

ROBO GLOBAL Q4 IN REVIEW:

ROBO, HTEC, and THNQ

SUMMARY

The Robotics & Automation Index (ROBO) weathered the sell-off in many disruptive technology stocks: It outperformed global equities and rose 9% in Q4, to close the year 2021 up 16%. The Artificial Intelligence Index (THNQ) was up 10% in 2021, and the Healthcare Technology & Innovation Index (HTEC) was flat, after both indices rose more than 66% in 2020. While investors debate the near-term growth and inflation outlook, we remain focused on the innovators and market leaders driving these technology trends. In this report, we discuss key developments and big movers across our innovation portfolios.

PERFORMANCE 4Q2021 (%)

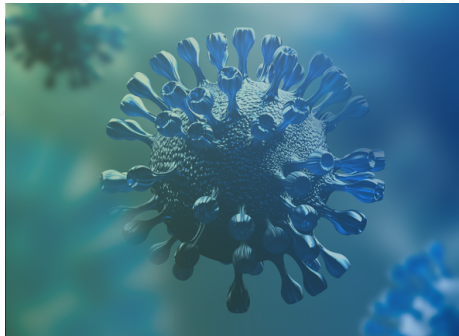
| ROBO Global Indices | | 4Q2021 | 1-year | 3-year | 5-year |
|---------------------|------------------------------------|--------|--------|--------|--------|
| ROBO | Robotics & Automation | 8.75% | 16.26% | 30.05% | 20.65% |
| THNQ | Artificial Intelligence | 2.39% | 10.00% | 36.51% | 35.10% |
| HTEC | Healthcare Technology & Innovation | -4.00% | 0.35% | 31.10% | 31.48% |
| Global Equities | | | | | |
| ACWI | AC World Equities | 6.68% | 18.54% | 20.36% | 14.38% |

Prior to 30 April 2019, HTEC data is based on simulated back-casted data. Prior to 21 August 2018, THNQ data is based on simulated back-casted data. 3-year and 5-year returns are annualized.

MARKET COMMENTARY

Global equities gained 6.7% in the fourth quarter of 2021, with double-digit gains in the U.S. offset by declines in emerging markets and Japan. Corporate earnings remained on a strong and better than expected trajectory. While growth and tech did relatively well in Q4 overall, with the Nasdaq 100 up 11%, this rise masks strong underlying currents and a dramatic decline in long duration tech stocks and the more speculative areas of the markets.

Against that backdrop, the ROBO Global indices demonstrated resilience. The Robotics & Automation Index increased 8.8%, the Artificial Intelligence Index gained 2.4%, and the Healthcare Technology & Innovation Index declined -4.0%. As shown in the table above, the three research-driven strategies have largely outperformed the MSCI AC World Index over the past three and five years.



Our view that 2021 would be a boom year has largely played out: The global economic rebound continues with significant momentum despite the renewed flare-up in COVID-19 cases in the U.S. and Europe. Investors are worried about a possible hit to U.S. economic growth from fiscal tightening in response to multi-decade high inflation and the wind down of COVID-related subsidies. However, we agree with our friends at Gavekal Research that these concerns likely underestimate the dramatic increase in U.S. consumers' buying power over the past two years, with a \$34t trillion increase in net worth, which is an increase of nearly 30% since COVID-19 started. Meanwhile, capital expenditures around the world have yet to reach new highs and we think the combination of strong consumer demand and supply chain challenges are likely to keep investments on an upward trajectory.

And where are corporate leaders investing? They are striving to accelerate digitization and deploying automation at a record pace. The immediate bottleneck is the increasingly pressing shortage of workers across much of the Western world and China. In the U.S. alone, the number of unemployed workers is back to the pre-COVID level of 6.3 million. Meanwhile, job openings have surged to 11m—a nearly 50% increase from pre-COVID levels. Whatever the causes, the immediate corporate answer is productivity, and we believe this will continue to provide a strong tailwind to the demand for automation and AI solutions.

While our Robotics, AI, and Healthcare Technology portfolios certainly would not be immune to a more pronounced rotation in equity markets from growth to value, we note that the three indices are very diversified, across geographies, across business models from products to services to software, and across end markets, from enterprise to consumer, technology, healthcare, and industrials. And while some fast-growing index members do trade on high multiples and are sensitive to changes in interest rate expectations, they are a minority among broad portfolios.

In fact, the ROBO index counts just 16 stocks with EV/sales > 10x, out of a total of 82 holdings, and 10 stocks on EV/sales < 1x. In a scenario in which the rotation into cyclical and value stocks continues, we expect the nearly 40% of the ROBO portfolio exposed to industrial and factory automation to perform well, especially Japanese stocks that account for 20% of the index and trade on an aggregate 1.3x EV/sales.



