

## 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

**CIMdata**

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# PLM Road Map & PDT North America 2026

Scaling AI in Engineering and Manufacturing: AI Data Readiness & Implementation,  
and the Path to a Unified Digital Thread

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President and CEO

# Why AI Matters for Engineering, Manufacturing, and AEC

## AI promises:

- Cross-system reasoning
- Engineering knowledge reuse
- Automated compliance & traceability
- Much more .....

**AI is potentially transformational**

# Industry State – Vendor View

- AI introduced across design, data management, and decision support
- AI has moved from experimentation to roadmap-level investment
- Sales teams are incentivized to promote and sell AI solutions

# Key Barriers to Industrial AI Adoption

Source: CIMdata Industrial AI Survey

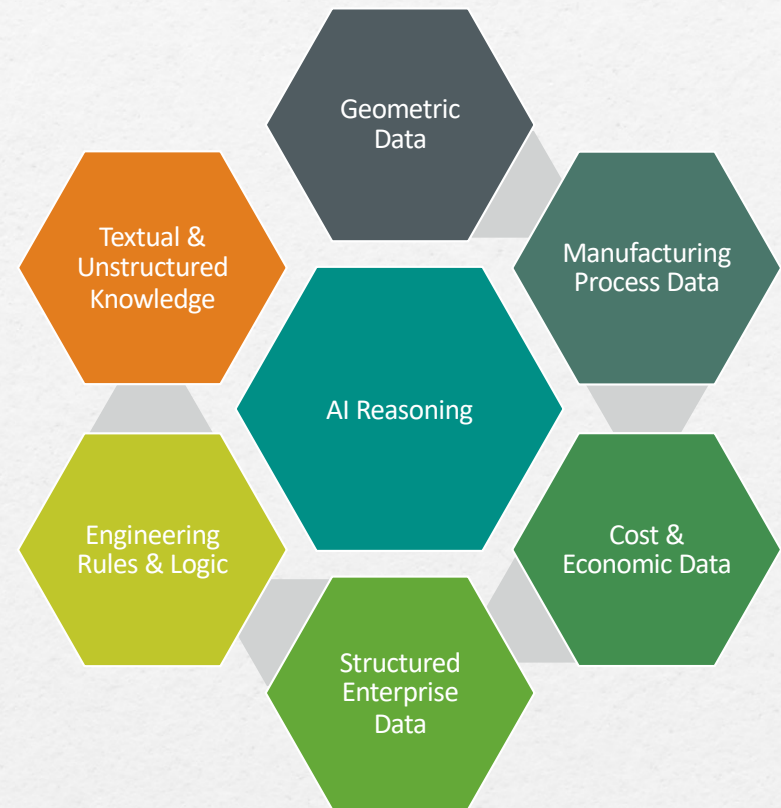
- **Data quality and availability remain the top obstacle**
  - ~2/3 of industrial companies cite incomplete, inconsistent, or poorly governed data as the primary blocker to AI adoption
- **Interoperability and IP/data protection limit real AI value**
  - AI initiatives are often confined inside individual platforms (e.g., PLM), with limited integration across the full enterprise environment
- **Most AI initiatives stall before scaling**
  - ~60% of industrial AI efforts remain in pilot phase, failing to transition into production and deliver sustained ROI

