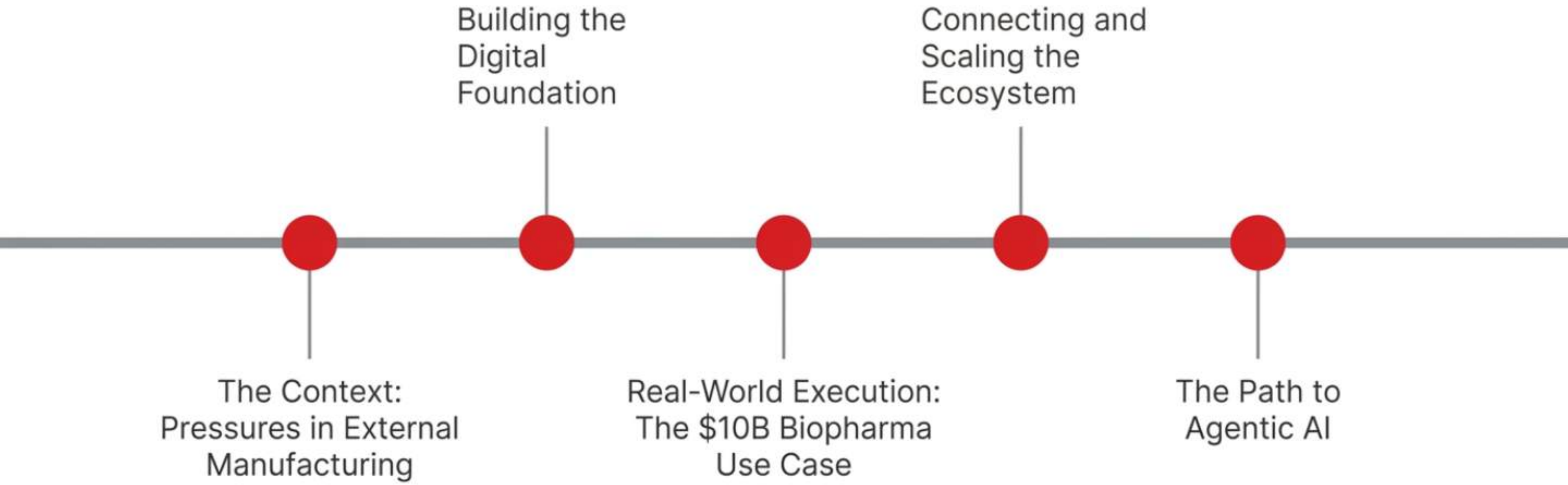


External Manufacturing in Pharma: Preparing for Agentic AI

How to build the data and partner foundation for scale and productivity





The Pressure

Faster delivery, better service, lower cost, higher control.

