

AI IN RETAIL - SUPPLY CHAIN

How AI is being applied in distribution and supply chain operations, and what it means for cost, service, speed, and resilience.

SPEAKERS



Matt Waller
UofA

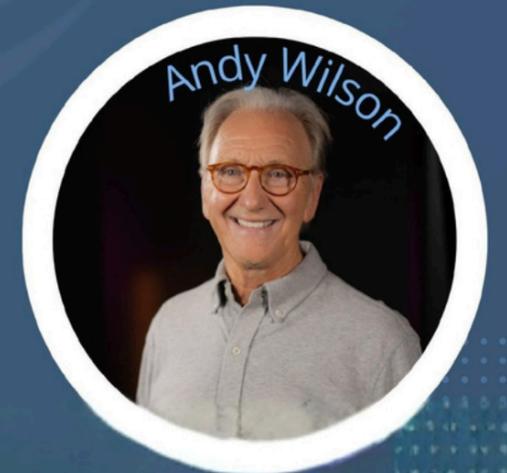


Brad Umphres
Deloitte



Brian Nachtigall
ArcBest

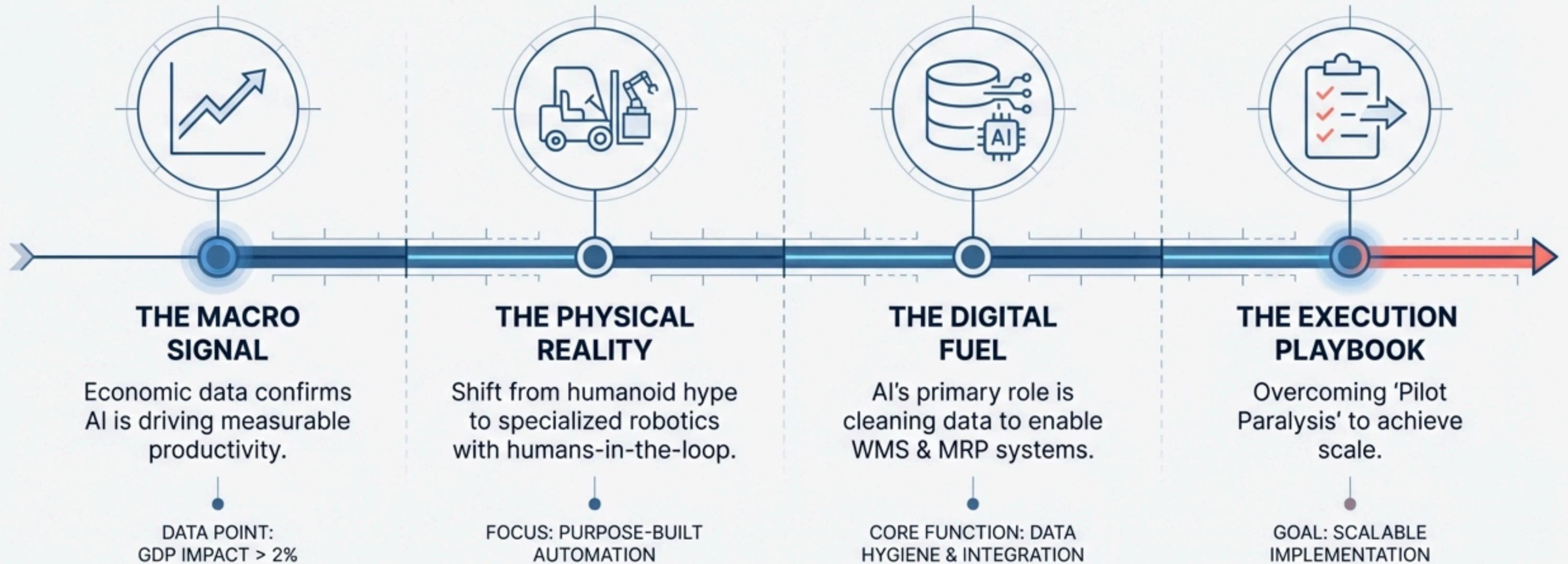
HOST



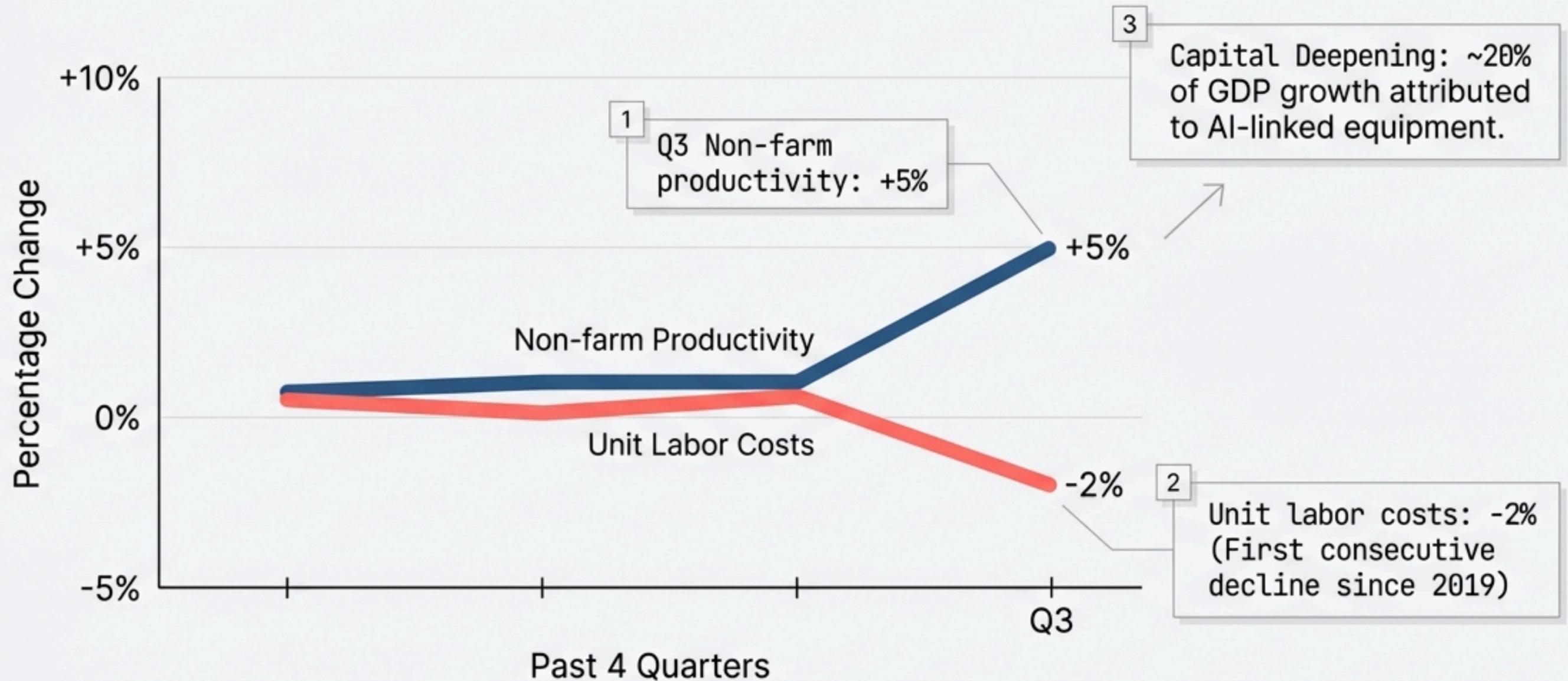
PANEL RECAP

February 19, 2026

