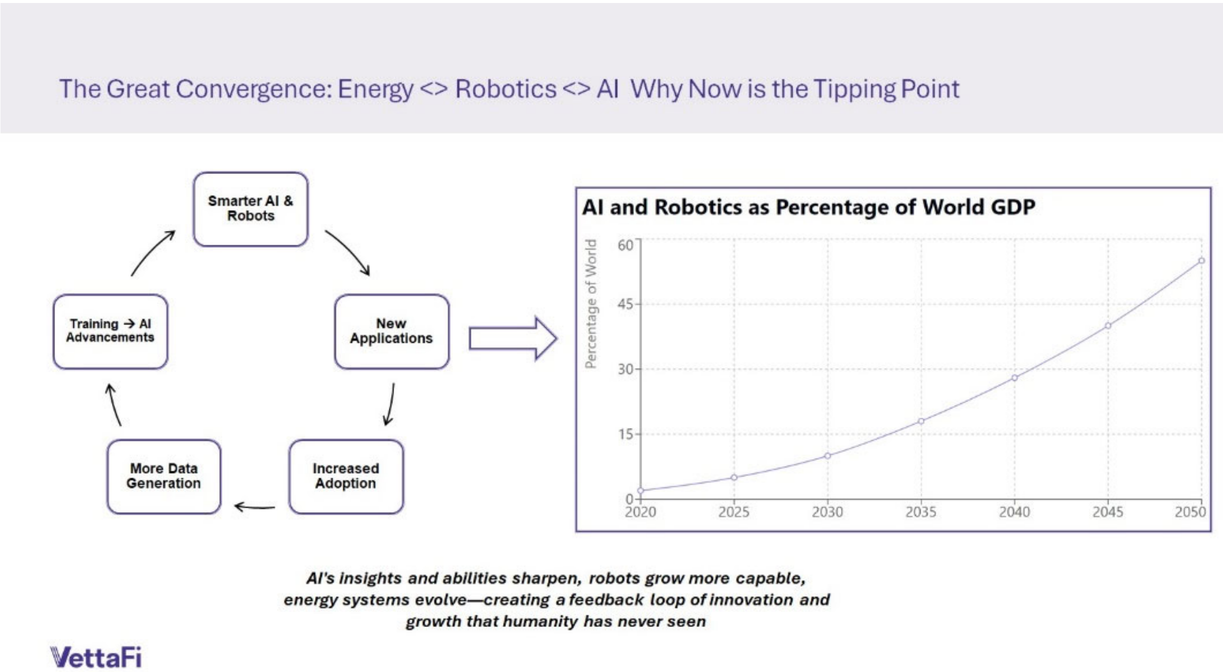
ROBO Global Index 2Q24 Commentary

June 30, 2024



Overall, the **ROBO Global Robotics and Automation Index** saw a -5.6% return for the second quarter of 2024, underperforming the **Vettafi Full World Index (VFWI)** return of 2.87%, with only two of the eleven subsectors positive: **Computing and AI** (+8.58%) and **Integration** (+2.80%).

The decade ahead is shaping up to be defined by personal AI assistants and robotics, alongside breakthroughs in extended reality, climate tech, and biotechnology. We're witnessing an unprecedented fusion of digital intelligence with our physical world, potentially transforming every aspect of how we live, work, and interact. The convergence of AI, Robotics and Energy innovation is the technology stack of our future.

Reflecting on the latest earnings season, the Robotics sector overwhelmingly saw year-over-year declines in EPS (-11.8%) and sales (-1.45%) on a weighted average basis, with 61.6% beating EPS and 67.6% beating sales estimates. Ultimately, this was unsurprising to due to 14 months of negative global PMI and slower growth in China.

Despite mixed performance, with 91% of reporting companies profitable, earnings commentary analysis shows signs of a recovery in core markets during the second half of the year., with consensus estimates currently aimed at 5.2% sales growth and 7.0% EPS growth in 2024 with a 2025 ramp up to 9.5% sales and 21.3% EPS growth (Factset, Weighted Avg. as of June 28, 2024).

Automation in **Agriculture**, which works to feed over 8 billion people worldwide, is seeing incredible adaptation to AI to streamline operations, increase energy efficiency, and hyper-target seeding, weeding, and increasingly picking, crop observation, and newer methods to support crop health. Additionally, robot arms and other automated solutions are increasingly being used to prep and cook foods.

In the **Logistics** subsector (-12.72%) **GXO Logistics** (-6.06%) announced an industry-first multi-year, commercial collaboration with Agility Robotics (private) Digit humanoid robot. **Cargotec** (+17.49%) spun out as part of a well-received demerger into two separate operating entities at quarter-end, **Kaimler** and **Hiab**, which operate in marine cargo handling and on-road load handling, respectively.