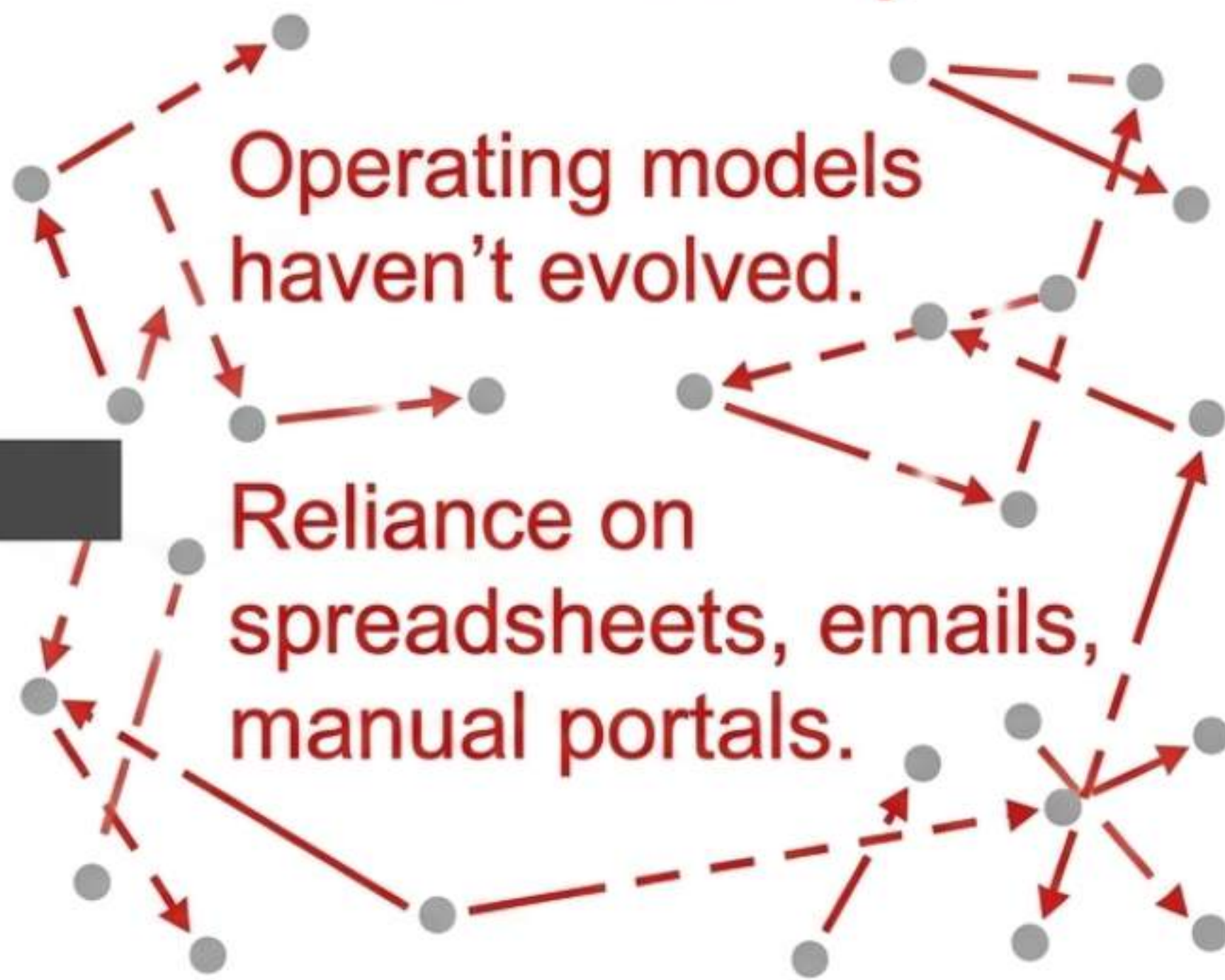
More external partners than ever before.



The Reality

Operating models haven't evolved.

Reliance on spreadsheets, emails, manual portals.



Decisions need to happen in near real-time, but when information flows manually, issue detection and resolution slow down significantly.

Data Visibility

Bringing critical data onto a shared digital platform.



Partner Integration

Connecting the external network where execution actually happens.



Contextualized Data

Linking accurate, timely data to underlying business processes (inventory, quality, shipments).



Process Orchestration

Synchronizing end-to-end workflows across planning, manufacturing, and logistics.



Governance

Establishing sustainable operating models, not just technology deployments.



An integrated operational environment where data flows reliably and teams act on trusted information.



Inconsistent Data

Different partners use different systems, formats, and definitions. Time is wasted on reconciliation.



Integration Complexity

Navigating multiple ERPs, legacy platforms, and manual workflows without a clear architecture.



Partner Onboarding

Managing dozens to hundreds of partners with varying technical maturity levels.



Limited Resources

Lack of internal bandwidth to build and maintain integrations over time.



Governance & Ownership

Fragmented initiatives lacking clear accountability for data standards and partner management.

The Tipping Point: A \$10B Biopharma Case Study

Current State

70+

Contract Manufacturers
(representing 30% of
annual sales)

\$800M

Finished goods
inventory held
as safety stock

<60%

CMO On-Time
In-Full (OTIF)
delivery rate.

100+

Hours per week
spent manually
coordinating
activities

The Operational Reality: Highly manual information exchange: spreadsheet inventory, PDF purchase orders, and constant email reliance.

The Intervention: Network-Driven Orchestration

Implemented TraceLink for direct integration of forecasts, POs, inventory, and delivery notices.

Outcomes



up to 10%

Increase in CMO on-time delivery.



up to 50%

Reduction in labor-intensive, manual administrative activities.



5-10%

Reduction in finished goods safety stock due to predictable inbound supply.

Moving from manual data chasing to network-driven orchestration.