FROM HYPE TO HIGH PERFORMANCE

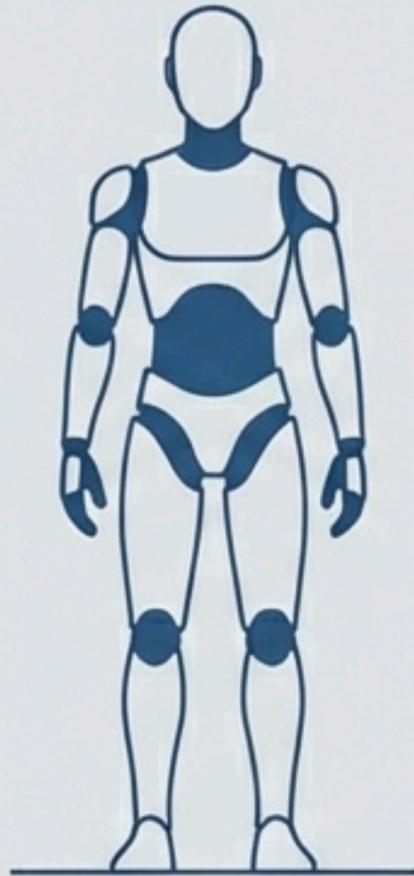


The Productivity J-Curve: AI Shows Up in the Data



"We have likely passed the statistical tipping point where AI shifts from experimental to economically significant." — Dr. Matt Waller

Robotics: Distinguishing Hype from Utility



THE HYPE

Humanoid Robot

- General Form Factor
- High manufacturing cost
- Good for PR, difficult ROI today