We encourage investors to review our recently published [annual trends report](#), in which we highlight the key tech trends going into 2022, some of the technology and market leaders riding these trends, and the role they will play within our three innovation indices: ROBO, THNQ, and HTEC. These trends include logistics and warehouse automation, the factory automation super cycle, autonomous vehicles, metaverse, AI and multi-cloud adoption, next-generation financial services, AI in healthcare, and spatial biology.



ROBO: ROBOTICS & AUTOMATION INDEX

Robotics and Automation outperformed global equities for a second consecutive quarter in Q4, with the [ROBO Global Robotics & Automation Index \(ROBO\)](#) up 8.8% in the quarter, compared to a 6.7% gain for the MSCI AC World Index. For the year 2021, ROBO returned a total of 16.3%, trailing global equities by 2.3ppt. Nine of the 11 subsectors registered gains in Q4, led by Healthcare (+24%), Computing & AI (+17%), and Manufacturing & Industrial Automation (+8%), while Autonomous Systems (-16%), Integration (-1%), and Logistics Automation (+4%) lagged.

By region, North America (+14%) and Europe (+11%) outperformed, with strong contributions from [iRhythm](#), [Teradyne](#), [Vocera](#), [Nvidia](#), and [Qualcomm](#), while Japan (-3%) and China (flat) underperformed, with pullbacks in [Hollysys](#), [Harmonic Drive](#), and [Nabtesco](#), among others.


ROBO GLOBAL® ROBOTICS AND AUTOMATION INDEX¹
GLOBAL EQUITY INDEX

| | Last Qtr | 1 Year | 3 Year | 5 Year |
|---|----------|--------|--------|--------|
| ROBO GLOBAL® ROBOTICS AND AUTOMATION INDEX ¹ | 8.75% | 16.26% | 30.05% | 20.65% |
| GLOBAL EQUITY INDEX | 6.68% | 18.54% | 20.36% | 14.38% |

Rebased 100 on December 31, 2009; Total Return through December 31, 2021; Periods greater than 1 year have been annualized
1: Includes back-tested data prior to August 02, 2013

Inception Date: Aug. 2, 2013

| ROBO Subsector (Total Return) | Q4 2021 | Past 12 mo. |
|---------------------------------------|-------------|--------------|
| 3D Printing | 4.9% | 17.3% |
| Actuation | 5.4% | -11.8% |
| Autonomous Systems | -16.1% | -18.7% |
| Business Process Automation | 5.6% | 4.6% |
| Computing & AI | 16.8% | 39.3% |
| Food & Agriculture | 5.7% | 37.1% |
| Healthcare | 24.3% | 30.2% |
| Integration | -0.4% | 19.6% |
| Logistics Automation | 3.7% | 16.4% |
| Manufacturing & Industrial Automation | 8.4% | 18.9% |
| Sensing | 5.7% | 0.8% |
| INDEX TOTAL | 8.7% | 16.3% |

% Weight by Subsector


| Application | 59% |
|-----------------------------|-----|
| Manufacturing & Industrial | 16% |
| Healthcare | 14% |
| Logistics Automation | 13% |
| Food & Agriculture | 5% |
| Business Process Automation | 5% |
| 3D Printing | 4% |
| Autonomous Systems | 2% |
| Technologies | 41% |
| Computing & AI | 14% |
| Actuation | 13% |
| Sensing | 9% |
| Integration | 6% |

The ROBO portfolio's outperformance of global equities is a stark contrast to the significant underperformance of many disruptive technology portfolios that suffered from the violent rotation out of high multiple, long duration tech stocks in Q4. This resilience reflects ROBO's diversification across the entire value chain of robotics and automation, including not only technology stocks (47%), but also significant exposure to more cyclical areas such as Industrials (35% of the index by weight), Consumer (6%), and Healthcare (12%). Looking at the distribution of valuations across the portfolio, we note that while 16 out of the 82 ROBO index members trade on an EV/sales multiple in excess of 10x (20% by weight), another 10 index members trade on an EV/sales multiple of less than 1x (13% by weight), for an average of 4.6x.

With supply chains under tremendous stress, a boom in U.S. consumer demand, and the rapid shift to e-commerce, we are particularly optimistic about logistics automation, which currently accounts for 13% of the portfolio.



We believe that the cyclical recovery in industrial automation (just under 40% of the index by weight) remains in full-swing, as we enter a sixth quarter of improvements in what historically has been a series of 10–14 quarters of expansion. This is important because many industrial automation stocks have lagged in 2021, especially in Japan, which remains a powerhouse in industrial robotics and factory automation equipment. In 2021, Japanese holdings declined 11%, a dramatic underperformance of global peers.

We expect the pace of M&A to remain brisk after a boom year in 2021, when five index members received takeover offers ([FLIR](#), [Nuance](#), [Raven](#), [Hollysys](#), and [Blue Prism](#)). In fact, [Vocera Communications](#), the leading provider of clinical communication and hospital workflow platforms, announced last week that it has agreed to be acquired by Stryker for \$3bn.

