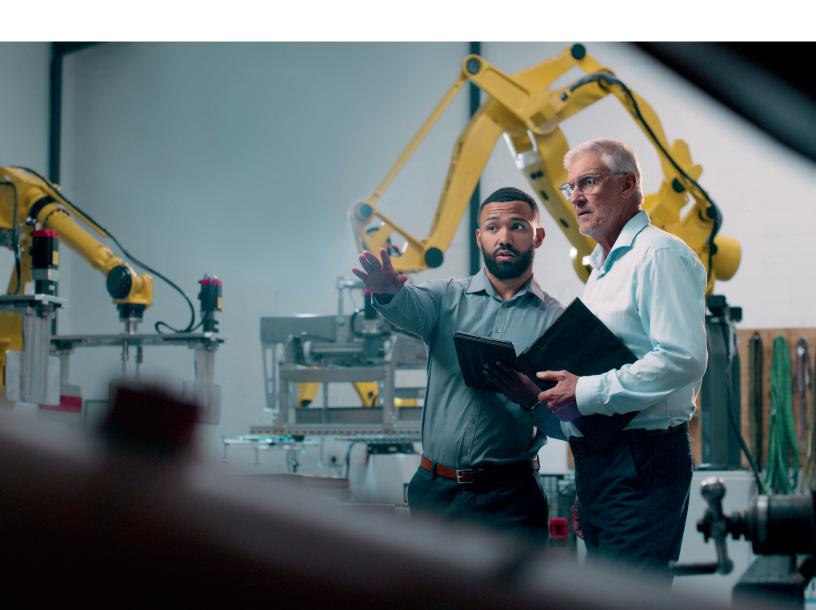**SIEMENS**

DIGITAL INDUSTRIES SOFTWARE

Cloud PLM for future ready products

Connecting people, processes and data throughout the product lifecycle

siemens.com/software

Introduction

Do you treat your product lifecycle management (PLM) as tactical or strategic? Is it a foundation on which you can build today while considering future needs? Are your people, processes, data and tools threaded in a way that enables collaboration and innovation?

These are some of the questions companies encounter while being pressured to modernize and optimize by embracing digital technologies. However, it is not just about adopting technology for technology's sake. Across all industries, organizations seek to move beyond point solutions that solve individual needs in favor of solutions that enable wide-scale digital transformation and operational excellence.

Although PLM environments and operations may be complex, the goals are straightforward:
• Maintain quality and compliance
• Streamline operations
• Develop and deliver at speed
• Progress and innovate at scale

According to Siemens Digital Industries Software and Amazon Web Services (AWS) account research:[1]
• PLM platforms are actively being modernized by 78 percent of manufacturers
• Enterprise resource planning (ERP)-PLM integrations are being sought by 65 percent of manufacturers
• "Distributed team collaboration" is cited by 67 percent of global manufacturing accounts as a top three cloud initiative driver
• Moving PLM to the cloud, specifically for enhanced compliance, audit trails and regulatory reporting capabilities, is happening for 85 percent of aerospace and automotive accounts

In this e-book, we examine the core functions within complex operations across various industries and share how Teamcenter® X software on AWS can help you adopt a modern, cloud-based PLM. Teamcenter is part of the Siemens Xcelerator business platform of software, hardware and services.

[1] Based on internal data provided by Siemens and AWS, prepared by Unrival.

PLM is the digital thread backbone

PLM is the foundation of modern manufacturing, and a core component of leading manufacturers' business strategy. Cloud PLM makes PLM more accessible and scalable to tighten the links between people, processes, tools and systems.

Although these elements are foundational for many businesses, they are especially pronounced in a complex environment that needs end-to-end visibility across all phases of the product lifecycle.

PLM is more than a system; it is the enabler that transforms Industry 4.0 from vision into scalable reality.

For example, one European automaker is reshaping the automotive landscape using a comprehensive approach to PLM and innovation. The company guarantees its PLM supports product development, from specs and variant management to change orders to continuous innovation, as it develops intelligent, connected vehicles.

Another example is a top-tier aerospace supplier that ensures its systems, like computer-aided design (CAD), ERP and associated data, integrate seamlessly with its PLM to drive engineering initiatives and implementation.

Connecting and flowing all the data within the cloud-based PLM foundation is the digital thread backbone. Along the digital thread backbone is a series of connections that link discrete steps, allowing for traceability, quality control and real-time insight across the product lifecycle.

