

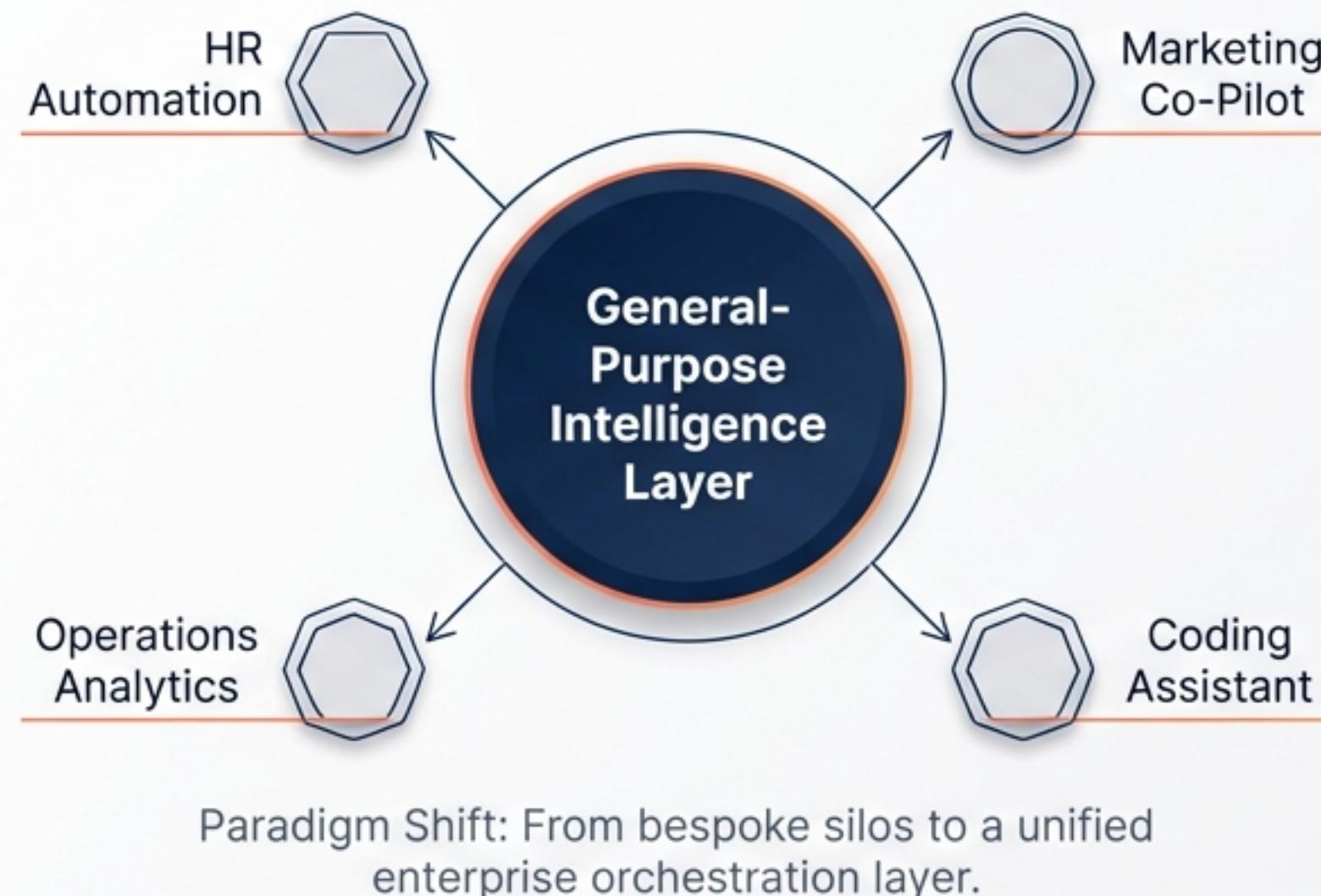
Future Outlook: Leading the AI Revolution

Strategic Imperatives for the AI-Era CTO (Chapter 9)

Insights derived from 'The AI Era CTO' by Jianfeng Ren, Sole D'Agostino, Junwei Han

