

**PDF/SOLUTIONS®**  
**2025 Users Conference**

**Deep Dive**  
**PDF Solutions**  
**Technical Strategy**

**Peter Kostka**

December 3, 2025



# 04.

## **LLMs for Insights and Automation**

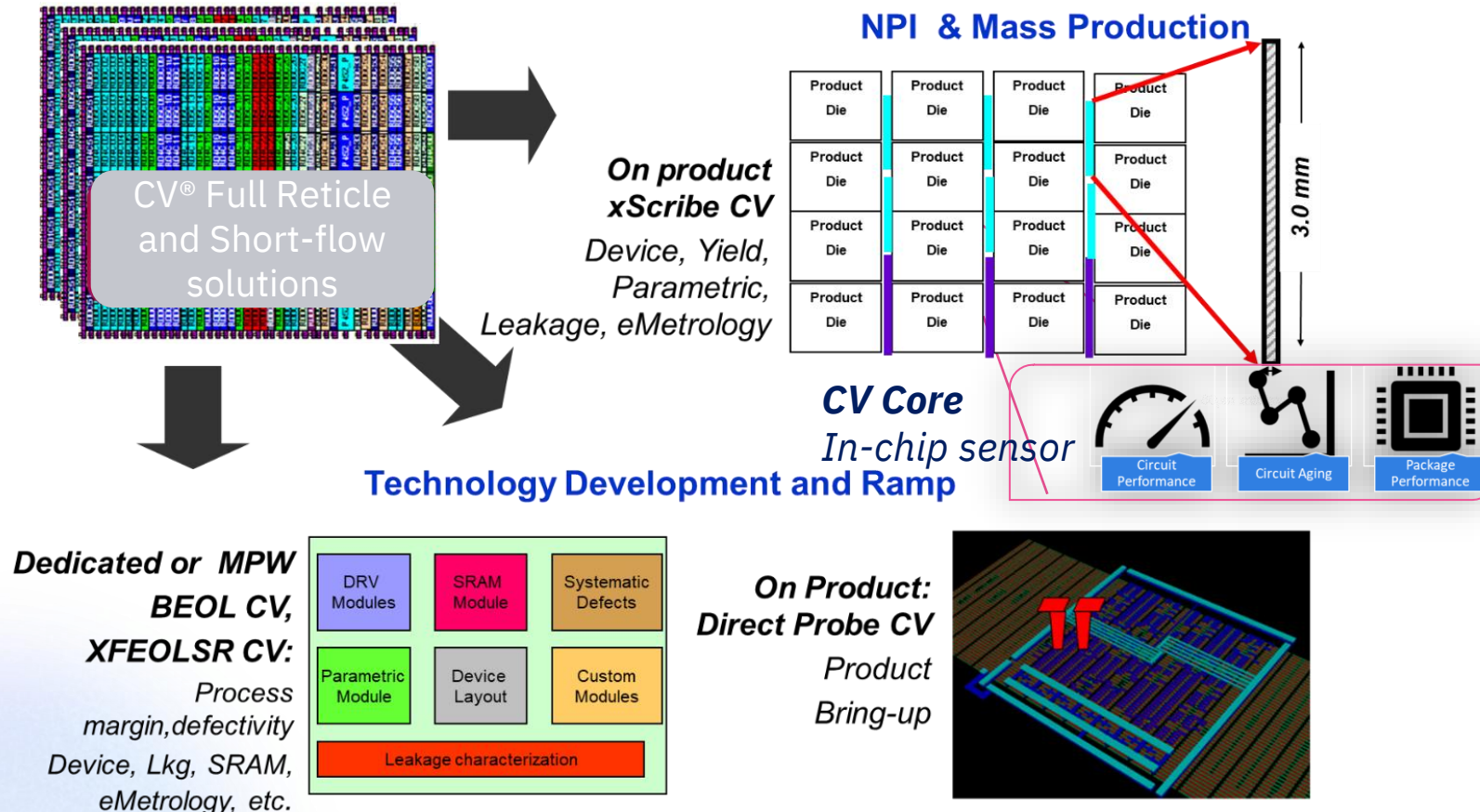
**Anya Jasthi**

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**PDF**  
**SOLUTIONS®**

# PDF Characterization Vehicle® Test Chips

Area efficient and fast-testable Test Chip solutions



Characterization infrastructure for data collection

Inline & End of Line: CV Infrastructure











100x - 1000x faster vs. conventional architectures

PDF Characterization Vehicle® test chip = CV® test chip

# PDF CV® Infrastructure Breadth of Coverage

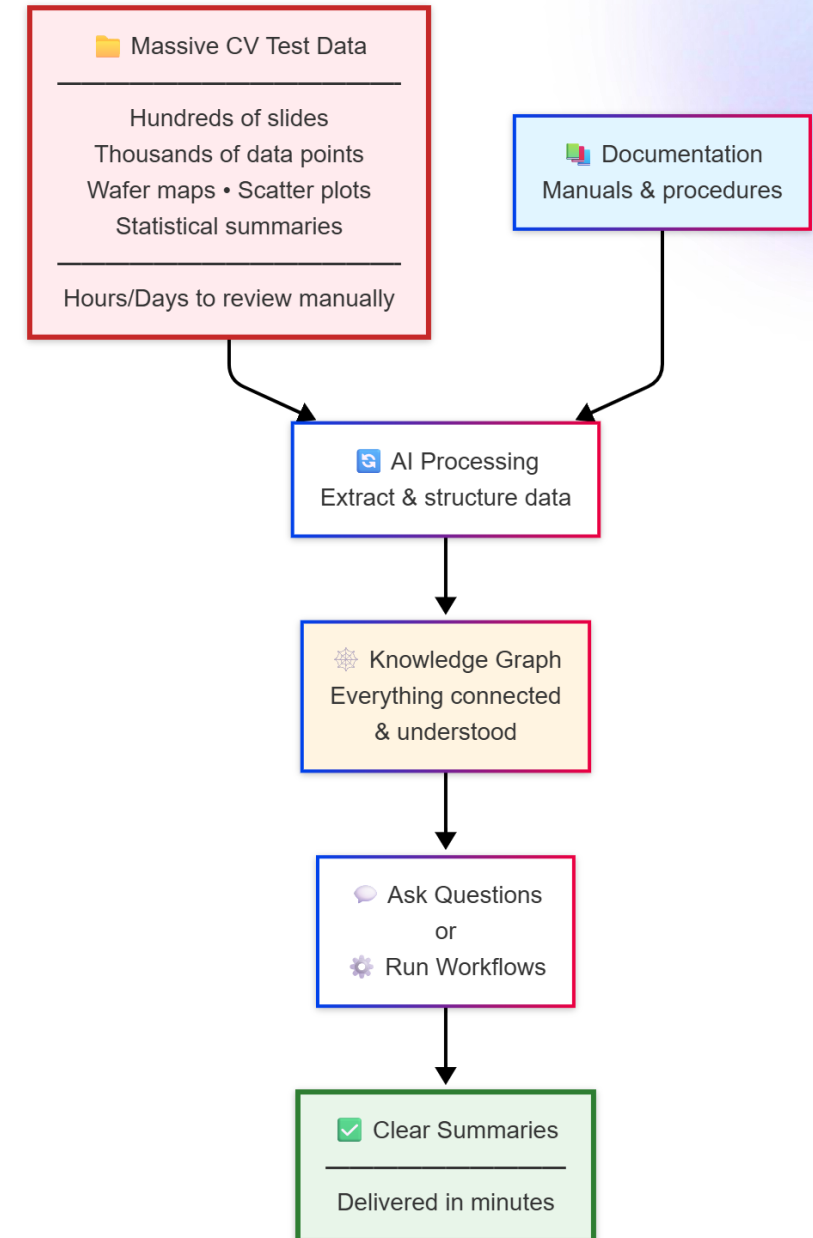
- CV's have breadth of test structures and DoE's required for SoC
  - Example; Over 1,000 DOE levels / layer at 28nm
- Result of over 20 years of development and use starting at 250nm and continuing to 5/3nm and below

	<b>&gt;40 Billion</b> CV® System DUTs tested per year		<b>~1,000</b> CV Test Chips taped out since 2012 (over 400 at <=14nm)
	<b>&gt;10 Billion</b> <u>directScan</u> DUTs tested per hour		<b>&gt;150</b> Pattern-dependent fail modes analyzed per product layout
	<b>&gt;40,000</b> Fab process, test, and assembly tools managed by Exensio® Platform		<b>&gt;200</b> IDM, Fabless, Foundry, OSAT, and System customers worldwide
	<b>&gt;200</b> 12-inch Fab connected through <u>secureWise</u> zero-trust remote access platform		<b>&gt;15,000</b> Engineers trained on PDF Solutions products worldwide