ROBO is trading on a forward P/E of 31.6x, a 25% premium to its 25.1x long-term average. However, earnings of best-in-class robotics and automation companies remain on a remarkable upward trajectory. Q3 EPS exceeded expectations by 8% at the median, rising by 28% YoY. While the hurdle was low after a 10% decline a year ago, we expect EPS to grow by more than 60% YoY in Q4, off a higher base, 41% YoY for the full year 2021, and 18% for 2022.

Looking forward, we continue to see a long runway for strong, double-digit earnings growth across the portfolio, driven by Logistics and Warehouse Automation, Healthcare, Industrial Automation, Business Process Automation, and Computing & AI.

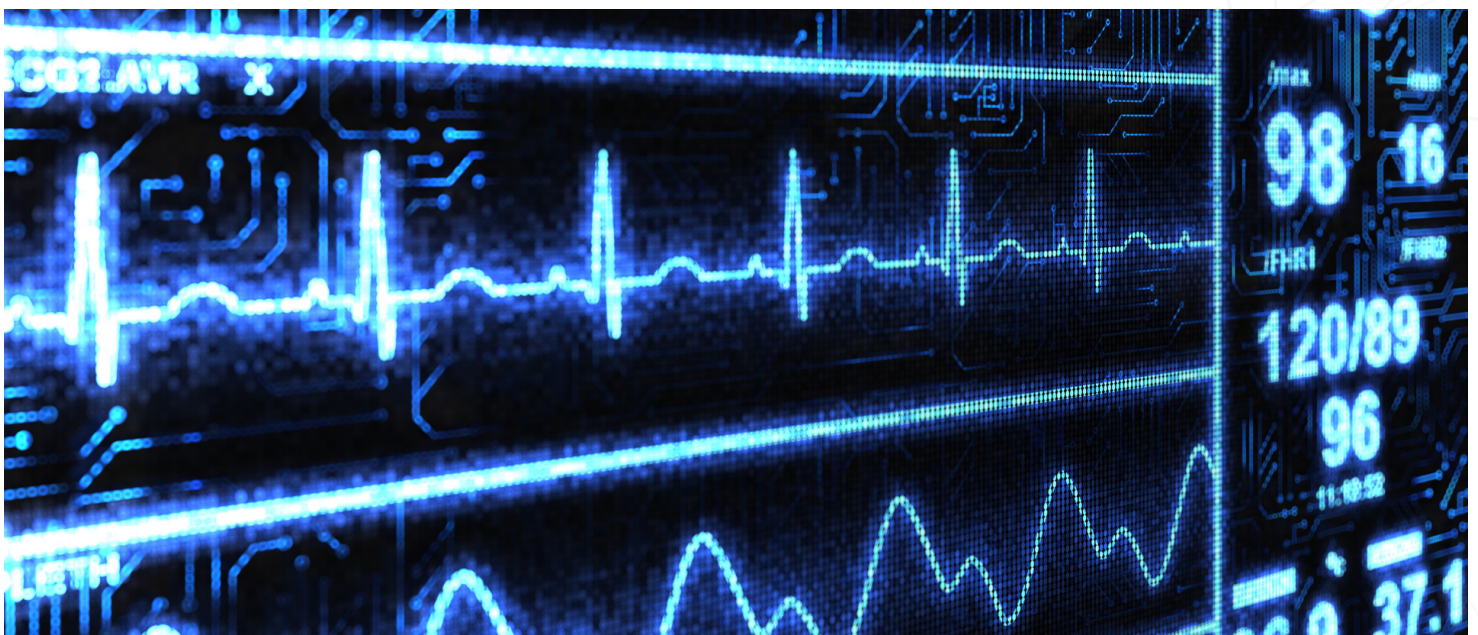
MOVERS & SHAKERS

iRhythm (+101%), the digital health company that offers the Zio remote cardiac monitoring system that uses AI for better diagnostics, saw positive reimbursement rates for Medicare. The company had seen shares fall, as previously lowered Medicare reimbursement rates were unfavorable. This higher reimbursement rate, more than double the original, is more realistic and better reflects the value provided by iRhythm for the patient population and payors.

Teradyne (+50%), a leading provider of automated semiconductor testing, collaborative robots, and warehouse operating systems, saw improved market dynamics and continued strong demand across the semiconductor testing space, in addition to its collaborative robotic solutions for the supply chain and warehouse space, with its Universal Robots division revenue up 50% through the first nine months of 2021.

