

# 3DEXPERIENCE World 2026

## The AI Journey

### Takeaways

NVIDIA and Dassault Systèmes announced a new partnership that establishes a standard for industrial AI combining Dassault's virtual twins with NVIDIA's computing power to create scientifically validated models that respect the laws of physics.

The introduction of 3D Universes and virtual companions known as Aura, Leo, and Marie, represents a shift from generic chatbots and low-level machine learning optimizations to role-based, domain-specific AI agents for engineers, scientists, and business planners.

With the rise of AI, protecting intellectual property is paramount. The **3DEXPERIENCE** platform now emphasizes Intellectual Property (IP) Lifecycle Management, ensuring that proprietary data used to train AI models remains properly governed and secure.

Surrogate modeling leverages AI to enable near-instantaneous simulation results without waiting for traditional solvers, significantly accelerating design-to-validation timelines.

Dassault Systèmes is effectively lowering the barrier of entry for SOLIDWORKS users migrating to the **3DEXPERIENCE** platform by improving performance, simplifying the technical and purchasing experience, and adding cloud native capabilities, while continuing to improve the application's day-to-day performance and operation.

### Introduction

CIMdata attended **3DEXPERIENCE** World 2026, held in Houston, Texas, from February 1–4, 2026. Formerly known as SOLIDWORKS World, the event continues to be the premier gathering for the design and engineering community.<sup>1</sup> This year's theme moved beyond the general concept of Imagination toward the concrete realization of the Generative Economy and 3D Universes, driven by the infusion of Artificial Intelligence (AI) into the daily workflows of engineers.

The atmosphere in Houston was distinct from previous years; while the passion of the SOLIDWORKS community remains constant, the conversation shifted from "will AI replace us?" to "how will AI amplify

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<sup>1</sup> Research for this paper was partially supported by Dassault Systèmes

us?” Mr. Manish Kumar, CEO of SOLIDWORKS, addressed this head-on, comparing the current state of AI to the discovery of fire—a “spark phase” that engineers must now harness to build the industrial future.

## The NVIDIA & Dassault Systèmes Partnership

The undisputed highlight of the event was the joint appearance of Dassault Systèmes’ CEO Mr. Pascal Daloz and NVIDIA’s CEO Mr. Jensen Huang. Marking the largest collaboration between the two companies in twenty-five years, they announced a long-term strategic partnership to build a shared industrial architecture for Physical AI.

Unlike generative AI used for text or images, Physical AI is grounded in the laws of physics, materials, and engineering constraints. Mr. Huang emphasized that AI will be infrastructure, akin to water or electricity for the industrial world. The partnership integrates NVIDIA’s Omniverse and accelerated computing libraries (CUDA-X, RTX) directly into the **3DEXPERIENCE** platform. This integration aims to enable Virtual Twin Factories and 3D Universes, also known as Industry World Models, where products and production lines are simulated in real-time using validated data grounded in the laws of physics, materials, and engineering constraints, drastically reducing the design-verification cycle.

## Virtual Companions: Leo, Marie & Aura

Dassault Systèmes unveiled a trio of Virtual Companions that act as generative AI assistants designed with specific domain expertise, rather than generic large language models (LLMs). The companions are designed to understand physics, materials, energy and constraints, and are trained using industry standards and Dassault Systèmes private material. IP lifecycle management is fully incorporated to ensure that customer knowledge remains secure. The companions are named and are focused on the following domains:

- Aura: Focuses on business strategy, project planning, and requirements management.
- Leo: Serves as the engineering and manufacturing expert, handling mechanics, motion, and structural integrity.
- Marie: Specializes in science, materials chemistry, and formulations.

In a live demonstration that captivated the audience, Mr. Kumar showcased Leo reading a 2D PDF drawing and converting it into a fully parametric 3D model in seconds. While the demo utilized browser-based SOLIDWORKS xDesign rather than desktop SOLIDWORKS, it signaled a major leap in legacy data migration capabilities. The companions are available across the **3DEXPERIENCE** product line. While Leo can be viewed as a big leap forward in engineering automation, Aura and Marie have the potential to truly transform what SOLIDWORKS users can accomplish with the design process.

## Platform Simplification & Usability

Beyond the headline AI news, the company showed a commitment to improving **3DEXPERIENCE** platform adoption by the SOLIDWORKS user base. Attendees responded positively to the dramatically simplified user interface and performance improvements addressing long-standing pain points. Pain points addressed include 45 minute to 90 second reduction in time for the platform update process. The introduction of Content Explorer brings a familiar Windows Explorer-like interface to the platform, bridging the gap for users accustomed to folder-based workflows. The purchasing model has also been simplified into clear tiers: SOLIDWORKS Design for desktop users and SOLIDWORKS X for browser-based design, both managed via a simplified Compass interface. These and other improvements will go a long

way toward bringing desktop and workgroup focused SOLIDWORKS users into lifecycle focused processes enabled by the 3DEXPERIENCE platform.

