ROBOGLOBAL®
INVESTING IN INNOVATION

THIRD QUARTER IN REVIEW: ROBO GLOBAL INNOVATION INDICES

ROBO, HTEC, and THNQ

SUMMARY

The ROBO Global innovation indices posted double-digit returns in Q3, continuing to outperform global equities. This performance was due, in part, to the digitalization of the economy that has been turbocharged by the COVID-19 crisis. The Robotics & Automation Index (ROBO) returned 11%, the Artificial Intelligence Index (THNQ) increased 10%, and the Healthcare Technology & Innovation Index (HTEC) rose 14% for the quarter. Our strategies are focused on technology disruptors, especially in the areas of artificial intelligence, factory and logistics automation, enterprise software, and healthcare technologies. In this report, we discuss key sector trends and big movers in each space.

PERFORMANCE 3Q2020 (%)

Robo Global Indices		3Q2020	YTD	1-year	3-year	5-year
ROBO	Robotics & Automation	10.62%	14.42%	27.13%	8.46%	17.89%
THNQ	Artificial Intelligence	10.49%	35.48%	50.54%	31.60%	34.57%
HTEC	Healthcare Technology & Innovation	13.82%	32.77%	50.05%	30.48%	31.20%
Global Equities						
ACWI	AC World Equities	8.13%	1.37%	10.44%	7.10%	10.29%

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.

Market Commentary

Global equities staged a second consecutive quarter of dramatic gains (+8.1%), continuing a historic recovery from the lows of the COVID-19 shutdowns, with US technology stocks leading the growth. Against this backdrop, the ROBO Global indices continued to outperform global equities in Q3, with the Robotics & Automation Index (ROBO) rising 10.6%, the Healthcare Technology & Innovation Index (HTEC) up 13.8%, and the Artificial Intelligence Index (THNQ) up 10.5%. As shown in the above table, the three research-driven index strategies have largely outperformed the MSCI ACWI year to date and over the past one, three, and five years.

The pandemic remains the key driver of market sentiment and, despite renewed second wave concerns, economic indicators continue to point to a much faster recovery than in prior global recessions, even with large sectors such as aerospace and leisure still in limbo. This snap-back recovery is supported by the extreme and unprecedented fiscal and monetary policies introduced by major governments and central banks around the world that total more than 20% of global GDP, as well as government-guaranteed lending schemes that are driving real monetary growth. Policymakers appear strongly committed to providing stimulus after the lockdown of whole economies in response to a pandemic for the first time in history. Assuming the threat from the virus continues to recede, we expect the cyclical recovery to gather steam over the next several quarters. In our view, the key risk to equities in Q4 is not a weakening recovery, but rather concerns that central banks have become too easy and the potential for a steepening yield curve.

We believe our portfolios are well positioned to continue to outperform in this environment. As businesses strive to discover new ways to operate safely and efficiently amid the pandemic, technology has proven critical in supporting the distributed work environments that make this possible. As a result, the digitization of the economy has been turbocharged in 2020. The ROBO strategies are specifically focused on technology disruptors that are positioned to gain share as this digitalization of the economy accelerates, many of which have been massive beneficiaries of this shift—especially companies in the areas of artificial intelligence, factory and logistics automation, enterprise software, and healthcare technologies.

So far this year, the best-performing stocks across our strategies have been found in the areas of COVID-19 testing and therapy (Moderna, Fulgent, Quidel), telemedicine (Teladoc, Ping An Good Doctor, iRythm), e-commerce and logistics automation (Etsy, Shopify, JD.com, Ocado), genomics (Invitae, Natera), and AI-powered platforms (Square, Twilio, Cloudflare, Wix, Veeva). The portfolios also offer exposure to the more cyclical areas of factory automation, with 49% of the ROBO index falling in the Industrial sector.