# Use Case: Automating CV Analysis

- Effortlessly navigate and master vast data
- Context-aware intelligence and specialized expertise embedded
- Plug-and-play architecture
- Knowledge preservation
- Accelerate Onboarding
- On-premises solution



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GEN AI FOR AUTOMATING



™ **characterization**  
**vehicle**®

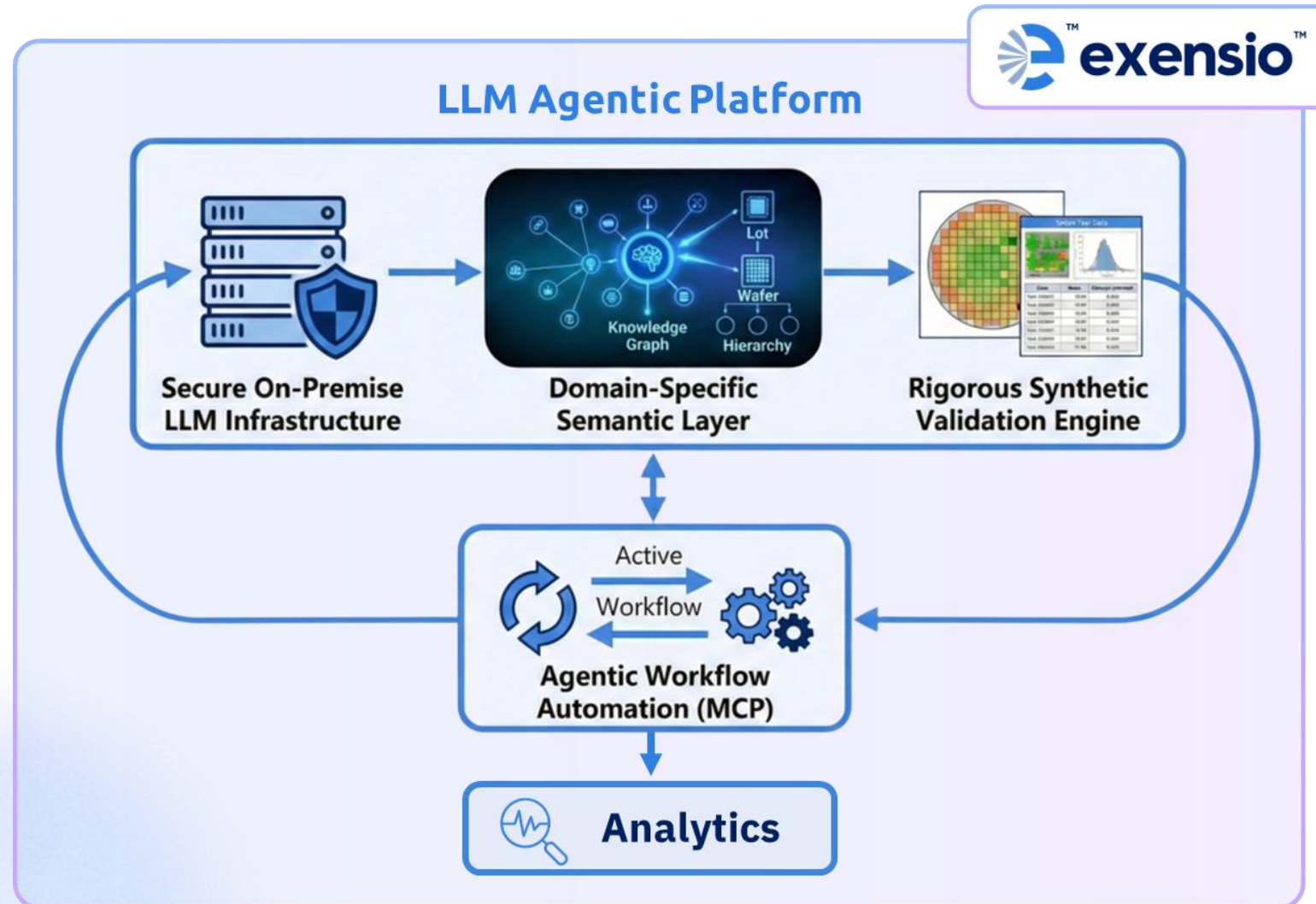
ANALYSIS DEMO



# LLM Infrastructure



## LLM Agentic Platform



# In the next demo

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**Intelligent Translation:** The agent translates simple user requests into specific database queries and calculation sequences without requiring raw data transfer to the LLM.

**Auditability:** Every action the agent takes correlates to a traceable Workflow ID within the Exensio client, allowing engineers to verify and trust the automated analysis.

