Synopsys at NVIDIA GTC Berlin: Delivering Engineering Precision with Speed

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What's New:
Synopsys is attending NVIDIA GTC Berlin and showcasing its industry-leading portfolio of more than 20 GPU-enabled Electronic Design Automation (EDA) and multiphysics solutions. Now supporting 50 NVIDIA CUDA-X libraries and frameworks, Synopsys is applying AI to enable significantly faster design and simulation analysis cycles to minimize the persistent speed vs. precision tradeoff during product development. The following NVIDIA GTC Berlin announcements highlight Synopsys collaborations:

- Europe's Industrial Leaders Reinvent Engineering and Manufacturing With NVIDIA
- European Mobility Leaders Build Safe Vehicles and Robotaxi Fleets on NVIDIA Hyperion
- NVIDIA Launches OpenShell Reference Architecture for Safe AI Agents
- NVIDIA cuDSS Now Generally Available to Accelerate Engineering and Scientific Simulations
- NVIDIA Open Models Advance Europe's Sovereign Intelligence Across Every Industry
- Bringing the Spark to Europe: Local Intelligence Powers Next Wave of Agents

Why It Matters:
Increasing system sophistication and performance are driving greater compute requirements to power engineering workflows. The Synopsys and NVIDIA strategic partnership is advancing GPU-enabled engineering solutions to provide a powerful and secure foundation for accelerating physical AI, virtual prototyping, and silicon and system design.

A Closer Look:
This week's conference also spotlights how European engineering teams across the automotive, aerospace, semiconductor, and AI infrastructure segments are leveraging Synopsys solutions to shift more development and validation into virtual environments that expand design space exploration and shrink waiting times for actionable, predictive insights into silicon and system design and performance. Advancements showcased with customers during GTC Berlin include:

Advancing physical AI, semiconductor innovation, and virtual prototyping:

- Synopsys is now part of the **NVIDIA Halos** safety ecosystem, integrating newly announced NVIDIA Halos SAFE to enrich and extend events with a physics-based, traceable workflow spanning sensor simulation, virtualization, digital twins, and safety analysis. **Ansys AVxcelerate** real-time sensor simulation technologies, now part of Synopsys, augment events with high fidelity stimuli for software-in-the-loop and hardware-in-the-loop testing. **Ansys medini®** connects ground-truth synthetic data back to hazards and safety requirements, integrating simulation and validation results into a structured safety case.
- Synopsys is collaborating with **T-Systems** using a **FORVIA HELLA**-approved automotive exterior lighting workload in T-Systems' sovereign Industrial AI Cloud. Running **Ansys Speos®** on NVIDIA GPUs cut the simulation runtime from more than 4.5 hours to just under 19 minutes overall versus a CPU configuration.
- **Infineon,** a global semiconductor leader in power systems, is using Synopsys **Sentaurus Device** with NVIDIA cuDSS to achieve a 12x speedup in 3D breakdown simulation for next-generation power devices.
- **Imec**, a leading research and innovation hub in advanced semiconductor technologies, is using Synopsys' GPU-accelerated **S-Litho**™ within computational lithography workflows to model advanced DUV, EUV and High-NA EUV processes. Benchmarks of S-Litho on Imec's model show up to 40x speedup using NVIDIA CUDA-X libraries.

Learn more about how customers are deploying Synopsys solutions to accelerate physical AI and virtual prototyping: Synopsys Advances Physical AI with AI Physics and Accelerated Computing.

Scaling AI infrastructure with photonics:

- **iPronics** is using **Ansys Lumerical FDTD**™ and NVIDIA H100 GPUs in an AWS cloud environment to develop photonic technologies for AI-scale data centers, achieving up to 13x solver speedup compared with a 96-core CPU environment and reducing a 20-point edge-coupler parameter sweep from approximately nine days to 18 hours.
- **Alcyon Photonics** also uses Ansys Lumerical to design photonic building blocks, including directional couplers and integrated subsystems, for datacenter transceivers. Electromagnetic simulations and accurate foundry process models help Alcyon analyze fabrication tolerances, alignment sensitivities and broadband optical performance for maximum tape-out confidence.

Learn more about how Synopsys is supporting next-generation data center photonics:Simulation and GPU Acceleration Are Powering the Next Generation of Data Center Photonics.

Visit Synopsys at booth #7011 during NVIDIA GTC Berlin to see the latest AI-powered engineering solutions in action and connect with our experts.

Additional assets available online: