

ROBO GLOBAL® ROBOTICS & AUTOMATION INDEX

MARCH 29, 2019

THE ROBO OPPORTUNITY

Robotics, Automation, and Artificial Intelligence (RAAI) is one of the most compelling investment opportunities of the 21st century. Daily media coverage of intriguing and widely adopted advancements in robotics attracts widespread interest in how these technologies are impacting our daily lives. Yet few investors are aware of the vast scope of RAAI and how its growth is accelerating across the supply chain.

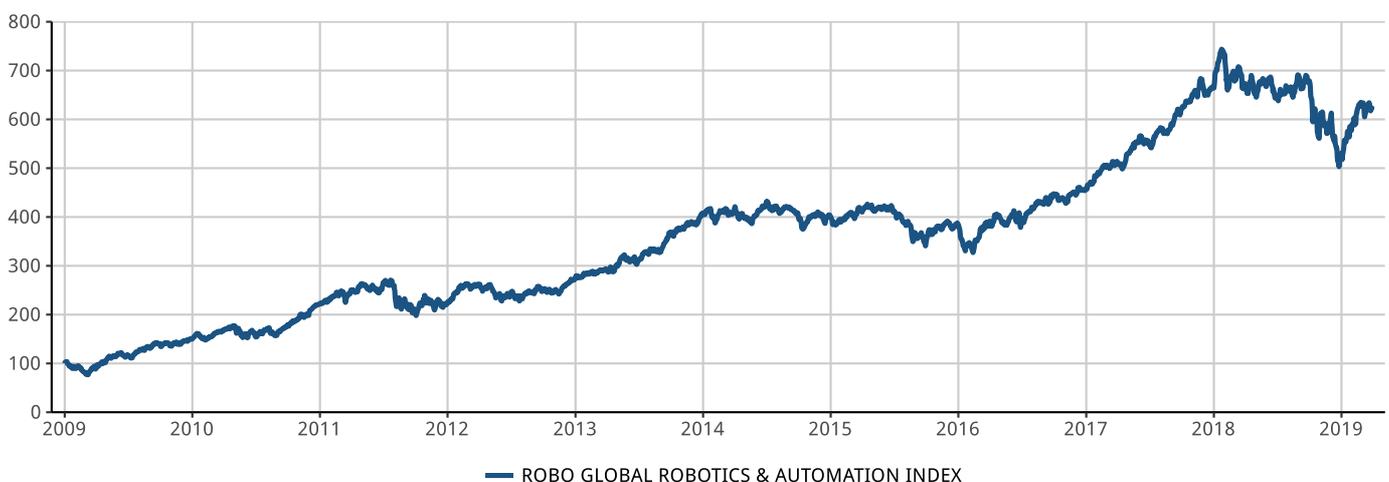
RAAI technologies are already disrupting nearly every industry in every geography, creating a swift transition to an “automate or fail” economy that is dictating the success or failure of corporations large and small. Still in its infancy, this multi-decade transition to a world in which automation and technology are applied to all industries, markets, and geographies is positioned to provide a unique opportunity for today’s forward-thinking investor.

THE ROBO GLOBAL® ROBOTICS & AUTOMATION INDEX

The ROBO Global® Robotics & Automation Index was first to market in August 2013 with the objective of providing investors with a comprehensive, transparent, and diversified benchmark that represents the global value chain of robotics, automation, and enabling technologies.

Performance Chart¹

The ROBO Global® Robotics & Automation Index Performance - Rebased 100 = January 2009



¹The index liquidity filter was modified in June 2017 as per the published index guidelines at www.roboglobal.com, the data shown is derived from the published index values. Prior to 2 August 2013, the data is based on simulated back-tested data.

Monthly Performance

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2019	11.26%	6.41%	-0.08%										18.30%
2018	9.58%	-5.29%	-2.32%	-3.30%	2.40%	-2.99%	1.89%	4.66%	-1.93%	-13.16%	1.66%	-11.33%	-20.27%
2017	6.46%	3.32%	2.13%	3.05%	4.65%	-0.89%	5.70%	1.85%	5.03%	5.17%	3.09%	-0.94%	45.80%
2016	-10.37%	3.80%	9.55%	1.58%	1.06%	-1.60%	6.19%	1.45%	5.00%	-2.41%	2.32%	2.02%	18.64%
2015	-2.70%	5.21%	0.86%	0.81%	0.27%	-1.73%	-5.01%	-5.76%	-5.63%	9.37%	2.58%	-1.20%	-3.97%
2014	-2.26%	3.83%	0.02%	-4.15%	1.30%	6.00%	-1.87%	0.46%	-3.94%	-0.77%	1.35%	-1.46%	-1.97%
2013								-2.20%	11.92%	2.74%	3.72%	4.60%	22.00%

Key Statistics²

	6 Mos.	1 Year	Since 2002
Performance (eff.)	-7.69%	-6.51%	1403.48%
Performance (p.a.)			18.15%
Volatility	22.00%	17.65%	17.05%
Sharpe Ratio		-0.47	0.92

²including back-tested data prior to 2 August 2013

Fundamentals³

P/E	26.96
P/E NTM	21.73
P/B	3.74
EV/Sales	3.33
P/Cash Flow	21.69

³ Fundamentals are updated on a daily basis. The calculation is based on the median.

