

AI in PLM: Beyond all the Hype

PLM Road Map™ & PDT North America 2025—6 May 2026

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PLM Road Map™ & PDT North America 2026
 AI in PLM: A Disruptive Opportunity and Challenge
 Turning AI disruption into enterprise value:
 Strategic insights for the PLM professional
 6-7 May 2026 www.CIMdata.com

**AI in PLM:
 Beyond all the Hype**
 PLM Road Map™ & PDT North America 2026

6 May 2026—Washington, D.C., USA

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CIMdata Defining What Comes Next in Digital Transformation

Cross-Industry Digital Impact

CIMdata: The Leading Authority on PLM
 An independent global leader providing research, education, and strategic consulting for digital transformation.

Maximizing Product Innovation
 Focused on helping clients design, acquire, deliver, and support innovative products and services.

Competitive Global Advantage
 Utilizing strategic management consulting to drive success in complex global markets.

Defining "What Comes Next"
 Guiding organizations through the evolving landscape of digital transformation and industrial innovation.

Leading strategic management consulting firm

Industry Verticals & Core Focus Areas

Industry Vertical	Core Focus Area
Transport & Tech	Aerospace, Automotive, and Computing
Infrastructure	Construction, Manufacturing, and Logistics
Service & Care	Healthcare, Retail, and Global Communication

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Our Services

- RESEARCH: Driving Foresight**
Utilizing research, analysis, and technology evaluations to anticipate industry trends and market insights.
- EDUCATION: Developing Leadership**
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- CONSULTING: Success, Invest & Transformation**
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Market Intelligence & Analysis
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Strategic Guidance & Positioning
Specialized advisement in program management and organizational market positioning.

Strategic advice & counsel through a comprehensive & integrated set of services

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Peter A. Bilello, President & CEO

 Professional background



- More than 38 years of experience in the development of IT solutions for research, engineering, and manufacturing organizations worldwide
- Led numerous projects in PLM analysis, selection, implementation & management, synchronous and lean manufacturing consulting & software engineering, as well as general data management & governance strategy development and support
- Authored many papers & research reports on PLM and related topics, as well as numerous articles, commentaries, and perspectives that have appeared in publications throughout the Americas, EMEA & Asia
- Holds a B.S. in Computer Science (minor in Physics) & M.S.E. in Manufacturing Systems Engineering

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Key Takeaways
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01

AI isn't new to the PLM industry

- AI has been present in the PLM market for years, but the impact of newer generative AI (GenAI) or yet to be defined applications of AI remains unclear

02

The state of measurable benefits

- Practical benefits exist, but many companies are still working to understand, integrate & optimize AI

03

AI brings challenges & opportunities

- CIMdata expects AI in PLM to bring both challenges & opportunities, with potential for significant & disruptive gains if managed well

04

AI: hype or reality

- Like most emerging technologies, AI is often hyped before its real value is proven

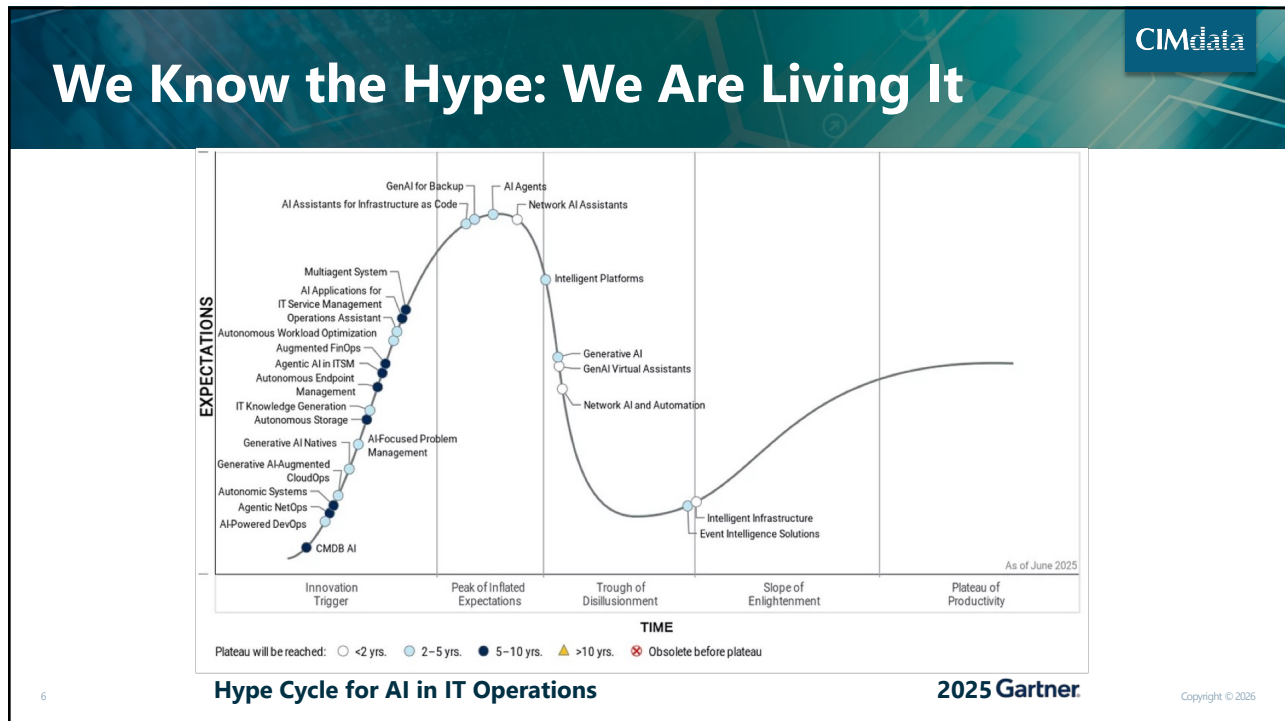
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Our call to Action

- Our task, as PLM professionals, is to turn AI's disruptive power into enterprise value
- So, where are we at today?
- Has AI in PLM reached a tipping point?

