COMMENTARY

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Siemens Realize LIVE 2026

Industrial Intelligence: The convergence of the comprehensive digital twin, lifecycle intelligence, and adaptive execution

Takeaways

Realize LIVE 2026 keynotes and sessions covered the breadth and depth of Siemens Xcelerator solution portfolio, from planning, design, simulation, manufacturing, supply chain, and of course, AI across discrete and process industries.

The conference's highlight was the announcement of Intelligence Center X—an agentic enterprise platform for AI model and application development across all industry segments. It supports the key factors needed for effective AI-driven product development and manufacturing applications, including intelligence, action, orchestration, context, and governance.

Core PLM solutions, including Designcenter, Opcenter, Simcenter, and Teamcenter received substantial enhancements, agentic agents, and AI integration, which collectively supplement Intelligence Center X and the pragmatic application of industrial AI throughout Siemens Xcelerator solution portfolio, and together, in digital thread processes supported.

Customer presentations included a keynote from PepsiCo, which described how Siemens enabled their digital transformation program that achieved significant results, as well as presentations from Lucid Motors, Anduril, Shape, and Reaction Dynamics describing how they use Siemens solutions to improve their businesses.

Many partnerships were also announced including Xometry, which received a $50M investment, Cloud collaborations with AWS and Accenture, and of course, NVIDIA for computing platforms and Omniverse support.

CIMdata attended Siemens Digital Industries Software's Realize LIVE Americas 2026, held in Detroit, MI, from June 1 to June 4, 2026. Siemens included a curated experience of special sessions and executive interaction for media and analysts. Hearing about and discussing Siemens' announcements, technologies, and solutions with customer attendees, event sponsors, and Siemens' leadership was highly informative as Siemens continues to push the boundaries of multi-disciplinary product lifecycle management, as well as incorporating industrial artificial intelligence (AI) throughout their solution suite. During the Analyst and Media session, Siemens reported that over 3,000 people attended Realize LIVE 2026 Americas and that approximately 70% of the sessions were led by their customers.[1]

[1] Research for this paper was partially supported by Siemens.

Keynotes

Mr. Tony Hemmelgarn, President and CEO of Siemens Digital Industries Software (Siemens), kicked off the conference by outlining three AI-related themes: faster engines, smarter execution, and trusted outcomes, and by introducing Intelligence Center X—a new agentic industrial AI platform to support AI model and application development. The three themes focused on enabling industrial AI to boost customer productivity. During Realize LIVE 2026, Siemens speakers provided examples of implementing these themes and how they impact a customers' business.

Mr. Hemmelgarn reviewed the advancements made across the portfolio, including Designcenter, Opcenter, Simcenter, and Teamcenter. Some noteworthy developments include Supplyframe's partnership with and investment of $50 million in Xometry, as well as an integration with VolitionAI to bring mechanical and sub-assembly availability, risk, and cost data directly into Designcenter. He also noted several Simcenter improvements highlighting Simcenter PhysicsAI's 1,000-fold speedup, enabling enhanced geometric deep learning, expedited design explorations, and real-time multi-disciplinary simulation. He also introduced Simcenter PhysicsAI Generate, which uses generative AI to generate design concepts from requirements.

Mr. Steven Hoinka, VP Global Manufacturing Strategy, PepsiCo, described how PepsiCo has partnered with Siemens and NVIDIA to transform its manufacturing environments. PepsiCo's objective is to create new distribution centers that combine products from beverage and food plants and package them together for shipment to their customers. They intend to use as many of their current facilities as possible ("brown fields") and minimize the construction of new facilities ("green fields"). Using solutions like Siemens Tecnomatix and NVIDIA Omniverse, PepsiCo creates digital twins of their sites. The resulting models are used to simulate and visualize the flow of materials and packages within brownfield operations. This enables PepsiCo to better understand and identify optimized distribution options and quickly respond to changes in demand. Mr. Hoinka showed the results (to date) including:

- Compression of planning cycles from months to weeks
- 90% of operational issues identified pre-deployment
- Up to 20% throughput improvement
- 10-15% CAPEX reduction

The second day's keynote was led by Mr. Joe Bohman, Executive VP, PLM Products, Siemen. Mr. Bohman illustrated the timeline of Siemens AG's over $25 billion investment in PLM and acquisitions since its initial acquisition of UGS in 2007. He then discussed the impact of software defined products on product design and manufacturing, noting that three major disciplines are required to be seamlessly integrated to enable this evolution:

- PLM for system management and configuration management
- ALM for requirements planning and test management
- DevOps for design-code-build and test-release-deploy

