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Avnet and Weston Robot Collaborate to Advance Physical AI for Intelligent Industrial Inspection

AI-Powered Autonomous Inspection Platform Combines Edge Computing, Robotics and Real-Time Perception to Detect Anomalies and Strengthen Industrial Safety and Resilience

By **Ankit Kankar** | September 13, 2026



Image Courtesy: Public Domain

Avnet and Weston Robot announced a collaboration to accelerate the adoption of Physical AI in industrial environments through an AI-powered inspection platform that enables intelligent machines to perceive, analyze and respond autonomously to real-world operating conditions.

As industrial facilities become larger, more complex and increasingly data-driven, organizations are looking beyond traditional automation to intelligent systems that can continuously monitor operations, identify potential risks and respond in real time. Combining Avnet's expertise in advanced computing technologies, ecosystem enablement and embedded AI solutions with Weston Robot's leadership in intelligent robotics and autonomous systems, the companies have developed an advanced inspection platform that demonstrates how artificial intelligence can move beyond software to autonomous action in the physical world.

Leveraging Avnet's ecosystem of technology partners, engineering expertise and advanced computing platforms, the collaboration enables customers to accelerate the deployment of intelligent robotics solutions from development through production while reducing complexity and speeding time to market.

Powered by AMD Ryzen™ AI Embedded processors, the platform executes AI workloads directly on the device, enabling low-latency AI inference, faster decision-making and reliable operation even where cloud connectivity is limited. By processing data at the edge, organizations can detect operational issues earlier, reduce inspection costs and improve operational continuity.

Designed for manufacturing, energy, utilities, transportation, logistics and critical infrastructure, the inspection platform performs continuous monitoring across large and complex facilities. Its intelligent inspection capabilities include object and anomaly detection, identification of people and vehicles, personal protective equipment (PPE) compliance monitoring, unauthorized intrusion detection, and thermal and visual inspections that help identify hotspots, fluid leaks and equipment abnormalities before they develop into costly operational failures.

Built for challenging industrial environments, the autonomous inspection robot operates reliably where GPS signals are unavailable or unreliable. Using advanced 3D LiDAR simultaneous localization and mapping (SLAM), it continuously builds high-precision digital maps, navigates autonomously, dynamically avoids obstacles and optimizes inspection routes in real time. These capabilities enable deployment across factories, warehouses, ports, utilities, tunnels and other mission-critical environments.

The solution integrates AI perception, real-time anomaly detection, intelligent path planning and autonomous navigation on a single platform. Powered by AMD embedded AI processing technology, it delivers up to 50 TOPS of AI performance while supporting AI-driven inspection, thermal and visual analytics, 3D LiDAR mapping and dependable operation in GPS-denied environments.

"Physical AI represents the next evolution of artificial intelligence—one where intelligent systems can perceive, reason and act autonomously in the real world," said Arthur Chung, Vice President, Sales & Supplier Management, Avnet Asia. "Through our collaboration with Weston Robot, we are bringing together advanced computing, edge AI and robotics to help organizations scale industrial intelligence, strengthen safety and improve operational resilience. As organizations move beyond AI experimentation, intelligent autonomous systems will become an essential part of smarter, safer and more efficient industrial operations."

"Industrial environments generate enormous volumes of operational data, yet many inspection processes remain manual, reactive and resource-intensive," said Dr. Zhang Yanliang, Chief Scientist, Weston Robot. "By combining robotics, AI and edge computing, we are enabling a new generation of intelligent systems that continuously monitor critical infrastructure, detect anomalies earlier and deliver actionable insights in real time. We believe Physical AI will become a foundational technology powering the next generation of industrial operations."

As organizations continue to invest in intelligent automation, the collaboration between Avnet and Weston Robot demonstrates the growing convergence of robotics, edge computing and artificial intelligence. Together, the companies are helping customers move Physical AI from concept to deployment, enabling intelligent systems that can continuously observe, understand and act autonomously across real-world industrial environments.

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