

# Follow the MONEY

## **MERGERS & ACQUISITIONS ARE BOOMING IN ROBOTICS, AUTOMATION, ARTIFICIAL INTELLIGENCE AND HEALTHCARE TECHNOLOGY.**

---

While M&A has been a strong tailwind since the inception of the ROBO index, 2020 was a banner year with 7 of the 86 members of the ROBO Index receiving takeover offers. Meanwhile, venture funding and exits reached record highs. In this report, we look at the data, follow the money and discuss key trends including the return of mega deals, the focus on software, healthcare technology and autonomous vehicles and the implications for investors.

# ROBO: Robotics & Automation Index

M&A has provided a strong tailwind to ROBO since inception in 2013 with a total of 23 attempted takeovers of index members in seven years, reflecting the increasingly high value given to robotics, automation and AI technologies by large companies. Last year was a banner year with seven portfolio companies receiving acquisition offers, for a total exceeding \$74bn. In addition, FLIR announced on the first trading day of 2021 it had agreed to be acquired by Teledyne in a \$7.4bn deal.

M&A activity involving the leading robotics & automation companies as acquirers also accelerated strongly in 2020, with 107 deals involving 40 index members and totaling over \$62bn. This represents a significant increase from the 97 deals worth over \$17bn in 2019.

Some of the largest and notable deals in 2020 included Nvidia's pending acquisition of Arm Ltd, a leader in semiconductor design, for \$40bn; Illumina's \$8bn acquisition of GRAIL, a genomic diagnosis company focused on early cancer detection; Schneider Electric's \$5bn acquisition of OSI Soft; Cargotec's \$2.2bn merger with Konecranes, a maker of cranes and logistics solutions for ports; PTC's \$715m acquisition of Arena Solutions; Zebra's \$575m deal for software company Reflexis System; online grocery retailer, Ocado Group's \$260m purchase of Kindred Systems; Autodesk's \$240m acquisition of Spacemaker; Omnicell's \$225m takeover of Pharmaceutical Strategy Group's 340B software-enabled service business. In January 2021, Aerovironment agreed to acquire Arcturus UAV for \$405m.

# ROBO: 2020 M&A Highlights



ISRA VISION, A GERMANY-BASED LEADER IN MACHINE VISION, WAS ACQUIRED BY ATLAS COPCO IN A \$1.2BN DEAL



QIAGEN, A LEADER IN MOLECULAR DIAGNOSIS, RECEIVED A \$12.6BN OFFER FROM THERMO FISHER SCIENTIFIC



**varian**

VARIAN MEDICAL, THE LEADER IN HARDWARE AND SOFTWARE PRODUCTS FOR TREATING CANCER WITH RADIOTHERAPY, IS BEING ACQUIRED BY SIEMENS HEALTHINEERS IN A \$16.4BN DEAL



XILINX, A SEMICONDUCTOR COMPANY FOCUSED ON FPGA, IS BEING ACQUIRED BY AMD IN A \$35.7BN DEAL



HOLLYSYS, A CHINESE INDUSTRIAL AUTOMATION COMPANY, RECEIVED A \$0.9BN TAKEOVER OFFER



OMNICELL, THE LEADING PHARMACY AND MEDICATION AUTOMATION PROVIDER, RECEIVED A MORE THAN \$5BN OFFER FROM BAXTER, WHICH WAS REJECTED BY THE BOARD



BIOTELEMETRY, A LEADING MOBILE AND WIRELESS MEDICAL TECHNOLOGY COMPANY, IS BEING ACQUIRED BY PHILIPS IN A \$2.7BN DEAL

# ROBO: 2020 M&A Highlights

**SIEMENS**  
**Healthineers**

**varian**

**Varian Medical Systems (ROBO & HTEC)**, the leader in hardware and software products for treating cancer with radio therapy, agreed to be acquired by Siemens Healthineers. The healthcare subsidiary of German conglomerate Siemens AG, a

member of the ROBO Global Healthcare Technology & Innovation Index (HTEC), is paying roughly \$16bn or 23x EBITDA and a 42% premium to the average share price in the prior 30 days. The company is re-entering the radiation oncology market, after exiting it nearly ten years ago to focus on medical imaging. Varian has developed an AI-driven holistic therapy solution with the ability to personalize treatment based on the patient's anatomy and position at the time of treatment. This allows for the better targeting of tumors, a reduction in radiation doses to healthy tissue, and potential improvement in overall outcomes.

**Illumina (ROBO & HTEC)** Grail, a genomics company focused on early cancer detection, was founded by and spun out of Illumina four years ago. In September 2020, Illumina announced plans to acquire the company for \$8 bn. For ILMN, the deal brings them a

**illumina**<sup>®</sup>  
**GRAIL**

\$75B next generation sequencing-based oncology test market by 2035, which is \$60B higher than their current addressable market excluding grail. When metastatic cancer is discovered too late, fewer than 20% of patients will survive more than five years. With early detection and prompt treatment, almost 90% of patients are expected to live more than five years.