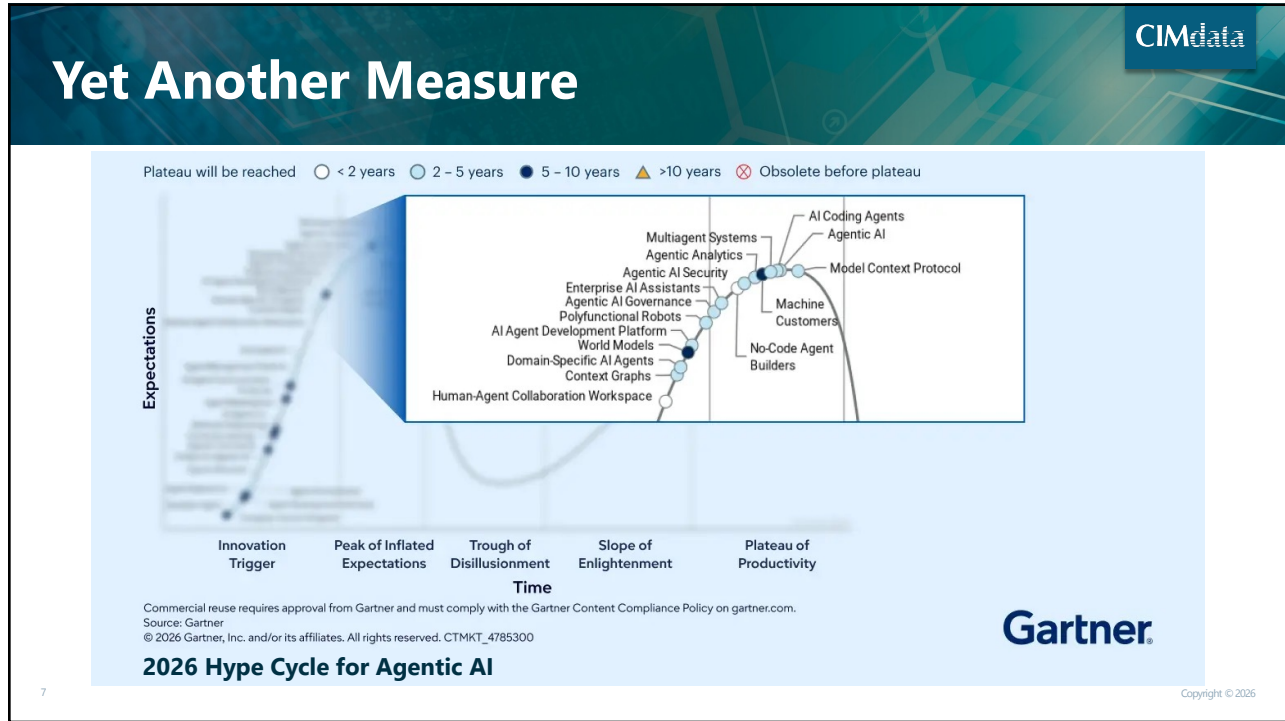
Let's look beyond all the hype.

