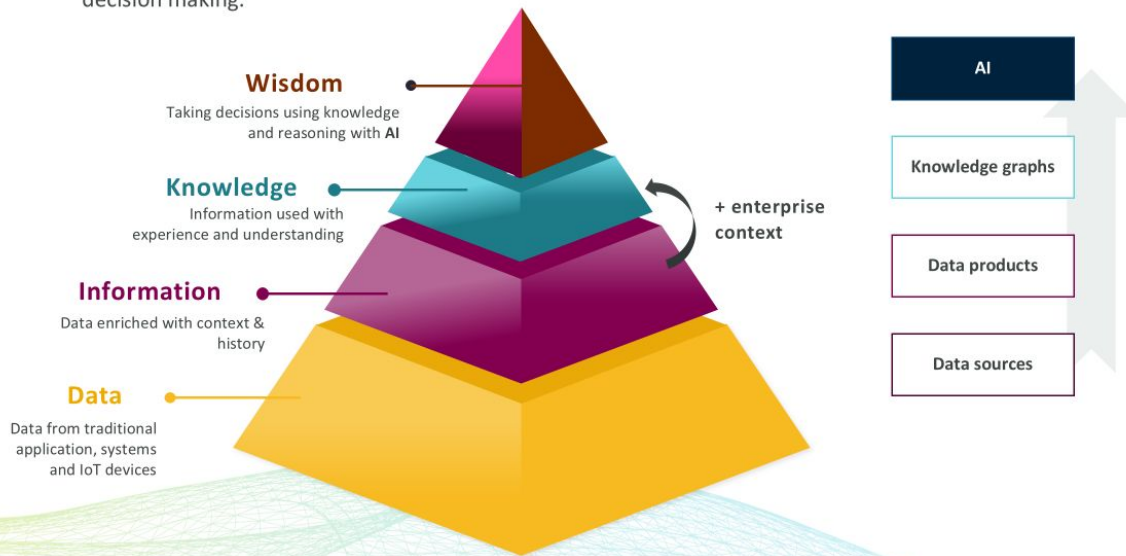
Preferences and history
Feedback

A convincing recommendation can still be unusable

AstraZeneca - Operations Knowledge Fabric

Context is everything

- AI systems are able to perform complex reasoning and synthesis. However, they miss enterprise context and therefore face difficulty in fully understanding the nuanced context required for optimal decision making.