## 2021 AND BEYOND: SOFTWARE M&A WILL CONTINUE

---

Our index members are actively acquiring software companies to strengthen their digital infrastructure and cloud capabilities. Index members Schneider Electric and Autodesk are expanding their footprint in the construction industry with cloud-based software acquisitions that will drive automation capabilities to their powerful platforms. Schneider, specializing in building automation and industrial control systems, has been keen on growing its software and data capabilities with its recent acquisition of OSI Soft and RIB Software. RIB, a German-based SaaS provider in architecture, engineering and construction (AEC), is one of the leading players in the cloud-delivered construction ecosystem. Meanwhile, US-based Autodesk continues to be an active acquirer with the most recent acquisition of Spacemaker, its thirteenth investment in design and construction space in three years. Spacemaker helps architects and urban designers with design optimization powered by AI engine during construction projects.

Headquartered in France, index member Dassault Systemes purchased Nuodb for its cloud-native SQL database solution that will advance Dassault's cloud and data science strategy. Another index member, PTC, has acquired Arena Solutions, an SaaS product lifecycle management (PLM) provider that will further their leadership in cloud-enabled product development software, enabling them to deliver a complete CAD+PLM solution that will be entirely cloud-based. The \$715 million acquisition will allow PTC to expand its SaaS offerings as the pandemic has only accelerated this inevitable shift to the cloud. Arena Solutions is an SaaS PLM pioneer as their solution allows engineers and product developers to collaborate and drive product innovation in the cloud. Meanwhile, Zebra Technologies acquired an AI-powered software company, Reflexis Systems, for \$575 million for their Enterprise Asset Intelligence group to promote productivity enhancements and improve customer engagement with their workforce solution.

# ROBO: Venture funding in Robotics and AI

According to Crunchbase, 2020 was a record year for acquisitions of venture-backed companies, with 41 deals exceeding \$104 billion, exceeding the 2018 record of \$95bn and 31 companies. Overall, more than 1,500 companies were acquired in 2020 for more than \$149bn. The most active acquirers in 2020, according to Crunchbase, were Apple, Microsoft and Cisco, leveraging their strong balance sheet to take a leadership position in cloud and AI. The past year was obviously a massive year for robotics and AI, driven by the COVID-19 pandemic and accelerated by digital transformation initiatives. Fuelled by disruptive innovations in AI, autonomous systems, cybersecurity, and enterprise cloud, we anticipate this trend to continue into 2021.

According to a report by PwC and CB Insights, US venture-backed companies raised a record \$130bn, up 14% YoY from 2019 despite the deal number declining 9% YoY. AI, FinTech and Digital Health were the top three areas of investment. Within AI, autonomous systems and SaaS/Cloud software companies continued its momentum. SpaceX's \$1.9B raise was the largest raise in 2020. Meanwhile, three of the top 5 mega raises came out of China for a total \$6.3B: Manbang Group, Zuoyebang and Ke Holdings are cloud-based technology companies in the trucking, online learning and real estate industries. There were also big exits in the space, Amazon's \$1.2 billion acquisition of Zoox, an autonomous system provider, AI-powered InsurTech Lemonade's IPO, c3.ai, enterprise AI cloud provider's IPO, and medical imaging provider Butterfly Network's \$1.5B merger.

## Here are some other exciting funding and the latest valuation of private Robotics and AI companies (Sources: Crunchbase and CB Insights)

