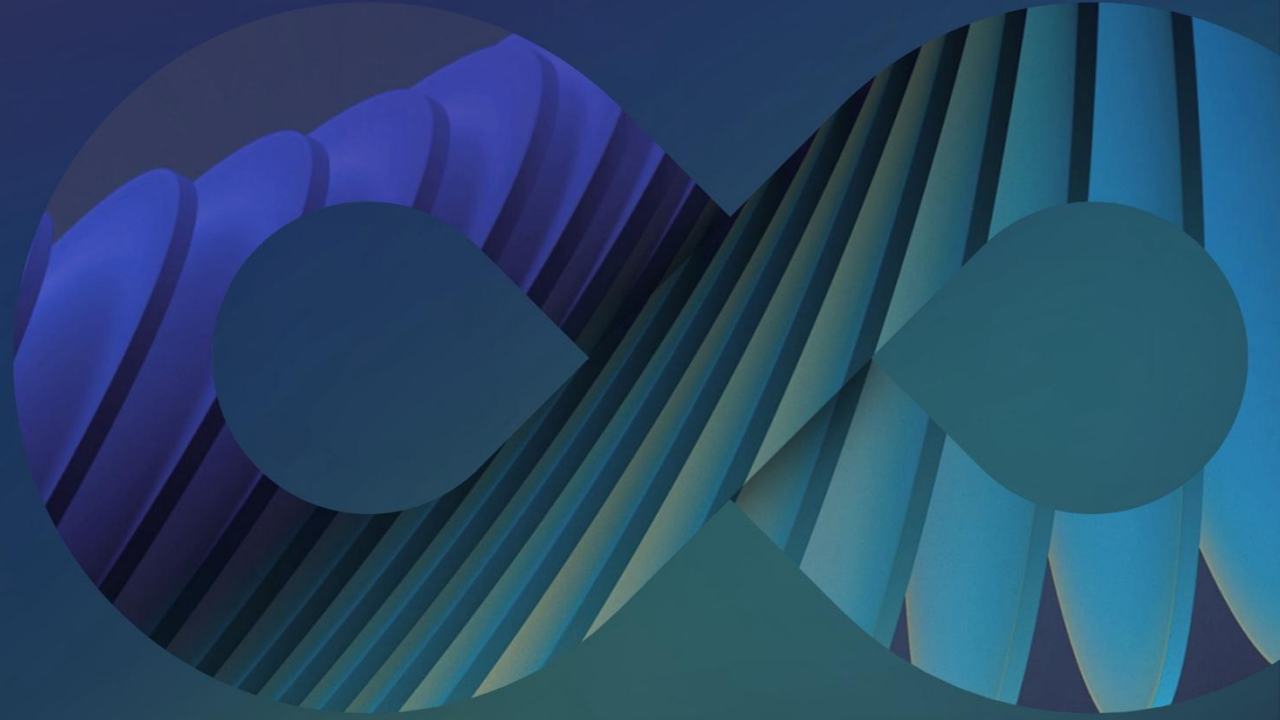


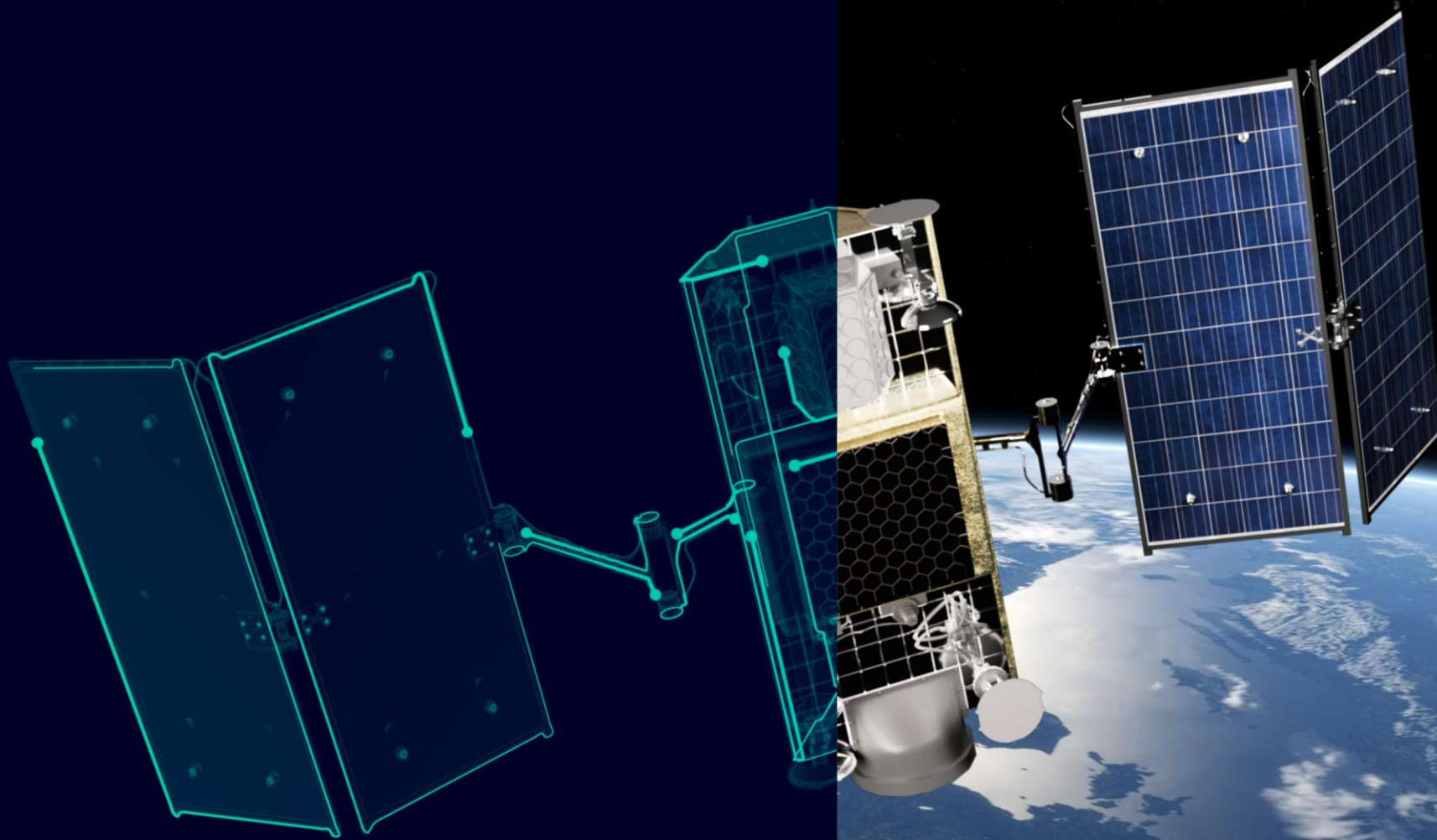
Silicon at the Speed of AI: Transforming Design and Manufacturing Timelines