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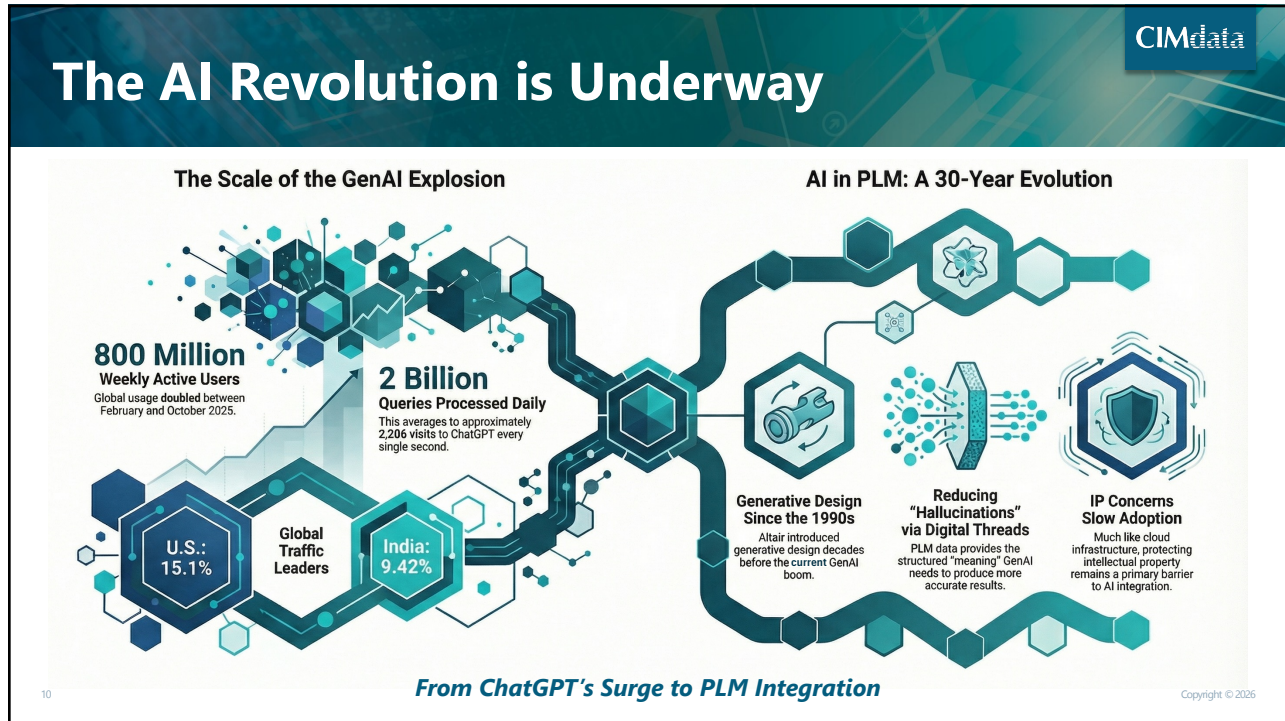
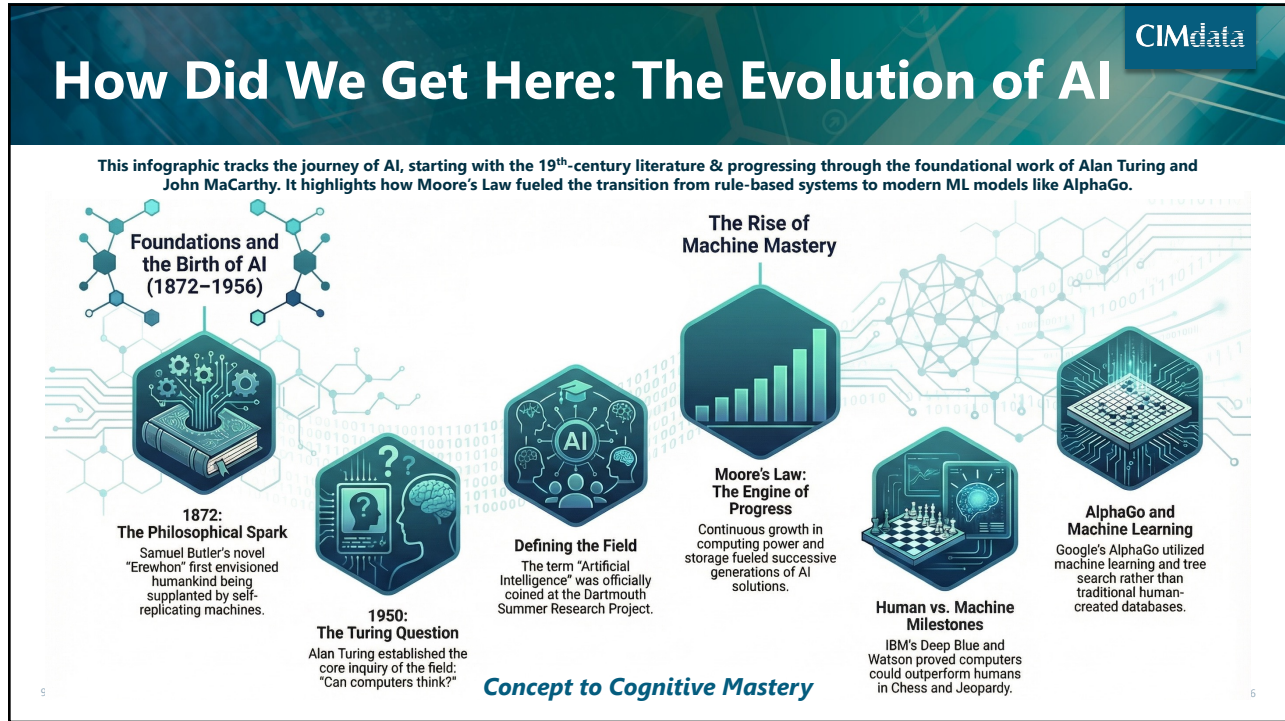
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CIMdata's Critical Dozen

CIMdata's Critical Dozen
The Top 12 Trends and Enablers of Digital Transformation

12 familiar, evolving trends & key enablers of digital transformation that you cannot, or should not, live without.

01 End-to-end connectivity

02 Data & process management

03 Configuration management

04 Bills of information

05 Model-based structures

06 Digital thread/twin

07 IoT & PLM

08 Changing views of "product"

09 Big data & analytics

10 Augmented intelligence

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Augmented Intelligence

This is where we are at—extensively covered in our 2019 PLM Market & Industry Forum

- **Augmented Intelligence** or intelligence augmentation (IA) is not about replacing human intelligence but rather about amplifying or augmenting it by enabling humans to make use of the large volume of data we're generating by combining human and machine intelligence

"Over the next decade, AI won't replace managers, but managers who use AI will replace those who don't."

