

ROBO Index 1Q24 Commentary

March 31, 2024

The Year of the Robot continues to progress, and we are witnessing remarkable advancements in robotics training almost daily. At the recent NVIDIA GTC conference in March 2024, NVIDIA CEO Jensen Huang highlighted robotics and physical automation as one of the most compelling opportunities of our time.

The ROBO Global Robotics and Automation Index returned +2.0% in Q1 2024 compared to the VettaFi Full World Index's 8.2% return, led by **Computing and AI** (+9.9%). The **Integration** subsector (6% weighting) saw +5.8% gain led by **Mitsubishi Electric** (+20.0%) and **Schneider Electric** (+12.8%), both seeing gains from electrification. Additionally, **Rockwell Automation** (-5.9%) saw NVIDIA join their Rockwell Automation Partner Network.

Overall, fundamentals are still tracking in the same direction as the prior quarter with an expected 2H 2024 recovery in core markets. Earnings reflected from Q4 2023 saw a rare decline in sales (-0.35%) and EPS (-2.0%) which just slightly beat expectations. We are in the "eye-of-the-robot-storm" right before key industries recover and the new appears. Most recently, indicators are beginning to pivot favorably, as evidenced by the latest PMI data.

Manufacturing and Industrial Automation (16% weighting) saw modest 3% gains led by **Daihen** (+35.2%), **Yokogawa** (+22.3%), and **Emerson Electric** (+17.0%) which all saw significant revenue and net income beats vs Factset Estimates. The former two are also experiencing positive uplift from a robust Japanese market.

China, the largest robotics market, experienced a significant slowdown in demand during 2023. However, the country's leadership has recently reaffirmed its commitment to prioritizing equipment modernization, potentially allocating hundreds of billions annually¹ and setting a target to grow from ~380² to 500 robots per 10,000 workers by 2025. To put this into perspective, the global manufacturing sector is a \$10 trillion plus market, providing employment to an estimated 300-400 million individuals. As the robotics revolution gains traction globally, we anticipate future growth in the industry to become more geographically distributed, with nations around the world recognizing the potential of automation and investing in their own robotics infrastructure.

As we shift our focus to the mid and long-term horizon, it becomes increasingly evident that the traditional perspective of analyzing robot density solely through the lens of manufacturing will become an outdated perspective and will shift towards a perspective encompassing a percentage of all sectors with physical labor and of global GDP. Our projections indicate that the Total Addressable Market for robotics has the potential to grow more than fivefold by 2033, underscoring the vast opportunities arising from surging demand in various sectors, including services, construction, warehousing, autonomous transportation, healthcare, and even household applications.

¹https://english.www.gov.cn/policies/policywatch/202403/25/content_WS6600b411c6d0868f4e8e56a2.html

² <https://www.automationmag.com/ifr-robotics-adoption-density-global/#:~:text=North%20America's%20robot%20density%20is,density%20stands%20at%20198%20units>

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