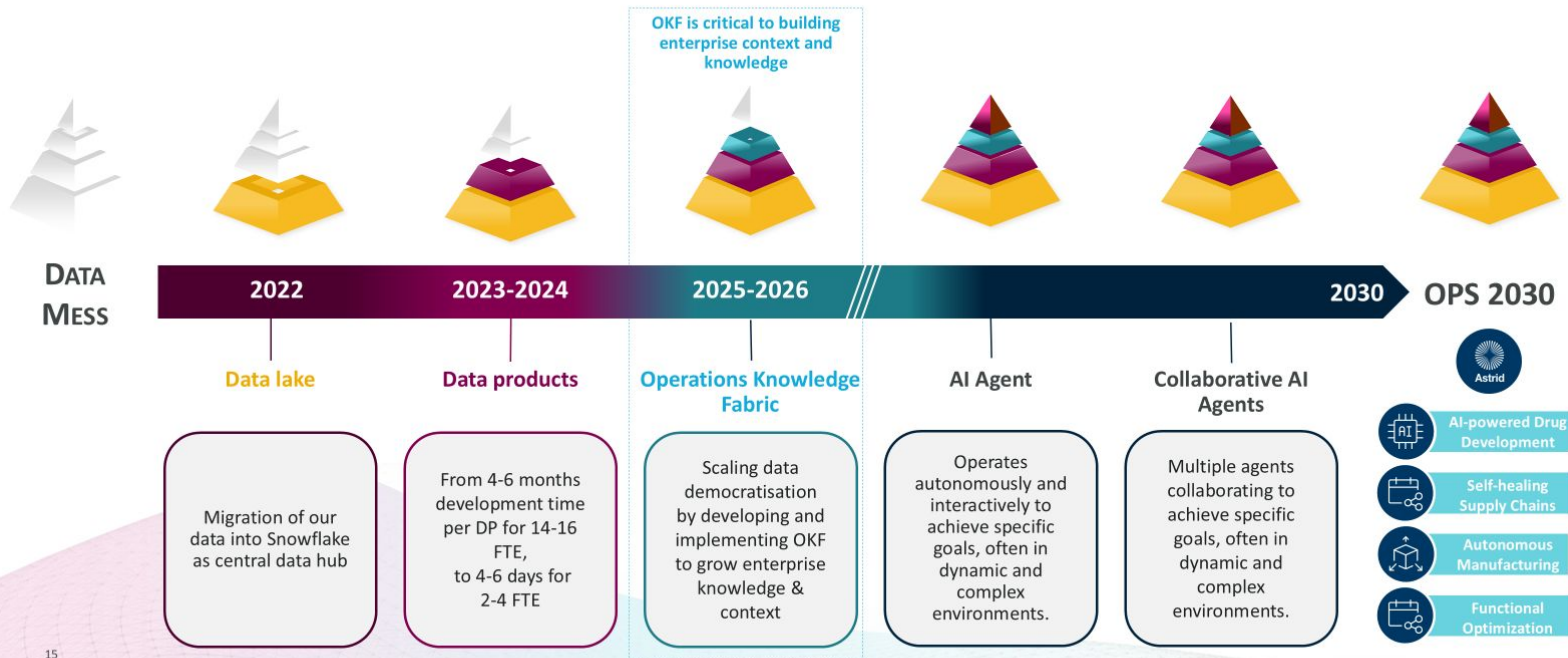


- Providing AI with enterprise context is essential for AI @ Scale



AstraZeneca - Operations Knowledge Fabric

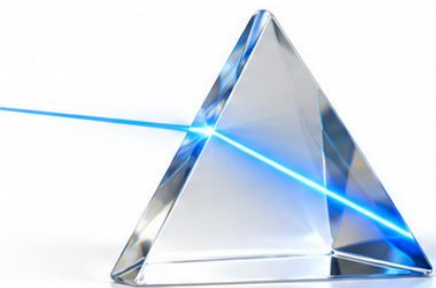
AstraZeneca Journey – Data Foundation



15



Four questions behind enterprise context



Meaning

What does this mean?

Available or eligible?



Identity

Which thing is this?

One material,
several records



Relationships

What depends on it?

Products,
sites and orders



Evidence

Why believe it now?

