3DEXPERIENCE DISCOVERY DAY 2026

AI SUMMARY

KEYNOTE: INDUSTRIAL AI & VIRTUAL TWINS: DASSAULT SYSTÈMES' VISION



KEY TAKEAWAYS

Engineering Innovation Demands Advanced Modeling and Simulation

Industry World Models for Trusted Engineering AI

Virtual Companions and Agentic Platforms Transform Design Work

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Keynote: Industrial AI & Virtual Twins: Dassault Systèmes' Vision
Thursday, November 12, 2026

SUMMARY

The keynote framed industrial AI and virtual twins as the next major step in engineering, building on decades of simulation and digital modeling. Using iconic innovations such as the three-point seatbelt, the pacemaker, and the Lego brick, the speaker argued that engineering is a shared "language" across cultures, rooted in multidisciplinary science and relentless problem solving. Industrial AI, they suggested, now promises to compress the distance between a problem and a solution from years or months to potentially hours.

Looking back, the keynote contrasted early physical crash tests, where human stunt drivers validated simple mechanical seatbelts, with today's sophisticated virtual simulations. High fidelity tools can now model full vehicle crash behavior using physics based solvers and render results in immersive platforms, making it unthinkable to design products without simulation. This capability lets engineers explore vast design spaces, run design of experiments, and generate synthetic data, teaching machine learning models to predict behavior with around 90–95 percent accuracy early in development cycles.

The session then turned to large language models, noting that most professionals now experiment with them and try to connect them to CAD, CAE, PLM, and ERP systems. Yet generic frontier models lack deep context, semantics, physics awareness, and protection of proprietary know-how. The speaker advocated "industry world models" built on three pillars: codified engineering knowledge and standards, rich physics based models of behavior, and reasoning agents that act as virtual companions, answering like domain experts rather than generic internet chatbots.

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These virtual companions, such as those specialized in mechanical, electrical, or scientific domains, are designed to embody forty years of accumulated experience while minimizing hallucinations. They run on an agentic architecture layered over a high IP lifecycle platform, supported by dedicated AI factories and accelerated computing infrastructure. Security, sovereignty, and trust are emphasized so companies can safely embed their proprietary rules, certifications, and design methodologies, turning their engineering corpus into a protected, continuously learning backbone for industrial AI.

Concrete examples illustrated how virtual twins and agents reshape workflows. An automotive project used multiple agents to automatically generate complex door and body□side panels, including 3D tolerancing and manufacturing definitions, while keeping human engineers in the loop for decisions. Similar approaches support life sciences discovery, where scientific companions explore new molecules, and large infrastructure programs, where industrial partners jointly model entire AI factories so every supplier and contractor works from a single, shared system level virtual twin blueprint reference.

The architecture is intended to be both vertically integrated and horizontally open, connecting many different agents and enterprise systems rather than locking customers into a single stack. An upcoming studio environment will let organizations build and orchestrate their own specialized agents on top of the platform. The session closed with a clear message: engineering AI requires robust world models grounded in physics, knowledge, and reasoning, and the most effective way to begin is by framing AI around concrete engineering challenges.

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KEY TAKEAWAYS

Engineering Innovation Demands Advanced Modeling and Simulation

Engineering innovation now spans many disciplines, turning seemingly simple products, like seatbelts, into AI-native systems. Modern engineering shortens the distance from problem to solution by relying on precise modeling, physics-based simulation and virtual crash tests that radically cut lead time while improving safety.

Industry World Models for Trusted Engineering AI

Generic LLMs remain limited for complex products, so engineering AI requires industry world models. These models are multimodal, semantic, physics-aware and knowledge-guided, protect proprietary IP, embed standards and company rules, and run on an AI-PLM platform that manages data lineage and lifecycle securely.

Virtual Companions and Agentic Platforms Transform Design Work

Virtual companions act as specialized engineering agents that reason over physics-based virtual twins and company knowledge. Running on an agentic platform with AI factories and sovereign infrastructure, they automate tasks, enable agent-to-agent collaboration, and keep humans central in designing high-quality products across industries.

SUMMARY



Dassault Systèmes is a catalyst for human progress. Since 1981, the company has pioneered virtual worlds to improve real life for consumers, patients and citizens.

With Dassault Systèmes' 3DEXPERIENCE agentic platform, 390,000 customers of all sizes, in all industries, can collaborate, imagine and create sustainable innovations that drive meaningful impact.

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Virtual Worlds for Real Life

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