# AI Fails Without Data Readiness

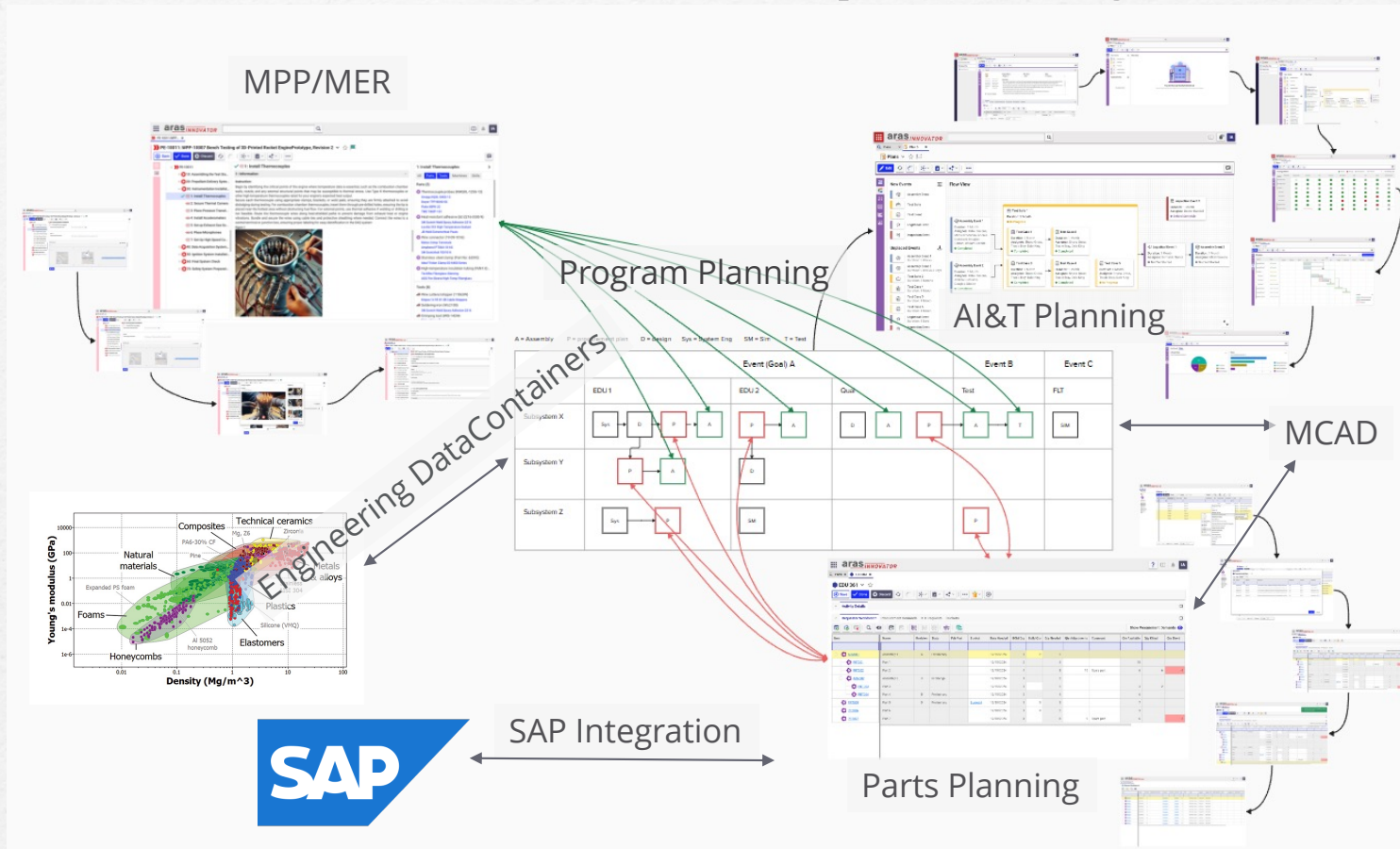
PLM AI features assume data is already unified — it rarely is

AI in Manufacturing Reasons Over **Multiple Data Sources**

AI value emerges only when these data types are connected and governed



# Interconnections and Interoperability



# From PLM-Centric AI to Enterprise AI

AMC BRIDGE

**Most vendor AI lives inside PLM — but real value comes from enterprise-wide AI**

# AI Adoption helped by AI: MCP & RAG

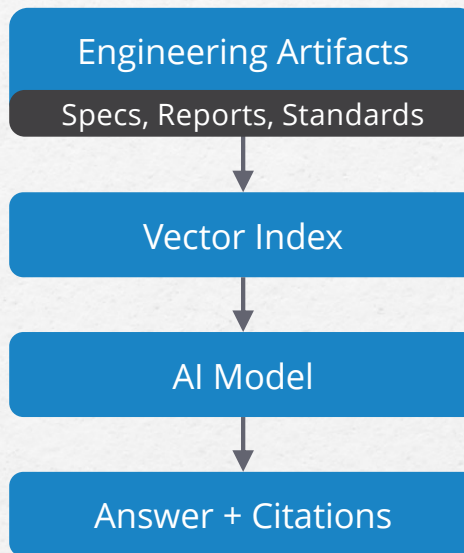
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- **Model Context Protocol (MCP) for Structured Enterprise Data**
  - Orchestrates AI access to systems of record
  - Works with PLM, ERP, MES, Accounting
  - Enables reasoning over facts, numbers, configurations
- **Retrieval-Augmented Generation (RAG) for Unstructured Knowledge**
  - Grounds AI in indexed, trusted content, keeps it inside the enterprise firewall
  - Uses documents, specs, reports, standards
  - Brings context and historical knowledge to AI

**Scalable industrial AI implementation  
requires both MCP and RAG**

# Retrieval-Augmented Generation (RAG): Grounding AI in Enterprise Knowledge

- Engineers rely on:
  - Specs
  - Procedures
  - Standards
  - Reports
  - Lessons learned
- This knowledge is **unstructured, fragmented, and hard to reuse**



- AI answers are:
  - Context-aware
  - Traceable to sources
  - Aligned with enterprise knowledge
- Reduces hallucinations
- Enables **engineering trust**

**RAG ensures AI answers are traceable, explainable, and enterprise-trusted**

# Model Context Protocol (MCP): Enabling AI Reasoning Over Enterprise Data

MCP is an Open standard introduced by Anthropic (Nov 2024) for connecting AI models to external tools and data.