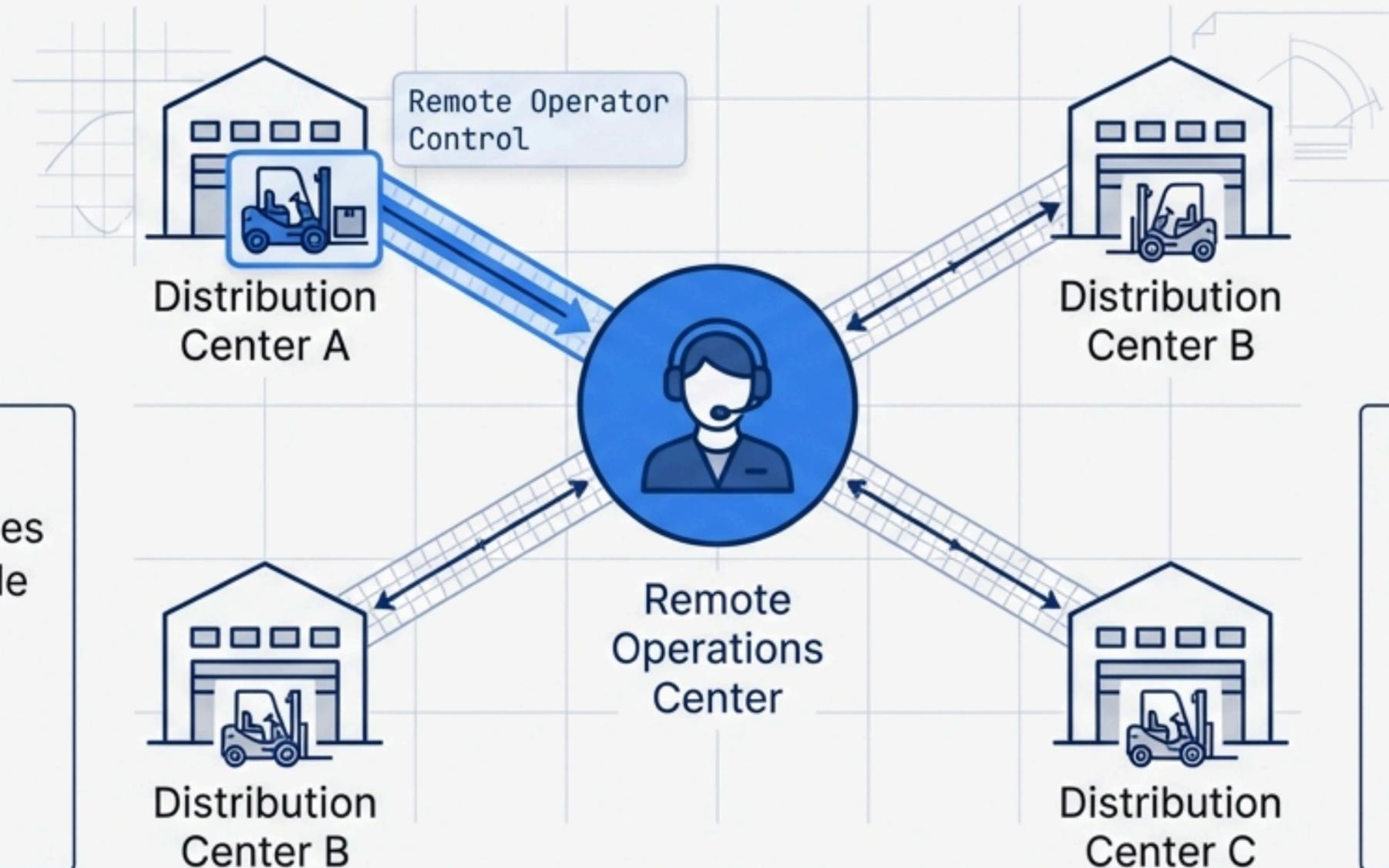
THE REALITY

Autonomous Forklift

- Specialized Form Factor
- Utilizes existing chassis
- Economically viable immediately
- Solves chaotic movement challenges

Insight: We don't know when humanoids will