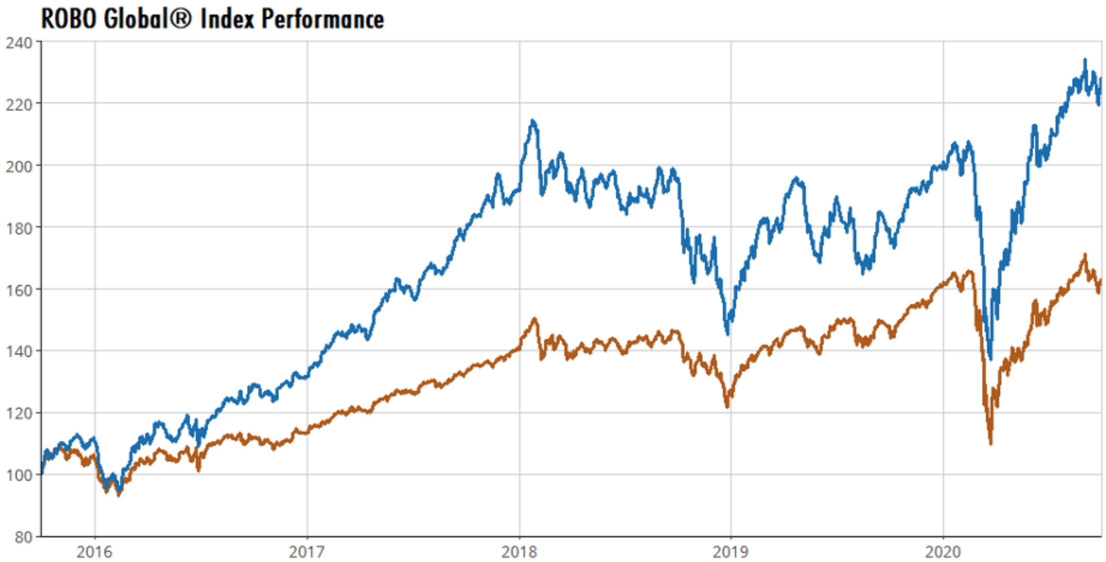
Our index portfolios also have very strong balance sheets, providing the cash necessary to weather the storm in the event of an ugly COVID outcome. The ROBO portfolio had a weighted average net cash position of 0.1x EBITDA at the end of Q2, with 59% of its members holding a net cash position, compared with just 15% of S&P 500 index members and 22% of MSCI ACWI members. Similarly, HTEC and THNQ had 56% and 66% of their members holding a net cash position. The ROBO and HTEC indices are positioned to outperform as the re-opening dynamic continues.

After big sell offs, small-caps, mid-caps, and early cyclicals tend to do best, as they did in the past six months. However, small-caps remain significantly behind large-caps so far this year. ROBO and HTEC are are strongly tilted toward small- and mid-cap companies, at 57% and 47% respectively, and typically have less than 3% overlap with stocks in most growth-oriented portfolios. We note that ROBO is composed mostly of international stocks (55%), with 13 countries represented and a significant overweight in Asia (32%), including Japan (20%). In fact, Asia accounts for 39% of index revenue—an important consideration given that China appears to have all but defeated COVID-19 and returned to business as usual.

ROBO: ROBOTICS & AUTOMATION INDEX

Robotics, automation, and AI stocks continued to outperform global equities in Q3, with the ROBO Global Robotics & Automation Index (ROBO) returning a total 10.6% in the quarter—2.5 percentage points more than the MSCI ACWI return of 8.1%. This performance included a 1.6% benefit from a weaker US Dollar. Overall, 9 of the 11 subsectors recorded gains, led by Logistics Automation (+17%), Healthcare (+17%), and Sensing (+12%) while Security (-25%), and Consumer (-9%) declined. By region, Europe (+24%) and Asia (+9%) led the US (+6%). As of 30 September 2020, 59% of ROBO index members held a net cash position. At the portfolio level, the net cash to EBITDA for the portfolio stood at 0.1x.

Robotics and automation companies were not immune to the violent economic contraction in Q2, with nearly three-quarters of the 85 members of the ROBO index experiencing a contraction in sales, while EPS declined 21% YoY. However, aggregate 2Q20 EPS came in 22% above expectations, with 76% of companies exceeding consensus EPS estimates and 70% topping revenue estimates. More importantly, the vast majority of companies reported a bottoming out of business activity in April and May, and Q3 results look set to demonstrate substantial improvements, including a return to EPS growth YoY.