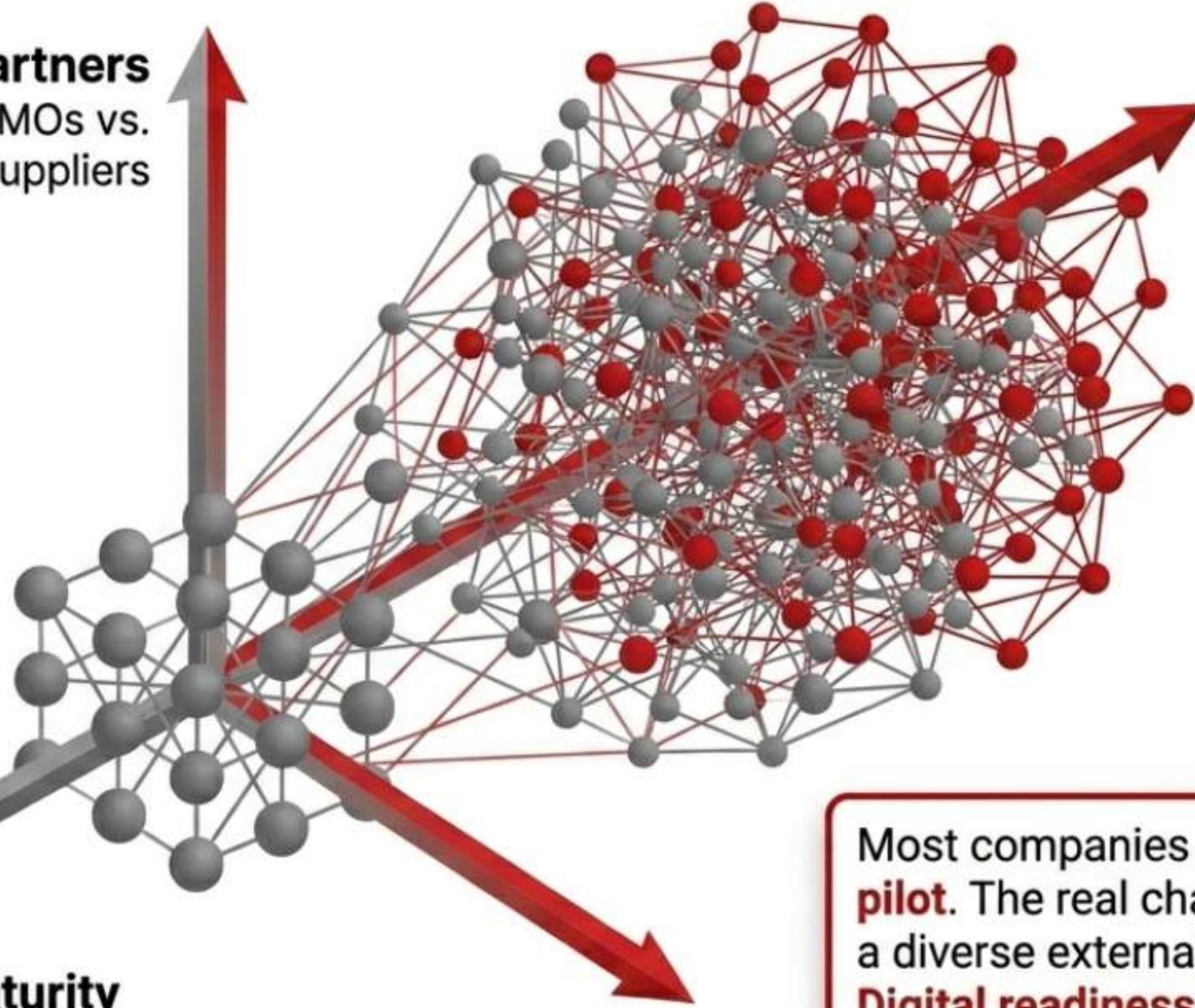
The Compounding Complexity of Scaling

Different Partners
High-tech CMOs vs.
low-tech suppliers

Different Maturity
Fully digital vs.
paper-based

Different Systems
ERPs, Legacy, Portals