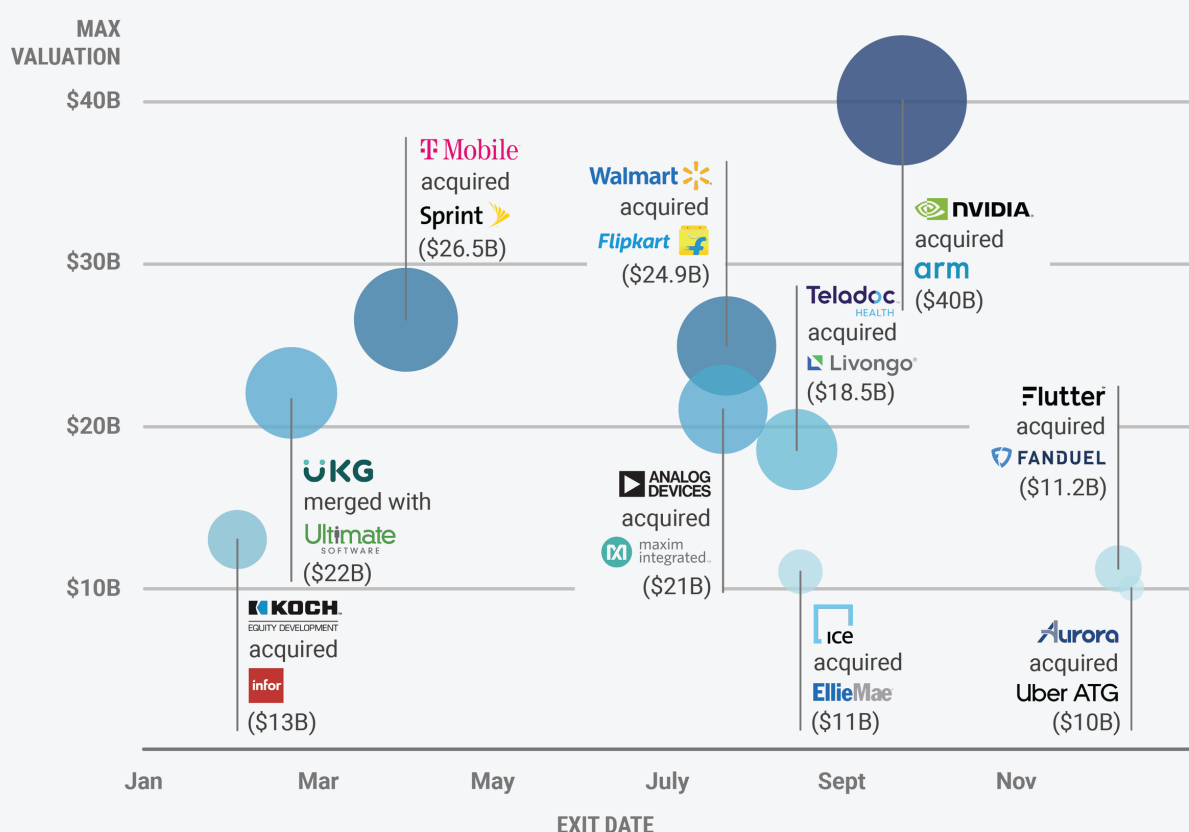
- **SpaceX raised \$2.4B, bringing total funds raised to \$5.4B and a current valuation of \$46B**
- **UiPath, a robotic process automation (RPA) provider, raised \$1.2B with a current valuation of \$35B.**
- **Waymo One raised \$2.2B, bringing total funding to \$3B with a current valuation of \$30B**
- **Cainiao, a warehouse software provider, raised \$1.3B, with a current valuation of \$30B**
- **Epic Games, an AI-powered video game provider, raised \$1.5B with a current valuation of \$17B**
- **ArgoAI, an autonomous vehicle start-up, raised \$2.6B with a current valuation of \$7.5B**
- **Nuro, autonomous delivery, raised \$0.5B for a total raise of \$1.5B and a current valuation at \$5B**
- **Indigo Ag, a digital and biologic AgTech provider, raised \$560M with a current valuation of \$3.5B**
- **Relativity Space, an autonomous space rocket factory, raised \$500M with a current valuation of \$2.3B**

# THNQ: Artificial Intelligence Index

The year 2020 was a year of mega deals across the industry from e-commerce to AI. The semiconductor market continued its world domination by consolidating and expanding into the future of high-performance computing and AI. Cloud software continues to gain IT spending share and the industry's shift to SaaS models has made business more predictable and transparent. As businesses around the world increase capital investments to take advantage of the cloud scalability and build modern IT architecture, organizations are acquiring established and start-up companies for their cloud and data science talent. With the recent developments in applying AI to create value in increasing productivity, we predict active M&A in the space over the coming years.

## BIGGEST TECH M&A DEALS SPAN AI TO E-COMMERCE

10 most valuable tech M&A deals of 2020 (shading corresponds to valuation)



Source: CB Insights chart: Biggest Tech Deals in 2020

## **The proliferation of data and cheap compute power leads to new disruptive business models and enterprise solutions**

The enterprise software landscape has evolved rapidly, even before the pandemic, with startups in new product categories disrupting established vendors, and technology market leaders merging to stay on top of the market. Deployment of cloud services in particular has been unstoppable, both in terms of the software that runs in the cloud and the hardware that powers it. M&A activity will continue to be active throughout 2021 and beyond as well-capitalized companies will look to grow through transformative acquisitions to expand their capabilities in artificial intelligence, capitalize on the trends emerging from COVID-19 and some may even acquire competitors that may have struggled during the pandemic. Real-time collaborative solutions will continue to be a hot market as the shift to the cloud accelerates. We anticipate that we will see continued M&A and active VC funding around AI-powered solutions, remote collaboration tools, streaming technology, and autonomous systems.

### ***Leading the Future of Work Revolution with Slack***



Salesforce, a leading enterprise software provider known for its SaaS-based CRM platform, announced its intention to purchase Slack for \$27.7 billion in December 2020. Salesforce and Slack intend to shape the future of enterprise software and transform the way everyone works in the all-digital, remote work environment. This deal puts Salesforce more on par with Microsoft, who has made Teams product a key priority in recent years. With COVID-19 possibly leading to long-lasting impact for the workforce, Salesforce is looking to add Slack's AI-powered collaboration platform to its growing portfolio of innovative solutions.