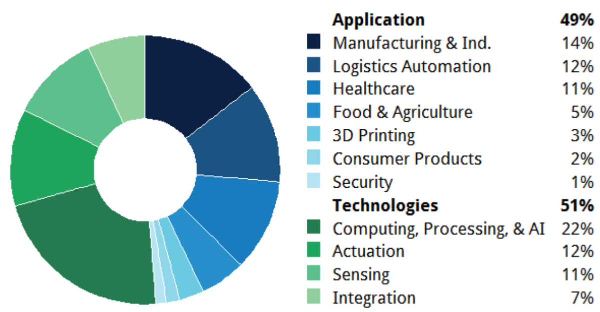


	YTD	3 Year	5 Year	Full Period
ROBO GLOBAL® ROBOTICS AND AUTOMATION INDEX	14.42%	8.46%	17.89%	17.89%
GLOBAL EQUITY INDEX	1.37%	7.10%	10.29%	10.29%

Rebased 100 on September 30, 2015; Total Return through September 30, 2020; Periods greater than 1 year have been annualized

ROBO Subsector (Total Return)	Last Quarter	Last 12 Months
Healthcare	16.8%	27.8%
Logistics Automation	16.8%	44.8%
Sensing	12.4%	28.7%
Computing, Processing, & AI	12.3%	38.7%
Actuation	12.2%	29.6%
Food & Agriculture	10.3%	5.4%
Manufacturing & Industrial Automation	7.9%	15.2%
Integration	4.4%	16.9%
3D Printing	1.1%	-5.4%
Consumer Products	-9.5%	23.1%
Security	-24.6%	9.2%
INDEX TOTAL	**10.6%**	**27.1%**

% Weight Per Subsector

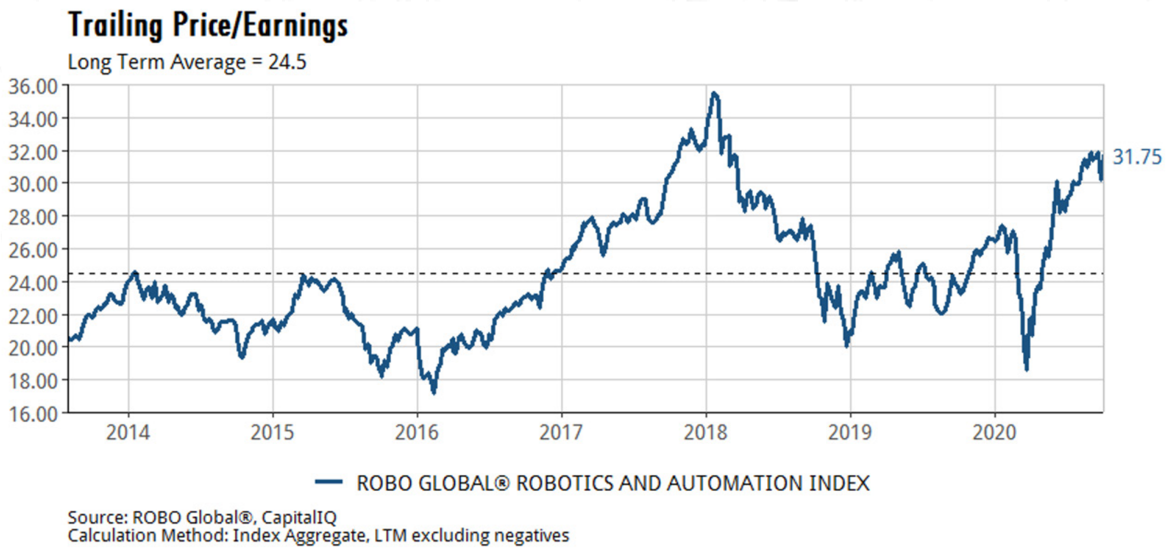


Adoption of AI-powered technologies remains the strongest driver of revenue growth for the ROBO index, as reflected by the fastest-growing index members such as Nvidia, the leading provider of graphics processing units, which has become a de facto standard for high-performance computing and the training of AI in datacenters. Global Unichip, the Taiwan-based provider of semiconductor components and ASICs, and iFlyTek, the China-based natural language processing specialist, are likely to report over 30% revenue growth for Q3.

