

NVIDIA Releases New Physical AI Models as Global Partners Unveil Next-Generation Robots

News Summary:

- From mobile manipulators to humanoids, Boston Dynamics, Caterpillar, Franka Robotics, Humanoid, LG Electronics and NEURA Robotics debut new robots and autonomous machines built on NVIDIA technologies.
- NVIDIA releases new NVIDIA Cosmos and GR00T open models and data for robot learning and reasoning, Isaac Lab-Arena for robot evaluation and the OSMO edge-to-cloud compute framework to simplify robot training workflows.
- NVIDIA and Hugging Face integrate NVIDIA Isaac open models and libraries into LeRobot to accelerate the open-source robotics community.
- The NVIDIA Blackwell architecture-powered Jetson T4000 module is now available, delivering 4x greater energy efficiency and AI compute.

CES—NVIDIA today announced new open models, frameworks and AI infrastructure for [physical AI](#), and unveiled robots for every industry from global partners.

The new NVIDIA technologies speed workflows across the entire robot development lifecycle to accelerate the next wave of [robotics](#), including building generalist-specialist robots that can quickly learn many tasks.

Global industry leaders including Boston Dynamics, Caterpillar, Franka Robotics, [Humanoid](#), [LG Electronics](#) and [NEURA Robotics](#) are using the NVIDIA robotics stack to debut new AI-driven robots.

“The ChatGPT moment for robotics is here. Breakthroughs in physical AI — models that understand the real world, reason and plan actions — are unlocking entirely new applications,” said Jensen Huang, founder and CEO of NVIDIA. “NVIDIA’s full stack of Jetson robotics processors, CUDA, Omniverse and open physical AI models empowers our global ecosystem of partners to transform industries with AI-driven robotics.”

New Open Models Advance Robot Learning and Reasoning

Turning today’s costly, single-task and hard-to-program machines into reasoning generalist-specialist robots requires enormous capital and expertise to build foundation models.

NVIDIA is building [open models](#) that allow developers to bypass resource-intensive pretraining and focus on creating the next generation of AI robots and autonomous machines. These new models, all available on Hugging Face, include:

- [NVIDIA Cosmos™ Transfer 2.5](#) and [NVIDIA Cosmos Predict 2.5](#) — open, fully customizable world models that enable physically based synthetic data generation and robot policy evaluation in simulation for physical AI.
- [NVIDIA Cosmos Reason 2](#), an open reasoning vision language model (VLM) that enables intelligent machines to see, understand and act in the physical world like humans.
- [NVIDIA Isaac™ GR00T N1.6](#), an open reasoning vision language action (VLA) model, purpose-built for humanoid robots, that unlocks full body control and uses NVIDIA Cosmos Reason for better reasoning and contextual understanding.

Franka Robotics, NEURA Robotics and Humanoid are using GR00T-enabled workflows to simulate, train and validate new behaviors for robots. [Salesforce](#) is using Agentforce, Cosmos Reason and the [NVIDIA Blueprint for video search and summarization](#) to analyze video footage captured by its robots and reduce incident resolution times by 2x.

[LEM Surgical](#) is using [NVIDIA Isaac for Healthcare](#) and Cosmos Transfer to train the autonomous arms of its Dynamis surgical robot, powered by [NVIDIA Jetson AGX Thor™](#) and Holoscan. [XRI Labs](#) is using Thor and Isaac for Healthcare to enable surgical scopes, starting with exoscopes, to guide surgeons with real-time AI analysis.

New Open-Source Simulation and Compute Frameworks for Robotics Development

Scalable simulation is essential for training and evaluating robots, but current workflows remain fragmented and difficult to manage. Benchmarking is often manual and hard to scale, while end-to-end pipelines require complex orchestration across disparate compute resources.

NVIDIA today released new open-source frameworks on GitHub that simplify these complex pipelines and accelerate the transition from research to real-world use cases.

[NVIDIA Isaac Lab-Arena](#) is an open-source framework, available on GitHub, that provides a collaborative system for large-scale robot policy evaluation and benchmarking in simulation, with the evaluation and task layers designed in close collaboration with [Lightwheel](#). [Isaac Lab-Arena](#) connects to industry-leading benchmarks like Libero and Robocasa,

standardizing testing and ensuring robot skills are robust and reliable before deployment to physical hardware.

[NVIDIA OSMO](#) is a cloud-native orchestration framework that unifies robotic development into a single, easy-to-use command center. OSMO lets developers define and run workflows such as [synthetic data generation](#), model training and software-in-the-loop testing across different compute environments — from workstations to mixed cloud instances — speeding up development cycles.

OSMO is now available and used by robot developers such as Hexagon Robotics, and integrated into the [Microsoft Azure Robotics Accelerator toolchain](#).

NVIDIA and Hugging Face Accelerate Open-Source Physical AI Development

Robotics is now the fastest-growing category on Hugging Face, where [NVIDIA's open models and datasets lead downloads](#) among a surging open-source community.