Erik Brynjolfsson and Andrew McAfee, HBR (2017)

Artificial

Augmented

Human

10 Augmented intelligence

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Separating Fact from Fiction

Some of the recent press is misleading at best (1 of 2)

- The CEO of Mistral AI, Arthur Mensch, has stated that AI could replace more than 50% of enterprise software spending
 - He argues that companies are increasingly rebuilding IT systems around AI to improve efficiency and reduce costs, transitioning away from traditional SaaS tools—Feb 18, 2026
- ServiceNow positions itself as the AI operating system for the enterprise, with CEO Bill McDermott indicating that the “traditional app stack will collapse” in favor of AI-driven workflows
 - They are integrating OpenAI directly into their platform to allow AI agents to act within IT, HR, and service processes, replacing manual, clicked-through workflows—May 2025

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Separating Fact from Fiction

Some of the recent press is misleading at best (2 of 2)

- Investors & analysts are increasingly highlighting that agentic AI—autonomous, adaptive systems—are eclipsing the dashboard-and-seat-license model of traditional software (SaaS)
- *Farewell, SaaS: AI is the future of enterprise software*, May 29, 2025
 - “...the rapid pace of AI adoption raises major hurdles. Like the shift from perpetual licenses to SaaS, the launching of new products is only part of the picture. ...Without careful planning, transition to GenAI and AI agents could just as easily disrupt revenues as it could enhance them.”
 - “Enterprise software companies must ensure that integrating AI into their products creates a lasting competitive advantage rather than a short-lived gain—or even a decline in value.”

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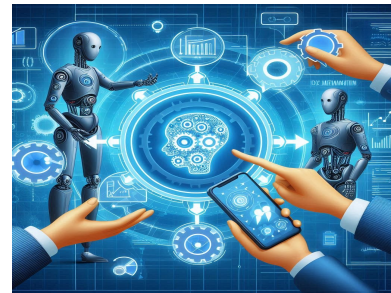
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A Few Words on AI Agents & PLM



The intersection of AI agents & PLM is a dynamic and rapidly evolving area

- AI agents within PLM environments will act as intelligent assistants, augmenting human capabilities & driving efficiency, innovation, and better decision-making throughout the product's entire journey
 - Enhanced data analysis & insights
 - Automation of routine tasks
 - Predictive analytics & optimization
 - Improved collaboration & communication
 - Design & development
 - Supply chain management
 - Quality & compliance



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AI Enablement Evolving Rapidly



Mindshare solution provider examples—PLM Mindshare Leaders—no one is standing still

- **Aras**—AI is a seamless extension of their PLM environment
- **Autodesk**—centered on the transition from CAD to AI-Assisted Design
- **Cadence**—strategy is built on a unified big data analytics layer, JedAI
- **Dassault Systèmes**—AI is the “brain” of the Virtual Twin
- **PTC**—for AI to be useful in an industrial context
- **SAP**—strategy, AI is relevant, reliable & responsible
- **Siemens**—its strategy focuses on Industrial AI
- **Synopsys**—strategy is centered on a full-stack, AI-driven EDA suite

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What About AI On Top of a Data Platform



A common enterprise approach for newcomers?

- **Snowflake**—a cloud-native data platform designed for data warehousing, analytics, and AI/ML workloads
 - It operates as a SaaS running across major public clouds (AWS, Azure, GCP)
- **Databricks**—a unified, cloud-based Data Intelligence Platform designed for data engineering, analytics & AI
- **Palantir Technologies**—builds platforms for big data analysis, integration, and decision-making
 - Primarily serving government intelligence, defense agencies & large corp.

Possible replacements, but does it make sense given all the embedded knowledge?

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Just a Few Questions to Ask Yourself



The devil is in the details

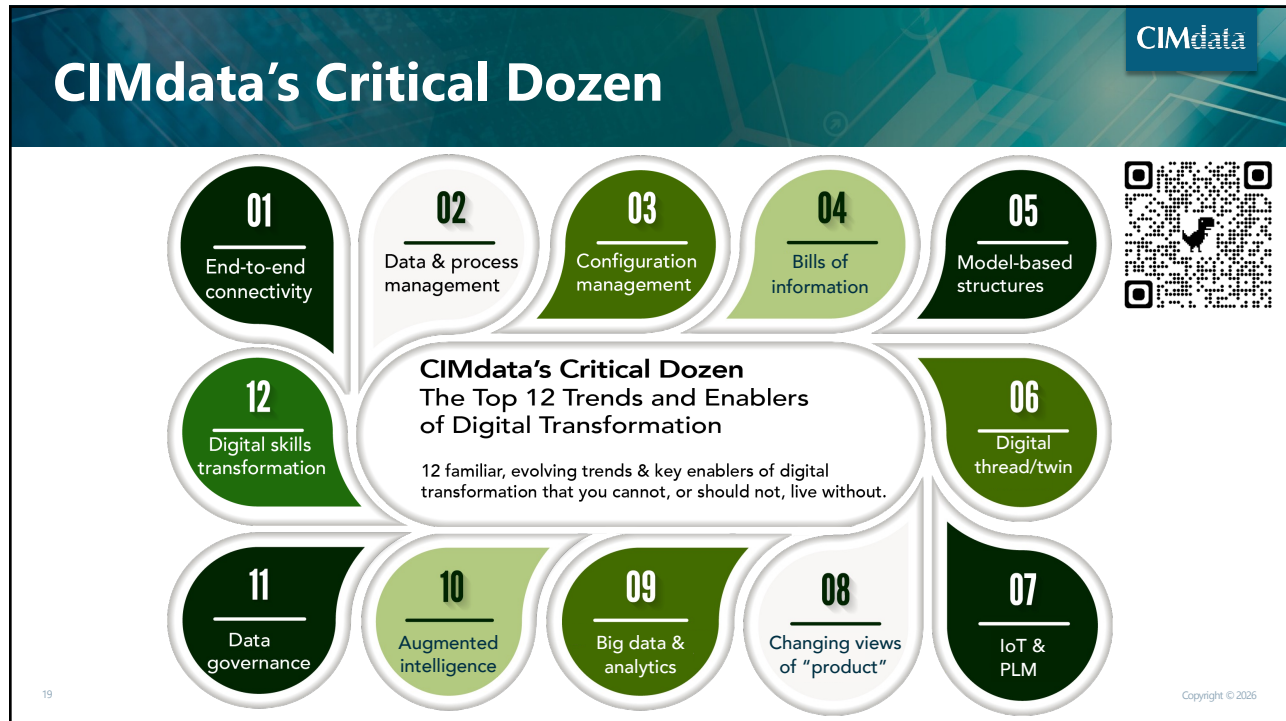
- Can today's PLM solution providers add value through AI enablement, and if so, will they be able to monetize it?
 - If they build it, will users follow?
- Will architectures change?
- Will the knowledge worker be replaced?
 - If so, who will the PLM solution providers sell to?
- Can complex PLM-related capabilities leave out the user?
 - And if they are left out, does that mean PLM solution providers will not be able to monetize the use of their solution?