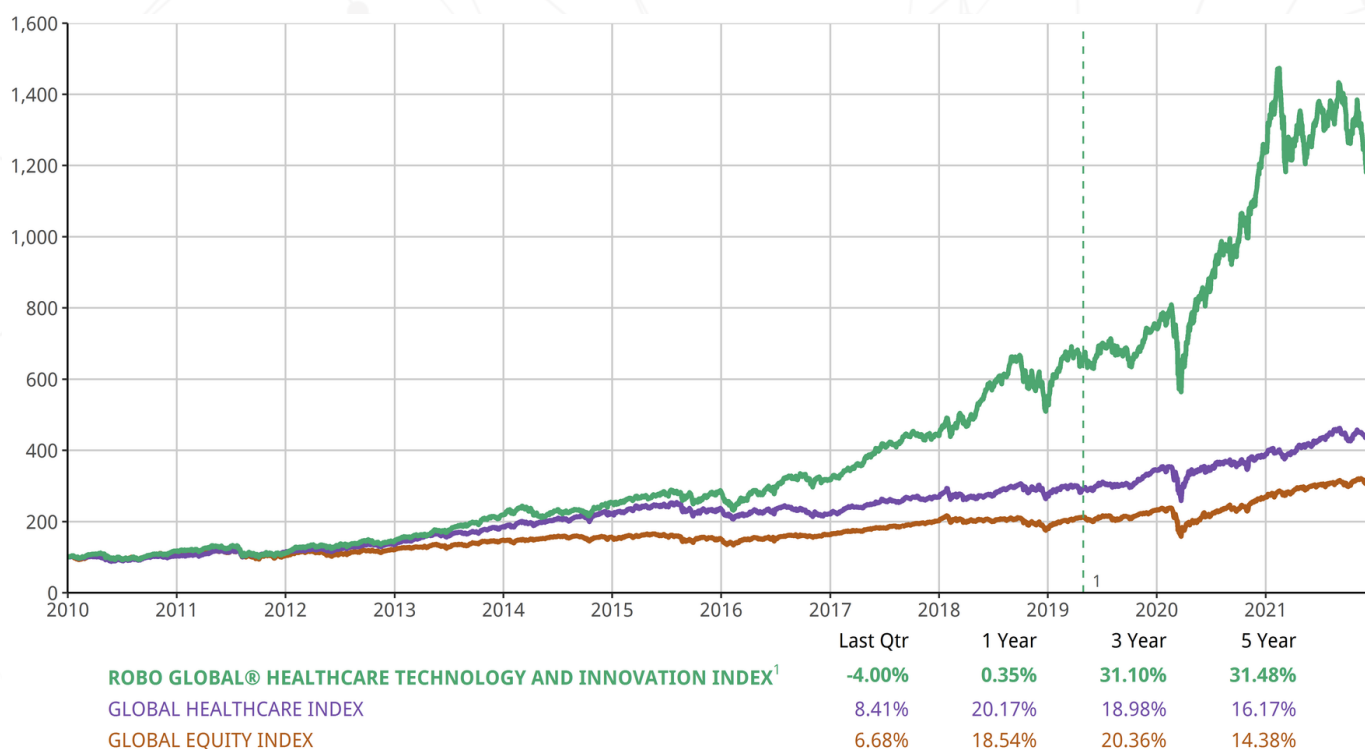
Hollysys (-41%), a leading Chinese robotics and automation solutions provider, saw its share slide after an auditor change in the middle of multiple take-out offers. The company felt some of the China market weakness from COVID-19 and other macro-trends; however, the market's outlook sees all-time high sales in 2022. Hollysys is currently trading below the three buyout offers of \$24, \$23, and \$17.10 per share and the company recently re-appointed the founder and former CEO Changli Wang as CEO.

AppHarvest (-40%), a pioneer in sustainable, automated indoor agriculture utilizing robotics, saw shares decline even though it hit current expectations. Its inaugural tomato harvest faced difficulties, leading to adjustments to improve yield, quality, and margins, and we remain confident about future performance. AppHarvest continues to see progress in the build out of new facilities and the deployment of automation solutions.



HTEC: HEALTHCARE TECHNOLOGY & INNOVATION INDEX

The [ROBO Global Healthcare Technology and Innovation Index \(HTEC\)](#) posted a loss of -4.0% in Q4, underperforming the S&P Global Healthcare index (+8.4%) and the MSCI AC World Index (+6.7%). The Delta variant phase of the pandemic drove headwinds for much of the healthcare industry, particularly healthcare tech companies, and had a greater impact on HTEC than on other funds with less focus on healthcare innovation and more on value stocks. In terms of valuation, HTEC is trading on a forward 12-month EV/Sales ratio of 6.4x, in line with the previous quarter.



Rebased 100 on December 31, 2009; Total Return through December 31, 2021; Periods greater than 1 year have been annualized
1: Includes back-tested data prior to April 30, 2019

Inception Date: Apr. 30, 2019

For the full year 2021, HTEC returned 0.4%, lagging global equities' 18.5% return. Its underperformance was largely driven by COVID-related healthcare staffing shortages and delays in procedure volumes, which directly impacted companies that sell medical instruments and diagnostics for non-COVID applications, like orthopedics and trauma, and caused multiple compression in some of the high-growth sectors that led 2020 gains, such as genomics and telehealth.