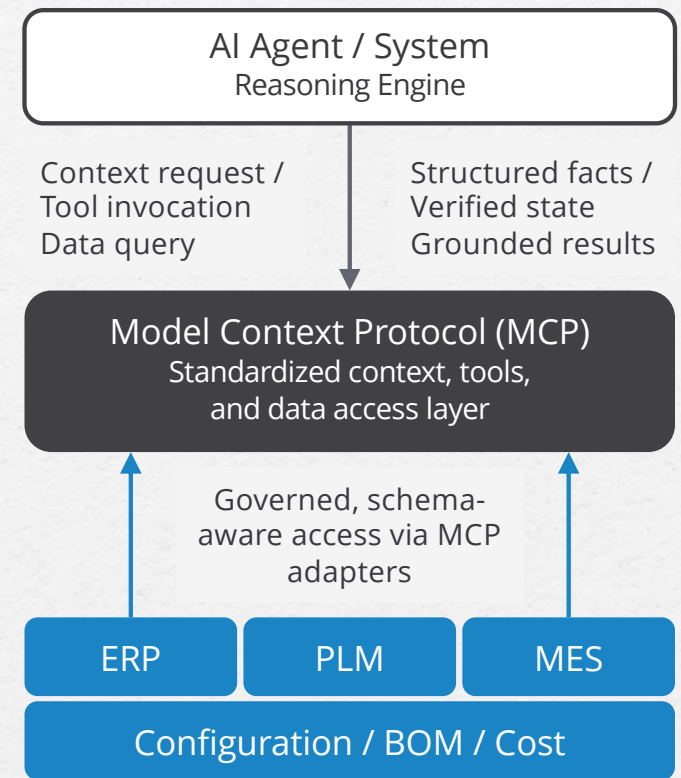
## ✓ What MCP is

- **A methodology**, not a product
- Connects AI to:
  - PLM
  - ERP
  - MES
  - Accounting
- Enables AI reasoning over:
  - Facts
  - Configurations
  - BOMs
  - Numbers
  - States