Automation software providers such as ServiceNow, PTC, Autodesk, Dassault Systemes, and Cadence have also continued to grow through the crisis. At the same time, the Chinese market for factory automation equipment appears to have returned to its pre-COVID growth trajectory, with key component suppliers such as Hiwin, Airtac, Han's Laser, Shenzhen Inovance, and Delta Electronics all reporting strong growth in Q3.

We expect that a majority of ROBO index members will emerge from this crisis on stronger footing. For example, Logistics & Warehouse Automation (which accounts for 11% of the ROBO index by weight) is benefiting from the enormous strain currently put on e-commerce, and Factory Automation (~35%) is also bound to accelerate. Healthcare Automation (12%) will be in high demand as the pandemic recedes.

We believe the set-up remains attractive for robotics, AI, and automation stocks. Equities of best-in-class automation stocks from around the world are now trading on a trailing P/E of 32x, a 29% premium to the long-term average of 24.5x and below the 2018 high of 36x. However, aggregate EPS currently stands 25% below the 2018 high with an expected decline of 15% in 2020, and we believe that after bottoming out in Q2, earnings are set to continue to improve sequentially. Current consensus estimates point to +28% median EPS growth for 2021 and +18% in 2022.



MOVERS & SHAKERS

Materialise (+64%) is a Belgium-based additive manufacturing company with leading positions in 3D printing software and medical applications, and the largest non-captive on-demand 3D printing services operations in Europe. Materialise is well positioned to benefit from 3D printing's rapidly increasing use in healthcare, which now represents over 30% of its sales. We believe the stock also benefited from plans announced by Desktop Metal, a private metal 3D printing company that has raised $430M in recent years and now intends to go public by merging with Trine Acquisition Corp in a SPAC-led deal. In addition to furthering its own R&D efforts, Desktop Metal plans to make its own acquisitions in what it refers to as a "constructive consolidation" of the additive manufacturing/3D printing industry.

Shenzhen Inovance Technology (+59%) is a China-based provider of automation components. The company appears to have significantly increased market share in the past 12 months, reportedly acquiring 200 new customers in 1H20 alone, mainly from foreign competitors in servomotors and factory automation controllers (PLC). Revenue increased 80% YoY in the first half of 2020, reflecting a rapid recovery from the COVID-19 crisis and the benefits of a recent acquisition.

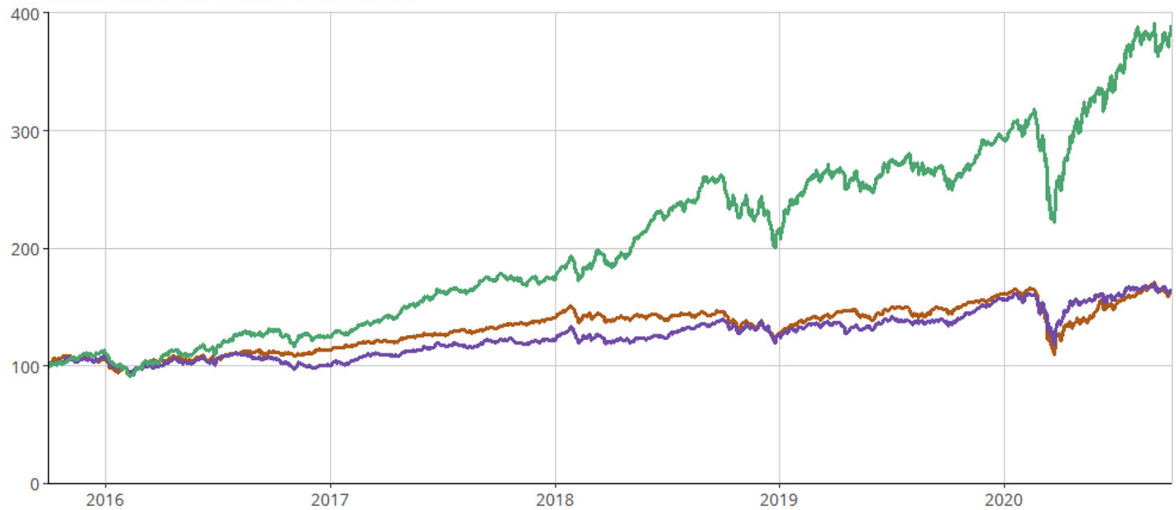
3D Systems (-30%), a specialist in additive manufacturing, reported a 29% drop in revenue for the quarter, led by a 39% contraction in its industrial segment, primarily in automotive and aerospace. The company's new CEO announced a vast restructuring plan, including a 20% headcount reduction.