be ready, but forklifts are ready now.

The “Human-in-the-Loop” Operational Model



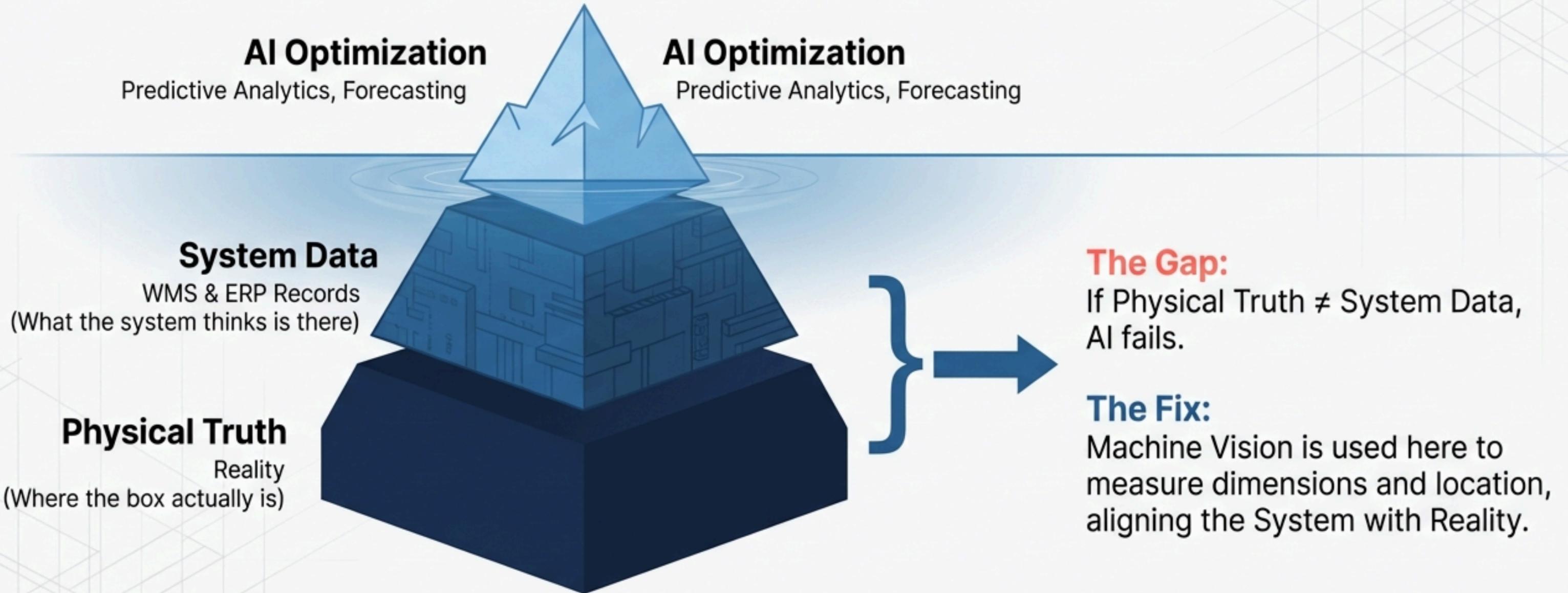
The 90/10 Rule:

- Automation handles **90%** of predictable workflow.
- Remote humans handle **10%** of edge cases.