The New Bedrock: Foundation Models & Internal Platforms

Hub and Spoke



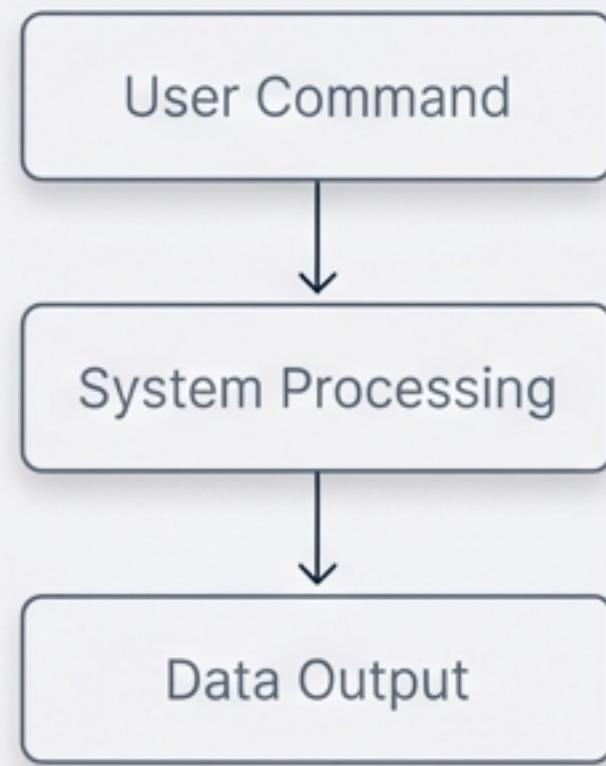
Strategic Decision: Build vs. Partner

1	Partner / Buy (API) Best for speed, standard capabilities, and low maintenance. Use for non-core functions.
2	Build / Fine-Tune Essential for core business differentiation. Requires proprietary data and domain-specific training.

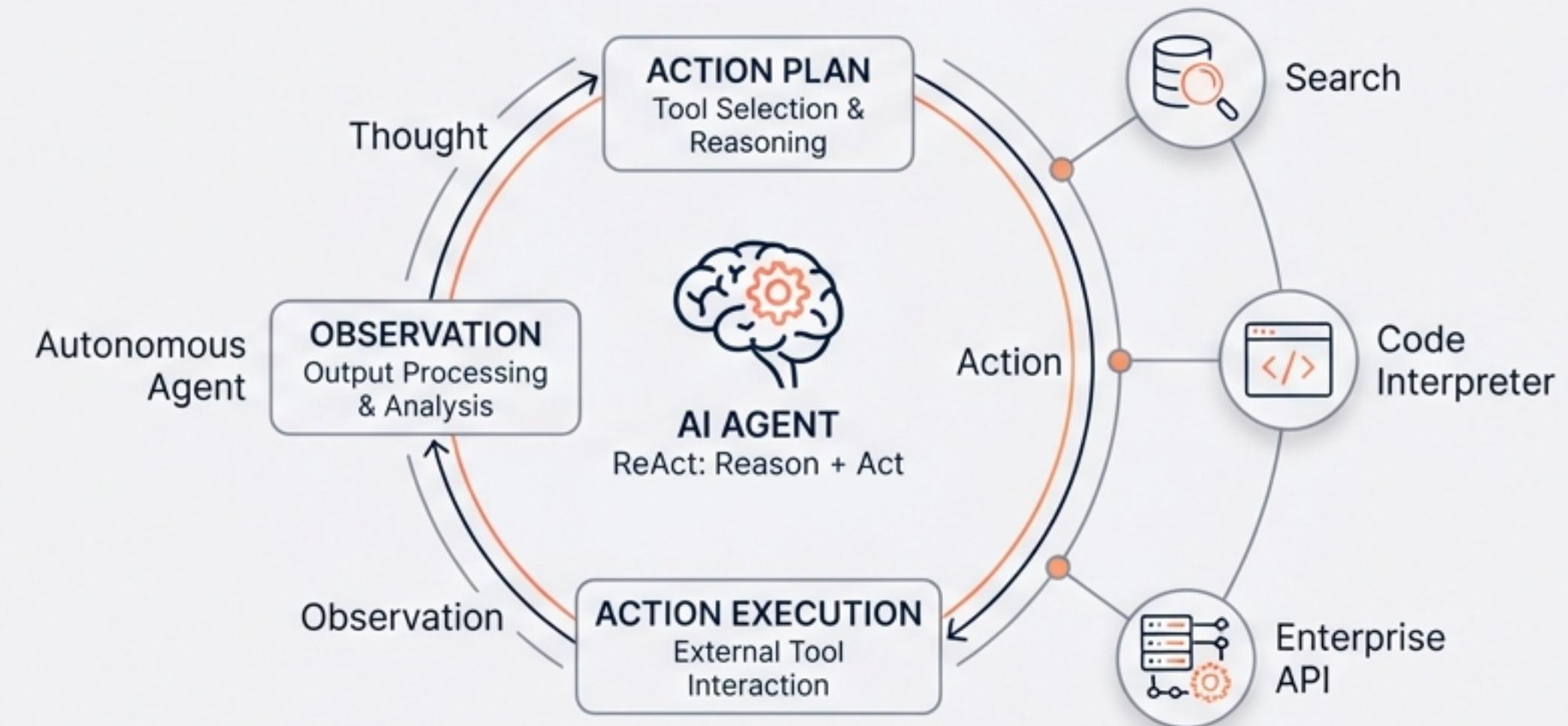
“The CTO isn’t just buying a tool; they are building an internal infrastructure that allows the rest of the company to innovate.”