### ***Twilio adds to its portfolio of API capabilities with Segment***

Twilio, a cloud communication software company, has been one of the key beneficiaries of digital transformation with revenue growing 50% in 2020. Twilio has worked into many enterprises with its



range of APIs for voice, text, chat, video and email communication with customers, but it was COVID-19 that has put Twilio on their map. With its acquisition of customer data platform Segment for \$3.2 billion, Twilio seeks to extend the reach in building out the customer engagement platform, to better understand their user. Both companies deal with the API world, providing tools to support software developers in adding various capabilities.



## Mega Deals in Semiconductor Land

With the rise in artificial intelligence and data center environments, semiconductor processing companies are racing to be the industry leader in high-performance computing. Four of the top mega deals in 2020 were semiconductor companies building their scale and strategic diversification. THNQ index members, Nvidia, AMD and Analog Devices stepped up as consolidators to position themselves for growth as capital spending around AI/data centers, cloud computing, industrial IoT, automotive and 5G are poised to soar over the coming years.

**Index members are expanding their presence in AI, cloud computing and AV markets.**



**Nvidia**, a world leader in GPUs, announced a definitive agreement to acquire Arm Ltd for \$40 billion in stock and cash. The combination is expected to unite Nvidia's leadership in AI with Arm's vast computing ecosystem to drive innovation in supercomputers and data centers. The deal would open the smartphone market as well as expanding Nvidia into the autonomous system markets. While the deal may be a match made in heaven, the company is facing antitrust investigations in multiple regions.

**AMD**, the leading provider of CPUs and GPUs, have been seeking to build more specialized chips for major cloud customers to continuously improve application performance to satisfy analytics, video and ultra-speed network requirements. In order to compete with Nvidia and Intel, their biggest rivals, AMD made a move to buy Xilinx for \$35 billion in stock. With the Xilinx acquisition, AMD will expand its product portfolio to include reprogrammable chips called field-programmable gate arrays, or FPGAs.



These chips developed by Xilinx serve as the basis for a variety of products that target several large growing markets in high performance applications ranging from storage and data analytics to machine learning and streaming video. Xilinx has been pursuing the data center market aggressively in the past couple years through a new "data center first" initiative.



Analog Devices seeks to combine its expertise in high-frequency radio semiconductors and digital converters with the strengths of Maxim Integrated Products in making components for data centers and autos. Maxim develops integrated circuits (ICs) for the auto, industrial and computing markets. The deal is the biggest ever for Analog Devices with combined enterprise value of \$68 billion, which

will allow them to compete with larger rivals like Texas Instruments. Other than deepening its market share in analog and mixed signal markets and broadening its reach into data centers, ADI gets to absorb a competitor, consolidate operations and maintain a pricing level with its customers.

***"AI is the most powerful technology force of our time and has launched a new wave of computing,"  
- Jensen Huang, founder and CEO of Nvidia***

## Building a war chest of next-gen video game studios

Due to COVID-19 lockdown measures, 2020 has been a monumental year for mobile apps and video games setting new records. We have relied on mobile for work, learn, play and shop, accelerating its adoption as consumer-facing companies upped their digital game. After years of being a niche medium, video gaming has finally become mainstream. In the past six months, four out of every five US consumers have played a video game, according to a report by NPD Group. Meanwhile, a market research firm, Newzoo also predicts that the global gaming market will exceed \$200 billion by the end of 2023. Microsoft's vision for winning the video game industry was unveiled with its acquisition of Bethesda for \$7.5 billion. Its core strategy in building its GamePass, a subscription service, is to bring their games to new audiences across devices and in new gaming technology like cloud streaming and role-playing. Since 2014, Microsoft's buying spree of video games began with Mojang, the studio behind Minecraft. Microsoft is now building a library of award-winning games like Fallout, a post-apocalyptic role-playing game. Acquiring first-party developers with successful game series will allow Microsoft to cross-franchise resources like the creative talent and core game engines. The prediction over the next year is that Microsoft will continue to aggressively build its portfolio of multiplayer and role-playing cloud games.

## Winning the food delivery war with data analytics

Europe's Just Eat Takeaway acquired THNQ index member Grubhub for \$7.3 billion, in a deal that creates one of the world's largest meal-delivery companies as the coronavirus pandemic drives a surge in orders. These two food delivery veterans would make the combined company the biggest food delivery app business outside of China and gives Just Eat delivery inroads in the US. Instead of being focused on delivery and logistics like many of their competitors, the core of their business is an online marketplace app where the value is the ownership of their customers' data. The level of personalization for the customers by providing predictions and recommendations using machine learning algorithms is what will set the combined entity apart from its competitors as the industry matures over time.