Source,
validity and freshness

OKF provides reusable building blocks

Controlled vocabularies

Agreed concepts

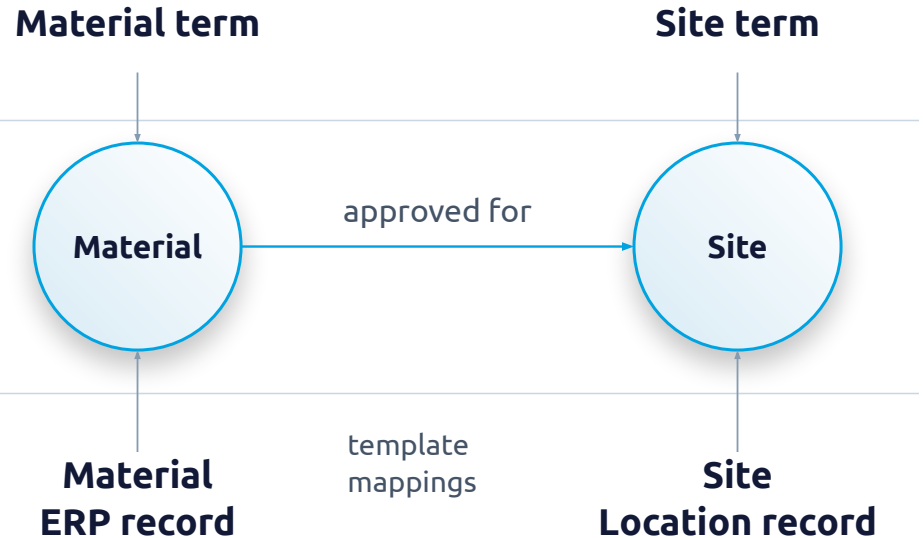
Ontologies

Shared business relationships

Graph templates

Standard mapping patterns

Governed data products provide the records and evidence



Digital Supply Chain Map

An OKF use case across about
100 brands

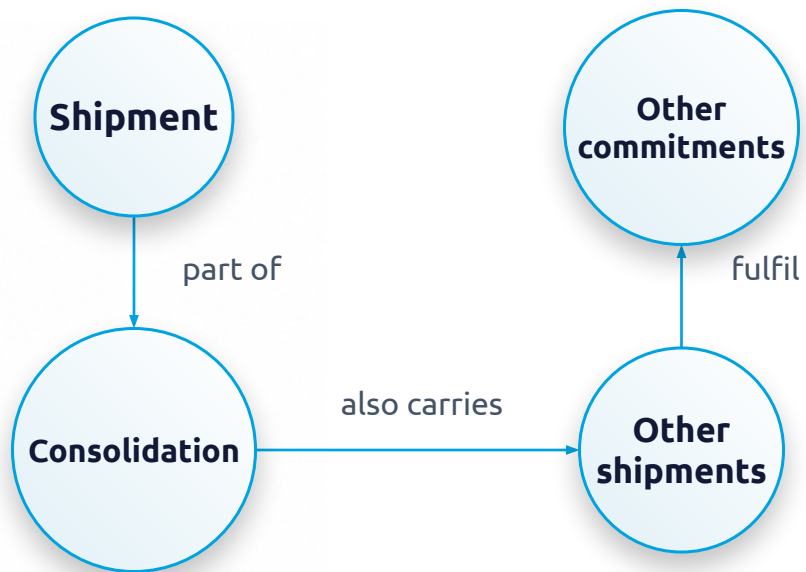


Tariff change, wider consequences

New tariff. Higher cost.
Could we bring it forward?