AeroVironment Inc (-25%), the global leader in small, unmanned aerial systems for the defense industry and high-altitude pseudo satellites, is well positioned to deliver high revenue growth and margin expansion over the long term. Most recently, the company has won several UAV military contracts, providing strong visibility trends for the year. The shares gave back some of the large Q2 gain after the company reported much better than expected quarterly results but failed to raise its full-year guidance.

HTEC: HEALTHCARE TECHNOLOGY & INNOVATION INDEX

Healthcare tech continued to outperform global equities in Q3, with the ROBO Global Healthcare Technology and Innovation Index (HTEC) returning a total 13.8% in the quarter, outperforming the MSCI ACWI return of 8.1%, and the S&P Global Healthcare Index of 4.0%. By subsector, Genomics, Data Analytics, and Process Automation led the group, returning 30%, 23%, and 19%, respectively. All subsectors saw double-digit returns with the exception of Regenerative Medicine (+6%) and Precision Medicine (-4%). As of 30 September 2020, 56% of HTEC index members held a net cash position, and a median forward E/V to sales ratio of 6.95x.

ROBO Global® Index Performance



	YTD	3 Year	5 Year	Full Period
ROBO GLOBAL® HEALTHCARE TECHNOLOGY AND INNOVATION INDEX[1]	32.77%	30.48%	31.20%	31.20%
GLOBAL HEALTHCARE INDEX	5.52%	11.01%	10.57%	10.57%
GLOBAL EQUITY INDEX	1.37%	7.10%	10.29%	10.29%

Rebased 100 on September 30, 2015; Total Return through September 30, 2020; Periods greater than 1 year have been annualized
1: Includes back-tested data prior to April 30, 2019

KEY PERFORMANCE DRIVERS AND TRENDS

HTEC's highest performing subsector in Q3 was Genomics (+30%), with all but one member generating double-digit positive returns. This healthcare vertical is seeing rapid growth as new innovation enables wide-scale genomic analysis at increasingly lower costs. New research is moving toward clinical use, particularly in cancer testing, and life science companies are partnering with genomic companies to develop companion diagnostics. **Nanostring**, a fast-growing market leader in the genomics research world, led the HTEC Genomics group with 52% returns during the quarter. We expect growth to continue over time as new technology continues to enable further genomic discovery at increasingly lower prices.

Natera also saw strong performance of 45% during Q3, driven by the achievement of several milestones. Namely, the American College of Obstetrics and Gynecology determined that non-invasive prenatal testing is appropriate for all pregnant women, increasing the market for market-leading companies like Natera that offer this test. Natera also received CE Mark approval for its genetic cancer testing solution Signatera, making its liquid biopsy cancer monitoring product available in Europe.

Illumina lagged during the quarter with -16% returns, largely due to the announcement of its intention to buy back Grail, a former spin-off. We like this acquisition as it brings to Illumina the fast-growing $70B market opportunity of genetic cancer testing. We view this field as one of the most disruptive trends of our time in healthcare innovation.

The Data Analytics subsector generated the second highest returns of 23% during the quarter, led by **Livongo Health** (+77%), the market leader in remote patient monitoring for chronic diseases. The pandemic this year drove increased focus toward the remote management of chronic illnesses, particularly diabetes. Record new member registrations drove a beat and raise for the company, during a time when many companies had been unable to provide guidance. The company also announced its intention to merge with **Teladoc Health**, the world market leader in telehealth and member of the HTEC index. Both of these companies have established themselves at the forefront of a much broader market opportunity, virtual care, another area we believe will offer a long runway of growth for the next decade.

Vocera Communications, a global technology leader in hands-free wearable communications, returned 37% during the quarter. The company saw an uptick in demand as hospitals sought to improve their hands-free communication during the pandemic as a safety measure to help prevent the spread of COVID-19 infection. Vocera not only offers provider-to-provider communication, but also device-to-provider, device-to-device, and now provider-to-patient capabilities that position the company very well to enable the long-term virtual care trend.

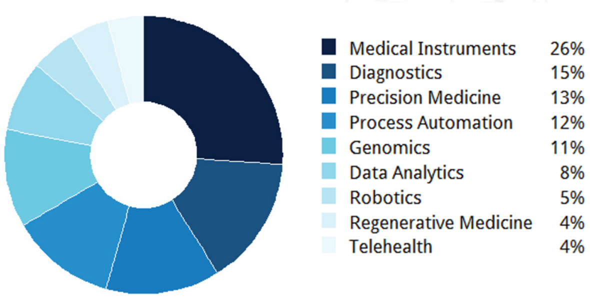
Tabula Rasa HealthCare, a medication management solutions provider, lagged the group in the quarter, with -26% returns. Tabula Rasa offers software solutions and pharmacy services to predominantly elderly populations. Medication error remains in the top five causes of death in the US, and Tabula Rasa's software helps mitigate this risk by ensuring people take the right meds at the right time. This year, the company's end market has seen a high degree of pressure during the pandemic, given the vulnerable patient population it serves and the need to fight the spread of the virus. That said, we strongly believe priorities will once again shift toward preventative care, and drive Tabula Rasa back toward its long-term, double-digit growth trajectory.

BioMarin Pharmaceutical, a global biotech company focused on treatment for rare diseases, was the largest detractor of HTEC in Q3 (-38.3%) due to a request from the FDA for more data on a Hemophelia-A therapy that is currently under clinical trial. This request will cause a delay in approval into next year. That said, fundamentals remain intact, and the company remains positioned to offer the first ever gene therapy for this disease.

3D Systems (-29.8%) was also among the index's bottom performers, for reasons mentioned above.

HTEC Subsector (Total Return)	Last Quarter	Last 12 Months
Genomics	30.0%	67.2%
Data Analytics	23.4%	74.6%
Process Automation	19.0%	50.5%
Medical Instruments	16.6%	31.6%
Telehealth	13.9%	139.8%
Robotics	10.9%	11.9%
Diagnostics	10.3%	51.1%
Regenerative Medicine	5.7%	-5.7%
Precision Medicine	-4.2%	63.7%
INDEX TOTAL	**13.8%**	**50.1%**

% Weight Per Subsector



THNQ: ROBO GLOBAL ARTIFICIAL INTELLIGENCE INDEX

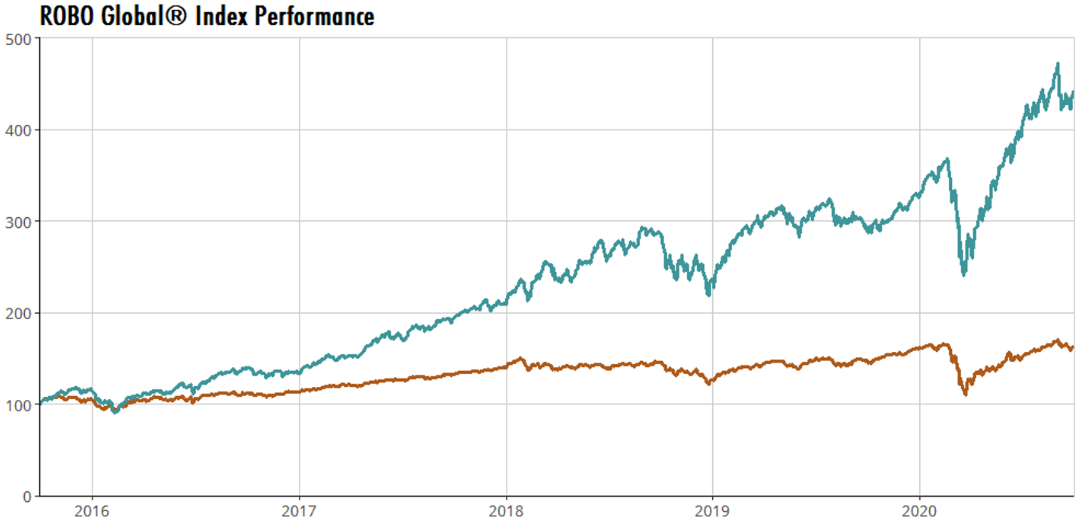
The ROBO Global Artificial Intelligence Index (THNQ) posted gains of 10.5% in Q3 as many of the index members took a breather after surging almost 44% in the previous quarter. THNQ continued to outperform broader market indices, including the MSCI ACWI (+8.1%) and the S&P 500 (+8.9%). Cognitive Computing (31.9%), E-Commerce (19.7%), and Semiconductor (+15.0%) were top contributors during the quarter. Despite a volatile quarter, underlying fundamentals remain strong, and the continued investment by enterprises in their digital transformation initiatives was evidenced by strong earnings results during the quarter.

