



# NVIDIA and Global Robotics Leaders Take Physical AI to the Real World

## News Summary:

- Physical AI leaders across robot brain developers, industrial, and surgical robot giants and humanoid pioneers including ABB Robotics, AGIBOT, Agility, CMR Surgical, FANUC, Figure, Hexagon Robotics, KUKA, Medtronic, Skild AI, Universal Robots, World Labs and YASKAWA are building on NVIDIA technology to develop and deploy physical AI at scale.
- NVIDIA unveils new NVIDIA Cosmos world models, NVIDIA Isaac simulation frameworks and NVIDIA Isaac GR00T N models to accelerate the transition to intelligent robotics.
- Strategic ecosystem partnerships are transforming platform integrations into real-world industrial impact, from high-precision electronics assembly and autonomous construction deployment to AI-driven automation for manufacturers of all sizes.

**GTC**--NVIDIA is partnering with the global robotics ecosystem -- including leading robot brain developers, industrial robot giants and humanoid pioneers -- to power production-scale physical AI. NVIDIA also unveiled new [NVIDIA Isaac™ simulation frameworks](#) and new [NVIDIA Cosmos™](#) and [NVIDIA Isaac GR00T](#) open models for the industry to develop, train and deploy the next generation of intelligent robots.

Industry leaders building on the NVIDIA platform include [ABB Robotics](#), AGIBOT, [Agility](#), [FANUC](#), Figure, [Hexagon Robotics](#), KUKA, Skild AI, [Universal Robots](#), World Labs and YASKAWA.

"Physical AI has arrived -- every industrial company will become a robotics company," said Jensen Huang, founder and CEO of NVIDIA. "NVIDIA's full-stack platform -- spanning computing, open models and software frameworks -- is the foundation for the robotics industry, uniting a worldwide ecosystem to build the intelligent machines that will power the next generation of factories, logistics, transportation and infrastructure."

## Validating the World's Largest Robotic Fleets

As industrial robotics becomes more AI driven, manufacturers need physically accurate, high-fidelity simulation to design, test and optimize systems before deployment.

With a global install base exceeding 2 million robots, FANUC, ABB Robotics, YASKAWA and KUKA are integrating [NVIDIA Omniverse™](#) libraries and NVIDIA Isaac simulation frameworks into their virtual commissioning solutions to develop and validate complex robot applications and entire production lines through physically accurate digital twins. To power advanced intelligence on the production line, the companies are integrating [NVIDIA Jetson™](#) modules into their controllers for real-time AI inference at the edge.

## Building Robot Brains for Any Embodiment

Robotics is evolving from task-specific machines to adaptable generalist-specialist systems that maintain the precision and reliability required for industrial-grade deployment. To achieve this, robots need humanlike reasoning and the ability to perceive, decide and act autonomously.

Leading developers such as [FieldAI](#) and Skild AI are building generalized robot brains using NVIDIA Cosmos world models for data generation and Isaac simulation frameworks to validate policies in simulation, enabling any robot to master new tasks with minimal retraining. World Labs is using [Isaac Sim™](#) to validate its generative world models, while Generalist AI is using Cosmos to explore generating synthetic data.

NVIDIA today announced Cosmos 3, the first world foundation model unifying synthetic world generation, vision reasoning and action simulation to accelerate the development of generalized robot intelligence for complex environments.

## Powering the Next Generation of Humanoid Robots

Building [humanoid robots](#) is one of robotics' greatest challenges. Replicating human mobility, dexterity and reasoning requires tightly integrating advanced AI, perception and real-time control into a safe, reliable and autonomous system.

Leaders including [1X](#), AGIBOT, Agility, Agile Robots, Boston Dynamics, Figure, [Hexagon Robotics](#), [Humanoid](#), Mentee and NEURA Robotics are building the next generation of humanoids using Cosmos world models, Isaac Sim and Isaac Lab to accelerate the development and validation of their robots.

NVIDIA today introduced [Isaac Lab 3.0](#) in early access, enabling faster, large-scale robot learning on NVIDIA DGX™-class infrastructure. Built on the new [Newton physics engine](#) 1.0 and the [NVIDIA PhysX®](#) software development kit, it adds multiphysics simulation and improved support for complex, dexterous manipulation.

AGIBOT, Humanoid, LG Electronics, NEURA Robotics and [Noble Machines](#) are also adopting NVIDIA Isaac GR00T N models to accelerate industrial deployments of their humanoids. NVIDIA announced [GR00T N1.7](#) is now available in early access with commercial licensing, bringing generalized robot skills including advanced dexterous control to production-ready robot deployments.

In addition, during his GTC keynote, Huang previewed GR00T N2, a next-generation robot foundation model based on [DreamZero](#) research. Built on a new world action model architecture, the model helps robots succeed at new tasks in new environments more than twice as often as leading vision language action models. Slated to be available by the end of the year, GR00T N2 currently ranks No. 1 on MolmoSpaces and RoboArena for generalist robot policies.

