NXP Delivers New Innovations for Advanced Physical AI with NVIDIA

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- Secure, reliable real-time data processing and transport solutions for next-generation physical AI applications, developed in collaboration with NVIDIA
- NVIDIA humanoid robotics solutions integrated into NXP's safe, secure edge portfolio cut development costs and speed time to market
- First in a series of NXP's foundational robotics solutions designed to accelerate physical AI development and deployment

SAN JOSE, Calif., March 16, 2026 (GLOBE NEWSWIRE) -- NXP Semiconductors N.V. (NASDAQ: NXPI) today announced innovative robotics solutions for reliable, secure, real-time data processing and transport and advanced networking, enabling sensor fusion, machine vision and precision motor control. First in a series of NXP's foundational robotics solutions, these ready-to-deploy solutions were developed in collaboration with NVIDIA and implement NVIDIA Holoscan Sensor Bridge with NXP's highly integrated SoCs. This reduces discrete components, significantly shrinking footprint, power and cost, while also simplifying the software complexity of robotic sensing and actuation, including humanoid form factors.

Physical AI is the next frontier of innovation, featuring systems that can sense, interpret, and interact with their surroundings with precision, reliability and safety. Humanoid robots are one of the most advanced embodiments of physical AI, requiring secure, reliable, low-latency data processing and transport throughout the robot body to enable synchronized motion, dense sensor fusion and advanced actuation.

NXP's new integrated robot body solutions directly address this challenge, delivering powerful edge intelligence and low-latency networking to enable safe, secure, real-time communication. These solutions seamlessly integrate NVIDIA Holoscan Sensor Bridge into NXP's software enablement, allowing developers to easily implement real-time processing and establish a direct transport route between the body and pre-specified regions of the robot brain, substantially reducing latency. This significantly simplifies the challenges of bringing AI into the physical world, where real-time decision making is a critical requirement.

"Physical AI is redefining what machines can do in the real world, and humanoid robots represent the most complex expression of that revolution," said Charles Dachs, Executive Vice President and General Manager, Secure Connected Edge, NXP Semiconductors. "By combining NXP's deep expertise in edge processing, secure networking, functional safety and real-time control with NVIDIA robotics platforms, we are greatly simplifying physical AI development, enabling seamless connectivity between the physical AI edge and the central brain. This is just the beginning of what NXP will deliver to accelerate the ecosystem for physical AI."

"The development of autonomous machines requires a high-performance computing architecture that can synchronize complex motor controls with real-time perception," said Deepu Talla, vice president of robotics and edge AI at NVIDIA. "By integrating NVIDIA Holoscan Sensor Bridge into its edge portfolio, NXP is providing developers with a scalable foundation to accelerate the deployment of physical AI."

The collaboration between NXP and NVIDIA helps define a unified architecture for full-body humanoid robotics. NXP's edge processors, motor control MCUs, automotive-grade networking technology, high-throughput asymmetric data transport capability acquired through Aviva Links, and functional safety expertise built on decades of automotive experience, combined with NVIDIA AI infrastructure, creates a flexible, energy-efficient system architecture for next-generation robots.

The first Holoscan Sensor Bridge-ready solutions in NXP's robotic portfolio include a machine vision solution based on the i.MX 95 applications processor delivering high-bandwidth data to the robot brain. It also includes a motor control solution based on a kinematic chain of i.MX RT1180 crossover MCUs, aggregated by NXP's S32J TSN switch directly connecting to the brain. This motor control solution features integrated support for popular industrial protocols such as EtherCAT® and TSN. These flexible and software-driven solutions are highly integrated to reduce footprint, power and cost, without sacrificing performance, safety or security, providing a complete, scalable foundation for full-body humanoid robot design.

Availability
These solutions will be available in 1H 2026. For more information, please visit, NXP.com/HSB-Solutions.

About NXP Semiconductors
NXP Semiconductors N.V. (NASDAQ: NXPI) is the trusted partner for innovative solutions in the automotive, industrial & IoT, mobile, and communications infrastructure markets. NXP's "Brighter Together" approach combines leading-edge technology with pioneering people to develop system solutions that make the connected world better, safer, and more secure. The company has operations in more than 30 countries and posted revenue of $12.27 billion in 2025. Find out more at www.nxp.com.

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A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/c138898d-237c-4ae6-8d47-2d181fa62ee0

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NXP announced the first in a series of innovative robotics solutions, developed in collaboration with NVIDIA. Designed to enable sensor fusion, machine vision and precision motor control, these solutions implement NVIDIA Holoscan Sensor Bridge with NXP's highly integrated SoCs

Source: NXP USA, Inc.