# HTEC: Healthcare Technology and Innovation Index

In 2020, five of the 85 members of the HTEC index members received takeover offers, bringing the total number of takeover attempts since the inception of the index in 2019 to seven.

| Date Announced | Acquirer                 | Target                     | Deal Status | Deal Value |
|----------------|--------------------------|----------------------------|-------------|------------|
| 12/18/2020     | Philips Holding USA Inc  | BioTelemetry Inc           | Pending     | \$2.6B     |
| 12/8/2020      | Baxter International Inc | Omnicell Inc               | Rumored     | \$5B       |
| 8/5/2020       | Teladoc Health Inc       | Livongo Health Inc         | Completed   | \$17.5B    |
| 8/2/2020       | Siemens Healthineers AG  | Varian Medical Systems Inc | Pending     | \$16.3B    |
| 3/3/2020       | Thermo Fisher            | Qiagen NV                  | Withdrawn   | \$12.6B    |
| 7/29/2019      | Exact Sciences Corp      | Genomic Health Inc         | Completed   | \$2.5B     |
| 6/12/2019      | Dassault Systemes SE     | Medidata Solutions Inc     | Completed   | \$5.9B     |

M&A activity involving the leading Healthcare Technology & Innovation companies as acquirers also accelerated strongly in 2020, with 88 deals involving 52 index members and totalling over \$67bn. This represents a significant increase from the 59 deals worth around \$17bn announced in 2019.

# HTEC: Healthcare Technology and Innovation Index

One notable area that's seeing continued acceleration in deal activity is Digital Health, as companies seek to penetrate the \$250B\* virtual care market opportunity. Total M&A transactions increased by 28% to 145 in 2020 from 113 in 2019. COVID-19 pandemic has placed a spotlight on the traditional care delivery markets. The healthcare industry is embracing technology and innovation through acquisitions to help clients industry barrier and create market opportunities for consumer-centric services.



Teladoc's \$18.5B acquisition of Livongo marks the largest digital health transaction in history. The combination creates one of the largest and most comprehensive virtual care companies in the world. Livongo is the leader in remote chronic care management, offering a device to

help people manage chronic illnesses at home. Teladoc provides remote doctor patient visits. The merger also creates a strong cross-selling opportunity, as the two companies offer complementary services. As healthcare payers around the world continue to support and fund the adoption of telehealth and remote monitoring services, Teladoc is very well positioned for long-term growth.

In remote monitoring, Philips announced the \$2.8B acquisition of BioTelemetry, a HTEC and ROBO index member. BioTelemetry currently monitors over a million cardiac patients remotely with its wearable heart monitors, AI-based data analytics and services. Boston Scientific is also acquiring a private cardiac monitoring company, Preventice Solutions.



\*SOURCE: MCKINSEY

# HTEC

Investing in Healthcare  
Innovation

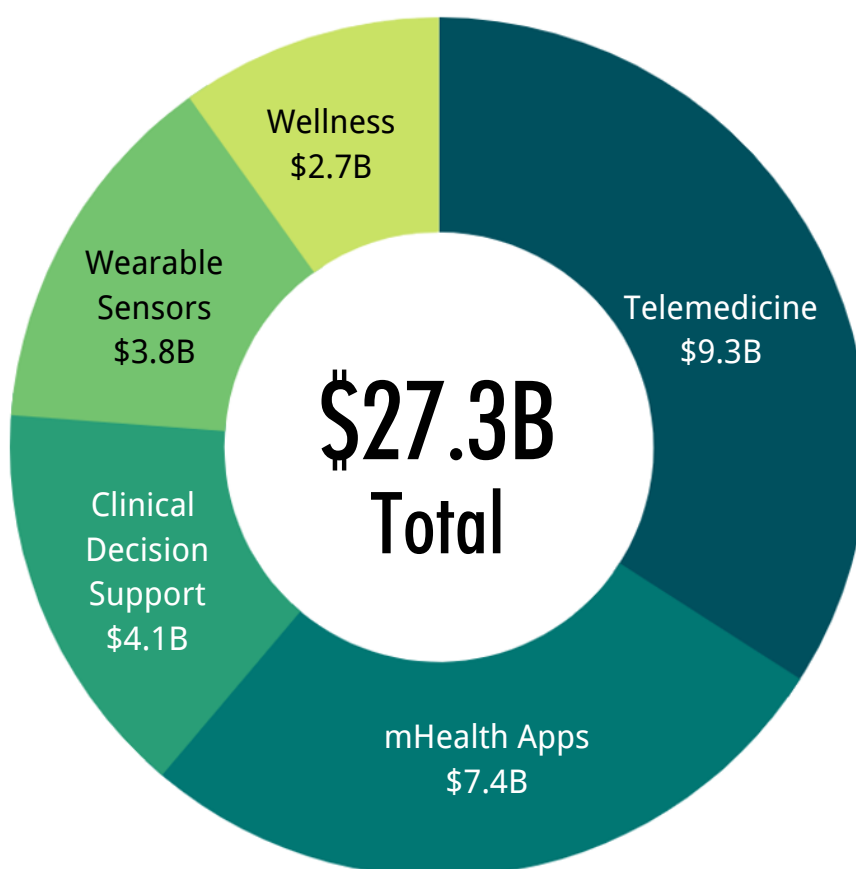


# HTEC: Healthcare Technology and Innovation Index

Meanwhile, global healthcare funding reached new highs in 2020 of \$80.6B across 5.5k deals\*. This increase represents a 41% increase over the prior year on a global basis. According to CB Insights, funding increased across a diverse group of innovative areas, including AI, telehealth, genomics, women's health and cybersecurity. VC funding trended up globally across North America, Asia and Europe, with the largest increase seen in Asia, which was up 70% year over year, with \$22.7B. Notably, a closer look specifically at digital health also shows funding at all-time highs in 2020 at \$26.5, representing a 45% increase over the previous year. According to research firm Mercom, telemedicine companies received the largest slice of the pie with \$9.3B, followed by mHealth, clinical decision support, wearable sensors, and wellness.