## AI in SOLIDWORKS

Additionally, Dassault Systèmes outlined a clear framework for integrating AI directly into the SOLIDWORKS desktop and browser-based design environments. Moving beyond high-level concepts, the company categorized its AI features into three distinct workflows designed to act as force multipliers for the engineer—Assistive, Predictive, and Generative. The table below lists many of the features reviewed at the conference.

Category	Feature	Description
Assistive AI	Repair Mate References	Automatically identifies and fixes broken references in assemblies
	Selection Accelerators	Intelligently predicts and selects geometry to speed up modeling
	Repair Sketch Relations	Automatically repairs broken constraints within sketches
	Pattern Driven Components	Enhances the logic behind component pattern creation
Predictive AI	Command Predictor	Suggests the most likely next command based on current workflow context
	Fastener Recognition	Automatically identifies locations for fasteners and applies patterns
	Mate Replication	Predicts and applies assembly mates based on previous component interactions
	Structural Endplate	Automates the creation of endplates in structural designs
Generative AI	Image to 2D Mechanism	Converts static images into functional 2D kinematic sketches
	Auto Generation of Drawings	Automates the creation of 2D manufacturing drawings, including section views and hole callouts, from 3D models
	Generate Rendering	Utilizes AI to quickly produce photorealistic visualizations
	Aura Virtual Companion	A chatbot integrated into the interface to assist with project planning and general inquiries
Future Capabilities	Image to Mesh / Drawing to Parametric	Converts scanned data or 2D PDF drawings into fully editable, parametric 3D models
	Assembly Structure Creator	Automatically generates assembly structures from high-level inputs
	"What's Wrong?" (Doctor)	An AI-driven diagnostic tool that identifies bad features or errors and suggests fixes
	Talk to Model	Uses natural language voice commands to create drawings or modify designs

The range of features is impressive, and many have been available for several releases. While the generative capabilities have a big wow factor, the assistive and predictive capabilities have large day-to-day impacts. One user described being stunned at how many clicks were needed when the learning from Command Predictor was missing. AI is already pervasive in SOLIDWORKS, and upcoming features and capabilities will have a huge impact of ease of use and productivity.

## IP Security, Governance & AI Training

AI training brings a new dimension to data and IP security. As the “virtualization of knowledge” shifts industrial value from physical objects to embedded “know-how,” data governance becomes even more critical. Mr. Morgan Zimmerman, CEO **3DEXPERIENCE**, introduced the concept of “Intellectual Property Lifecycle Management.” He highlighted the urgency of the shift to this strategy, noting that without specific protections, shared data—such as headlight designs—could allow partners to train AI models that effectively replicate a supplier’s expertise.

To mitigate this IP security risk, Dassault Systèmes introduced a governance layer that allows organizations to tag data with granular training permissions. This ensures proprietary “know-how” remains sovereign within secure “AI Factories” and is never inadvertently absorbed into competitors’ models. CIMdata is pleased to see Dassault Systèmes addressing this issue as it is critical to the survival of supply chains.

## Conclusion

**3DEXPERIENCE** World 2026 marked a pivotal transition for the SOLIDWORKS community, moving from the theoretical “What if?” of AI to the practical “How to.” By grounding AI in the laws of physics rather than just the patterns of words and pixels, Dassault Systèmes is positioning itself not just as a software provider, but as the architect of a new Generative Economy.

The strategic alliance with NVIDIA represents a deep commitment to Physical AI, ensuring that the 3D Universes of the future are built on validated, industrial-grade data providing the high-fidelity simulation necessary for true autonomous industrial workflows.

Meanwhile, the introduction of domain-specific Virtual Companions, combined with a significantly streamlined platform interface, suggests that the company has listened closely to its user base. By reducing friction in the **3DEXPERIENCE** platform adoption process, Dassault Systèmes is effectively lowering the barrier to entry while providing sophisticated “force multipliers” for the traditional desktop engineering base.

Perhaps most importantly, the focus on IP Lifecycle Management addresses the elephant in the room—security. By providing clear governance over how engineering know-how is used to train AI models, Dassault Systèmes is building the trust necessary for wide-scale adoption across the global supply chain. CIMdata remains impressed by the speed at which these capabilities are being integrated and looks forward to seeing how these tools perform in real-world production environments. To learn more about SOLIDWORKS or Dassault Systèmes go to [www.solidworks.com](http://www.solidworks.com) or [www.3ds.com](http://www.3ds.com).

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