As the pandemic shows signs of stabilization, Semiconductor companies in our index are experiencing recovery in wireless, memory, and data center spending as better-than-expected sales of smartphones and notebooks/PCs continue to drive stronger trends. We are starting to see signs of broader recovery in semiconductors as the economy begins to reopen and travel restrictions are lifted in certain regions.

E-Commerce shows no signs of slowing as retailers continue to find ways to automate and shift business online to engage with customers. Meanwhile, Big Data & Analytics (-5.2%) ended in negative territory. Index members Alteryx, Splunk, and New Relic all experienced underperformance as AI projects were pushed out due to enterprises reprioritizing IT spending. Over the coming months, we anticipate deployments of data analytics projects to recover.

Longer term, we anticipate that enterprises will continue to increase investments in key technology—especially in projects that support productivity enhancements and remote work infrastructures, using advanced analytics and artificial intelligence to power the modern architecture. More details are available on the **ROBO Global Artificial Intelligence Index factsheet.**

ROBO Global® Index Performance

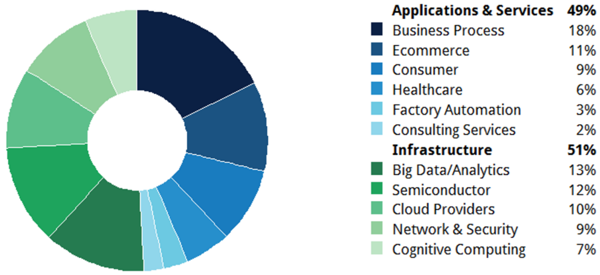


	YTD	3 Year	5 Year	Full Period
ROBO GLOBAL® ARTIFICIAL INTELLIGENCE INDEX[1]	35.48%	31.60%	34.57%	34.57%
GLOBAL EQUITY INDEX	1.37%	7.10%	10.29%	10.29%

Rebased 100 on September 30, 2015; Total Return through September 30, 2020; Periods greater than 1 year have been annualized
1: Includes back-tested data prior to August 21, 2018

THNQ Subsector (Total Return)	Last Quarter	Last 12 Months
Cognitive Computing	32.1%	124.9%
Ecommerce	19.7%	131.4%
Semiconductor	15.1%	53.9%
Business Process	12.7%	26.5%
Network & Security	10.2%	19.5%
Cloud Providers	9.9%	51.8%
Factory Automation	8.9%	29.6%
Consulting Services	8.7%	15.3%
Healthcare	6.3%	37.4%
Consumer	-0.7%	45.4%
Big Data/Analytics	-5.2%	43.9%
INDEX TOTAL	**10.5%**	**50.5%**

% Weight Per Subsector



MOVERS & SHAKERS

Tesla, a leading electric vehicle and clean energy developer, was the top performer during the quarter, with shares rising +98.7%. Tesla's global vehicle sales increased +50% in 2019 and in 2020, and the company surpassed the 1 million mark of electric cars produced. The Model 3 car ranks as the world's bestselling plug-in electric car, and various reports indicate that Tesla accounts for over 80% of EVs sold in the US in 1H2020. Tesla's momentum appears to be accelerating, and they are well positioned to reach 500k deliveries for this year, outpacing demand.

AMD, a market leader in CPU processing chips, gained momentum with shares up 55.8% during the quarter. In gaming and desktop CPU solutions, AMD is winning the race against Intel with +30% revenue growth YoY. As the company's console product cycle kicks in this fall, that momentum is expected to continue. The company also seems to be gaining share in high performance computing with a strong tailwind in sales of notebook and datacenter processing. Its data center Epyc chips set a quarterly record and doubled YoY, taking market share from Intel after the company delayed the launch of its own 7nm product. AMD also continues to benefit from the cloud migration thanks to wide deployment at Amazon Web Services.