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CIMdata's Critical Dozen

01 End-to-end connectivity

02 Data & process management

03 Configuration management

04 Bills of information

05 Model-based structures

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07 IoT & PLM

08 Changing views of "product"

09 Big data & analytics

10 Augmented intelligence

11 Data governance

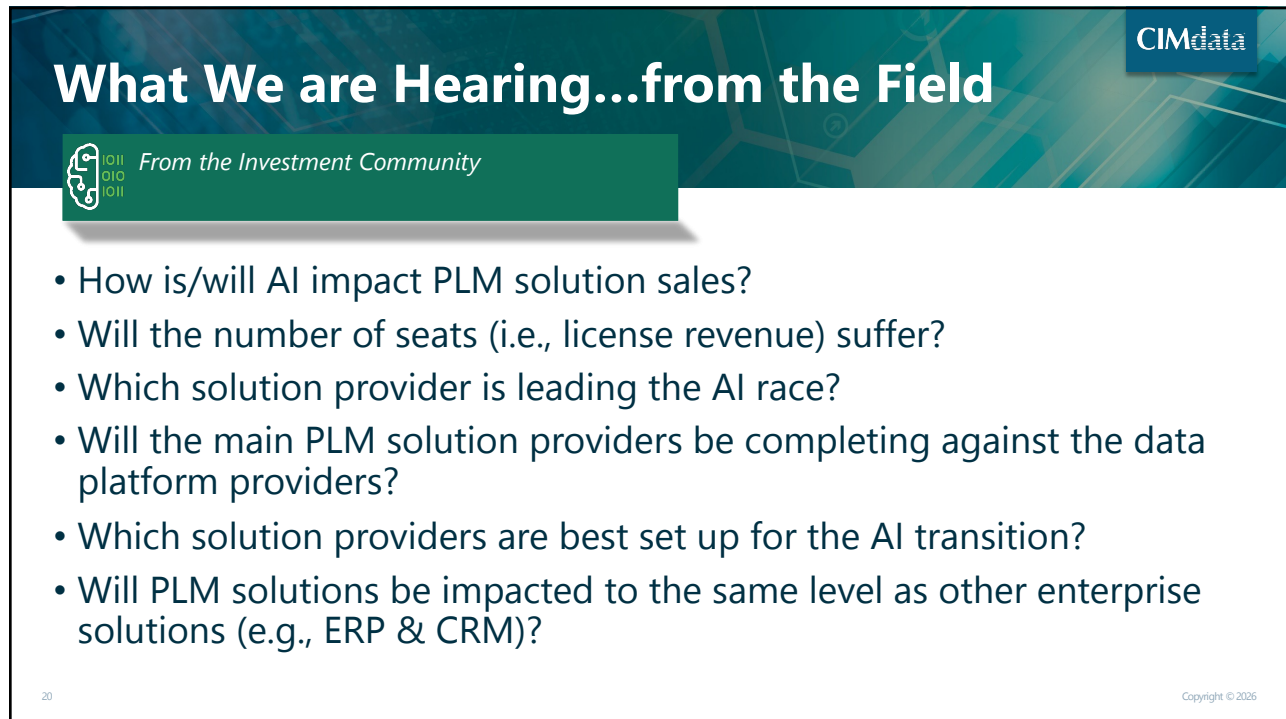
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What We are Hearing...from the Field

From the Investment Community


- How is/will AI impact PLM solution sales?
- Will the number of seats (i.e., license revenue) suffer?
- Which solution provider is leading the AI race?
- Will the main PLM solution providers be competing against the data platform providers?
- Which solution providers are best set up for the AI transition?
- Will PLM solutions be impacted to the same level as other enterprise solutions (e.g., ERP & CRM)?

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What We are Hearing...from the Field

 *From the Industrial Community*

- What is AI, and is there a helpful framework?
- Where/how should I leverage AI?
- How do I control AI usage?
- What questions should I ask my solution providers?
- How much of AI is real and useful?
- Will AI require me to rearchitect my PLM environment?
- How do I incorporate our use of AI (e.g., from Google, OpenAI, MS) into our current PLM environment?