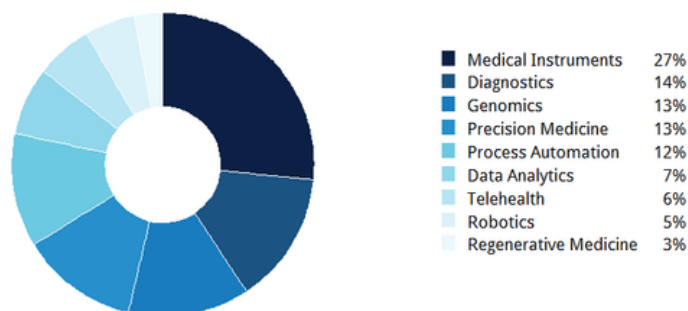
However, many companies in the HTEC Index still thrived in 2021. For example, mRNA Covid vaccine maker [Moderna](#) and high-tech genetic testing company [Fulgent](#) returned 143% and 105%, respectively, in 2021. The outsourced manufacturing companies used, which Moderna and other vaccine makers partnered with, also fared well in 2021. [Catalent](#), [Lonza](#), [Codexis](#), and [Thermo Fisher Scientific](#) all delivered over 20% returns and are very well positioned as biologics see increased adoption.

In our recent [2022 trends report](#), we shared our expectations for strong momentum in data analytics in the coming year to drive efficiencies amid the healthcare worker staffing shortages. Companies like [Health Catalyst](#) offer integration capabilities that use AI and machine learning to help hospitals operate more efficiently, improve patient care, and save money. Most recently, [Stryker](#) announced the acquisition of Vocera, another company highlighted in this report.

We believe the Omicron variant will trigger a significant turning point in the pandemic and potentially drive it toward endemic status. Companies like [Danaher](#), [Fulgent](#), and [Abbott](#), which thrived over the last few years on COVID testing volumes, will be able to leverage their incremental cash toward further innovation and their new client footprints to cross sell other products. Companies like [Conmed](#) and [NovoCure](#), who experienced headwinds due to depressed non-COVID patient volumes, should start to ramp back up. And therapeutic innovators like [Moderna](#) and [Regeneron](#) will be able to apply their successes in recent breakthroughs to advance the numerous other therapies in their pipelines.

| HTEC Subsector (Total Return) | Q4 2021 | Past 12 mo. |
|-------------------------------|--------------|-------------|
| Data Analytics | -8.9% | -16.6% |
| Diagnostics | -2.7% | 4.6% |
| Genomics | -11.8% | -5.5% |
| Medical Instruments | -7.3% | 0.2% |
| Precision Medicine | -4.1% | -8.9% |
| Process Automation | 8.2% | 44.9% |
| Regenerative Medicine | -21.9% | -28.5% |
| Robotics | 9.3% | 32.4% |
| Telehealth | -0.1% | -58.4% |
| INDEX TOTAL | -4.0% | 0.3% |

% Weight by Subsector



Two of the nine HTEC subsectors delivered positive returns: Robotics (+9.3%), Process Automation (+8.2%), and Robotics (4.0%). [Omniceil](#), the market leader in pharmacy robotics and automation, led the Robotics subsector with a 21.6% return, after reporting strong Q3 earnings well above expectations and adding three new customers. The company now has a footprint in 151 of the 300 health systems in the U.S.

The Delta variant phase of the pandemic drove headwinds for much of the healthcare industry, with our Regenerative Medicine (-21.9%) and Genomics (-11.8%) subsectors taking the biggest hit. Staff shortages and non-COVID procedural decline have driven lower volumes and overall demand for regenerative medicine and genetic testing, impacting companies like [Axogen](#) (-40.7%) and [Neogenomics](#) (-29.3%). [Axogen](#) is expanding its sales team by 5% and expects to be well positioned for growth when trauma-related injuries return to normal levels. On the other hand, the continuance of Covid variants continues to drive revenue across other HTEC members whose business covers testing, treatments, specimen tracking, and lab process automation, which will allow continued investment in opportunities beyond and after Covid-19 or share repurchases and dividends to shareholders.

MOVERS & SHAKERS

Vocera (+42%), a leading healthcare communications software provider and member of HTEC and ROBO, reported another beat and raise quarter in Q4, with record margins and quarterly bookings, including 15 deals over \$1M. The momentum continued into the new year, with the recent announcement of Stryker's intention to acquire the company.

Codexis (+34%), an enabling synthetic biology technology provider, develops enzymes for pharmaceutical, food, and medical applications. The company reported Q3 product revenue growth of 242%, driven by sales of its proprietary enzyme used to manufacture Pfizer's COVID-19 antiviral candidate.

Tactile Systems (-57%) is a med tech company that sells pneumatic compression devices to treat vascular diseases. The company reported disappointing revenue due to limited access to patients and call points due to the pandemic. It also disclosed a high level of sales force attrition, and challenges in refilling positions. We expect to see a turnaround as the pandemic moves to its next phase. There have also been litigation-related concerns and a court date has finally been set for Q1 2022.