Digital threads connect engineering to manufacturing

A digital thread ensures traceability, quality control and data-driven decision making. A sample digital thread includes:

- Connecting design-to-manufacturing workflows and real-time product monitoring
- Integrating data, for example, from CAD or simulations
- Collaborating with cross-functional teams
- Adhering to compliance regulations

An Industry 4.0 approach that yields product and process excellence

With the strategic foundation of a cloud-based PLM, companies can explore advanced and emerging technologies driving Industry 4.0.

Companies can review data, collaborate across lines of business and make real-time adjustments to optimize production. Artificial intelligence (AI), automation, the internet of things (IoT) and smart manufacturing extend this further. Leaders in Industry 4.0 use AI and machine learning to predict maintenance and ensure continuous operations. The digital twin is widely used across industries, helping manufacturers simulate, anticipate and address product issues before they impact performance.

Data also fuels continuous improvements and innovation. Operating with a cloud-based PLM foundation, companies can gather data and circulate insights into a feedback loop. For example,

telematics and IoT data can deliver rapid insights for continuous improvement, and generative AI can enable design optimization and smart documentation.

By infusing data into production workstreams, organizations can iterate and get to market faster with new offerings for customers.

Bring product design to life with advanced technology

- The digital twin – virtual representations of products and processes – combined with industrial IoT and digital factories allow teams to simulate, monitor and optimize performance before making costly physical changes

- Transform production with the precise control over design data, materials and processes that 3D printing offers. A cloud-based PLM foundation certifies workflows are traceable, connected and compliant so teams can turn prototypes into production-ready outputs

- Artificial intelligence (AI) – PLM can deliver seamless access to generative AI to increase workforce abilities and drive overall productivity

Driving operational excellence with a connected PLM-ERP workflow

For manufacturers who prioritize one adjacent system to maximize the value of PLM, it should be the ERP system. ERP platforms, such as those from SAP and Oracle, connect design ideas with operational execution. When cloud-based PLM and ERP systems work in tandem, organizations gain real-time visibility across engineering and business operations, ensuring design intent aligns with supply chain realities and production capacity.

As with other aspects of Industry 4.0, the connection between PLM and ERP is data. Companies need cross-functional integration that breaks down silos between research and development (R&D), manufacturing and the supply chain, and enables advanced analytics that improve decision making to get to market faster.

Make smarter, faster decisions with AI-powered PLM
We are entering a new industrial wave driven by data and AI, but are manufacturers ready? With Teamcenter X, companies can control the value of their product data by providing seamless access to advanced AI capabilities, including generative AI. Teamcenter X AI capabilities are fully integrated with your company's secure and connected digital thread backbone, making it easier to find information, understand complex data and automate routine tasks.
Learn more about AI with Siemens.

Empowering companies of all sizes to accelerate innovation

Using Teamcenter X on AWS is designed to reduce operational complexity via a secure, scalable and globally available software as a service (SaaS)-based PLM solution.

Siemens and AWS are dedicated to meeting the needs of manufacturers of all sizes with solutions that help you quickly get started, realize value faster and scale without the traditional information technology (IT) complexities associated with on-premises deployments.

Preconfigured solutions offer a prescriptive approach and incorporate best practices to streamline and automate common PLM processes across the diverse needs of various industries, from medical devices and industrial machinery to semiconductors and beyond.

With tiered packaging, leveraging Teamcenter X ensures that, regardless of whether you are a small startup or a large enterprise, you have the flexibility to grow and scale your PLM capabilities. This means you can effectively start your PLM journey, achieve value and expand when you are ready.

By combining Siemens' extensive PLM expertise with the enterprise-grade resiliency and compliance AWS provides, you can trust in always-available product data, automated updates and secure infrastructure and data.

Together, Siemens and AWS offer a modern, future-ready, cloud-based PLM foundation that enhances agility, compliance and competitive advantage throughout the product lifecycle.

Siemens was named a leader in PLM for large discrete manufacturers by ABI Research and named a leader in the 2025 Forrester Wave: Product Lifecycle Management for Discrete Manufacturers, Q3 2025 analyst report.[2]

[2] Forrester Wave. https://reprint.forrester.com/reports/the-forrester-wave-tm-product-lifecycle-management-platforms-for-discrete-manufacturers-q3-2025-19947880/index.html

Learn more about Teamcenter X today and see how Siemens and AWS can help you get started with PLM on the cloud.

- Find more info on tiered plans and pricing
- Discover Siemens in AWS Marketplace

Siemens Digital Industries Software helps organizations of all sizes digitally transform using software, hardware and services from the Siemens Xcelerator business platform. Siemens' software and the comprehensive digital twin enable companies to optimize their design, engineering and manufacturing processes to turn today's ideas into the sustainable products of the future. From chips to entire systems, from product to process, across all industries, Siemens Digital Industries Software – Accelerating transformation.

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For additional numbers, click here.