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AI in Industry: A CIMdata Research Project

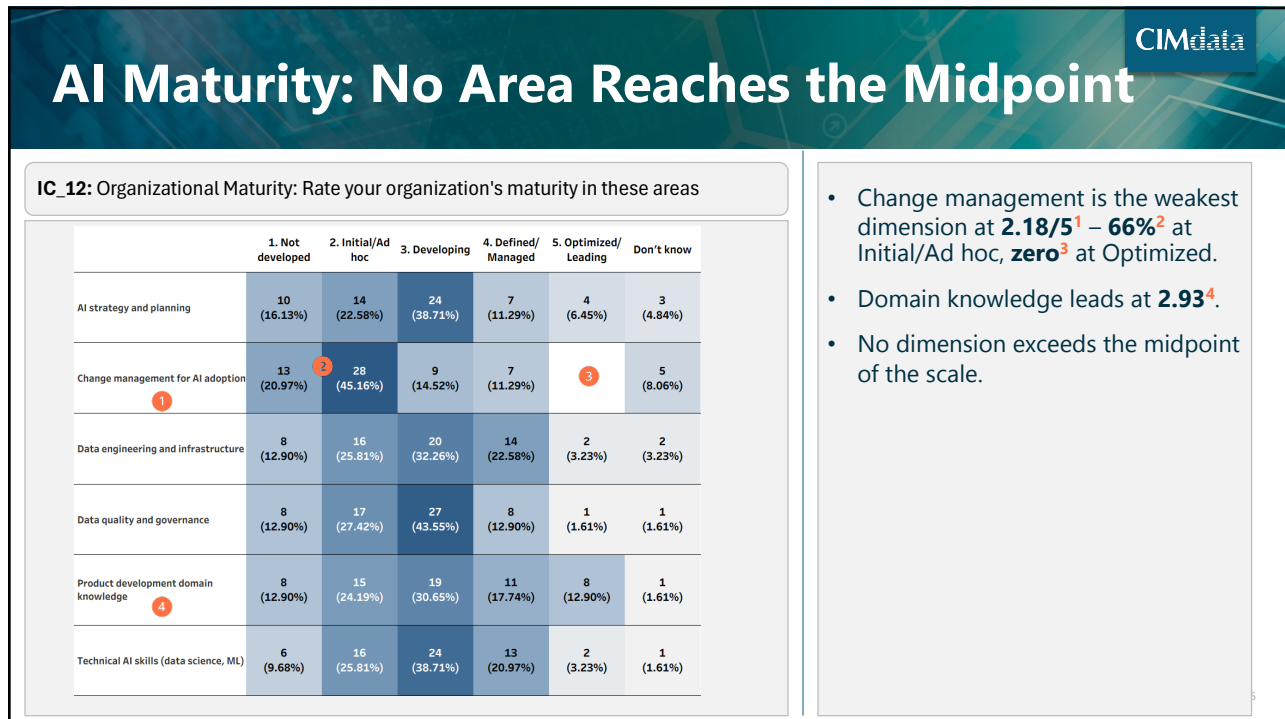
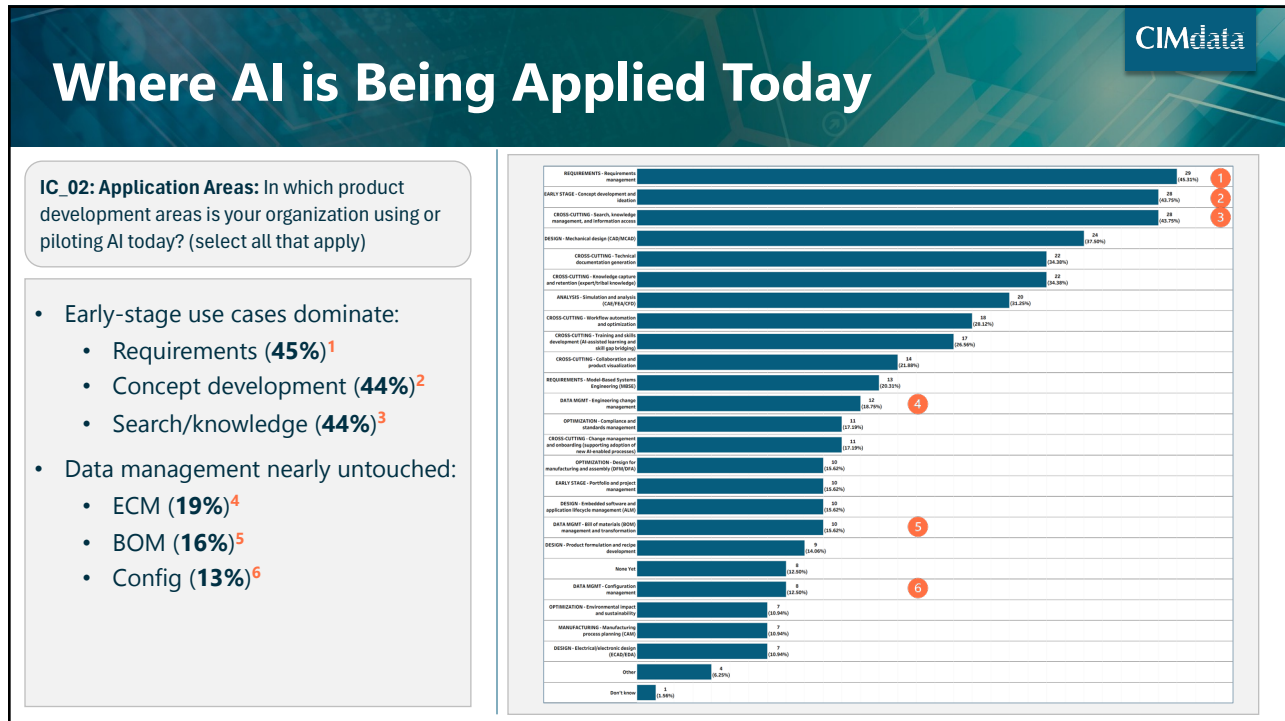
01 The Fluency– Deployment Divide	02 Customers Are Bypassing Providers	03 Data Quality Is the Real Barrier	04 Validation Confidence Is Near Zero	05 The Innovation Disconnect
<ul style="list-style-type: none">• 85% use GenAI personally several times per week.• 58% still in awareness or pilot at work.• 87.5% have AI in fewer than 25% of projects.	<ul style="list-style-type: none">• Only 8-33% use solution provider delivered AI.• 39% build custom solutions.• 44% prefer to lead internally.	<ul style="list-style-type: none">• 60% cite data quality as top adoption challenge (at #1)—identical across customers and service providers.• Only 23% cite ROI.	<ul style="list-style-type: none">• Only 5% are very confident in validating AI outputs.• 68% cite IP protection as top governance concern.	<ul style="list-style-type: none">• 28% of customers and 36% of software providers report innovation as a realized benefit of AI.• However, 0% of software providers expect customers will prioritize AI for innovation over the next 2-3 years.