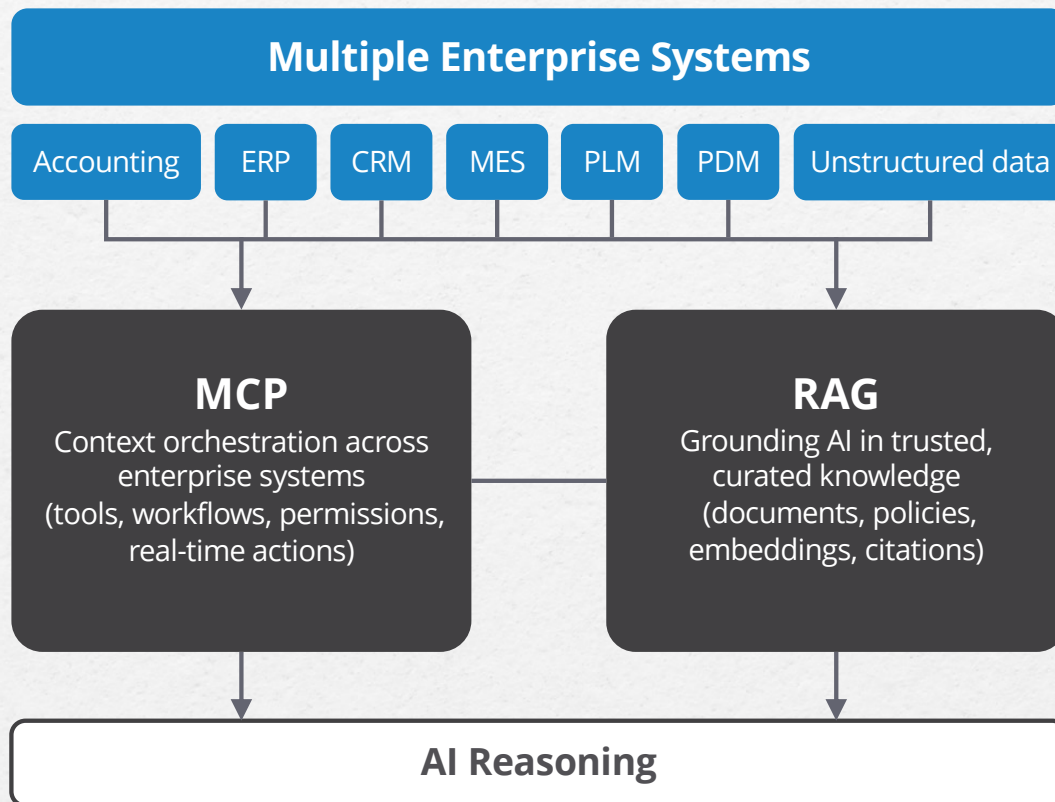
## ✗ What MCP is not

- Not a chatbot
- Not a plug-and-play solution
- Requires:
  - PLM
  - ERP
  - MES
  - Accounting

