Synopsys Spotlights Agentic AI, Accelerated Computing, and AI Physics at NVIDIA GTC Washington, D.C.

SUNNYVALE, Calif., Oct. 28, 2025 /PRNewswire/ -- Synopsys, Inc. (NASDAQ: SNPS) is attending NVIDIA GTC Washington, D.C. October 27-29 to showcase advancements in engineering solutions from silicon to systems that will underpin the next era of industrial innovation. Now united with Ansys, Synopsys' expanded portfolio accelerates engineering productivity, improves product performance, and unlocks development insights, from semiconductor design at the atomic scale to large physical systems like aircrafts, automobiles, and more.

Through collaboration with NVIDIA, Synopsys is enhancing AI integrations for smarter manufacturing, chip design, and physics simulation, enabling AI and GPU-accelerated computing across engineering workloads — making engineering smarter, faster, and more intuitive.

"The pace of engineering is accelerating despite increasing, systemic complexity — a testament to the incredible capability and performance gains that AI and GPU-acceleration are bringing across our portfolio," said Shankar Krishnamoorthy, Chief Product Development Officer at Synopsys. "Synopsys is leading this transformation for our customers with pioneering AI capabilities and the industry's broadest portfolio of GPU-accelerated products. Together with NVIDIA, we are a catalyst for next-generation engineering capabilities, velocity, and ingenuity."

"AI is redefining what's possible in engineering and design," said Tim Costa, GM Industrial and Computational Engineering, NVIDIA. "With NVIDIA AI physics technologies and agentic AI integrated within Synopsys tools, engineers are empowered to simulate the complexities of the real world with extraordinary fidelity and speed to tackle their most ambitious challenges."

Synopsys made the following announcements during this week's event.

A new Agentic AI collaboration for next-generation semiconductor development

- Synopsys is collaborating with NVIDIA to enable a new frontier of AI-enabled chip design. By integrating Synopsys AgentEngineer™ technology with the NVIDIA NeMo Agent Toolkit including NVIDIA Nemotron open models and data, Synopsys is supercharging the development of autonomous design flows to enhance engineering productivity, improve design quality, and accelerate time to market and industry innovation.

  For example, Synopsys chip design agents in development used for formal verification flows boost signoff depth and efficiency as well as identify critical bugs that would have been missed by manual review — demonstrating the transformative power of AI as an optimizer, assistant, and collaborator in engineering. NVIDIA is currently piloting Synopsys AgentEngineer technology for AI-enabled formal verification, further validating its real-world impact on advanced design processes.

Synopsys is expanding its GPU-accelerated software portfolio, which today is the industry's broadest with nearly 20 products, to address compute-intensive workloads, including:

- **Lightning-fast physics**: Ansys Fluent® fluid simulation software achieved a 500x speedup by leveraging GPU-accelerated computing and AI initialization. Ansys Fluent manages workloads 50x faster when running on eight NVIDIA Blackwell GPUs compared to 258 CPU cores. Using the NVIDIA PhysicsNeMo AI physics framework and NVIDIA DoMINO NIM to initialize the simulation multiplies GPU time gains by 10x due to the higher accuracy of the initial solution, meaning a simulation that once took two weeks could be completed in approximately 40 minutes.

- **Materials exploration:** In addition, Synopsys is delivering significant advancements in computational materials simulation, leveraging NVIDIA accelerated computing to drive faster, more efficient research in materials and semiconductor design. By integrating Synopsys QuantumATK® atomistic simulation with NVIDIA CUDA-X libraries and Blackwell architecture, Synopsys is enabling engineering teams to achieve an up to 15x improvement in time to results for density functional theory (DFT) and Non-equilibrium Green's Function (NEGF) methods. This breakthrough empowers customers to simulate and analyze a diverse range of materials with unprecedented speed and efficiency, fueling the development of next-generation AI-powered applications, products, and systems.

  Northrop Grumman Microelectronics Center (NGMC) uses Synopsys QuantumATK with NVIDIA GPUs to accelerate the development of next-generation materials for semiconductor solutions in both defense and commercial systems. By cutting development time from weeks to hours, this approach speeds up the innovation process by 6-10x and makes it possible to solve challenges that were once considered impossible.

Join Synopsys at NVIDIA GTC Washington, D.C.

Attendees can visit booth #252 or attend the theater presentation or panel discussions to learn more about how Synopsys solutions in AI, silicon design, and simulation leverage GPU acceleration to improve performance, scalability, and efficiency across industries. See our experts on stage:

- **Panel presentation**: Shankar Krishnamoorthy, Chief Product Development Officer at Synopsys, will discuss how accelerated computing and advanced AI are enabling faster, smarter EDA and multiphysics simulation solutions.
  - Accelerating Next Generation Chip Design with Agentic AI and GPUs | October 29 | 10:00 – 10:40am ET

- **Panel presentation**: Dr. Mark Palmer, Field CTO and Lead Chief Technologist of Healthcare at Synopsys, will discuss how digital technologies will speed drug development and improve patient outcomes with more personalized medicine.
  - New Frontiers in Clinical Development — Where Digital AI Meets Physical AI | October 29 | 2:00 – 2:40pm ET

- **Theater session**: Arun Bhattacharya, Global Head of Ecosystem Marketing at Synopsys, will share how Synopsys is poised to help companies achieve breakthroughs in scalability and speed in simulation and verification. Greg Kacprzynski, Director of Physical AI, Chief Technology Office at Booz Allen, will discuss effective digital engineering in action — leveraging accelerated computing and physics-based simulation with NVIDIA Omniverse to build more resilient systems.
  - Engineering Intelligent Systems with Synopsys and Booz Allen | October 29 | 3:20 – 3:35pm ET

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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