These systems are powered by the [NVIDIA Jetson Thor™ robotic computing platform](#), enabling developers to move from simulation training to real-world deployment with greater speed, intelligence and reliability.

### **Expanding Physical AI to Healthcare Robotics**

Healthcare is a defining opportunity for physical AI but deploying autonomous systems across surgery, imaging and hospitals demands infrastructure built for the highest standards of safety and regulatory rigor.

CMR Surgical is using Cosmos-H simulation to train and validate robotic intelligence for its Versius surgical system prior to clinical deployment. Johnson & Johnson MedTech is using Isaac Sim- and Cosmos-based post-training workflows to train and validate systems for the Monarch Platform for Urology. Medtronic is exploring [NVIDIA IGX Thor™](#) to deliver mission-critical precision and functional safety in surgical robotic systems.

### **A Global Catalyst for Robotic Innovation**

By building an open and integrated platform for designing, training, testing and deploying physical AI, NVIDIA is fostering collaboration in the robotics ecosystem, essential to scale deployments in the real world.

These strategic collaborations across industry leaders are already translating platform integration into real-world impact.

[Skild AI](#) is partnering with ABB Robotics and Universal Robots to deploy its generalized robot intelligence across different industries and tasks. By embedding a shared intelligence layer into widely deployed industrial and collaborative systems, manufacturers can extend automation into more dynamic and variable applications without building task-specific code for every workflow. Simultaneously, Skild AI is partnering with Foxconn on high-precision assembly for NVIDIA Blackwell production lines, enabling Foxconn's AI-driven dual-arm manipulators to master the industry's most complex manufacturing tasks.

[Lightwheel](#) is codeveloping and calibrating the Newton physics engine to enable Samsung's assembly robots to master intricate cable handling in simulation, delivering higher precision and faster assembly lines.

[PTC](#) is [announcing a new robotics design-to-simulation workflow](#) from its cloud-native [Onshape](#) computer-aided design (CAD) and product data management platform to NVIDIA Isaac Sim, creating a seamless CAD-to-OpenUSD bridge that will enable engineering teams like FANUC America Corporation and Fauna Robotics to design and validate their robotic systems within physically accurate digital twins.

[WORKR](#) is integrating its AI platform with ABB Robotics industrial robots, using NVIDIA Omniverse libraries as part of its WorkrCore to train a robotic workforce that can be deployed by small- and medium-sized manufacturers in minutes, without programming knowledge.

[KION Group](#), the supply chain solutions company, is working with NVIDIA and Accenture to advance autonomous warehouse solutions. Using Omniverse and a physical AI-powered digital twin and systems architecture pioneered by Accenture, KION engineers can create large-scale, physics-accurate warehouse digital twins to train and test fleets of NVIDIA Jetson-based autonomous forklifts for GXO, the world's largest pure-play contract logistics provider.

[Microsoft Azure](#) and Nebius are integrating the NVIDIA Physical AI Data Factory blueprint to enable scalable, agent-driven synthetic data generation for their developers, including FieldAI, Teradyne Robotics, [Hexagon Robotics](#) on Azure, and RoboForce on Nebius. [CoreWeave](#) is integrating NVIDIA Isaac Lab to build robot learning pipelines, while Alibaba Cloud is integrating NVIDIA's entire physical AI stack into its Platform for AI to accelerate end-to-end robotics development.

Kamino, a GPU-accelerated physics simulator built by [Disney](#) on the NVIDIA Warp framework and integrated into Newton, enables the training of robot policies for Disney's Olaf and BDX Droids -- allowing Olaf to learn to manage its own heat and reduce impact noise, and enabling BDX Droids to navigate complex environments. In his GTC keynote, Huang was joined by Disney's Olaf ahead of his debut at Disneyland Paris on March 29.

### **Helping Tomorrow's Physical AI Pioneers Get Off the Ground**

NVIDIA is committed to ensuring that the tools for physical AI are accessible to every innovator, from early-stage startups to the global open source community.

Through the NVIDIA Inception program, a global startups incubator with over 40,000 members, NVIDIA provides robotics pioneers with a dedicated entry point to NVIDIA's open physical AI stack. Inception members like Bedrock Robotics,

Dexterity AI, Flexion, Lightwheel, RIVR, Standard Bots, [Vention](#) and World Labs get access to technical guidance and high-performance computing resources, as well as connections to key partners and customers across the robotics ecosystem.

NVIDIA has also partnered with Hugging Face to integrate Isaac and GR00T into the LeRobot open source framework, connecting NVIDIA's 2 million robotics developers with Hugging Face's 13 million AI builders worldwide to accelerate the development of open source robotics.

Watch the [GTC keynote](#) from Huang and explore [physical AI](#), [robotics](#) and [vision AI](#) sessions.

*Featured image courtesy of ABB Robotics (top left), Skild AI (bottom left), Humanoid (top right) and Universal Robotics (bottom right).*

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

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