Additionally, Mr. Bohman described how Siemens was continuing to more deeply integrate their portfolio, e.g., Teamcenter and Polarion to achieve a multi-disciplinary environment. He stated that AI-native simulations are a key enabler of the digital twin which is being driven by the convergence of simulation, high-performance computing, and AI. Mr. Bohman noted that Intelligence Center X can create AI models and agentic applications built on industrial ontologies with data from PLM, ERP, CRM, and in-house sources. The industrial ontologies are a foundational component and allow context to be shared across systems and enable reasoning. Furthermore, Siemens AG allows data from Siemens' manufacturing businesses (i.e., Factory Automation, Energy, Healthcare, etc.) to be used to train models used within Siemens Xcelerator, providing a competitive advantage.

On the business side, Mr. Bohman stated that Siemens was seeing a 100% growth in customers moving to Teamcenter X and a 2x+ growth in Designcenter X, especially in small- to medium-businesses.

Teamcenter

Ms. Frances Evans, SVP Lifecycle Collaboration Software, Siemens, and Mr. Bill Lewis, Director of Marketing, Lifecycle Collaboration Software, Siemens, led a session titled "AI-powered PLM of the Future." Ms. Evans and Mr. Lewis described several new capabilities and AI agents now available in Teamcenter and how they can be used to deliver positive business impact.

Ms. Evans introduced a new Teamcenter BOM agent that will:

- Configure, search, and edit BOM structures
- Author in-context change requests
- Analyze related objects in specific BOMs

Next, she described a new Teamcenter CoPilot agent that has a natural language interface, is context aware, and is grounded in each customer's data. Mr. Lewis and Ms. Evans then discussed how Siemens is continuing to better enable intelligent engineering in today's software-driven product world by applying AI throughout the multi-domain lifecycle. They described a new capability in which Capital electrical design is now embedded with Designcenter—accelerating electrical design with AI (the first being Capital AI agent) and 3D context using AI-assisted electrical design with Capital Copilot, electrical design directly within MCAD, and cross-domain orchestration managed by Teamcenter.

They described new Teamcenter AI-driven change management capabilities to capture a problem, analyze its impact, and suggest corrective actions. Additionally, there are agents integrated with workflow, program, schedule, BOM, and BOP functions. Teamcenter Material and Substance Management updates include controlled access to material composition, bulk handling of declarations, and support for PFAS regulations that achieve 20% faster grading.

CIMdata applauds the new Teamcenter capabilities for BOM management of color. Users can author color specifications, manage color libraries, auto-generate colored parts from a less-finish design, coordinate and visually validate colors with color themes, and have BOM color visualization in the 3D and Digital Reality viewers. Managing color has historically been very difficult within BOM structures, so this new capability should be very helpful.

Mr. Lewis and Ms. Evans stated that a new Relations Graph for visualizing and navigating complex digital threads would provide an 80% increase in performance and have 10x more content visible thereby better enabling large-scale impact analyses.

In what CIMdata believes will be a highly productive capability, users can now directly access Teamcenter from within Microsoft 365 Copilot. Users will have access to unified Teamcenter and Microsoft data to help them generate combined insights. Importantly, data stays protected where it lives—it is not necessary to move data to visualize or use it.

There were many sessions on Teamcenter covering advanced capabilities such as leveraging the usage model to manage effectivity, connecting Teamcenter with Salesforce for after-sales support, integration with Microsoft 365 Copilot, and a workflow agent to simplify workflow definition and assignments. The broad, deep effort expended by the Teamcenter team with the latest release should be well received by their customers.

Designcenter

Siemens introduced "Live Share" in Designcenter X, a cloud-enabled feature allowing multiple users to simultaneously edit the exact same 3D model with real-time awareness. Integrated directly with Microsoft Teams group chat, this capability breaks down geographic silos and maintains absolute design consistency.

Siemens predictive AI tools have been deeply integrated within Siemens Xcelerator to accelerate routine engineering tasks. A new "Magnetic Snap Assembly" capability allows users to drag components into place while AI intelligently suggests and automatically assigns multiple mating relationships. Additionally, Command Prediction and CAM operation editing analyze a user's history to surface the most likely next actions, drastically reducing repetitive workflows and manual navigation.

Furthermore, AI now automates creation of 2D drawings, generating drafts that are 70% to 80% complete upon initial generation. AI also automatically applies required Product and Manufacturing Information (PMI) directly on 3D models and validates constraints. They claim this automation reduces the manual effort required to create 2D drawings by 50%, freeing engineers to focus on design tasks.