\*SOURCE: CB INSIGHTS

## 2020 Estimated Digital Health VC Funding by Category



SOURCE: CIRCLE SQUARE DIGITAL HEALTH INSIGHTS JANUARY 2021, MERCOM, ROBO GLOBAL RESEARCH

# HTEC: Healthcare Technology and Innovation Index

ROBO Global's HTEC Index members also saw a lot of M&A activity with early cancer detection over the last year, with over \$10B in transactions within the index. This is a particularly exciting market opportunity, because it aims to improve the outcome of the 17 million newly diagnosed cancer patients with early detection. As cancer testing gets more sophisticated, it opens doors for precision medicine innovation (i.e. more partnerships with pharmaceutical companies to manufacture personalized cancer therapies). Illumina's previously mentioned acquisition of Grail was the largest of these, followed by Exact Sciences acquisition of Thrive (\$2.5B) and Invitae's acquisition of ArcherDx (\$1.4B).

For Exact Sciences, the Thrive acquisition brings a blood-based multi-cancer screening opportunity to complement Exact's market leading colorectal cancer screening test. The cancer test, which is currently under development, is showing promising results in detecting 10 different types of cancer, including seven with no current recommended screening guidelines, and very few false positives. Exact estimates the multi-cancer screening market to be upwards of \$25B.

The Invitae and ArcherDx combination seeks to leverage Invitae's scale and infrastructure to grow ArcherDx's tissue and cancer profiling business, which is complementary to Invitae's existing portfolio. Together they can offer testing in centralized labs and decentralized settings. Archer will also help create a version of Invitae's other germline test, which should further accelerate global adoption of their portfolio.

Other interesting deals in the HTEC portfolio include the Siemens Healthineer's acquisition of Varian (pending) noted previously, as well as Vocera's acquisition of EASE, an app that enables physicians to send status updates to families about the patient's well-being and hold video conferences. This is instrumental during the pandemic, because visitors aren't usually allowed in the hospital.

# The State of Venture Funding in China



Despite concerns over government policies, China still represented over 40% of global VC investments, with the US still leading the world at 44%. Major investors in China tend to be corporate venture arms of China's tech giants such as Baidu, Alibaba and Tencent. But that may change in the coming years as regulations appear to be tightening for strategics.

Most recently, Chinese government is encouraging smaller companies to consolidate while restricting larger companies from mergers, citing anti-trust issues. The Chinese government is in the process of putting together tougher regulations to break up influential business conglomerates. AI will continue to be the focus for China, and much of the funding is being allocated to enterprise B2B companies in the e-commerce and enterprise cloud sectors.

Another notable trend from China's VC market is that following tensions between China and India due to political reasons, India banned Chinese investments into the country in 2H of 2020. This is a very impactful trend as China invested an estimated \$4 billion at the start of 2020, funding many of India's unicorn companies. Since then, the US has taken over as a leader in investing in India. Walmart and Google have collectively invested over \$11 billion into India in the 2H of 2020 alone. Due to the tensions from the US-China Trade war, VC funding from Chinese investors of US companies continues to decline and is currently at the lowest level since 2009. (Rhodium Group)

Meanwhile, over \$35 billion was raised by Chinese start-ups in 2020 according to Shanghai DZH, a slight uptick from 2019. Due to COVID-19 lockdowns, telehealth, grocery delivery and remote learning have been hot sectors in China. Zuoyebang, a Beijing-based online learning company, raised \$750 million last year while Yuanfundao, another remote learning platform raised \$1 billion. Online grocery delivery company, Xingsheng Youxuan and JD Health, an e-commerce platform for pharmaceutical products, each raised over \$800 million. Over the coming years, multiple Chinese unicorns are expected to make high profile IPO debuts. Companies such as Lufax, a FinTech provider; Full Truck Alliance Group, a ride hailing truck services; and Megvii, a deep learning AI company are expected to make record debuts.