**MCP ensures AI reasons over real data, not guesses**

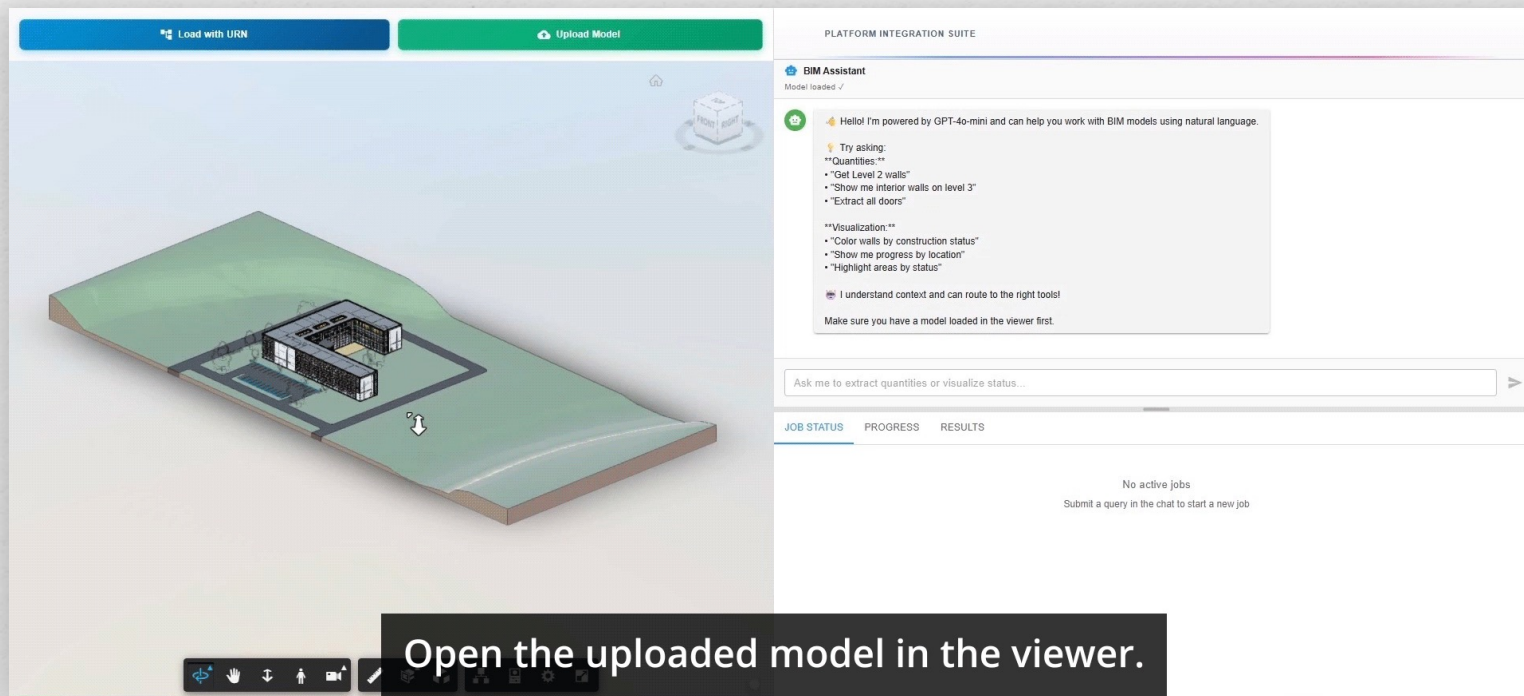


# Combining MCP and RAG for Enterprise-Ready AI



**RAG and MCP are methodologies that must be tailored and implemented — not off-the-shelf products**

# Applying MCP: A Methodology in Action



The screenshot displays the AMC Bridge platform interface. On the left, a 3D BIM model of a building is shown in a viewer. The top navigation bar includes "Load with URN" and "Upload Model" buttons. The right panel, titled "PLATFORM INTEGRATION SUITE", contains a "BIM Assistant" chat window. The chat window shows a greeting from the assistant, followed by a list of suggested queries under "Try asking:" and "Visualization:". Below the chat is a text input field with the placeholder "Ask me to extract quantities or visualize status...". At the bottom of the chat window, there are tabs for "JOB STATUS", "PROGRESS", and "RESULTS". The "JOB STATUS" tab is active, showing "No active jobs" and a prompt to "Submit a query in the chat to start a new job".

Load with URN Upload Model

PLATFORM INTEGRATION SUITE

**BIM Assistant**  
Model loaded ✓

👋 Hello! I'm powered by GPT-4o-mini and can help you work with BIM models using natural language.

👉 Try asking:

- \*\*Quantities:\*\*
- "Get Level 2 walls"
- "Show me interior walls on level 3"
- "Extract all doors"

\*\*Visualization:\*\*

- "Color walls by construction status"
- "Show me progress by location"
- "Highlight areas by status"

🤖 I understand context and can route to the right tool!

Make sure you have a model loaded in the viewer first.

Ask me to extract quantities or visualize status...

JOB STATUS PROGRESS RESULTS

No active jobs  
Submit a query in the chat to start a new job

Open the uploaded model in the viewer.

# Why Internal Industrial AI Initiatives Fail

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- ~60% of industrial AI initiatives remain in pilot phase and fail to deliver ROI
  - This highlights a systemic expertise gap in moving from pilots to production, where many organizations rely primarily on internal teams without prior industrial AI experience

*Interpretation based on CIMdata findings and cross-industry research (PMI, CIO, academic studies)*



**Strong AI results  
come from  
expert partnership**

# Why a Trusted AI / PLM Consultant Becomes Essential

## Capabilities Required for Scalable AI in PLM

**Most industrial AI initiatives are pursued without external expertise**

- This significantly slows implementation, increases risk, and delays ROI

PLM Detailed Knowledge – Understanding How it is Built  
=> Ease of Implementation

Consulting and Systems Engineering Domain Knowledge

3D Engineering Domain Knowledge (CAD, CAM, CAE/Simulation, PLM, MES, ERP)

Interoperability – Enable the Digital Thread  
• Enable - AI Data Readiness & Implementation

Engineers/Implementors with both Functional and Technical Knowledge

Technology Expertise and Agnostic – Bring the Best Tools (especially AI Best of Breed)

# AI Is the Future of Product Design and Product Management

AMC BRIDGE

1

## The Vision

**AI is the future of Product Design and Product Management**

- Faster decisions
- Knowledge reuse
- Enterprise-wide reasoning

2

## The Reality

**The road there goes through a data obstacle course**

- Poor data quality
- Fragmented systems
- Interoperability challenges
- IP & governance constraints

3

## The Path Forward

**New AI-based tools + Expert Consultants can get you there**

- Trusted AI / PLM expertise
- Data readiness & Digital thread enablement through
- RAG, MCP and .....

**Enterprise AI success is not about models alone — it is about data, integration, and expertise**

# 3D Detailed Knowledge => Effective PLM Implementations



**25+**  
Years of PLM  
+ integration  
experience

**650+**  
Technical  
Staff

**350+**  
Clients

**96%**  
Customer  
Return

**99%**  
of Clients recommend  
AMC Bridge

## Sample Clients:





AMC Bridge is a trusted software technology partner for engineering, manufacturing, and construction enterprises, whether they are actively pursuing AI-driven digital transformation or only beginning to recognize its potential. We help organizations to move beyond experimentation and achieve consistent ROI by delivering production-ready software and end-to-end solutions for their transformation journey.

We design, build, and integrate enterprise-grade software – applications, workflow extensions for CAD/PLM/BIM, data integrations, AI-enabled features – and deploy them with monitoring and lifecycle management so they remain reliable over time. Our services include assessing data readiness; preparing and unifying product and project data; and embedding AI into the workflows teams use every day. With 25+ years of industrial software expertise and deep ecosystem partnerships, including Aras, Autodesk, Bentley, Dassault Systèmes, PTC, Siemens, Tech Soft 3D, and others, we empower enterprises to move confidently from experimentation to operational AI at scale.

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