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2026 Automate Conference Summary

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Last week, I attended the 2026 Automate Conference in Chicago, where one theme stood out above all others: artificial intelligence is moving beyond pilots and proof-of-concepts into real-world industrial applications.

From the rapid evolution of humanoid robotics to advances in safety systems and edge computing, the conference highlighted how manufacturers are beginning to deploy AI at scale. Just as importantly, many discussions focused on what these technologies mean for the future of the industrial workforce.

MAJOR THEMES AND FINDINGS

1. The Rise of Physical AI and Edge Computing

A dominant theme at Automate 2026 was the pervasive integration of "physical AI" across the robotics ecosystem. Physical AI refers to artificial intelligence that is embodied in hardware, enabling machines to perceive, reason, and act in the physical world. This technology is driving the pace of automation adoption faster than ever before, moving beyond simple repetitive tasks to complex, adaptive operations.

Coupled with physical AI is the expansion of edge computing. Advancements in components such as processors, GPUs, and cameras are shrinking in physical size while growing exponentially in power. This enables critical data collection, perception, path planning, and navigation to occur directly at the "robotic edge," reducing latency and reliance on cloud connectivity.

2. Humanoid Robotics Take Center Stage

Humanoid robotics emerged as a central focus of the 2026 conference. The event featured the debut of the NVIDIA-sponsored Humanoid Robot Pavilion, which provided attendees with a free-to-attend experience showcasing embodied AI and general-purpose robotics adapting in real-time. Furthermore, the third annual Humanoid Robot Forum, a co-located conference, offered in-depth programming on humanoid development and deployment.

Notable humanoid developments included:



Agility Robotics and NVIDIA:

Agility announced it is the first company to use NVIDIA's newly launched Halos for Robotics to build safety into its Digit humanoids, which are designed for industrial work in logistics and manufacturing.



Robot.com:

Launched its first humanoid robot, R-noid, designed as a platform that can transition from initial site visit to autonomous operation within months.

3. Full-Stack Safety Architectures

As robots move out of safety cages and into dynamic environments alongside human workers, the need for robust safety systems has become paramount. A major announcement addressing this was the launch of NVIDIA Halos for Robotics. Described as the industry's first full-stack, comprehensive safety system for robotics and physical AI, Halos unifies AI compute and safety. The system spans hardware (NVIDIA IGX Thor), software (Halos OS), and certification readiness (NVIDIA Halos AI Systems Inspection Lab), providing a standardized safety architecture for developers.

4. Workforce Transformation and Collaborative Technologies

The conference highlighted that automation is not merely about replacing labor but transforming the workforce. Keynote sessions, such as the one led by Siemens Digital Industries, explored how manufacturers are integrating AI with automation systems to build adaptive operations and enable the workforce to scale new technologies responsibly.

This focus on human-machine collaboration was evident on the show floor with a proliferation of collaborative robots (cobots). The expansion of cobot technology, including heavier-payload models, indicates that companies are prioritizing the safety and efficiency of humans working alongside robots.

5. Advanced Orchestration and Digital Twins

Managing complex, multi-vendor robotic environments requires sophisticated orchestration. At Automate 2026, companies showcased advanced software platforms to address this need:



Rockwell Automation:

Launched the FactoryTalk Orchestration software, designed to coordinate material flow and production processes end-to-end, standardizing connectivity across automated equipment and enterprise systems.



Vention:

Announced expanded collaborations with FANUC and Universal Robots (Teradyne Robotics). Vention's platform uses AI-powered programming and digital twin technology to allow manufacturers to design, simulate, and deploy modular robotic cells within a unified digital environment, significantly reducing commissioning complexity.

KEY PRODUCT LAUNCHES AND INNOVATIONS

Company	Product/Innovation	Description
NVIDIA	Halos for Robotics	A full-stack, open robotics safety system extending autonomous vehicle safety to physical AI.
Doosan Robotics	PalletizHD+	An AI-powered palletizing platform processing up to 11 boxes per minute, featuring SwiftMove motion optimization
Rockwell Automation	FactoryTalk Orchestration	Software to coordinate material flow and production processes across multi-vendor equipment
Orbbec	LingBot-Depth for Gemini 330	An AI-enhanced 3D vision system, developed with Robbyant, for reliable edge-based perception in challenging environments
Robot.com	R-noid	A new humanoid robot platform aimed at rapid deployment in industrial settings
Vention	Expanded AI Platform	Collaborations with FANUC and Universal Robots for AI-powered programming and digital twin simulation

CONCLUSION

Automate 2026 clearly demonstrated that the robotics and automation industry is moving beyond isolated, rigid systems toward intelligent, flexible, and safe physical AI. The prominence of humanoid robots, edge computing, and comprehensive safety architectures like NVIDIA Halos indicates a future where humans and machines collaborate closely in dynamic industrial environments. As organizations continue to face labor shortages and supply chain challenges, the technologies showcased in Chicago offer a roadmap for scalable, AI-driven industrial transformation.

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Kevin Frisch is a Managing Director at FOCUS specializing in the Manufacturing sector, with expertise in mission-critical, high-precision industries including aerospace, space & defense, industrial technology, and advanced manufacturing. He has nearly 30 years of Wall Street experience across firms including JPMorgan, Lehman Brothers, Oppenheimer & Company, Imperial Capital, FBR Capital Markets, and Cascadia Capital, and founded one of the industry's early Advanced Manufacturing practices along with the Advanced Manufacturing and Supply Chain Conference. His advisory work spans M&A and capital raising for Fortune 500, founder-led, and private equity-backed companies. He holds degrees from Duke University and the University of Chicago Booth School of Business and is based in New Canaan, CT.