



The Robotics Revolution: What's Unfolding?

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The robotics industry has been making headlines recently. Last year, it was Tesla and its "Optimus" humanoid robots that were getting significant attention. More recently, it has come to light that both Meta Platforms and Apple have entered the race to develop Al-powered robotic assistants¹.

While these kinds of stories make the headlines, they only scratch the surface of what's happening in the robotics space at present. Today, the industry is thriving as companies push the boundaries of what's possible on the automation front. Here's a look at three companies that have already rolled out innovative solutions and are leading the charge.

Nvidia: Foundational Robotics Technology

Nvidia is largely viewed as a play on <u>artificial intelligence</u> today. In the future, however, it may be seen more as a robotics play. To develop humanoid robots, three accelerated computer systems are needed (for training, simulation, and runtime). This is where Nvidia comes in – it has already built three computers and accelerated development platforms to enable developers to create humanoid robotic systems.

Using Nvidia's technology, robotic models are first trained on a supercomputer using NVIDIA DGX (an end-to-end Al platform) to perceive and act with the physical world. Here, developers can tap into Project GR00T – an initiative to develop foundation models for humanoid robots to enable them to understand natural language and emulate movements by observing human actions. After this, NVIDIA Omniverse provides the simulation environment for testing and optimizing the robots. Finally, trained Al models are deployed to a runtime computer (NVIDIA Jetson Thor robotics computers). Using this three-computer solution, developers can create robots that can perform complex tasks with precision. These robots can be used by companies such as Foxconn and Amazon to work in factories alongside human workers.

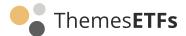
It's worth noting that in January, Nvidia revealed its latest product for robotics – the Cosmos world foundation model platform. This is a powerful software platform designed to advance the development of physical Al systems by generating synthetic data for the training of models. "We created Cosmos to democratize physical Al and put general robotics in reach of every developer," said CEO Jensen Huang at the time of launch. Robotics companies that have adopted Cosmos already include 1X, Agile Robots,











Agility, Figure AI, Galbot, Hillbot, IntBot, Neura Robotics, Skild AI, Waabi, and XPENG.

Put all this together and it's clear that Nvidia is going to be a major player in robotics. This is a tech company that is uniquely positioned to bridge the gap between AI and automation. And robotics could be a big growth driver for the organization. For its fiscal Q3, automotive and robotics revenues were only \$449 million versus total revenue of \$35 billion.

"In the near future, everything that moves, or that monitors things that move, will be autonomous robotic systems."

Nvidia

Daifuku: Robotics for Material Handling

Japan is known for its expertise in robotics and automation and one company that is worth highlighting here is Daifuku. Founded in 1937, it specializes in material handling (the movement of finished goods and work in progress) and today offers a complete lineup of high-performance robotic solutions for palletizing, truck loading and unloading, case packing, and other applications.

Daifuku's robotic solutions are impressive. For example, its robotic palletizing leverages 3D vision sensing to autonomously load product cases onto pallets from conveyors, increasing load rates for businesses while simultaneously eliminating human injuries, reducing product damage, and reducing costs. Daifuku has also developed robotic technology to automatically unload cases as well as automated storage and retrieval systems (AS/RS) that can pick products from shelving and place these products into various storage locations. One company that has found Daifuku's robotic solutions to be invaluable is beverage manufacturer Coca-Cola Bottlers Japan, Inc. (CCBJI). At its Mega DC (automated distribution center) in Saitama, Daifuku equipment is used to efficiently sort, palletize, and stage products for shipment to retailers across Japan.

Zooming in on the financials here, this is a company that has momentum at present. For its most recent fiscal year², orders and sales were both up 6% while operating income increased 36%. On the back of these results, the stock hit its highest level since 2021. Looking ahead, the company is likely to continue to benefit from the global automation trend.

Kadant: A Leader in Process Automation

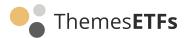
Another automation company with momentum right now is Kadant. A global leader in industrial automation, it offers solutions that can enhance efficiency, optimize energy utilization, and maximize productivity in process industries.

In 2020, Kadant acquired Cogent Industrial Technologies, a digital automation specialist. As a result of this acquisition, the company is well positioned to help its customers streamline their operations. Today, Kadant offers the "illumen.X" platform – a comprehensive framework for digital transformation that combines products, data, and analytics. Powered by Cogent, this can help businesses in process industries









enhance productivity, improve efficiencies, and optimize performance.

2024 was a strong year for Kadant. For the year, revenue increased 10% to a record \$1.05 billion while adjusted EBITDA increased 14% to a record \$230 million (representing a record 21.8% of revenue)³. Investors were clearly impressed with the numbers. Full-year results sent the stock – which has risen roughly 820% over the last decade – up 10%.

The Themes Robotics & Automation ETF

Those interested in exposure to the fast-growing robotics and automation industries may wish to take a look at the <u>Themes Robotics & Automation ETF (BOTT)</u>. This ETF seeks to track the Solactive Industrial Robotics & Automation Index (SOLIROBO), which provides exposure to 30 companies across the robotics ecosystem including Nvidia, Daifuku, and Kadant.

Footnotes:

Bloomberg, Apple and Meta Are Set to Battle Over Humanoid Robots, as of February 16, 2025

²Daifuku, Consolidated Financial Results, as of February 14, 2025

³Kadant Reports Fourth Quarter and Fiscal Year 2024 Results, as of February 12, 2025

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Investing involves risk, including the possible loss of principal. The investable universe of companies in which BOTT may invest may be limited. The Fund invests in securities of companies engaged in Information Technology, which can be affected by rapid product obsolescence and intense industry competition. International investments may involve risk of capital loss from unfavorable fluctuation in currency values, from differences in generally accepted accounting principles or from social, economic or political instability in other nations. BOTT is non-diversified

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