Designcenter X has an upgraded performance architecture that manages "Mega Assemblies" containing over 1.5 million components. This support of massive scale reportedly brings a 5x improvement in file opening speeds and a 7x boost in overall workflow productivity. This enables companies to smoothly implement and manage comprehensive digital twins of massive systems without significant system lag.

Designcenter continues to evolve, providing measurable productivity benefits that build on one of the most capable mechanical CAD solutions. Siemens' ability to expertly manage their solutions' architecture and features for more than four decades while hardware has evolved from mainframes to workstations to PCs to the cloud while maintaining 100% forward data compatibility is an impressive feat.

Simcenter

Siemens is heavily focused on creating "faster engines" within its Simcenter portfolio, driven by a market-defining convergence of simulation, high-performance computing (HPC), and AI, much of it obtained via the Altair acquisition. This has led to significant architectural simplifications, such as moving from four different solvers down to a single multi-physics solver known as Simcenter OptiStruct. This has unlocked significant performance gains across various domains, including a 100x speedup in structural simulation at Airbus, a 250x speedup in external aerodynamics, and a 60x speedup in system-level electromagnetic antenna pattern prediction. Additionally, leveraging GPU acceleration has allowed customers like BMW to run CFD simulations 3x faster while consuming 6x less energy.

The integration of AI is a major catalyst for Simcenter's evolution, most notably through the deployment of Simcenter PhysicsAI. This technology utilizes geometric deep learning to achieve simulation speeds up to 1,000x faster than traditional methods, enabling rapid design exploration and real-time multi-disciplinary simulation. Furthermore, Siemens introduced a new capability called Simcenter PhysicsAI Generate. This solution leverages generative AI to automatically translate initial product requirements into viable design concepts. Using these embedded AI copilots and agents, engineers can reportedly accelerate their modeling, visualization, and analysis workflows by 10x to 50x times.

Opcenter

Mr. Tobias Lange, Senior Vice President, Manufacturing Operations Management, Siemens, led a session titled "Beyond Efficiency: Opcenter's Cloud Journey & AI Strategies for TCO Reduction," in which he discussed the recent performance and operational improvements made to Opcenter X, positioning it as

AI-ready and capable of scaling from the shopfloor to the top floor. He stated that on the factory floor, new structural enhancements translate to significant time savings, including 10x faster authoring times for BOP and electronic work instructions. He added that Opcenter serves as a critical engine for Siemens' AI-native factory vision, leveraging capabilities like autonomous scheduling with Opcenter APS and ingesting data directly from the Siemens' digital twin composer.

He stated that a major driver of Opcenter's rapid market adoption—currently experiencing twice the market average growth according to Mr. Lange—is its deep integration with Mendix. By embedding Mendix directly into Opcenter X, Siemens enables customers to seamlessly build customized agentic workflows and interfaces.

Designcenter, Opcenter, Simcenter, and Teamcenter are critical components of Siemens' solution portfolio and each has a long history of deep capability and continuous improvement. Leveraging these tools within Siemens Xcelerator portfolio enables customers to focus on their business without having to manage the complexity of integrating tools from other solution providers, But, if a certain tool is needed, Siemens' openness enables full integration into an enterprise-wide digital thread.

Media and Analyst Session

In a special session for media and analysts, Siemens' leadership presented business and portfolio updates. Mr. Hemmelgarn led off with a business update in which he highlighted the strength of Siemens' solutions portfolio and how it is being adopted by their customers. He provided several examples of competitive wins and discussed the growth they are achieving. He noted that adoption of Teamcenter X and Designcenter X is increasing rapidly in both large, and more importantly, small- to medium-size enterprises. He stressed that this adoption is being driven in part due to the seamless, scalable solution path that Siemens Xcelerator portfolio delivers.

Mr. Bohman discussed examples of how Siemens was delivering on the three themes to meet customer needs. First, he noted that Teamcenter part classification was 10x faster. In Designcenter they have achieved a 50% reduction in the time to create 2D drawings. In Capital, they have achieved a 3x improvement in design changes and are 10x faster for engineering tasks. He stated that Opcenter had achieved 10x faster Bill of Process and Electronic Work Instructions authoring times.

He described Intelligence Center X as the platform for Agentic AI that includes four components:

- Mendix for agentic application development and orchestration
- Graph Studio to put data in context via knowledge graphs
- AI Studio for machine learning model development
- A set of industrial ontologies each with four characteristics—they're live (i.e., up to date), secure, maintain the current product configuration, and are delivered out-of-the-box

He showed an example of how Siemens is applying both AI orchestration and domain agents to deliver practical AI-driven solutions.