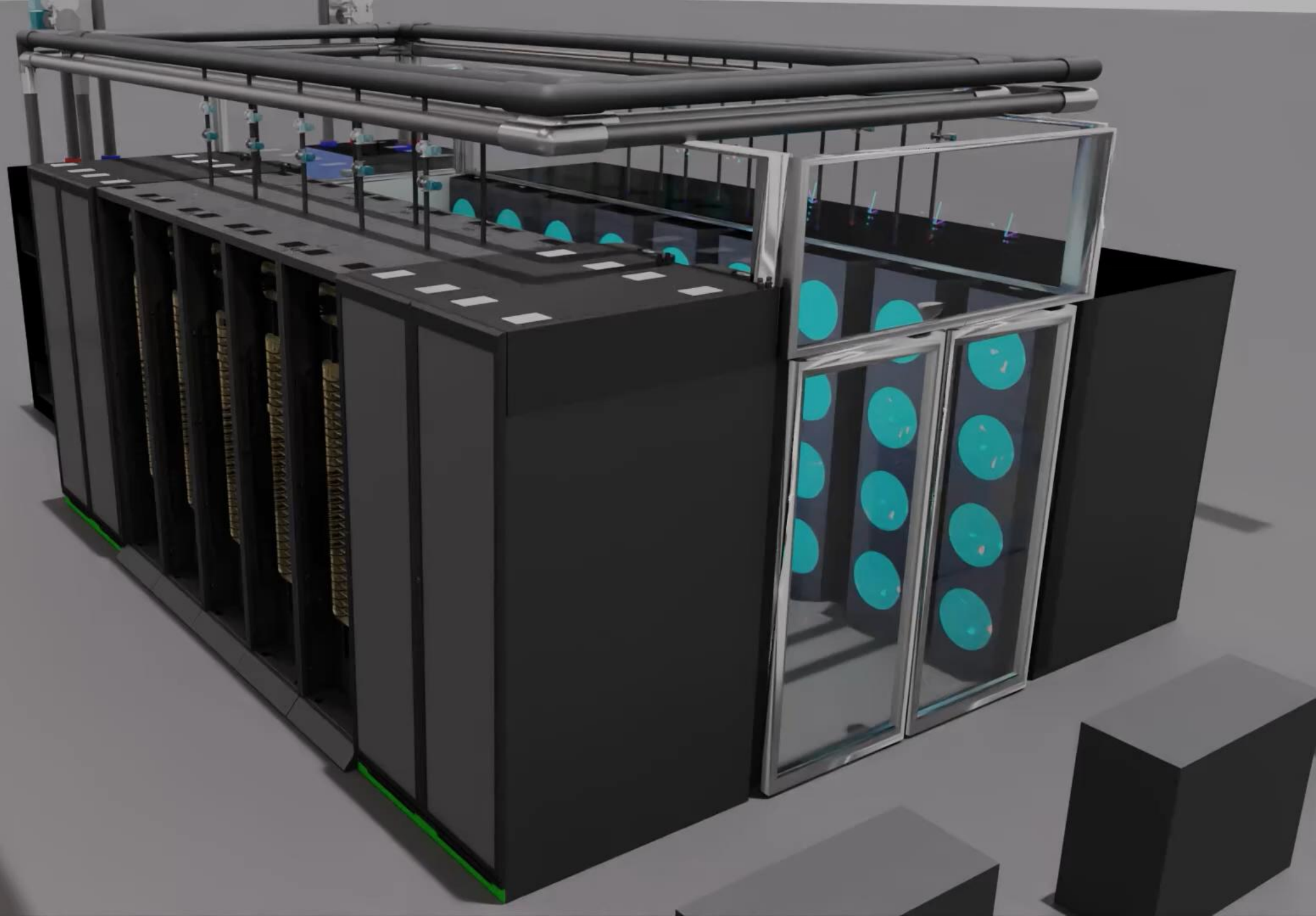
Amit Gupta

Chief AI Strategy Officer, Senior VP and GM, Solido Custom IC



Our customers are facing silicon-to-system complexity





Challenges for the semiconductor industry grow at an extreme rate

 NEWS

Global **chip sales** expected to hit \$1trillion this year

 NEWS

The effects of **tariffs** on the semiconductor industry

 NEWS

The great decoupling: how **geopolitics** is reshaping semiconductor supply chains

 NEWS

Semiconductor industry faces critical **talent crisis** — one million additional skilled workers needed by 2030

 NEWS

May 17, 2025

AI chip design is pushing advanced chip packaging to its limits

 NEWS

Ripple effects: why **water risk** is the next major business challenge for the semiconductor industry