To those wondering how AI is already and currently impacting the robotics space, ROBO offers companies involved in manufacturing/inspecting semiconductor components, which are increasingly seeing automation beyond fabrication itself into less-automated areas (such as Apple looking to improve reliability across newer manufacturing regions through increased automation), including **Teradyne** (+31.51%), which offers chip inspection technologies. We continue to expect a "rising tide" scenario for companies providing underlying robotics technologies.

Additionally, many companies support the energy scale-out required by the energy transition, electrification, and growing data center demands, such as **Delta Electronics** (+13.74%), which enhances energy efficiency and enables smart automation within these facilities by providing advanced power electronics and automation solutions. Recent Q2 rebalance additions, such as **Nvent Electric** and **Celestica**, further emphasize this trend. Much of the energy transition requires increased robotic-enabled manufacturing capacity, key to the Manufacturing and Industrial Automation subsector, with companies like **Emerson Electric** (-2.56%), **Yokogawa Electric** (+4.75%), **Yaskawa Electric** (-14.3%), and companies in the Integration subsector leaders **Schneider Electric** (+7.37%) and **Mitsubishi Electric** (-3.84%). Remember this – more robots mean more energy, and vice-versa.

The ROBO index, on an index aggregate basis, saw its forward P/E decline from ~42.6x at the beginning of the year to 38.2X (Factset and Vettafi data, as of 6/28/2024), below the 5-year 43x average. Meanwhile, forward EV/Sales are closer to longer term average, at 3x. Our perspective remains that blue chip robotics companies are on discount, and that we are at the precipice of a new mass adoption cycle of robotics across society.

We believe that these blue-chip robotics companies are undervalued, presenting a prime opportunity as we approach a major mass adoption cycle. The robotics sector is at a pivotal inflection point, driven by structural and geopolitical advantages and breakthroughs in AI and energy. These advancements are enhancing capabilities and fueling demand, creating a virtuous cycle poised for substantial growth along a J-curve trajectory.

Top Contributors (Return / Contribution)

NVIDIA +36.7% / +0.97%

Nvidia continues to draw both revenue and earnings growth and optimistic long-term expectations from the markets as the premier provider of AI chips and related technologies. Demand for NVIDIA GPU's across the globe continues to grow as data-center investment game theory story continues to play out. NVIDIA remains the most expensive on a Forward EV/Sales basis of 24.8x, more than 2.5x the index average.

Teradyne +31.51% / +0.57%

Teradyne, which provides automated semi and wireless testing as well as industrial automation and collaborative robotic solutions through their Mobile Industrial Robots (MiR) and Universal Robot divisions, continues to see current strength in their larger testing division which is tied to the increase in high-end AI chips.

Globus Med Inc. +27.68% / +0.29%

Global Med, a medical device company focused on development of commercialization of custom musculoskeletal implants and surgical tools, recently saw clearance into the $15B reconstructive orthopedic market with 510k clearance from the FDA for their ExcelsiusFlex orthopedics robot for Total Knee Arthroplasty, adding a growth area beyond their strong spinal surgery portfolio which includes the ExcelciusGPS and Pulse platforms, the latter of which was brought on board with their $3.1B acquisition of Nuvasive in 2023.

Bottom Contributors (Return / Contribution)

Autostore -35.95% / -0.62%

AutoStore, a leading provider of automated storage and retrieval systems, reported Q1 2024 revenue of $138.1 million, a 7.4% decline from the previous year, despite strong order intake growth of 11.4% year-over-year. The underperformance was primarily due to cautious investment behavior among consumer-oriented businesses, but the company remains optimistic with a forecasted annual revenue growth of 11.3% and recent accolades including the "Order Fulfillment Solution of the Year" award by SupplyTech Breakthrough Awards. Additionally, they have been working to expand customer base and operations in North America. Lastly, recurring revenue, primarily software and spare parts, represents around 10% of total revenues.

Koh Young -35.28% / -0.50%

Koh Young, a leader in 3D inspection technologies for the semiconductor industry and electronics, saw sales growth decline 19% Y/Y for the first quarter of 2024, with challenging macroenvironment in-line with the market. The company is expected to return the growth with full-year expected 3.8% revenue growth and acceleration to 15.7% forecast for 2025. Additionally, Koh Young aims to launch a neurosurgical robot guidance system in 2025 in the US.

Ocado Group PLC -31.60% / -0.36%

Ocado Group is a British online grocery solutions provider known for its automated warehouses and e-commerce platforms. In their latest earnings season, Ocado reported a decline in profitability due to rising operational costs and significant investment in technology, with revenue growth falling short of expectations. Additionally, the company has faced setbacks as two of their major partnerships have stalled, raising concerns about their growth strategy. Ocado was taken out of the Index at the latest Rebalance.

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