Portfolio Theory of Labor:

Centralized operators smooth out demand spikes across facilities, reducing redundancy.

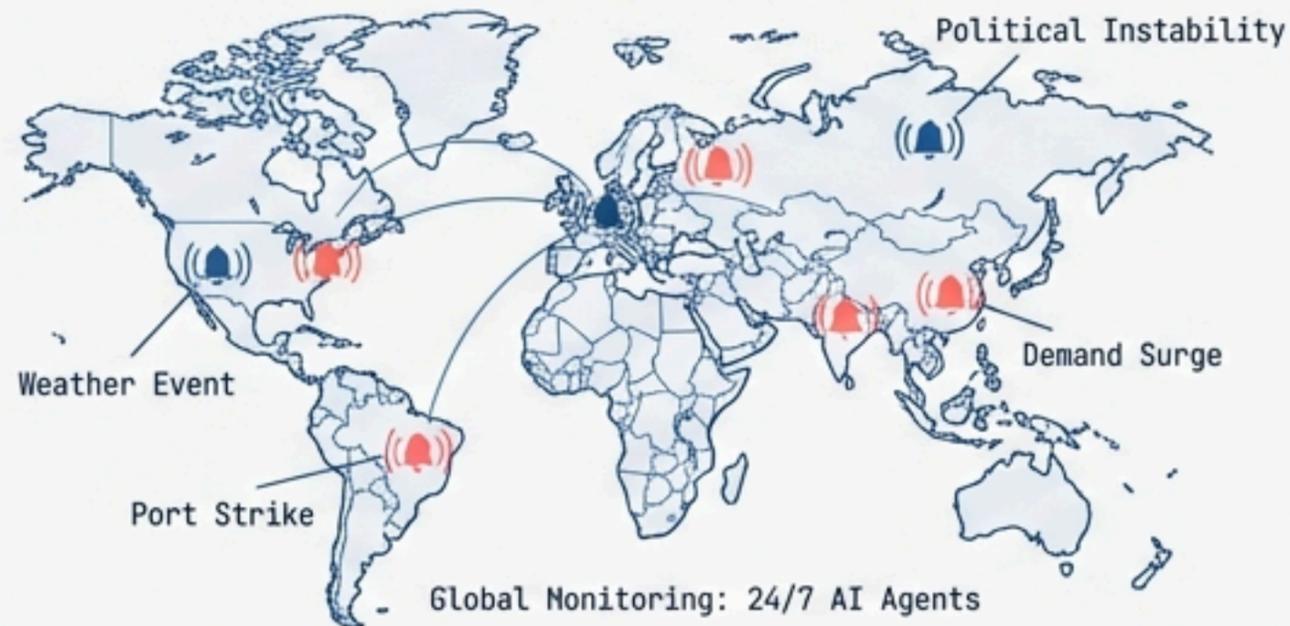
The Invisible Foundation: Data Integrity



“Garbage In, Garbage Out. AI is now used to clean the data so other AI can use it.”