Cardiovascular Systems (-43%) develops and commercializes solutions to treat peripheral and coronary artery diseases. The company reported disappointing Q3 earnings and revised its forecasts, citing hospital capacity constraints caused by the Delta variant. Management expects COVID-related headwinds to persist over the next few quarters. The company also issued a voluntary recall of its WIRION products due to filter breakage during retrieval.



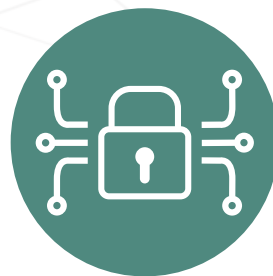
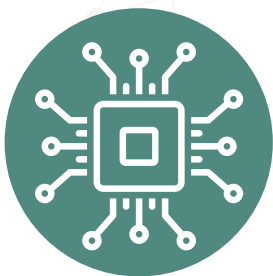
Source: Vocera



THNQ: ARTIFICIAL INTELLIGENCE INDEX

Q4 was a challenging quarter for the [ROBO Global Artificial Intelligence Index \(THNQ\)](#) versus the global equity indices, as rotation out of high-growth technology companies began in November. While there were many strong performers during the quarter, and seven of the 11 subsectors posted positive returns, THNQ index gained just +2.4% for the quarter and +10% for the year 2021. In Q4, the Healthcare (-16%), Ecommerce (-10%), and Business Process (-6%) subsectors gave back most of their gains from the year. Over the past 12 months, subsectors such as Consulting Services (+60%), Semiconductor (+52%), and Network & Security (+40%) were standouts, while Healthcare (-13%) and Big Data Analytics (-9%) lagged.

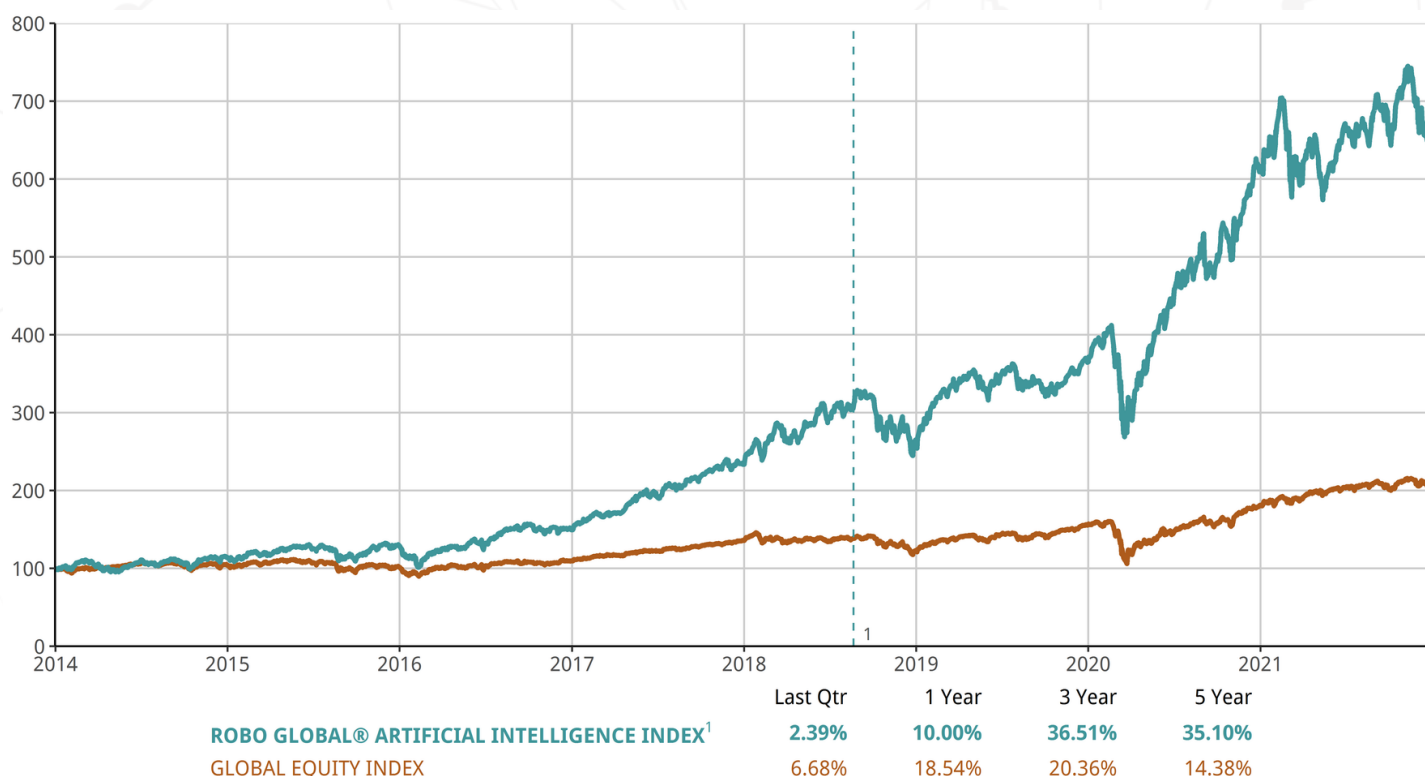
Specifically, Consulting Services, Semiconductor, and Network & Security subsectors posted solid gains for the third consecutive quarter, driven by strong secular drivers around work-from-home technologies, massive cloud deployments, and demand for next generation cybersecurity solutions. Index members such as [Arista Networks](#) and [Palo Alto](#) are benefiting from strong momentum in cloud security solutions and increased IT spending as digital transformation continues to take center stage.