# ROBO: 2020 M&A Activity

| Announcement Date | Acquirer                       | Target Company (Index Members) | Deal Value (\$MM) | Completed |
|-------------------|--------------------------------|--------------------------------|-------------------|-----------|
| 9/13/2020         | Nvidia                         | Arm Ltd                        | \$40,000          | NO        |
| 9/21/2020         | Illumina                       | GRAIL Inc                      | \$8,000           | NO        |
| 1/4/2021          | Teledyne Technologies Inc      | FLIR Systems Inc               | \$7,401           | NO        |
| 8/25/2020         | Schneider Electric SE          | OSIsoft LLC                    | \$5,017           | NO        |
| 10/1/2020         | Cargotec Oyj                   | Konecranes Abp                 | \$2,223           | NO        |
| 2/13/2020         | Schneider Electric SE          | RIB Software SE                | \$1,552           | YES       |
| 1/13/2021         | Qualcomm                       | Nuvia                          | \$1,400           | NO        |
| 2/4/2020          | Siemens AG                     | Siemens Gamesa Renewable       | \$1,216           | NO        |
| 12/14/2020        | PTC Inc                        | Arena Solutions Inc            | \$715             | NO        |
| 7/28/2020         | Zebra Technologies Corp        | Reflexis Systems Inc           | \$575             | NO        |
| 1/13/2021         | AeroVironment                  | Arcturus                       | \$405             | NO        |
| 6/2/2020          | National Instruments Corp      | Optimal Plus Ltd               | \$365             | YES       |
| 1/24/2020         | Siemens AG                     | C&S Electric Ltd               | \$297             | NO        |
| 11/2/2020         | Ocado Group PLC                | Kindred Systems Inc            | \$262             | YES       |
| 11/17/2020        | Autodesk                       | Spacemaker                     | \$240             | YES       |
| 8/12/2020         | Omincell Inc                   | Pharm Strategies Grp-          | \$225             | YES       |
| 3/4/2020          | Kion Group AG                  | Digital Applications Intl Ltd  | \$134             | YES       |
| 12/7/2020         | ATS Automation Tooling Systems | CFT SpA                        | \$107             | NO        |
| 12/9/2020         | Stratasys Ltd                  | Origin Laboratories Inc        | \$100             | NO        |

SOURCE: FACTSET



# THNQ: 2020 M&A Activity

| Announcement Date | Acquirer                 | Target Company (Index Members) | Deal Value (\$MM) | Completed |
|-------------------|--------------------------|--------------------------------|-------------------|-----------|
| 9/13/2020         | Nvidia Corp              | Arm Ltd                        | \$40,000          | NO        |
| 10/27/2020        | Advacned Micro Devices   | Xilinx                         | \$35,729          | NO        |
| 12/1/2020         | Salesforce.com           | Slack Technologies             | \$28,419          | NO        |
| 7/13/2020         | Analog Devices           | Maxim Integrated Products Inc  | \$21,291          | NO        |
| 9/21/2020         | Illumina                 | GRAIL                          | \$8,000           | NO        |
| 9/21/2020         | Microsoft Corp           | ZeniMax Media                  | \$7,500           | NO        |
| 2/24/2020         | Intuit                   | Credit Karma                   | \$7,100           | YES       |
| 7/15/2020         | Alphabet                 | Jio Platforms Ltd              | \$4,476           | YES       |
| 11/16/2020        | Baidu                    | JOYY-Live Streaming Bus Asts   | \$3,600           | NO        |
| 10/12/2020        | Twilio                   | Segment.io                     | \$3,200           | YES       |
| 2/8/2021          | Electronic Arts          | Glu Mobile                     | \$2,378           | NO        |
| 7/27/2020         | Tencent Holdings Ltd     | Sogou                          | \$2,196           | NO        |
| 11/9/2020         | Adobe                    | Workfront                      | \$1,500           | YES       |
| 7/10/2020         | Tencent Holdings Ltd     | Leyou Tech Hldg Ltd            | \$1,380           | YES       |
| 2/24/2020         | Cornerstone OnDemand Inc | Saba Software                  | \$1,295           | YES       |
| 12/14/2020        | Electronic Arts          | Codemasters Group Holdings PLC | \$1,218           | NO        |
| 2/25/2020         | Salesforce.com Inc       | Vlocity                        | \$1,200           | YES       |
| 8/10/2020         | Tencent Holdings Ltd     | HUYA                           | \$810             | NO        |
| 11/11/2020        | Palo Alto Networks       | Expanse                        | \$800             | YES       |