Alteryx is a leading provider of end-to-end data science and data analytics platforms for the enterprise. Alteryx's user-friendly data analytics platform offers business intelligence that uses various machine learning algorithms to drive insights and gather stronger business outcomes. Alteryx shares suffered major declines (-30.9%) during the quarter after weaker-than-expected Q2 earnings driven by a general pullback in AI-related projects by its key customers. As we anticipated, this was short lived, and Alteryx preannounced positive earnings in early October as these data-intensive projects have begun to return to pre-pandemic levels. We view Alteryx as a strong beneficiary when AI/ML projects return to the forefront in the coming years.

New Relic was a detractor during the quarter, with shares declining over 18%. A cloud-based infrastructure software platform provider, the company helps build and develop dashboards and visualizations for enterprises. Its software helps IT departments track the performance of digital assets—an area that has become crucial in the COVID-driven remote work landscape where traditional monitoring techniques are no longer sufficient to provide the necessary visibility. After delivering strong performance in Q1, the company experienced longer sales cycles and reduced renewal rates in Q2 as some of their key customers in the travel industry paused spending due to COVID-19. With the realignment of its product portfolio and improvement in macro environment, New Relic should be able to return to its previous momentum over the coming quarters.

ROBO

ROBO Global Robotics & Automation Index

Roboglobal.com/ROBO

SUBSECTOR	EXPOSURE
Application	**48.76%**
3D Printing	2.93%
Consumer Products	1.60%
Food & Agriculture	5.45%
Healthcare	11.04%
Logistics Automation	11.96%
Manufacturing & Industrial Automation	14.52%
Security	1.26%
Technologies	**51.24%**
Actuation	11.62%
Computing, Processing, & AI	21.95%
Integration	6.93%
Sensing	10.74%

TOP 10 HOLDINGS	WEIGHT
HARMONIC DRIVE SYSTEMS INC	1.88%
DAIFUKI CO LTD	1.74%
KEYENCE CORP	1.70%
SERVICENOW INC	1.62%
NVIDIA CORP	1.61%
IROBOT CORP	1.60%
YASKAWA ELECTRIC CORP	1.60%
KOH YOUNG TECHNOLOGY INC	1.59%
VOCERA COMMUNICATIONS INC	1.58%
FANUC CORP	1.58%
TOTAL	**16.51%**

THNQ

ROBO Global Artificial Intelligence Index

Roboglobal.com/THNQ

SUBSECTOR	EXPOSURE
Applications & Services	**49.17%**
Business Process	17.73%
Consulting Services	2.48%
Consumer	9.29%
Ecommerce	11.05%
Factory Automation	2.98%
Healthcare	5.64%
Infrustructure	**50.83%**
Big Data/Analytics	12.59%
Cloud Providers	9.92%
Cognitive Computing	6.52%
Network & Security	9.47%
Semiconductor	12.33%

TOP 10 HOLDINGS	WEIGHT
NUANCE COMMUNICATIONS INC	1.82%
CLOUDFLARE INC	1.79%
IROBOT CORP	1.75%
TWILIO INC	1.74%
HUBSPOT INC	1.72%
VEENA SYSTEMS INC	1.72%
ATLASSIAN CORP PLC	1.71%
BAIDU INC	1.70%
NVIDIA CORP	1.70%
ALTERYX INC	1.68%
TOTAL	**17.32%**

HTEC

ROBO Global Healthcare Technology & Innovation Index

Roboglobal.com/HTEC

SUBSECTOR	EXPOSURE
Data Analytics	8.16%
Diagnostics	15.01%
Genomics	11.37%
Medical Instruments	26.09%
Precision Medicine	13.27%
Process Automation	12.21%
Regenerative Medicine	4.48%
Robotics	5.23%
Telehealth	4.18%

TOP 10 HOLDINGS	WEIGHT
NOVACURE LTD	1.92%
FULGENT GENETICS INC	1.80%
EXACT SCIENCES CORP	1.73%
QUIDEL CORP	1.64%
DIASORIN SPA	1.60%
INSULET CORP	1.60%
CARDIOVASCULAR SYSTEMS INC	1.58%
CELLECTIS SA	1.57%
NATERA INC	1.54%
CAREDX INC	1.54%
TOTAL	**17.14%**