Many of the demand drivers that we experienced last year will remain in play as we enter 2022, despite some concerns around macro trends. Overall, corporate commentary around IT spending trends remains optimistic around data center expansion and workflow automation software. Additionally, the current semiconductor shortage continues to provide a tailwind and strong visibility to our chip index members. We anticipate that cloud, data security, and AI-powered solutions will remain a priority in 2022. Despite the multiple compression that we witnessed in some of our software and cloud technology companies, many of our emerging disruptors and innovators are seeing strong demand for their solutions. We anticipate that some volatility may continue, but our global index members with sustainable growth rates and strong cash flow dynamics will recover more quickly from this correction.

In the semiconductor world, THNQ chipmakers outpaced the broader market during Q4 2021. Chip leaders [Nvidia](#) (+42%) and [AMD](#) (+40%) continue to deliver as demand for data centers appears unstoppable. Nvidia and AMD have poured vast resources into R&D in the past few years to reshape the semiconductor industry with cloud-based platforms set to dominate the data center and AI market. With multiple secular drivers such as autonomous vehicles, blockchain, and high-performance computing, semiconductor companies in the AI index appear very well positioned for 2022. Meanwhile, [Arista Networks](#) was the biggest contributor (+67%), followed by [New Relic](#) at +53%.

On the negative front, **Upstart Holdings** (-52%), **Lemonade** (-37%), and **Block** (-33%) came under pressure as concerns around inflation and rising interest rates hit these high growth fintech leaders. Over the long term, we see a long runway for growth in utilizing artificial intelligence to help underwrite loans, insurance, and assist in risk management for the financial services sector. Increasingly, financial services companies are turning to AI and predictive analytics for fraud management, lowering credit and loan defaults, cashless payment, digital insurance, mortgages, and personal loans, to name a few, to increase user engagement and loan volume. The market opportunity and penetration of these new services are growing at a rapid clip and disrupting the financial service industry.



Rebased 100 on December 31, 2013; Total Return through December 31, 2021; Periods greater than 1 year have been annualized
1: Includes back-tested data prior to August 21, 2018

Inception Date: Aug. 31, 2018

| THNQ Subsector (Total Return) | Q4 2021 | Past 12 mo. |
|-------------------------------|-------------|--------------|
| Big Data/Analytics | 0.1% | -9.4% |
| Business Process | -5.5% | -1.2% |
| Cloud Providers | 3.4% | 12.4% |
| Cognitive Computing | 12.5% | 29.1% |
| Consulting Services | 29.9% | 60.2% |
| Consumer | -3.9% | -7.4% |
| Ecommerce | -10.4% | -6.5% |
| Factory Automation | 5.4% | 21.8% |
| Healthcare | -15.5% | -12.5% |
| Network & Security | 16.4% | 40.2% |
| Semiconductor | 23.5% | 52.3% |
| INDEX TOTAL | 2.4% | 10.0% |

% Weight by Subsector



| | |
|------------------------------------|------------|
| Applications & Services | 49% |
| Business Process | 20% |
| Ecommerce | 11% |
| Consumer | 8% |
| Healthcare | 6% |
| Factory Automation | 3% |
| Consulting Services | 1% |
| Infrastructure | 51% |
| Semiconductor | 14% |
| Big Data/Analytics | 13% |
| Network & Security | 11% |
| Cloud Providers | 10% |
| Cognitive Computing | 3% |

MOVERS & SHAKERS

Arista Networks (+67%), a cloud networking infrastructure provider for large data centers, saw a great quarter of outperformance across all financial and operating metrics. An already strong cloud and AI environment raised expectations of 30% growth in 2022, even with the challenging supply chain. Increased digital traffic, metaverse, gaming, and the importance of applications contribute to this demand. Additionally, Arista announced a \$1B share buy-back program during the quarter.