Mr. Ray Kok, head of Enterprise Application Development, Siemens, described how Siemens is enabling their clients to transform from a Digital Enterprise, where software automates tasks based on pre-defined rules, to an Agentic Enterprise, where AI agents orchestrate end-to-end with human supervision. Mr. Kok described what he called the customers' "agentic hurdle" (i.e., five gaps):

- No institutional context
- No integrated AI and Machine Learning (ML)
- Apps not built around AI
- Fragmented processes
- No unified governance

He stated that Intelligence Center X is designed to address these five gaps via intelligence, action, orchestration, context, and governance. Mr. Kok further stated that if a company wants AI to work, it must be grounded in enterprise trust. He said that this trust requires agentic solutions built on clear guardrails, that are traceable, auditable, and accountable. Systems of record, such as Teamcenter, provide the level of detail and determinism that AI can leverage without hallucination. He noted that success requires implementing integrated workflows in which humans and AI agents work in concert.

Mr. Sam Mahalingam, Head of Simulation, Siemens, highlighted the ongoing convergence of simulation, high-performance computing (HPC), and AI. By leveraging the combined capabilities of Siemens and Altair, the company is democratizing intelligent, AI-native simulation to accelerate the creation of comprehensive digital twins across the product lifecycle. He stated that AI-native simulation is a key enabler of the comprehensive digital twin. Illustrating the faster engine theme, he noted:

- Up to 1000x faster predictions using Simcenter Physics AI
- 10-50x faster modeling, visualization, and analysis using intelligent copilots and agents
- 500x design generation and exploration using GenAI

He stated that these performance improvements are helping customers shift from slow validation to rapid, continuous innovation and provided several examples of the results Siemens' customers have obtained using Simcenter's AI-native capabilities.

Mr. Ankur Gupta, Head of Integrated Circuit, Siemens, presented on the evolution of AI-native Electronic Design Automation (EDA) and 3D chip design. To overcome modern engineering complexities, he emphasized the need for a system-centric approach using "nanometers-to-meters thermal aware intelligence" and executable digital twins. This allows engineers to analyze thermal behavior across the entire stack, from IC design through full system simulation.

By integrating AI-native EDA tools like Solido and Calibre, companies can achieve massive gains, including a 10x productivity boost, a 3x improvement in compute-time efficiency, and 10% better Power, Performance, and Area (PPA) of the resulting design. Leveraging these tools yields trusted outcomes, significantly reducing design risks, accurately predicting outcomes, and extending product lifecycles.

Mr. Mark Hindsbo, Head of Operations Software, Siemens, described Siemens Operations Software as powering production with agentic AI and a comprehensive digital twin. He discussed major issues facing manufacturers including producing today's highly complex but also very individualized products (a lot size of one), labor shortages, macro-economic issues, i.e., tariffs, regulatory issues, and complex supply chains. He noted that Siemens is working to help manufacturers turn these complexities into competitive advantage. He said Siemens is hardening Intelligence Center X for use in shop floor environments. Siemens believes that the shop floor must be intimately connected to lifecycle management. Like other speakers, Mr. Hindsbo gave examples of improved performance (the faster engine theme) including:

- 80% reduction in CNC programming time using AI machining suggestions
- 2x to 5x faster automation design with the Eigen Engineering Agent
- Up to 50% faster issue resolution using Agentic Analytics Workflows

He noted that Siemens was applying AI to perform root cause product issue identification and suggest resolution strategies including shop floor equipment and flow changes.

Mr. Hindsbo closed with three recommendations for manufacturers:

- Treat your production line like a product, have a comprehensive digital twin of the production facility, optimize production as production is running
- Employ lifecycle intelligence and automatically translate from the Engineering BOM to Manufacturing BOM to Bill of Process based on the accurate configuration and state of the factory
- Be adaptable

Concluding Remarks

Siemens Realize LIVE 2026 showcased Siemens' continually expanding vision and the solutions they are delivering in support of the full lifecycles of today's complex, software-driven products. Siemens continues to expand and deepen their multi-domain lifecycle capabilities. Siemens continues to increase the scope and depth of its Siemens Xcelerator portfolio. and its use continues to grow (and learn) within other Siemens AG business units.

CIMdata was pleased to see and learn more about Siemens' extensive use of industrial AI in very pragmatic and useful applications that we think can deliver excellent value and productivity for their customers. Siemens focus on both improving solution performance and ensuring AI trust and governance is critical to the successful adoption and productive use of AI. Siemens' AI approach—"less talk and more action" is what their customers need and want.

CIMdata believes that Siemens' initiatives to help their customers better harness the continually increasing complexity of the manufacturing world and software-driven products constitutes an excellent strategy that should deliver value to their clients.

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