Faster engines

Smarter execution

Trusted outcomes

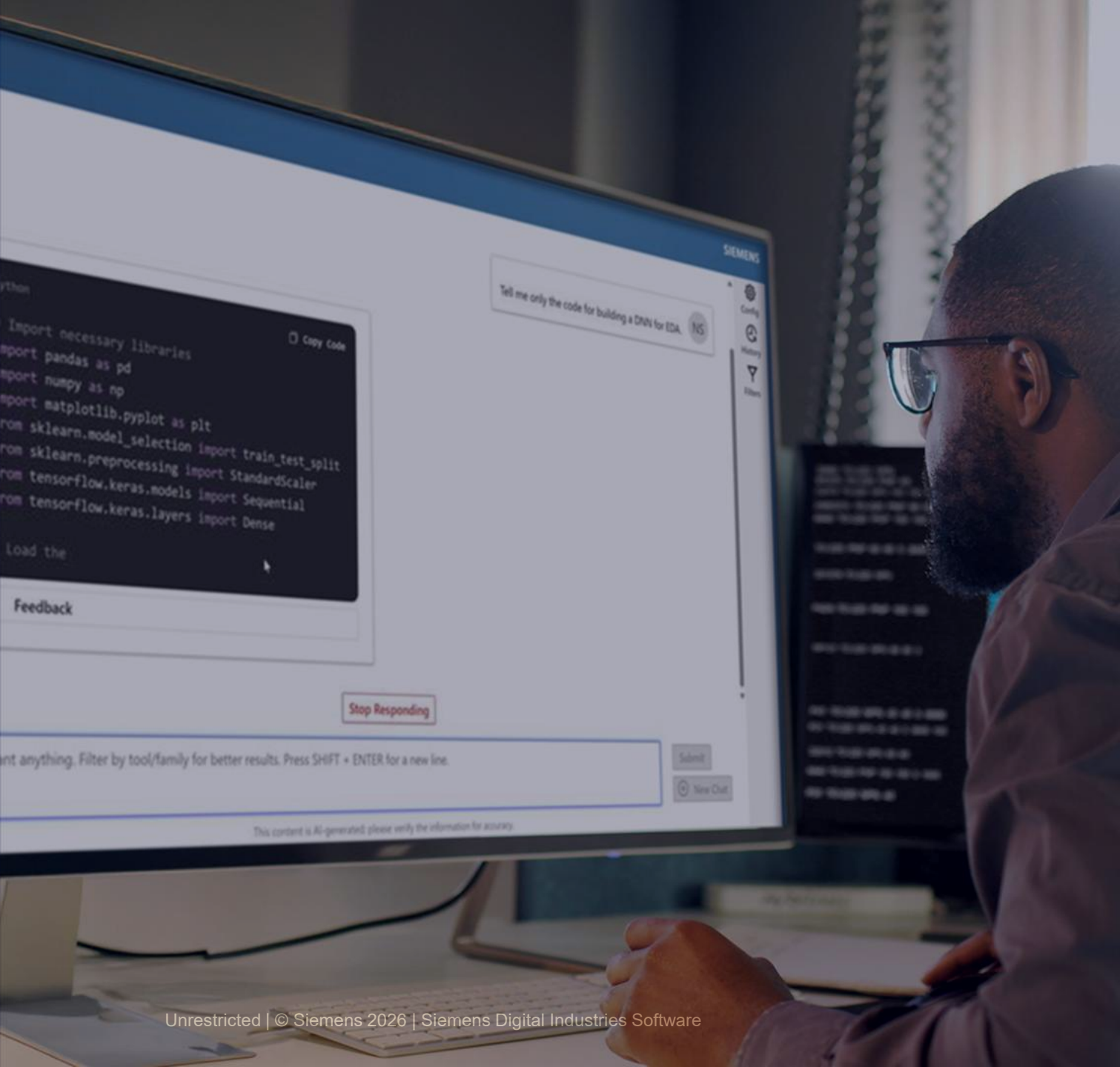




Pillar 1

Faster engines

In-tool machine learning and reinforcement learning combined with GPU acceleration deliver significantly faster design engines, reducing runtimes from weeks to days to hours to minutes



Pillar 2

Smarter execution

Generative and agentic AI boosts engineers in the EDA workflow by using natural language interfaces, speeding decisions, automating tasks and allowing more focus on innovation

The background of the slide is a dark blue field filled with abstract digital imagery. It features numerous glowing lines in shades of blue, orange, and red, some of which are curved and flow across the frame. There are also clusters of small, bright dots and faint, stylized representations of circuit boards or data grids. The overall effect is one of high-tech, data-driven connectivity.

Pillar 3

Trusted outcomes

AI transforms massive volumes of distributed data—from chip to package to board to system—into decision-ready insights that reduce design risk.