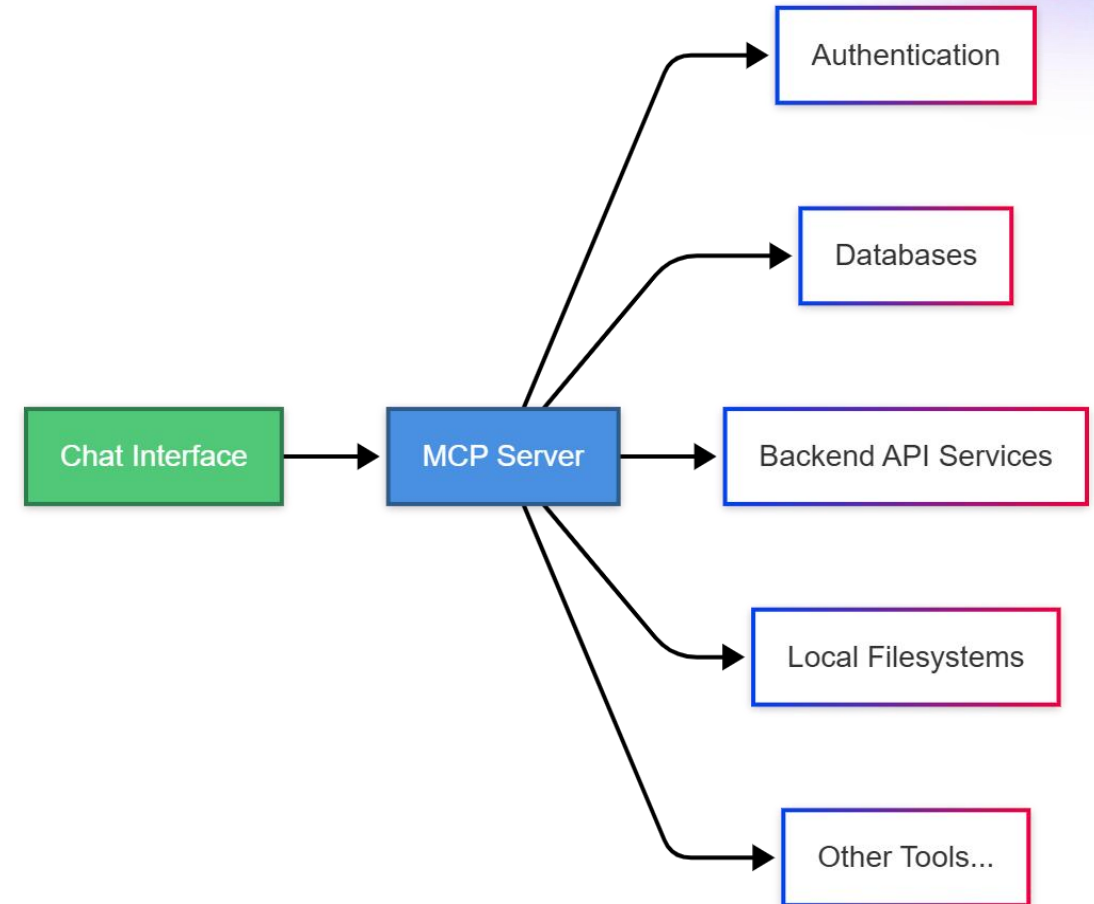
**Efficiency & Security:** All heavy computation happens in the Exensio backend (Scalable Analytics), reducing token costs and maintaining data security.

**Actionable Insights:** The demo flows from high-level yield checks to specific root-cause correlations (PCM parameters), while not a complete root cause analysis this is enough to potentially use a second agent to route the findings to the correct group within a fab.



# Model Context Protocol (MCP)

- Open standard for AI-data source connections
- Secure, bidirectional communication between AI and external systems
- Dynamic tool discovery – A automatically identifies available capabilities
- Real-time data access