To bolster this community, NVIDIA is working with Hugging Face to integrate open-source [Isaac and GR00T](#) technologies into the leading LeRobot open-source robotics framework, providing streamlined access to integrated software and hardware tools that accelerate end-to-end development. This collaboration unites NVIDIA's 2 million robotics developers with Hugging Face's global community of 13 million AI builders.

GR00T N models and Isaac Lab-Arena are now available in the LeRobot library for easy fine-tuning and evaluation. Hugging Face's open-source Reachy 2 humanoid will be fully interoperable with the [NVIDIA Jetson Thor™ robotics computer](#), letting developers run any VLA, including GR00T N1.6. Hugging Face's open-source Reachy Mini tabletop robot is also fully interoperable with [NVIDIA DGX Spark™](#) to build custom experiences with NVIDIA large language models, and voice and computer vision open models that run locally.

Humanoid Robot Developers Adopt NVIDIA Jetson Thor

NVIDIA Jetson Thor meets the massive computing requirements for [humanoid robots](#) with reasoning. At CES, humanoid developers are showcasing new state-of-the-art robots now integrated with Jetson Thor.

NEURA Robotics is launching a Porsche-designed Gen 3 humanoid, as well as a smaller-sized humanoid optimized for dexterous control. Richtech Robotics is launching Dex, a mobile humanoid for sophisticated manipulation and navigation across complex industrial environments. AGIBOT is introducing humanoids for both industrial and consumer sectors, and Genie Sim 3.0, a robot simulation platform integrated with [Isaac Sim](#). [LG Electronics](#) unveiled a new home robot built to perform a wide range of indoor household tasks.

Boston Dynamics, Humanoid and [RLWRLD](#) have all integrated Jetson Thor into their existing humanoids to enhance their navigation and manipulation capabilities.

Bringing Physical AI to the Industrial Edge

Providing a cost-effective, high-performance upgrade path for [NVIDIA Jetson Orin™](#) customers, the new [NVIDIA Jetson™ T4000 module](#) brings the NVIDIA Blackwell architecture to autonomous machines and general robotics for \$1,999 at 1,000-unit volume. It delivers 4x the performance of the previous generation with 1,200 FP4 TFLOPS and 64GB of memory, all within a configurable 70-watt envelope ideal for energy-constrained autonomy.

[NVIDIA IGX Thor](#), which will be available later this month, extends robotics to the industrial edge, offering high-performance AI computing with enterprise software support and functional safety. Archer is using IGX Thor to bring AI to aviation, advancing critical capabilities in aircraft safety, airspace integration and autonomy-ready systems.

Partners including AAEON, [Advantech](#), [ADLINK](#), [Aetina](#), [AVerMedia](#), Connect Tech, [EverFocus](#), [ForeCR](#), [Lanner](#), RealTimes, Syslogic, [Vecow](#) and [YUAN](#) offer Thor-powered systems equipped for edge AI, robotics and embedded applications.

In addition, Caterpillar is expanding its collaboration with NVIDIA to bring advanced AI and autonomy to equipment and job sites in construction and mining. Caterpillar CEO Joe Creed will share details alongside NVIDIA Vice President of Robotics and Edge AI Deepu Talla during a [CES keynote on Wednesday, Jan. 7](#).

Learn more by watching [NVIDIA Live at CES](#).

Featured image courtesy of Caterpillar (top left), LEM Surgical (top right), AGIBOT (bottom left) and Franka Robotics (bottom right).

About NVIDIA

[NVIDIA](#) (NASDAQ: NVDA) is the world leader in AI and accelerated computing.

Certain statements in this press release including, but not limited to, statements as to: the ChatGPT moment for robotics being here; breakthroughs in physical AI—models that understand the real world, reason and plan actions—unlocking entirely new applications; NVIDIA's full stack of Jetson robotics processors, CUDA, Omniverse and open physical AI models empowering our global ecosystem of partners to transform industries with AI-driven robotics; the benefits, impact,

performance, and availability of NVIDIA's products, services, and technologies; expectations with respect to NVIDIA's third party arrangements, including with its collaborators and partners; expectations with respect to technology developments; and other statements that are not historical facts are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the "safe harbor" created by those sections based on management's beliefs and assumptions and on information currently available to management and are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic and political conditions; NVIDIA's reliance on third parties to manufacture, assemble, package and test NVIDIA's products; the impact of technological development and competition; development of new products and technologies or enhancements to NVIDIA's existing product and technologies; market acceptance of NVIDIA's products or NVIDIA's partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of NVIDIA's products or technologies when integrated into systems; and changes in applicable laws and regulations, as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

© 2026 NVIDIA Corporation. All rights reserved. NVIDIA, the NVIDIA logo, DGX Spark, Jetson, Jetson AGX Thor, Jetson Orin, NVIDIA Cosmos and NVIDIA Isaac are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated. Features, pricing, availability and specifications are subject to change without notice.

Paris Fox
NVIDIA
408-242-0035
pfox@nvidia.com