Much more on this tomorrow in Diego Tamburini's presentation

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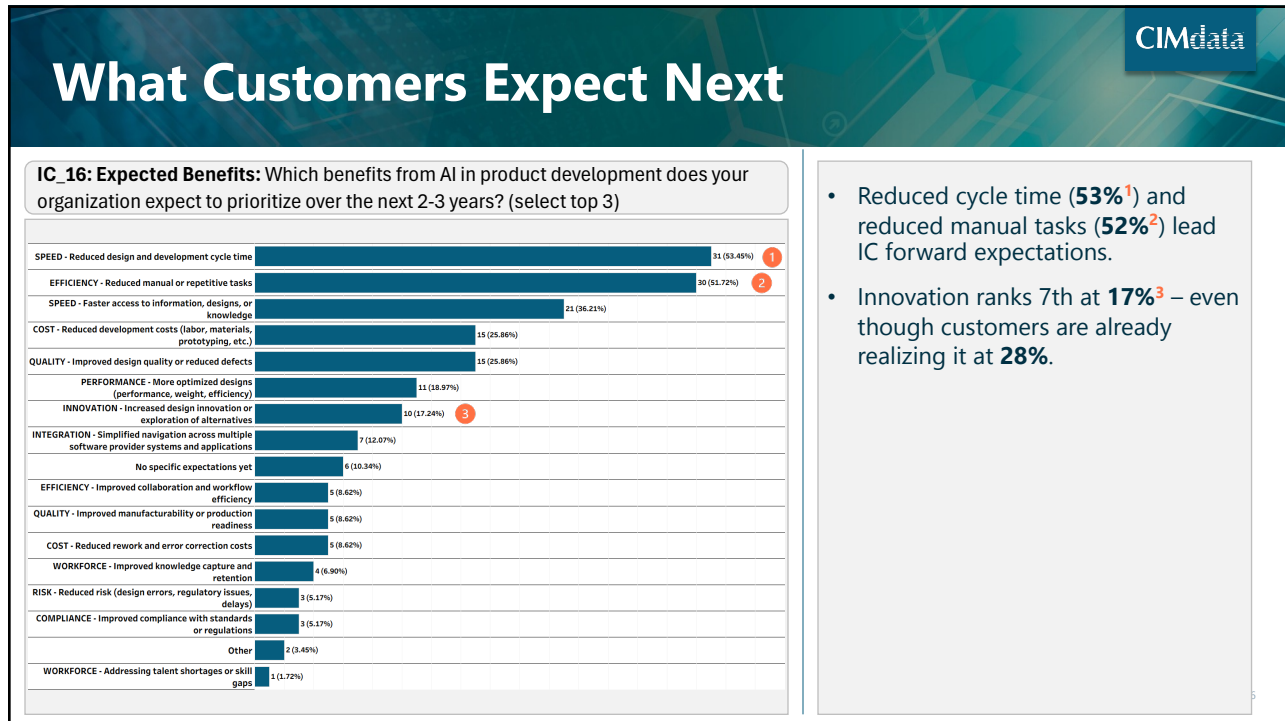
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CIMdata's Comments

We appear to be at the tipping point

- The integration of artificial intelligence (AI) into the product lifecycle is starting to reshape engineering & design practices
- AI is, for the most part, augmenting, not replacing human ingenuity in engineering & design
- Humans need to assume the role of "curator" of AI generated content
- Professionals who embrace AI & adapt to the changing landscape will be well-positioned to thrive in the years to come
- Much of the hype over AI's potential replacement of enterprise software hasn't considered PLM's enterprise role