SOURCE: FACTSET

# HTEC: 2020 M&A Activity

| Announcement Date | Acquirer                           | Target Company (Index Members) | Deal Value (\$MM) | Completed |
|-------------------|------------------------------------|--------------------------------|-------------------|-----------|
| 8/5/2020          | Teladoc Health                     | Livongo Health                 | \$17,539          | YES       |
| 8/2/2020          | Siemens AG                         | Varian Medical Systems         | \$16,365          | NO        |
| 10/5/2020         | Bristol-Myers Squibb Co            | MyoKardia                      | \$13,775          | YES       |
| 9/21/2020         | Illumina                           | GRAIL                          | \$8,000           | NO        |
| 12/18/2020        | Koninklijke Philips NV             | Bio Telemetry                  | \$2,683           | YES       |
| 10/27/2020        | Exact Sciences Corp                | Thrive Earlier Detection Corp  | \$2,034           | YES       |
| 6/22/2020         | Invitae Corp                       | ArcherDX                       | \$1,391           | YES       |
| 1/21/2021         | Boston Scientific Corp             | Preventice Solutions           | \$950             | NO        |
| 1/15/2021         | Thermo Fisher Scientific Inc       | Henogen SA                     | \$881             | YES       |
| 2/3/2021          | Veracyte                           | Decipher Biosciences           | \$666             | NO        |
| 1/19/2021         | Koninklijke Philips NV             | Capsule Technologies           | \$635             | NO        |
| 1/7/2021          | PerkinElmer                        | Oxford Immunotec Global PLC    | \$571             | NO        |
| 1/19/2021         | Thermo Fisher Scientific Inc       | Mesa Biotech                   | \$550             | NO        |
| 1/12/2020         | Teladoc Health                     | Intouch Technologies           | \$542             | YES       |
| 7/20/2020         | Grifols SA                         | Green Cross Corp-Fractionation | \$460             | NO        |
| 9/21/2020         | Roche Holdings AG                  | Inflazome Ltd                  | \$450             | YES       |
| 3/4/2020          | Align Technology                   | exocad GmbH                    | \$420             | YES       |
| 10/27/2020        | Exact Sciences Corp                | Base Genomics Ltd              | \$410             | YES       |
| 12/16/2020        | Integra LifeSciences Holdings Corp | Acell Inc                      | \$400             | NO        |

SOURCE: FACTSET

Copyright © 2021 by ROBO Global, LLC. All rights reserved. ROBO Global® is a registered trademark of ROBO Global, LLC. ROBO Global, LLC is referred to as "ROBO." Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission. This document does not constitute an offer of services in jurisdictions where ROBO does not have the necessary licenses. All information provided by ROBO is impersonal and not tailored to the needs of any person, entity or group of persons. The ROBO Global® Robotics and Automation Index and the ROBO Global® Robotics and Automation UCITS Index (the "Indices") are the property of ROBO who have contracted with Solactive AG to calculate and maintain the Indices. The Indices are not sponsored by Solactive AG or its affiliates. Neither Solactive AG, nor any of their affiliates will be liable for any errors or omissions in calculating the Indices. Closing prices for the Indices are calculated by Solactive AG based on the closing price of the individual constituents of the index as set by their primary exchange. Historical performance illustrations in the Indices are based on a backcast calculation. A backcast calculation can be materially different from a backtest analysis. Past performance of an index is not a guarantee of future results. The value of investments may go down as well as up and potential investors may not get back the amount originally invested. It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. ROBO makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. ROBO is not in a position to give advice on the suitability of any investments for potential investors. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other vehicle. Inclusion of a security within an index is not a recommendation by ROBO to buy, sell, or hold such security, nor is it considered to be investment advice. It is not intended that anything stated in this document should be construed as an offer or invitation to buy or sell any investment in any Investment Fund or other investment vehicle referred to in this website, or for potential investors to engage in any investment activity. No Investment Fund or other investment vehicle based on the Indices is sponsored, promoted, sold or supported in any other manner by ROBO or Solactive AG (the "Index Parties") nor do the Index Parties offer any express or implicit guarantee or assurance either with regard to the results of using the Indices and/or an Index trademark or an Index price at any time or in any other respect. The Index Parties use their best efforts to ensure that the Indices are calculated correctly. Irrespective of their obligations towards the Company, the Index Parties have no obligation to point out errors in the Indices to third parties including but not limited to investors in, and/or financial intermediaries of, any Investment Funds or other investment vehicles. Neither publication of the Indices by Solactive AG nor the licensing of the Indices or an Index trademark by ROBO for the purpose of use in connection with any Investment Fund or other investment vehicle based on the Indices constitutes a recommendation by the Index Parties to invest capital in any such fund or investment vehicle nor does it in any way represent an assurance or opinion of the Index Parties with regard to any investment in such fund or investment vehicle. These materials have been prepared solely for informational purposes based upon information generally available to the public from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit related analyses and data, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse-engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of ROBO. The Content shall not be used for any unlawful or unauthorized purposes. ROBO and its third-party data providers and licensors (collectively "ROBO Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. ROBO Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. The content is provided on an "as is" basis. ROBO Parties disclaim any and all express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use, freedom from bugs, software errors or defects, that the content's functioning will be uninterrupted or that the content will operate with any software or hardware configuration. In no event shall ROBO Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages. ROBO Parties and their respective employees, affiliates and partners hereby exclude, to the extent permitted by applicable law, all liability in connection with the use of this document.

**GET THE LATEST NEWS, RESEARCH AND INSIGHTS  
ACROSS THE ROBOTICS, AUTOMATION AND AI INDUSTRY**

**SIGN UP AT [ROBOGLOBAL.COM](https://robo-global.com)  
OR  
EMAIL US AT [INFO@ROBOGLOBAL.COM](mailto:info@robo-global.com)**