Synopsys Outlines Vision for Engineering the Future

Announces new design, verification and simulation solutions to re-engineer AI-powered product innovation at Synopsys Converge 2026

Key Highlights

- Unveiling Synopsys Multiphysics Fusion™ technology — the first in a broader roadmap of EDA solutions that integrate Synopsys and Ansys technologies for semiconductor design
- Demonstrating an industry-first L4 orchestrated, multi-agent design and verification workflow, powered by Synopsys AgentEngineer™ technology
- Launching the first major Ansys product release since acquisition, introducing new AI-driven multiphysics simulation, Synopsys technology integrations, and real-world digital twin technologies to transform simulation and analysis for smarter, more resilient systems
- Launching new hardware-assisted verification (HAV) platforms and unique, software-defined capabilities that set new performance, scalability, and flexibility benchmarks throughout the portfolio

SUNNYVALE, Calif., March 11, 2026 /PRNewswire/ -- Today, Synopsys, Inc. (Nasdaq: SNPS) opened Synopsys Converge 2026, its new flagship conference, with a keynote by Synopsys president and CEO, Sassine Ghazi, who shared his vision for a new silicon-to-systems design paradigm for the era of pervasive intelligence — one that is silicon-powered, AI-enabled, and software-defined. He also announced new engineering solutions across Synopsys' expanded portfolio to advance how innovators design, verify, and deliver next generation AI-powered products.

"The complexity of next-generation intelligent systems requires a completely new engineering approach," said Ghazi. "By integrating co-design of software and hardware, electronics and physics, by harnessing digital twins to design, test, and refine products before physical production, and using AI to enhance human capabilities, customers' R&D teams can accelerate time to market of their intelligent systems. At Synopsys Converge, we're demonstrating the power of our silicon-to-systems engineering solutions that make us the best partner for engineering the future."

Customers and partners such as AMD, Intel, Microsoft, and NVIDIA were featured during Ghazi's keynote, underscoring the need for co-design of hardware and software, silicon and systems. In addition, Synopsys, AMD and Microsoft are initiating a collaboration to enable faster access to Synopsys EDA tools on Microsoft platforms, powered by AMD compute.

Below is a summary of announcements made at Synopsys Converge.

Unveiling Multiphysics Fusion Technology: First Wave of Integrated Synopsys + Ansys Solutions for Chip Design

Synopsys announced Multiphysics Fusion technology and the first wave of EDA solutions that integrate Ansys golden multiphysics engines into Synopsys' leading EDA portfolio to solve today's pressing chip design problems caused by electromagnetics, thermal, and mechanical effects.

Voltage drop, thermal effects, and electromagnetic coupling have become critical challenges for heterogeneous designs at advanced nodes, directly affecting performance and reliability. Integrating multiphysics analysis into the design flow helps teams identify and resolve issues earlier, with greater accuracy and better correlation to final signoff. This reduces design iterations and improves power, performance, and area (PPA) metrics — transforming the process from overdesign to co-design. The first solutions to incorporate Multiphysics Fusion technology address:

- **Timing Signoff:** Integrating voltage drop awareness and thermal analysis provides signoff for extreme operating conditions and stringent reliability requirements to accelerate time-to-signoff.
- **Multi-Die Design:** Offering thermal analysis and power integrity optimization across the full EDA stack from early floorplanning to signoff, in addition to high-speed auto-routing with AI-driven signal integrity optimization enables early thermal, IR, and stress analysis.
- **Design Closure:** Incorporating thermal and voltage-drop awareness speeds design closure via faster late-stage bug fixes, reducing design iterations, and improving PPA.
- **Analog & Mixed Signal Design:** Enabling greater electromagnetics accuracy and faster power integrity analysis for reliable analog design.

These first Multiphysics Fusion capabilities are now in active beta engagements with early access customers with production availability expected in the coming months.

Ushering in a New Chip Design Paradigm with AgentEngineer Technology

Synopsys is pioneering AI capabilities with increasing levels of autonomy across its leading EDA solutions. Beginning with reinforcement learning, followed by generative AI capabilities delivered in Synospys.ai™, the company is now building an open agentic AI stack centered on orchestrated, multiagent workflows to address use cases from silicon to systems.

Today, Synopsys unveiled an industry-first L4 agentic workflow for design and verification. Powered by AgentEngineer technology, the new adaptive learning, multi-agent orchestrated system demonstrates how agentic AI can augment human engineers and accelerate highly complex chip design tasks beyond traditional methods.

The workflow features intelligent orchestration across multiple Synopsys EDA agents with adaptive learning to: generate Register Transfer Level (RTL) code from natural language and formal specification, run Lint checks to ensure clean RTL, generate unit-level testbenches, and finally iteratively run verification with EDA tools to converge on target objectives. This front-end design process typically takes a team of verification engineers four to six months for a large SoC design using traditional methods. The Synopsys AgentEngineer-powered workflow is already helping customers improve productivity by 2x, with improvements as high as 5x observed in select cases.