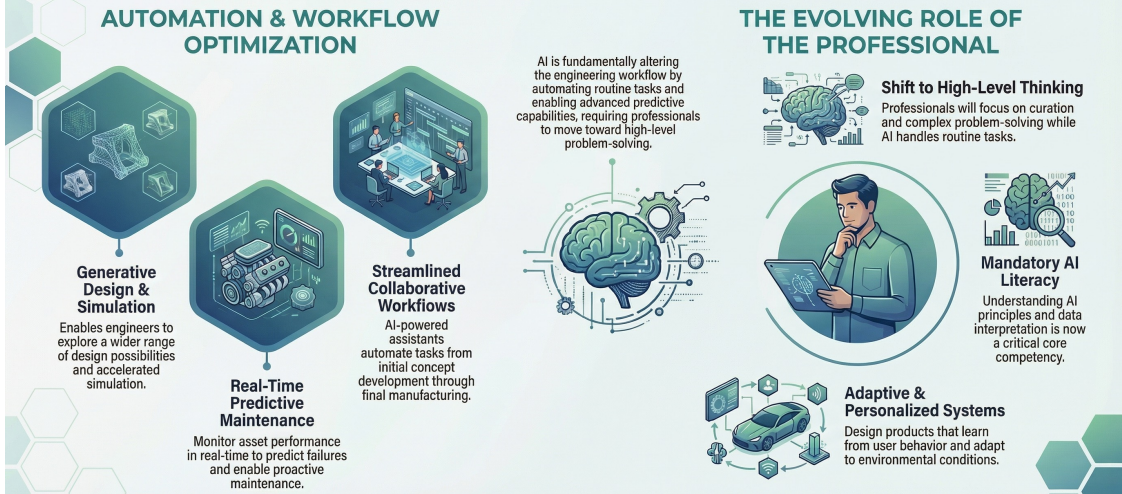
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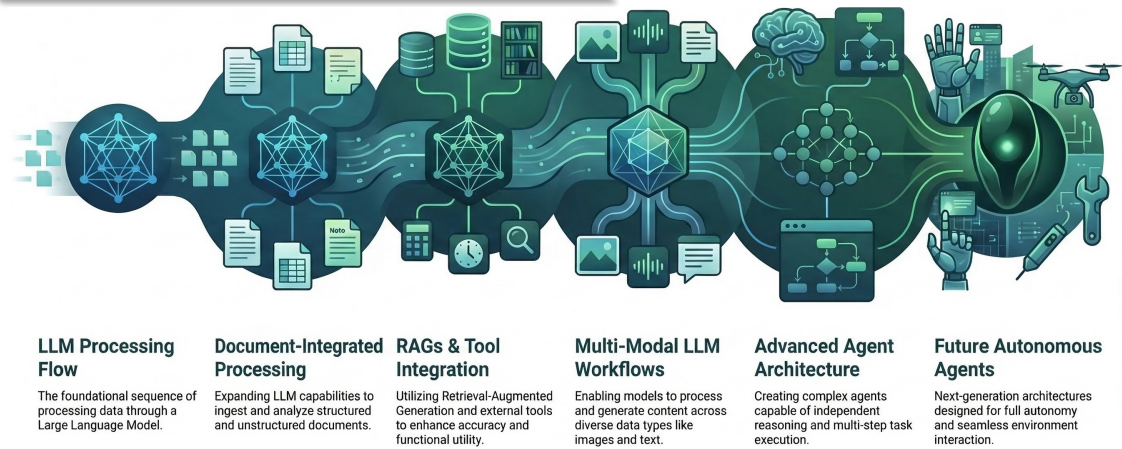
AI: Shaping the Future of the Lifecycle

AI and automation are reshaping the engineering and design landscape, focusing on operational efficiency and necessary skill shifts.



The Evolution of Autonomous AI Systems

Some of what's next






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Don't Forget Digital Adoption Challenges

TECHNICAL & OPERATIONAL HURDLES

- **Siloed Data & Integration Gaps**
Advanced manufacturing needs integrated data, but information remains trapped in separate, uncoordinated systems.
- **The Legacy Infrastructure Burden**
Outdated manufacturing assets lack the modern connectivity and cybersecurity required for AI readiness.
- **Lack of Unified Standards**
Inconsistent datasets and a lack of standards cause system incompatibility and design inefficiencies.


STRATEGIC & WORKFORCE BARRIERS

- **Supply Chain Blind Spots**
Limited visibility beyond second-tier suppliers exposes the ecosystem to unknown risks and vulnerabilities.
- **A Critical Skilled Labor Shortage**
An aging workforce and lack of training hinder the expansion of domestic manufacturing.
- **Uncertain ROI for Digital Adoption**
High costs and a lack of standardized frameworks make it difficult to prove business cases.

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Concluding Remarks

 *AI in PLM: Beyond all the Hype (1 of 2)*

- AI has been present in the PLM market for years, but the impact of newer GenAI or yet to be defined applications of AI remains unclear
 - Leaders are acting now—flexibility will be key
- Practical benefits exist, but many companies are still working to understand, integrate & optimize AI...and don't forget about the data
- CIMdata expects AI in PLM to bring both challenges & opportunities, with potential for significant & disruptive gains if managed well
 - The ability to deliver actionable insights from PLM managed data
 - LLMs that support the execution of the lifecycle
 - Agents that never forget to perform the necessary actions


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Concluding Remarks

 *AI in PLM: Beyond all the Hype (2 of 2)*


- Unfortunately, AI is often hyped before its real value is proven
 - Focus on value-added user stories and don't try to do everything at once
- The task for PLM professionals is to turn AI's disruptive power into enterprise value
 - While AI has been in PLM for years, its is only scratching the surface
 - CIMdata believes that AI's enablement of PLM has reached a tipping point
 - All the major solution providers are developing & delivering AI-enabled PLM
 - The future looks bright, with AI agents & assistants becoming common place


The future appears bright—focus on generating value

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Questions & Answers

 *What's on your mind?*



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