# The 11- “Commandments” of AI Application Adoption



1. Integrate your teams and data with purpose to maximize use of AI

2. Bridge your data sources: API-based connectivity. MES, EDA, Supply Chain, Quality, etc.

3. Keep your solutions simple: No-Code / Vibe-Code

4. Train yourself and others often.

5. Share knowledge across the enterprise: Code, Learnings, etc.



6. Deliver swift updates with latest features.

7. Enable user customization: improve flexibility & accommodate exploration

8. DO not compromise security or governance.

9. Make insights clear and explainable.

10. Create feedback for continual improvement.

11. MAKE SURE YOUR DATA IS CLEAN



# PDF/SOLUTIONS®

INTRODUCTION TO



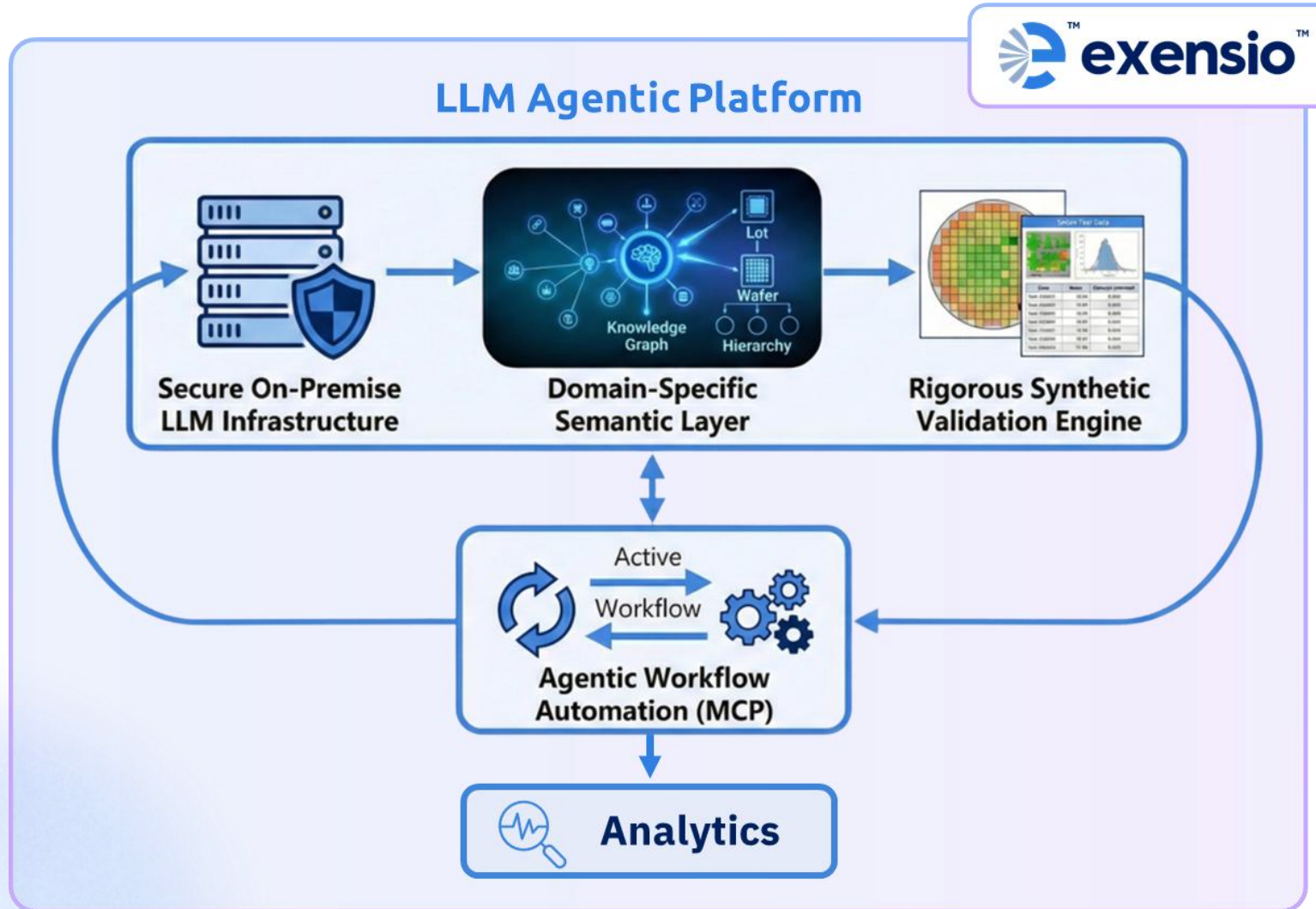
WORKFLOWS DEMO



# LLM Infrastructure



## LLM Agentic Platform





# **We are building a system that is Semantic, Agentic, and Secure**



## **Enterprise Model Ops**

Train and serve 1000s of models across an enterprise.

## **Integrate New Data Sources**

Ingest design and machine data for faster, deeper insights.

## **Agentic LLM Infrastructure**

Use or build agents to automate complex analysis.

# Thank You

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