NVIDIA and Partners Release New Omniverse Connections, Expanding Foundation for Artists and Developers to Advance 3D Workflows

Major Omniverse updates increase access to generative AI, simulation and the industrial metaverse.

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Developers and creators can better realize the massive potential of generative AI, simulation and the industrial metaverse with new Omniverse Connectors and other updates to NVIDIA Omniverse , a platform for creating and operating metaverse applications.

Omniverse Cloud , a platform-as-a-service unveiled today at NVIDIA GTC , equips users with a range of simulation and generative AI capabilities to easily build and deploy industrial metaverse applications.

New Omniverse Connectors and applications developed by third parties enable enterprises across the globe to push the limits of industrial digitalization.

Omniverse enhances how developers and professionals create, design and deploy massive virtual worlds, AI-powered digital humans and 3D assets.

Its newest additions include:

New Omniverse Connectors: Elevating connected workflows, new Omniverse Connectors for the Siemens Xcelerator portfolio — including Siemens Teamcenter, Siemens NX and Siemens Process Simulate — Blender, Cesium , Emulate3D by Rockwell Automation, Unity and Vectorworks are now available — linking more of the world's most advanced applications through the Universal Scene Description (USD) framework. Azure Digital Twin, Blackshark.ai, FlexSim and NavVis Omniverse Connectors are coming soon.

SimReady 3D assets: Over 1,000 new SimReady assets enable easier AI and industrial 3D workflows. KUKA, a leading supplier of intelligent automation solutions, is working with NVIDIA and evaluating an adoption of the new SimReady specifications to make customer simulation easier than ever.

Synthetic data generation: Lexset and Siemens SynthAI are both using the Omniverse Replicator software development kit to enable computer-vision-aided industrial inspection. Datagen and Synthesis AI are using the SDK to create synthetic digital humans for AI training. And Deloitte is providing synthetic data generation services using Omniverse Replicator for customers across domains ranging from manufacturing to telecom.

Available now is LumenRT for NVIDIA Omniverse , developed by Bentley Systems, which enables automatic synchronized changes to visualization workflows for infrastructure digital twins, and applications developed by SyncTwin.

Also available now is Aireal's OmniStream, a web-embeddable and cloud-based extended reality digital twin platform that allows builders to give photorealistic 3D virtual tours to their buyers. Aireal's Spaces, a visualization tool that enables automatic generation of home interior design, is coming soon.

And the disguise platform will now integrate to NVIDIA Omniverse, connecting the virtual production pipeline to allow for easier, quicker changes, enhanced content creation and improved media and entertainment workflows.

NVIDIA also introduced systems and services making Omniverse more powerful and easier to access.

Next-generation NVIDIA RTX workstations are powered by NVIDIA Ada Lovelace GPUs, NVIDIA ConnectX-6 Dx SmartNICs and Intel Xeon processors.

The newly announced RTX 5000 Ada generation laptop GPU enables professionals to access Omniverse and industrial metaverse workloads in the office, at home or on the go.

Plus, NVIDIA introduced the third generation of OVX , a computing system for large-scale digital twins running within NVIDIA Omniverse Enterprise , powered by NVIDIA L40 GPUs and Bluefield-3 DPUs.

Omniverse Cloud will be available to global automotive companies, enabling them to realize digitalization across their industrial lifecycles from start to finish. Microsoft Azure is the first global cloud service provider to deploy the platform-as-a-service.

Learn more about Omniverse Cloud in the demo and our press release .

Hundreds of enterprises are using Omniverse to transform their industrial lifecycles through digitalization, which improves the design, development and deployment of teams' operations.

In his GTC keynote, NVIDIA founder and CEO Jensen Huang showcased how Lucid Motors is tapping Omniverse and USD workflows to enable automotive digitalization projects.

He also highlighted BMW Group 's use of Omniverse to build and deploy its upcoming electric vehicle factory in Debrecen, Hungary.

Huang also gave a preview of the next Omniverse release coming this spring, which includes:

Updates to Omniverse apps that enable developers and enterprise customers to build on foundation applications to suit their specific workflows:

NVIDIA USD Composer (formerly Omniverse Create) — a customizable foundation application for designers and creators to assemble large-scale, USD-based datasets and compose industrial virtual worlds.

NVIDIA USD Presenter (formerly Omniverse View) — a customizable foundation application visualization reference app for showcasing and reviewing USD projects interactively and collaboratively.

NVIDIA USD-GDN Publisher — a suite of cloud services that enables developers and service providers to easily build, publish and stream advanced, interactive, USD-based 3D experiences to nearly any device in any location.

Improved developer experience — The new public extension registry enables users to receive automated updates to extensions. New configurator templates and workflows as well as an NVIDIA Warp Kernel Node for Omnigraph will enable zero-friction developer workflows for GPU-based coding.

Next-level rendering and materials — Omniverse is offering for the first time a real-time, ray-traced subsurface-scattering shader, enabling unprecedented realism in skin for digital humans. The latest update to Universal Material Mapper lets users seamlessly bring in material libraries from third-party applications, preserving material structure and full editing capability.

Groundbreaking performance — In a major development to enable massive large-scene performance, USD's runtime data transfer technology provides an efficient method to store and move runtime data between modules. The scene optimizer allows users to run optimizations at USD level to convert large scenes into more lightweight representations for improved interactions.

AI training capabilities — Automatic domain randomization and population-based training make complex robotic training significantly easier for autonomous robotics development.

Generative AI — A new text-to-materials extension allows users to automatically generate high-quality materials solely from a text prompt. To accelerate usage of generative AI, updates within Omniverse also include text-to-materials and text-to-code generation tools. Additionally, updates to the Audio2Face app include headless mode, a REST application programming interface, improved lip-sync quality and more robust multi-language support including for Mandarin.

Developers can also use AI-generated inputs from technology such as ChatGPT to provide data to Omniverse extensions like Camera Studio , which generates and customizes cameras in Omniverse using data created in ChatGPT.

Register free for GTC, running through Thursday, March 23, to attend the GTC keynote and Omniverse sessions .

Get started with NVIDIA Omniverse by downloading the standard license free , or learn how Omniverse Enterprise can connect your team . Stay up-to-date on the platform by subscribing to the newsletter , and following NVIDIA Omniverse on Instagram , Medium , and Twitter . For resources, check out our forums , Discord server , Twitch and YouTube channels.

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