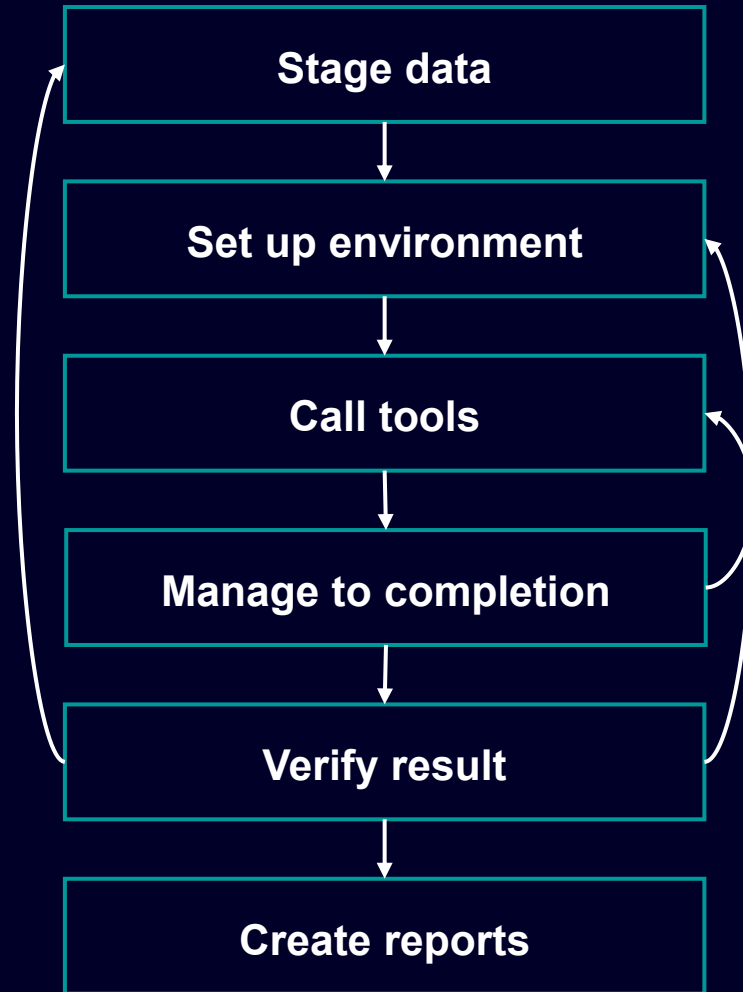
Faster engines

Smarter execution

Trusted outcomes



Typical EDA workflows have multiple steps and are not well-handled by off-the-shelf AI



EDA AI agents need to address EDA-specific issues



LLMs lack EDA knowledge



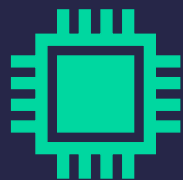
Incompatible with EDA design environments



Difficult to scale across multi-tool EDA workflows



Security concerns for sensitive EDA IP



Cannot read, modify, or write EDA data

EDA AI agents

Domain-specific reasoning

- Understand EDA flows and tools
- Specialized agents for tool execution
- Code generation and validation

Smooth integration with EDA design environment

- Compatible with different compute clusters
- Optimizes resources allocation
- Centralized data lake for easy data handling

Scalable AgentOps & MCP framework

- Unified MCP layer for aggregating servers
- MCP discovery and RAG for tools / functions
- Compatible with third-party tools / connectors

Enterprise security and access control

- Enforces RBAC with support for OAuth, LDAP, etc.
- Full on-premise / hybrid cloud for hosting
- Model agnostic with BYOM support

EDA modality support

- Multimodal parsing (e.g., netlists, DRC logs, waveforms, layouts, etc.)
- Dynamic RAG for large data-formats