New Relic (+53%), which provides full-stack data analysis and observability DevOps and cloud platforms, rose 53% by beating previously tempered expectations and raising outlooks, with 18% YoY revenue growth from higher customer product utilization and retention rates. A year ago, it set off to build out a new business model, with new customer acquisition and retention methods to accelerate growth, which has led to record growth and more than 14,300 total customers. During the quarter, it scored one of its largest contracts, over \$3.5B, from a new customer win, and announced two major new products that set the stage for a strong 2022.

Upstart (-52%), a leading artificial intelligence (AI) lending platform designed to improve access to affordable credit while reducing the risk and costs of lending for bank partners, continues to see monstrous topline revenue growth. The reason for the Q4 decline was primarily macro-level inflation and tapering fears impacting similar high-growth stocks, which still saw the company ending the year up over 250%. The already profitable company expanded from personal loans to the 6x larger auto financing market, and the company is in prime position to take advantage.

Lemonade (-37%), a leader in InsurTech that utilizes AI to offer insurance at lower cost through automation and improved risk management, saw in Q4 the announcement of its acquisition of Metromile, which has licenses in 49 states to offer smart car insurance. It is seeing favorable traction and market dynamics (loss ratio) in Europe and is seeing improvements across all business segments (pet, life, car, and renters).



ROBO

ROBO Global Robotics & Automation Index

roboglobal.com/ROBO

| SUBSECTOR | EXPOSURE |
|---------------------------------------|---------------|
| Application | 58.75% |
| 3D Printing | 4.15% |
| Autonomous Systems | 1.51% |
| Business Process Automation | 5.21% |
| Food & Agriculture | 5.27% |
| Healthcare | 13.52% |
| Logistics Automation | 13.11% |
| Manufacturing & Industrial Automation | 15.97% |
| Technologies | 41.25% |
| Actuation | 12.78% |
| Computing & AI | 13.67% |
| Integration | 5.69% |
| Sensing | 9.11% |

| TOP 10 HOLDINGS | WEIGHT |
|----------------------------|---------------|
| INTUITIVE SURGICAL INC | 1.86% |
| AIRTAC INTERNATIONAL GROUP | 1.72% |
| KARDEX HOLDING AG | 1.71% |
| HARMONIC DRIVE SYSTEMS INC | 1.69% |
| IRHYTHM TECHNOLOGIES INC | 1.67% |
| ILLUMINA INC | 1.65% |
| IPG PHOTONICS CORP | 1.64% |
| FANUC CORP | 1.63% |
| COGNEX CORP | 1.62% |
| SERVICENOW INC | 1.61% |
| TOTAL | 16.80% |

HTEC

ROBO Global Healthcare Technology & Innovation Index

roboglobal.com/HTEC

| SUBSECTOR | EXPOSURE |
|-----------------------|----------|
| Data Analytics | 7.24% |
| Diagnostics | 14.08% |
| Genomics | 13.00% |
| Medical Instruments | 26.58% |
| Precision Medicine | 12.51% |
| Process Automation | 12.15% |
| Regenerative Medicine | 3.08% |
| Robotics | 5.35% |
| Telehealth | 6.02% |

| TOP 10 HOLDINGS | WEIGHT |
|----------------------------|---------------|
| TABULA RASA HEALTHCARE INC | 1.82% |
| ABIOMED INC | 1.56% |
| PENUMBRA INC | 1.51% |
| IRHYTHM TECHNOLOGIES INC | 1.51% |
| VERACYTE INC | 1.49% |
| FULGENT GENETICS INC | 1.48% |
| INTUITIVE SURGICAL INC | 1.46% |
| AKOYA BIOSCIENCES INC | 1.45% |
| GLAUKOS CORP | 1.44% |
| ILLUMINA INC | 1.43% |
| TOTAL | 15.15% |

THNQ

ROBO Global Artificial Intelligence Index

roboglobal.com/THNQ

| SUBSECTOR | EXPOSURE |
|------------------------------------|---------------|
| Applications & Services | 48.90% |
| Business Process | 19.50% |
| Consulting Services | 1.08% |
| Consumer | 8.07% |
| Ecommerce | 11.20% |
| Factory Automation | 2.92% |
| Healthcare | 6.14% |
| Infrastructure | 51.10% |
| Big Data/Analytics | 13.12% |
| Cloud Providers | 9.66% |
| Cognitive Computing | 3.48% |
| Network & Security | 11.02% |
| Semiconductor | 13.81% |

| TOP 10 HOLDINGS | WEIGHT |
|--------------------------------------|---------------|
| ARISTA NETWORKS INC | 1.90% |
| FAIR ISAAC CORP | 1.86% |
| MERCADOLIBRE INC | 1.84% |
| INTERNATIONAL BUSINESS MACHINES CORP | 1.84% |
| ILLUMINA INC | 1.79% |
| ATLISSIAN CORP PLC | 1.78% |
| BAIDU INC | 1.77% |
| MICROSOFT CORP | 1.70% |
| ALPHABET INC | 1.67% |
| ALIBABA GROUP HOLDING LTD | 1.67% |
| TOTAL | 17.83% |

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