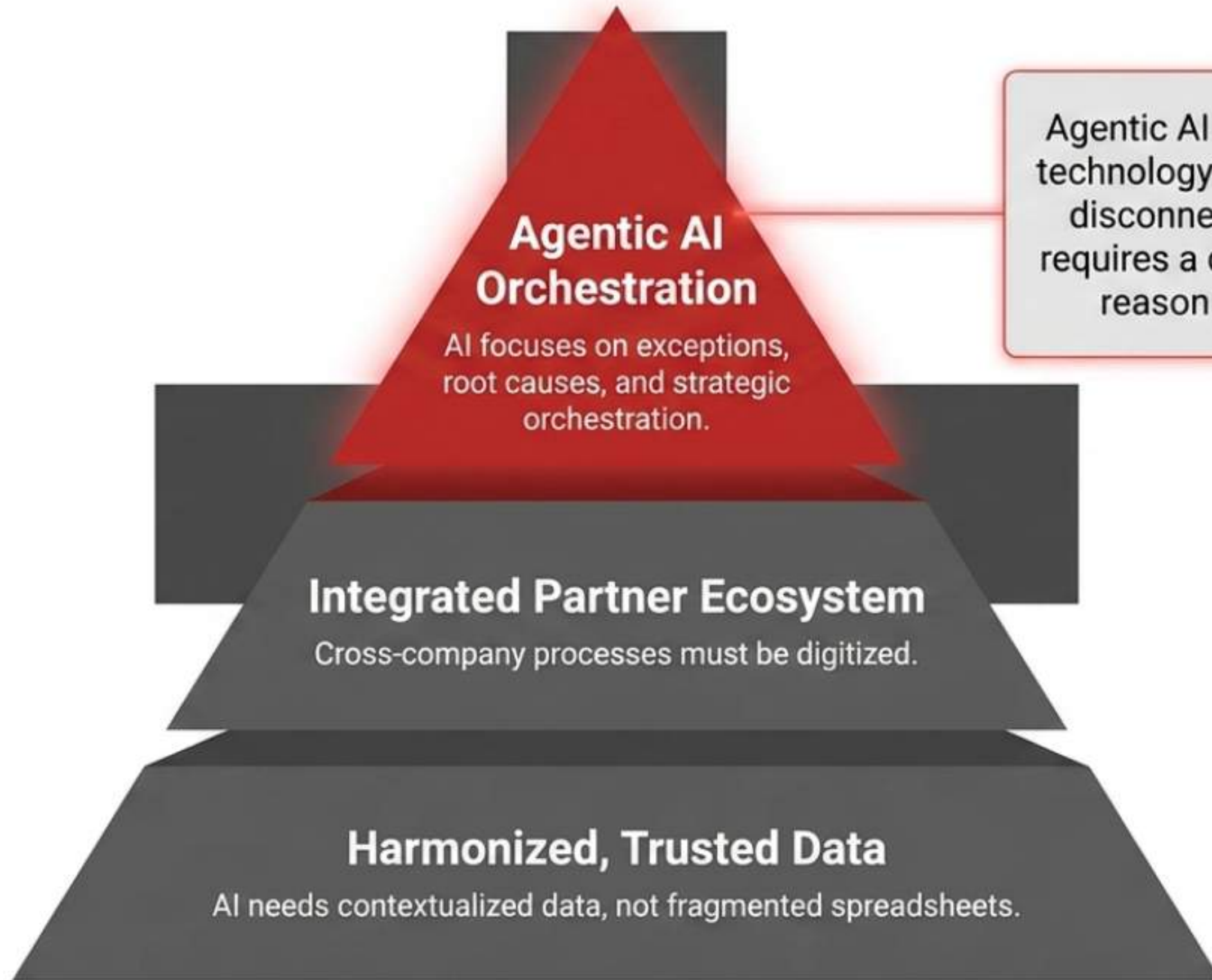
Most companies can **successfully run a pilot**. The real challenge is **scaling** across a diverse external manufacturing network. **Digital readiness** must be an enterprise capability, not just a one-off IT project.