From Static Apps to Agentic Orchestration

The Old Paradigm: Static Apps



The New Paradigm: AI-First Orchestration



Multimodal

Process text, image, audio, and video simultaneously for nuanced understanding.

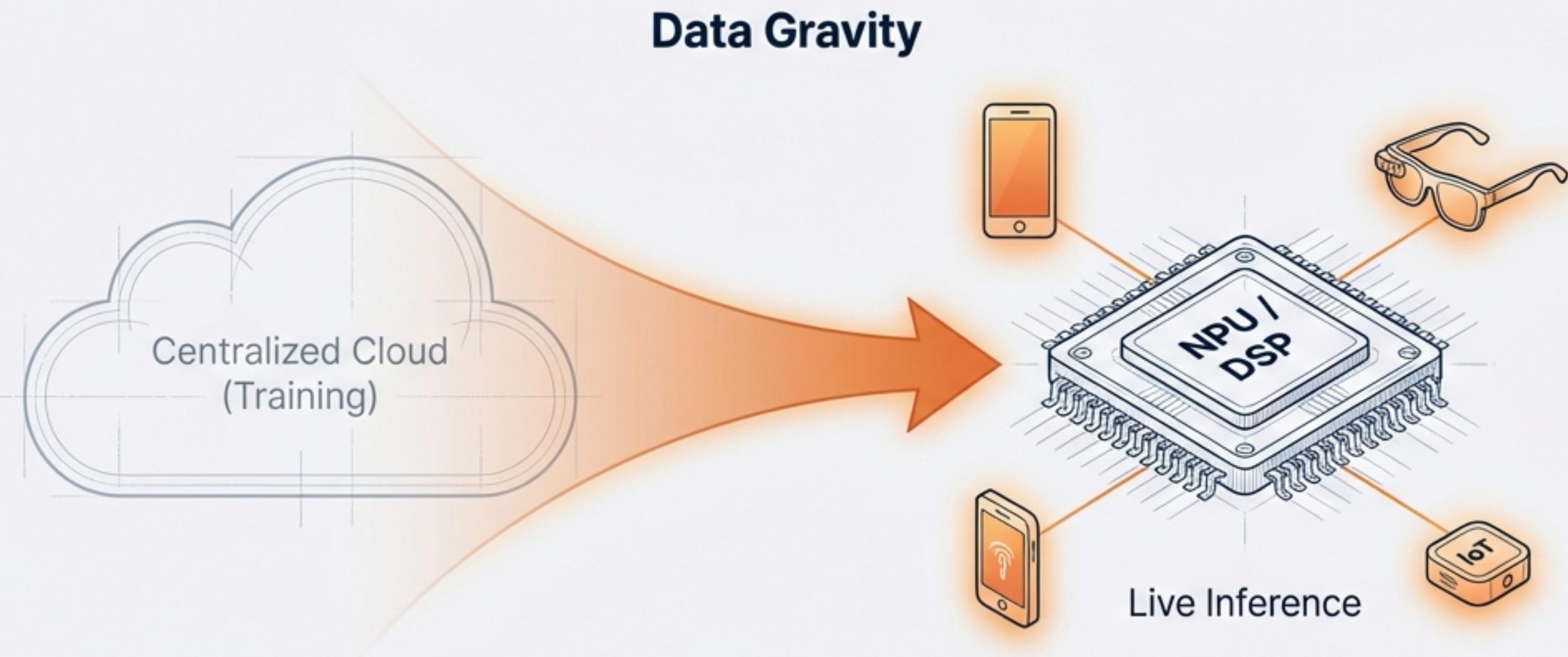
Agentic Planning

Agents do not just classify; they perceive, reason, plan, and execute multi-step workflows.

CTO Mandate

Shift from App-Centric Development to AI-First System Orchestration.

Migration to the Edge: Speed, Privacy, & Efficiency



Privacy

Raw data stays local; only insights leave the device
(Federated Learning)

Latency

Real-time responsiveness
for critical tasks like
autonomous driving.

Energy

Low-power inference
engines prevent
battery drain.

Proof Point

Case Study: Qualcomm & Google

Hardware-software
co-design of real-time
imaging AI.