Removing a shipment may change
the shared cost or departure



Protect the delivery without putting others at risk

Specialist agents, one connected decision

Common objective: protect all affected commitments at acceptable total cost

Trade agent

**Tariff
exposure**

Transport agent

**Earlier
arrival**

Inventory agent

**Stock
ineligible**

Fulfilment agent

**Delivery
dates**

Shared knowledge graph

Rules, origin, shipments, consolidation and commitments

An agentic control plane governs the decision

Protect all affected deliveries at acceptable total cost

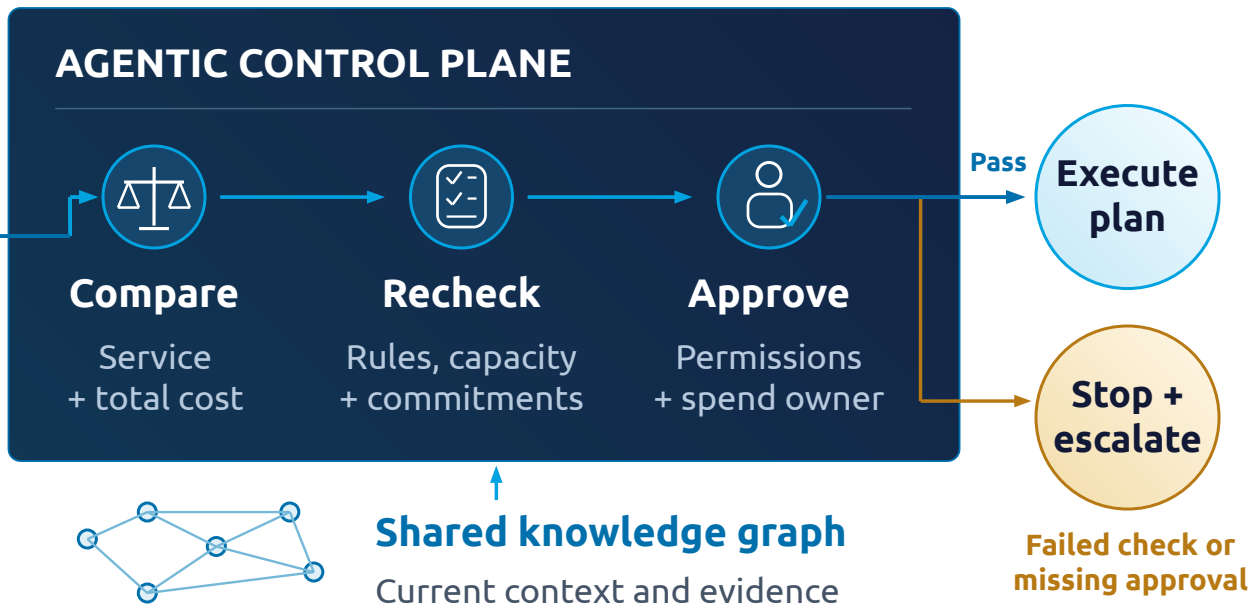
Agent proposals



Shipment
moves early



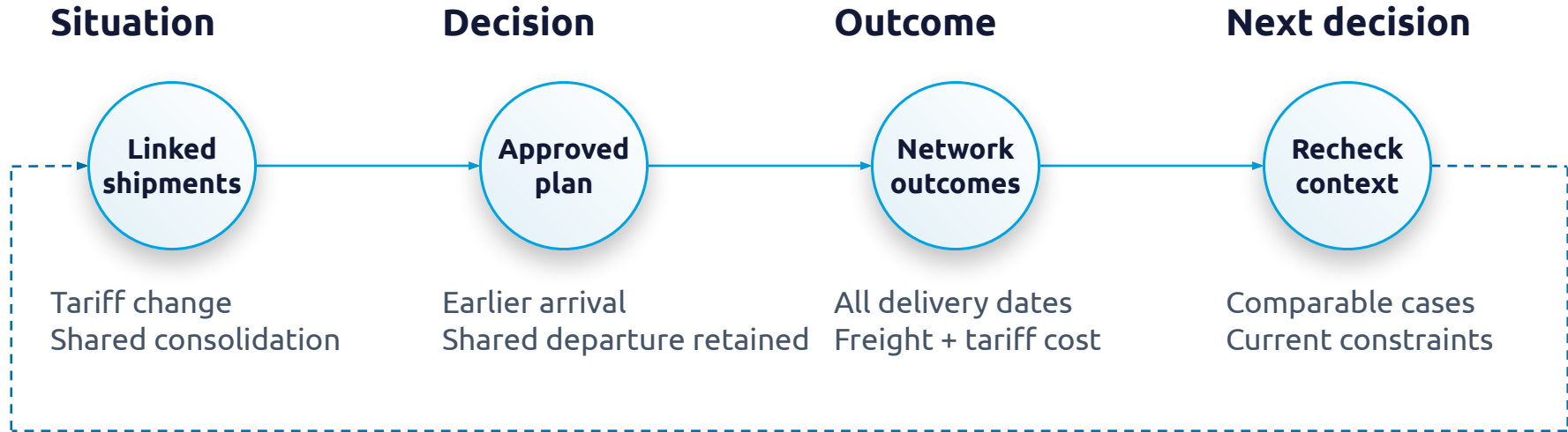
Shared load
stays on time



The graph describes. The runtime enforces.

Success across all affected shipments

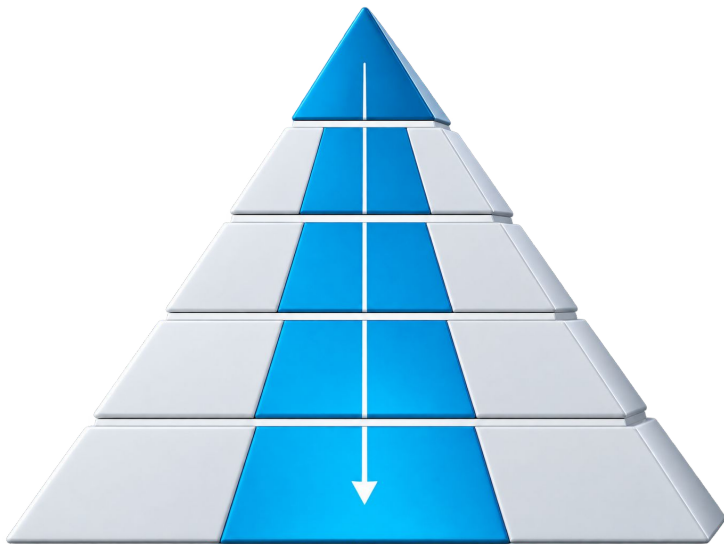
Illustrative decision record for the whole affected network



Evaluate the whole plan, then recheck before reuse

Business goals focus the investment

Build capability bottom-up. Target investment top-down.



Blue: required scope

Grey: potential waste

Business goal

Purpose

Protect service at acceptable total cost

Decisions

Wisdom

Advance the shipment or accept the tariff?

Questions

Bridge

What changes for the shared load and deliveries?

Knowledge

Knowledge

Connect dependencies, rules and evidence

Data products

Information

Build or reuse the information the answers need

| Grounded in underlying data

Start with the goal. Build only the scope the decision needs.

What must AI know before you let it act?

Start with one decision.
Connect the evidence.

Russell Adams