METHODOLOGY

The index methodology follows a modified equal weighting scheme and rebalances on a quarterly basis to more effectively respond to and capture changes in the technological and competitive landscapes while maintaining critical diversification. Including more than 80 stocks across 12 subsectors in 15 countries, the index is built to minimize risk by limiting reliance on the largest-cap players, and to capture the growth of rapidly developing robotics and automation companies around the globe.

Index Facts

Go Live Date	2nd August 2013
Index Components	89
Bellwether Companies (BW)	25
Non-Bellwether Companies (NBW)	64
Eligible Universe	ROBO Global@ Industry Classification
Weighting	Equal weighting within BW (40%) and NBW (60%)

Rebalance Frequency	Quarterly
Calculation Frequency	Every 15 seconds 2.00am to 4.30pm ET
Dividend Treatment	Price and total return versions are available. The total return index is calculated with net dividends reinvested.
History Availability	Daily back to December 31st 2003
Base Value / Base Date	100 / December 31st 2003
Bloomberg / Reuters Ticker	ROBOTR Index / .ROBOTR

40% of the index is allocated to equally weighted "bellwether" companies (established leading players whose core business is directly related to Robotics and Automation) and 60% is allocated to equally weighted "non-bellwether" companies (those players with a distinct portion of their business and revenue in Robotics and Automation and that have the potential to grow through innovation and market adoption of their products and services). The 40/60 weighting results in each bellwether member having roughly twice the weight of each non-bellwether member. To respond to new entrants and maintain the desired diversification, the index rebalances on a quarterly basis.

Top 10 Holdings⁴

NVIDIA CORP	1.93%
OMRON CORP	1.82%
YASKAWA ELECTRIC CORP	1.82%
NABTESCO CORP	1.80%
KEYENCE CORP	1.79%

DAIFUKU CO LTD	1.78%
HARMONIC DRIVE SYSTEMS INC	1.78%
ZEBRA TECHNOLOGIES CORP	1.75%
INTUITIVE SURGICAL INC	1.72%
OCEANEERING INTERNATIONAL INC	1.72%

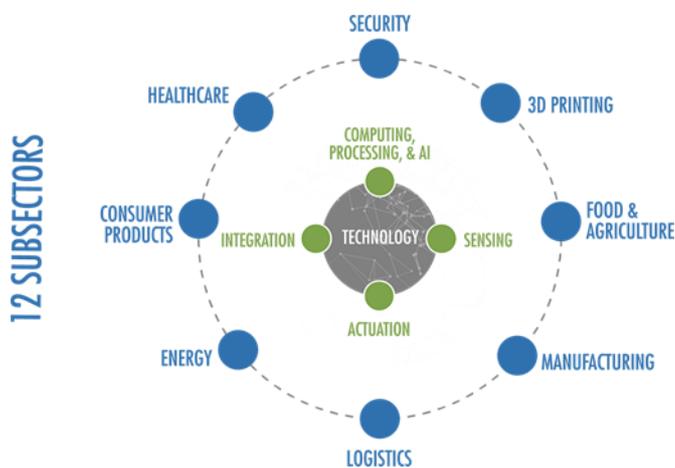
⁴Top 10 Holdings are updated on a daily basis.

COVERAGE TEAM

The coverage team incorporates full-time financial and research professionals supported by industry entrepreneurs and academic leaders who specialize in global developments across the robotics, automation, and artificial intelligence supply chain. The team, including more than 7 PhDs and some of the most highly respected robotic visionaries, works closely with our management team to identify early key industry trends and associated companies.

INDUSTRY CLASSIFICATION

In the absence of a benchmark industry classification system specific to this emerging industry, in 2013 we created the ROBO Global® Industry Classification for the investment and research community. To date, we have identified 12 sub-sectors of suitable product and technology maturity to the RAAI theme that carry high growth and earnings potential. On a regular basis, we screen our proprietary database of over 1,000 companies to identify those that are publicly traded, fit into our 12 sub-sectors, meet a minimum robotics revenue threshold, are positioned as technology and growth leaders and satisfy our ESG Policy.



Application	49%
Manufacturing & Ind. Automation	15%
Logistics Automation	10%
Healthcare	10%
Food & Agriculture	6%
3D Printing	3%
Security	2%
Energy	2%
Consumer Products	2%
Technologies	51%
Computing, Processing, & AI	20%
Actuation	13%
Sensing	11%
Integration	7%

INDEX MEMBERS

Index members are identified from the ROBO Global® Industry Classification in accordance with predetermined rules and objective criteria, including minimum market capitalization and average daily value traded. The result is a unique mix of technology companies (offering products and services that enable robots to “think, sense, and act”) and applications companies (that deploy robotic and automation technology into a product, service, or manufacturing process to increase efficiency and productivity).

Geographic Breakdown⁵



Market Capitalization Breakdown⁵



⁵Charts are presented based on each company's daily weightings in the index.

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