Optimization of HDR
video and low-light
enhancement on
specialized NPUs,
proving that software
must be deeply
integrated with silicon.

The Bifurcation: AI-Native vs. AI-Augmented Legacy

AI-Native Companies

Built on AI DNA.
Agile, automated, disruptive.

The Replatforming Agenda for Legacy Firms

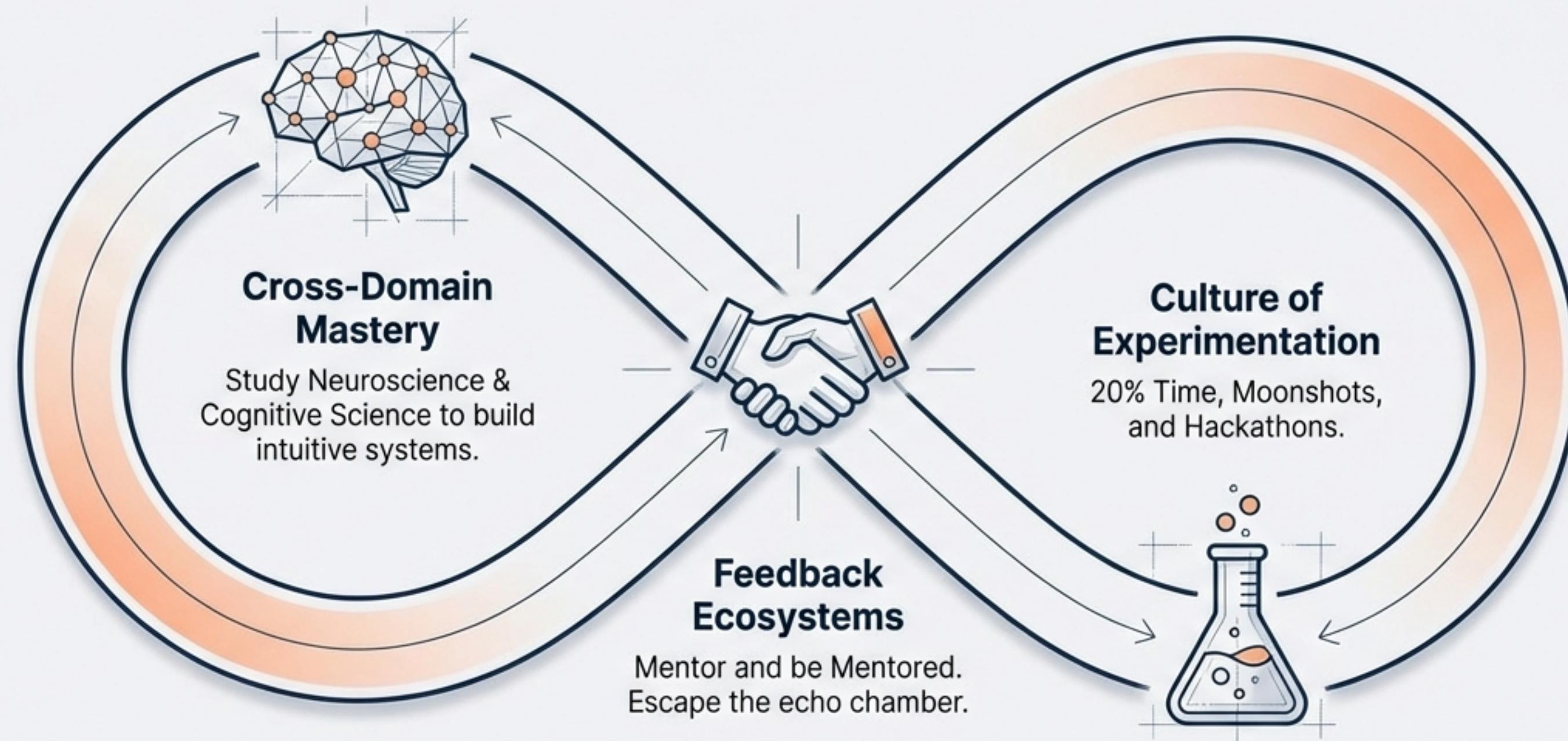
- **Data Pipelines:** Establish seamless collection/cleaning for data-hungry models.
- **Inference Engines:** Backbone for real-time deployment.
- **Organizational Response:** Form 'AI Strike Teams' to bypass bureaucracy and build MVPs.

Legacy Firms

Must Replatform.
High inertia, siloed data.

The CTO's Evolution: The Infinite Learning Loop

Bridging the gap between hard technology and human cognition.



Leadership is no longer static. It is a continuous cycle of learning, unlearning, and relearning.