Strategic Applications: MRP & Forecasting

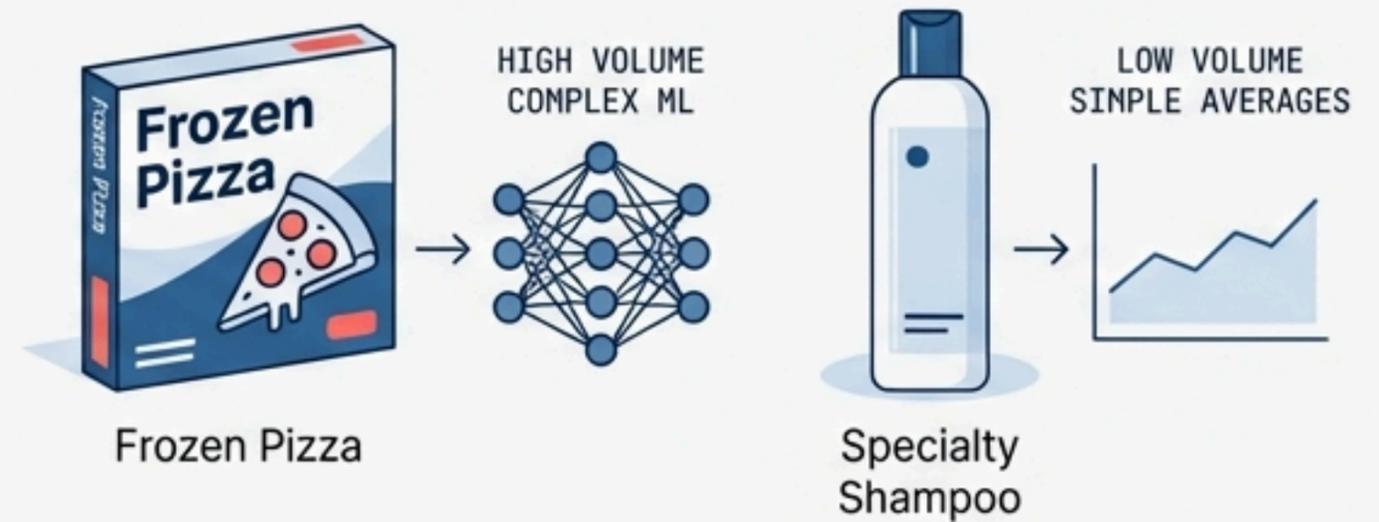
MRP (Material Requirements Planning)



From Spreadsheets to Intelligence

- AI agents monitor global events (weather, politics) to predict raw material shortages.
- Real-time feasibility checks on Bill of Materials.