The Solution: TraceLink B2N Integrate-Once Model

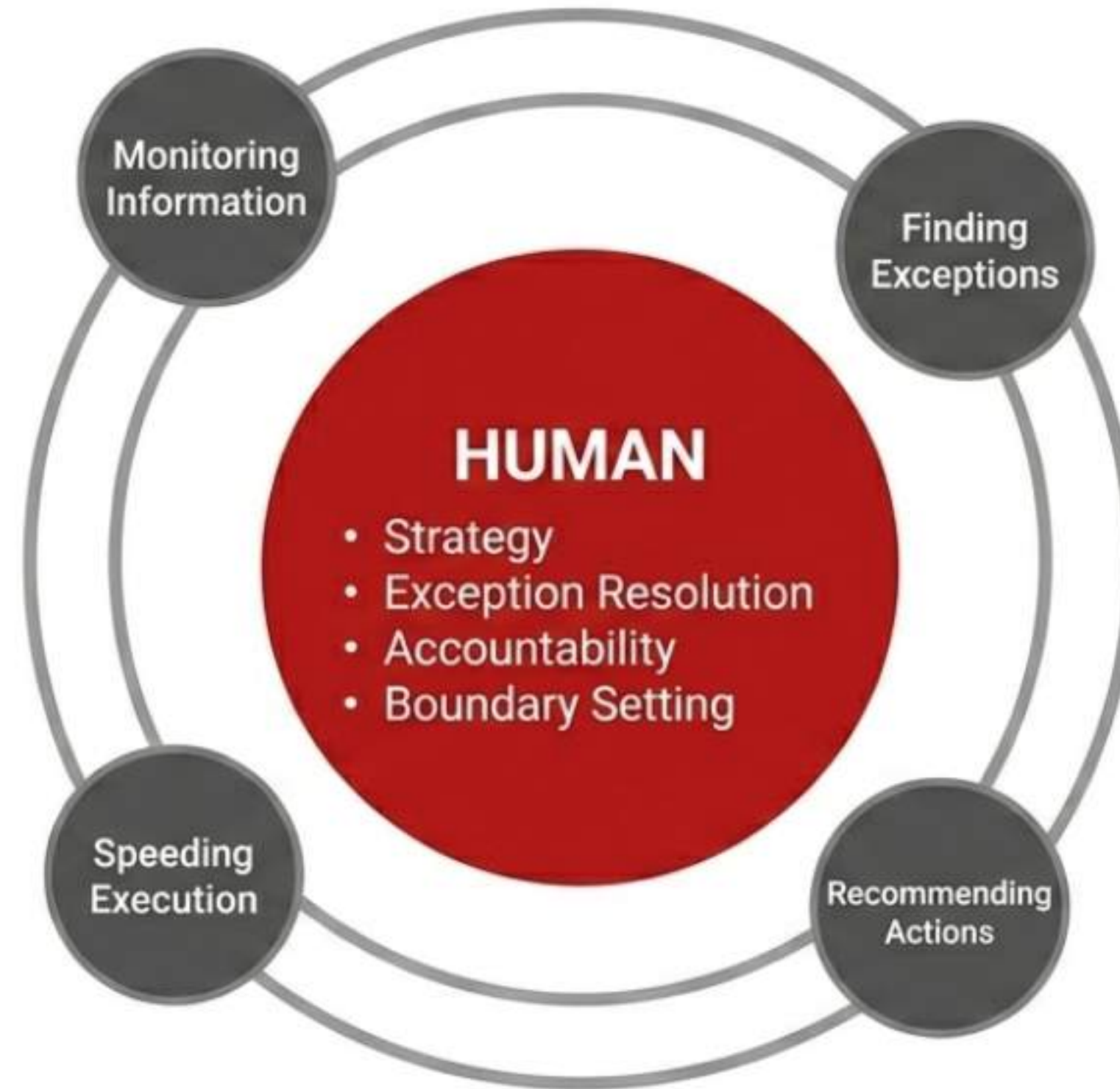


Each supply chain party integrates their way. The platform translates everything into a single, standardized digital twin of your external manufacturing ecosystem.



Agentic AI is not a standalone technology that magically fixes disconnected processes. It requires a digital foundation to reason over effectively.

Controlled Autonomy: The Human-in-the-Loop Model



In a **highly regulated industry**, the goal is not uncontrolled autonomy. It is trusted, governed execution where AI augments speed and consistency, but **humans remain firmly accountable**.

1

Identify the Pain Point

Don't try to digitalize everything at once. Pick a specific operational pain (e.g., Purchase Orders, Inventory Visibility, Exception Management).

2

Select Initial Partners

Choose a few key supply chain partners to establish the integration model.

3

Integrate and Grow

Establish the 'Integrate-Once' foundation and scale out from there.

Start small. Deliver operational improvements early while building the governance needed for Agentic AI.

Foundation First

You cannot leap to Agentic AI without first establishing trusted, contextualized data across your partner network.

Stop Point-to-Point Integration

Scale requires an 'Integrate-Once' canonical network that accommodates varying partner maturity levels.

AI as Orchestration

AI will not replace governance; it will augment your team to focus on strategy rather than manual reconciliation.



This is not a technology transformation – it's a synchronization challenge across data, systems, and partners.



Thank you for exploring the future of external manufacturing with us.

Follow Nubinno and TraceLink on LinkedIn for practical perspectives on digital supply chain transformation and AI readiness.

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