Synopsys' agentic stack is built on industry standard SDKs and APIs to be interoperable with existing customer agents and data. The company is collaborating with industry leaders like AMD, Microsoft — including its Foundry and Discovery platforms, and NVIDIA to develop differentiated, agentic capabilities with increasing levels of autonomy over time. Synopsys is currently engaging with customers on this first multi-agent workflow and is committed to delivering additional, orchestrated, multi-agent workflows for the entire design-to-manufacturing flow.

To see the new design and verification workflow in action, watch: Accelerate Innovation with First Orchestrated Multi-Agent Workflow for Chip Design.

Synopsys Launches the First Major Ansys Product Release Since Acquisition

Synopsys today introduced the latest updates to the industry's deepest and broadest simulation portfolio, which feature integrated workflows across materials intelligence, functional safety, photonics design, and embedded systems. Marking the first major Ansys product release since the acquisition closed, Ansys 2026 R1 delivers:

- **New agentic and generative AI simulation capabilities**, with the new Mesh Agent feature in Ansys Mechanical™ software; Ansys GeomAI, a new solution for generating, evaluating, and refining geometry concepts; and Discovery Validation Agent, an agentic AI partner that can proactively identify setup issues using contextual intelligence and industry best practices.
- **Synopsys technology integrations** including Synopsys VC Functional Safety Manager (VC FSM) and Ansys medini® analyze™ software, creating an end-to-end workflow linking system- and chip-level safety analysis to automate traceability and eliminate manual data sharing; Synopsys QuantumATK® and the Ansys Granta MI® platform to integrate atomic-scale materials modeling with enterprise materials management to create consistent, simulation-ready materials records; and Synopsys OptoCompiler™ and Ansys Lumerical FDTD™ software, connecting photonic device design to system-level optical simulation with automated Verilog-A model generation and consistent optical behavior.

Enhancements across Synopsys' simulation and analysis solutions enable engineers to harvest trusted simulation results with more speed and precision, further shrinking the gap between simulation and physical testing. To learn more, read the press release: Synopsys Launches Ansys 2026 R1 to Re-Engineer Engineering with Joint Solutions and AI-Powered Products.

Introducing New Software-Defined Hardware-Assisted Verification to Enable AI Proliferation

Synopsys announced advancements across its industry-leading hardware-assisted verification (HAV) portfolio for customers to keep pace with continued, unprecedented demand for AI compute and related verification productivity to deliver multi-die and AI chips from the data center to the edge. Powered by the company's unique software-defined capabilities, Synopsys' HAV platforms set new performance, scalability, and flexibility benchmarks throughout the portfolio.

The company's software-defined approach provides up to 2x higher performance on ZeBu Server 5 and up to 2x capacity scaling for modular HAV systems targeting AI-era mega designs. Synopsys also launched the HAPS-200 12 FPGA and ZeBu-200 12 FPGA platforms for mainstream designs, offering EP-Ready Hardware, 2x capacity, and continued leadership in software/hardware validation, power/performance analysis, and RTL verification. New, industry-first test automation enables faster, earlier detection of cache-coherency and subsystem-level bugs. Synopsys is showcasing new HAV engines at Converge. Learn more here.

Launching Electronics Digital Twin Platform to Accelerate Physical AI System Development

Also, this week at Embedded World, Synopsys announced the Electronics Digital Twins (eDT) Platform. The eDT Platform enables an end-to-end digital twin foundation to help engineering teams connect silicon designs to software behavior and full-system validation from the earliest stages of development. The eDT Platform brings together the company's product and market leadership supplying virtual SoC models and large-scale system simulations, along with its extensive partner ecosystem, to simplify, accelerate, and scale the development of physical AI systems.

Initially focused on automotive use cases, the eDT Platform enables OEMs to achieve up to 90% of software validation prior to hardware availability by shifting software development and system integration "left," reducing vehicle development cost and time-to-market. Synopsys is demonstrating the new eDT Platform at Converge. Learn more here.

Follow Synopsys Converge 2026 News and Updates

Synopsys Converge is taking place March 11-12, 2026, at the Santa Clara Convention Center. Watch Sassine Ghazi's opening keynote and follow related news via the Synopsys Converge Newsroom, on LinkedIn, and on X.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) is the leader in engineering solutions from silicon to systems, enabling customers to rapidly innovate AI-powered products. We deliver industry-leading silicon design, IP, simulation and analysis solutions, and design services. We partner closely with our customers across a wide range of industries to maximize their R&D capability and productivity, powering innovation today that ignites the ingenuity of tomorrow. Learn more at www.synopsys.com.

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