SKU-Level Forecasting



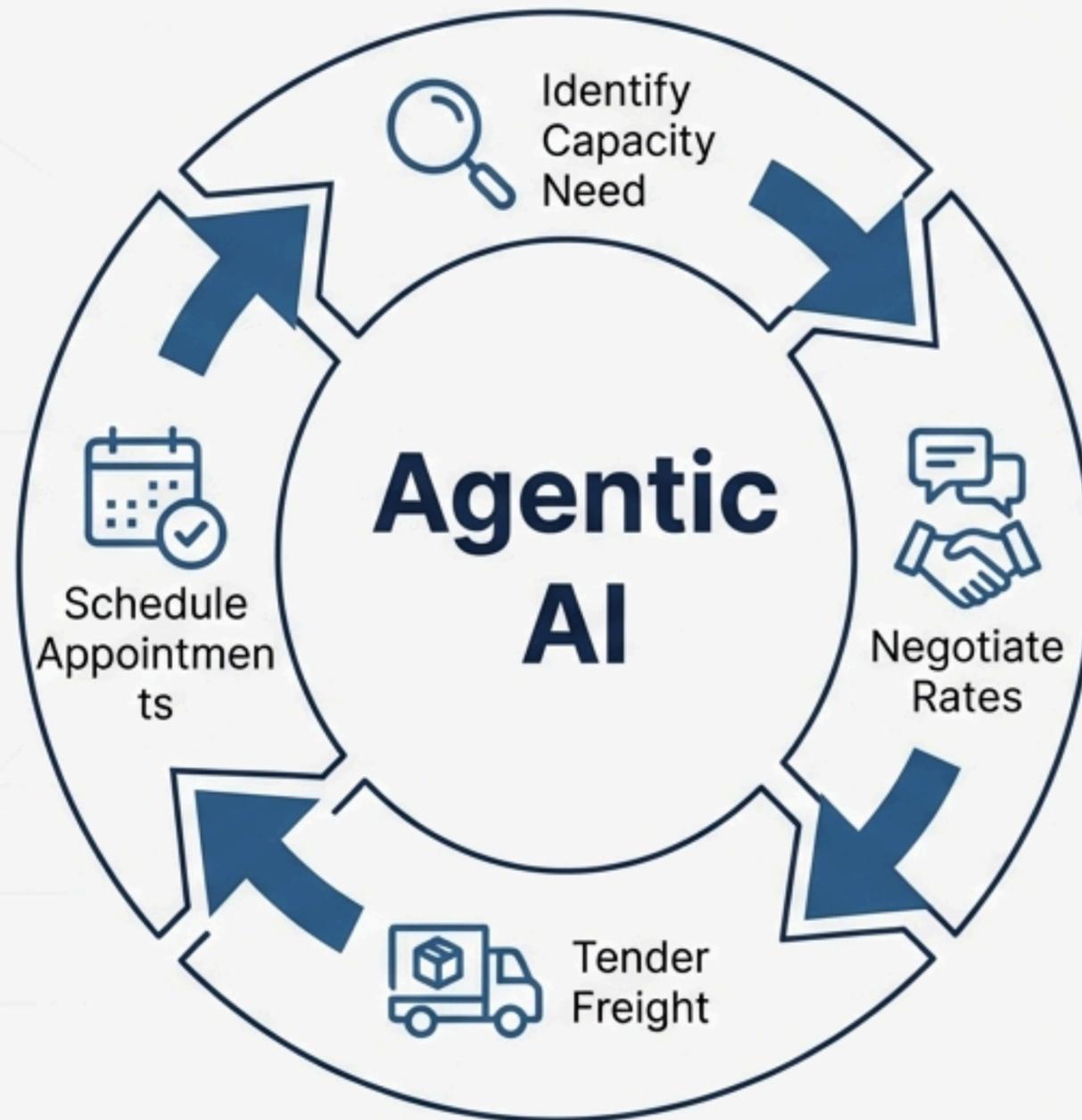
The Model Selection Paradox

- High Volume (Pizza): AI uses complex Machine Learning.
- Low Volume (Shampoo): AI recognizes sparse data and reverts to simple averages.

Insight: Intelligence is knowing when NOT to over-engineer.

From Analytics to Agency: AI in Transportation

The Digital Agent Workflow



Shift:

Moving from Passive Analytics (Reporting what happened) to Active Agents (Doing the work independently).

Trust Factor:

Safety data from autonomous vehicles is paving the way for trust in autonomous agents.

The Adoption Paradox

Small / Medium Business



Agile, Existential Need for Efficiency.

Mindset:

“Rollout Mindset (‘We are doing this’).”

Result:

High commitment, fast ROI.

Large Enterprise



Resource-rich but Policy-constrained.

Mindset:

“Pilot Paralysis (‘We are testing this’).”

Result:

Low commitment, users fight change.

Takeaway: Organizations seeing ROI are those that mandate adoption rather than perpetual testing.

The Execution Playbook: Change Management

1. Education

Demystify the tech. Frontline workers must understand what the robot is capable of—and what it isn't.

2. Top-Down Mandate

Leadership must signal "We are doing this." Optionality kills adoption.

3. Process Integration

Move immediately from Pilot (Testing) to Production (Standard Operating Procedure).

Governance: Three Pillars of Responsible AI



Data Sovereignty

Prevent leakage.
Separate cloud instances
for each tenant. Data is
never comingled.

Bias Mitigation

Feedback loops required
to correct skewed models
trained on public data.

Legal Frameworks

Adherence to emerging
global standards (e.g.,
EU AI Act).

Blueprint Blue

Strategy

Use **IT partners** to
manage sovereignty.

Treat **data privacy** as
a **competitive asset.**

The Cost of Inaction

3X
Cheaper & Faster

“

If you're not using AI already... you're behind. Early adopters are seeing 3x productivity gains.

Brad Umphres

Start small, but start now.

Northwest Arkansas is positioned to lead the retail AI revolution.