Agents need to support increasingly complex and autonomous workflows

Task-specific AI agents

Can do only specific tasks in the workflow

Requires frequent human interaction

Increasingly autonomous agentic AI

Proactively plan, act, reflect and iterate

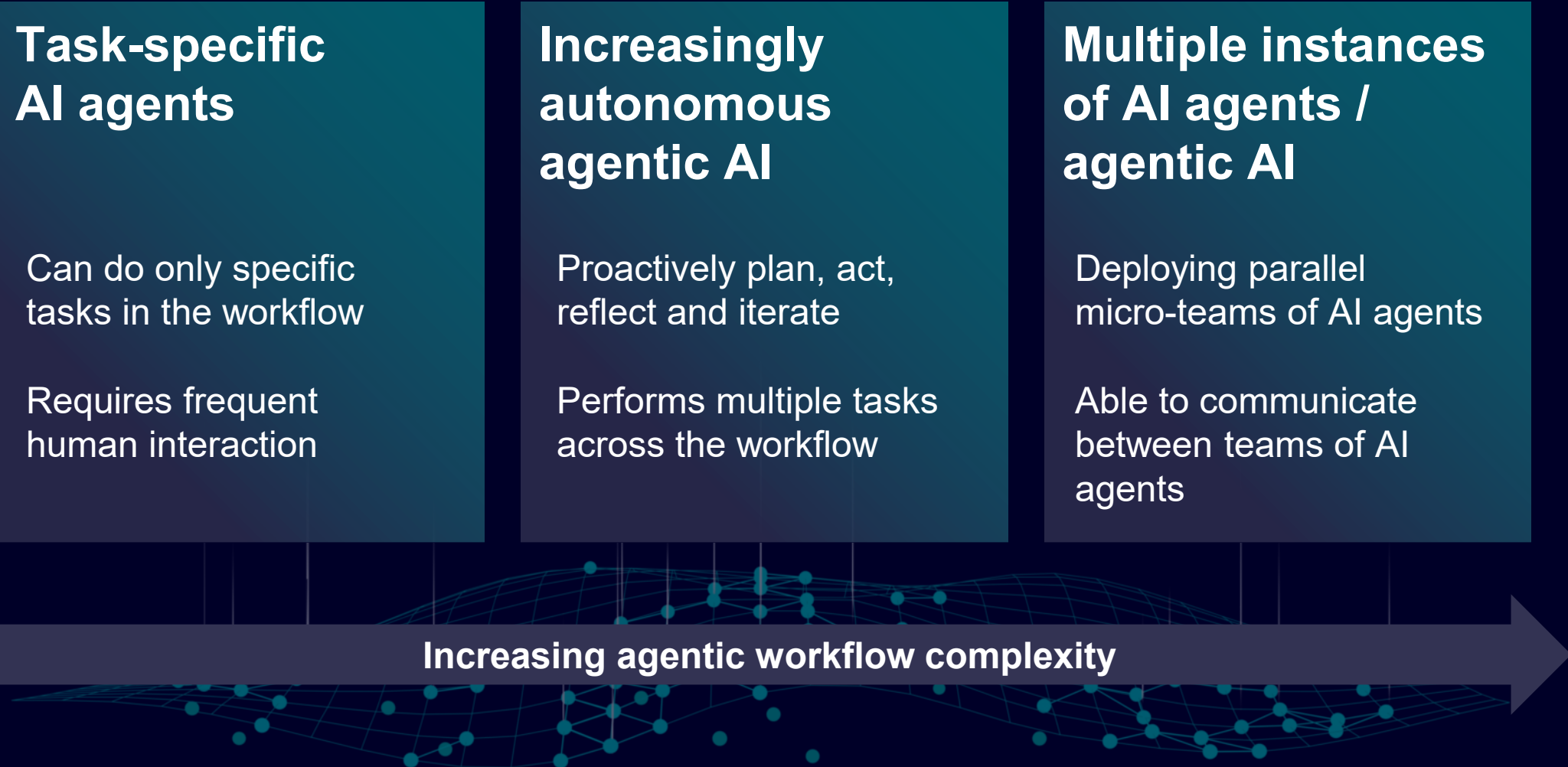
Performs multiple tasks across the workflow

Multiple instances of AI agents / agentic AI

Deploying parallel micro-teams of AI agents

Able to communicate between teams of AI agents

Increasing agentic workflow complexity



End-to-end workflows deliver high value to chip and board designers



Multi-tool agentic workflow orchestration



MCP servers



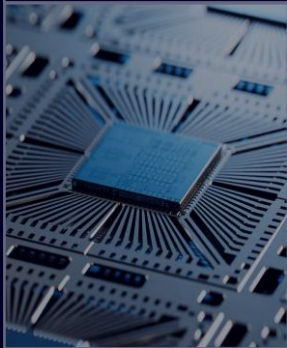
APIs



Agent Skills



High-level synthesis



Hardware-assisted verification



Digital verification



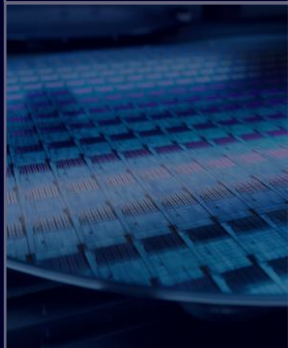
Digital implementation



Custom IC design & verification



Physical verification



Test & manufacturing



Packaging & board design



In-tool generative and agent AI

AI-native chip design



How AI will transform the semiconductor industry



**Greater
productivity**

**Faster
innovation**

**Data-driven
improvements**

**Autonomous
decision-making**

**Future-ready
workflows**

Thank you