



2018 INVESTOR OUTLOOK: 5 ROBOTICS & AI
PREDICTIONS TO PREPARE YOUR PORTFOLIO

January 2018

By William Studebaker, President & CIO, ROBO Global, LLC

There's never been a more exciting time to be an investor—especially in robotics, automation, and artificial intelligence where the rate of change and innovation has become exponential and is poised to surpass anything we've ever seen before. Perhaps it's because of the sheer pace of change that headlines about driverless cars and self-flying delivery drones don't turn heads these days. In fact, with advancements in robotics, automation, and artificial intelligence (or RAAI) accelerating at lightning speed, it's a rare day when news of yet another new development captures the spotlight — no matter how amazing it may be. [A hand-held translator that allows you to understand and communicate in more than 80 languages?](#) Whatever. [A computer that can crush one of the best Go players on the planet?](#) What's new. [A humanoid robot that is granted citizenship in Saudi Arabia?](#) Yawn. Suddenly the world of wonder we envisioned “back in the day” is no longer a galaxy far, far away, but one we've begin to take for granted in our everyday lives.

What does that mean for investors? Growth. Plain and simple.

Here's the thing: robotics and AI are already an integral part of our lives. It's hard to find an area it *hasn't* touched, and we often don't even realize it. In 2017, [Amazon delivered over 5 billion Prime items](#) in two days or less—an accomplishment that hinged on robotics-driven factory automation and AI. Siri and Alexa help us do everything from texting without a keyboard, to picking the perfect playlist, to discovering a great place to eat... and then avoiding traffic to arrive there on time. Just as the internet transformed how we work and communicate, robotics and AI is revolutionizing how we live, work, and play. Sure, talking, walking robots are cool, but while these 5 trends may seem relatively boring at first glance, they are precisely the changes that are poised to offer investors an exhilarating ride in 2018:

1) Big data, artificial intelligence, and e-commerce will dictate the new global giants.

Big data is now the #1 driver of success. That means that tomorrow's leaders are relying more than ever on machine learning to process, trend, and analyze the massive amounts of data that tell them *who* is buying, *what* they're buying, and *when* they're buying—and then *how* to deliver as quickly and cost-effectively as possible. Machine learning and AI are 2018's *must-haves*. *The companies that can deliver those capabilities should be at the top of every investor's list.*

Artificial intelligence will give predictive marketers what they've been seeking for more than 20 years: the power to process vast amounts of data to create unique and customize individual in near real time—and deliver on the promise of 1:1 marketing. Every big tech company that is serious about its AI ambitions will attempt to build its own AI chips to gain an edge in computing power, echoing steps already taken to build specialized chips for vital tasks like image and speech recognition.

On the e-commerce side, the gold rush is on. Amazon may have led the revolution, but companies that can deliver quickly deployable automation solutions for e-commerce operations will change the

game. Robotics innovation and self-guided vehicle technologies are powering collaborative robots to complement human labor and increase the productivity. And autonomous robots that can navigate unstructured warehouses spaces to autonomously pick and place SKUs and collect inventory data are suddenly making it possible for new players to scale up automation to keep pace with Amazon and other big retailers—without incurring significant downtime.

The winners: robotics-driven retailers, sensor suppliers, automation solution providers across the supply chain

2) Robots will replace humans in service roles.

Your local barista isn't likely to be replaced any time soon, but [bot sensitivity training](#) is allowing humans to offload more work service-based tasks to robots than ever. Because a purely human workforce can't match rising customer demands, businesses will harness the power of conversational AI chatbots and other virtual assistants to offer human-like help for every aspect of service. It is estimated that [some 85% of customer interactions](#) will be managed by AI by 2020.

In the home, Amazon's Alexa now syncs with Outlook and Google to help families manage their hectic schedules, and X.ai's new virtual assistant, "Amy," helps schedule meetings, plan meals, and make calls—without ever alerting the sender she's a bot. We may not be ready for the *Jetsons'* Rosie, but we're getting closer.

The winners: financial services, agriculture, telecommunications, retailers, robotics providers

3) Healthcare as we know it will vanish.

Bernard Tyson, CEO of Kaiser Permanente, made this bold statement: "I don't think any physician should be practicing without AI assisting in their practice. Its just impossible (otherwise) to pick up on patterns, to pick up on trends, to really monitor care." His vision is just the beginning.

Advancements in analytics, AI, and IoT will completely transform how patients are diagnosed and treated, how medical facilities operate, and how health issues are predicted and prevented. Wearable diagnostics and the ability to stream each patient's vital signs directly into their EMR will greatly improve patient outcomes by reducing errors and time to treatment. The use of wearable patches and other devices that sit on the skin will enable continuous biometric monitoring and drug delivery. Robot-assisted surgeries will continue to improve surgical outcomes and increase the career-span of the most experienced surgeons. Blockchain, a proven technology that has been used extensively in financial services, will enable medical record interoperability throughout the world. These changes will simultaneously reduce costs throughout the healthcare system while making it possible for doctors to deliver a higher level of care to more patients every day.

The winners: patients, healthcare providers, robotics and AI providers

4) Computers will learn to think—and think to learn.

It's one thing when a computer wins at chess or Go. It's another thing when computers are able to think and learn like humans on factory floors, offices, and the cars we drive. In 2018, semiconductor chip makers will refine machine learning to enable truly autonomous cars, virtual assistants, and an unending list of automated process. Already robots can be taught new processes and then, once they have that new knowledge, immediately share it with “co-workers” that share the same network, making it possible for computers to *independently* optimize logistics, deliver efficiencies, and increase returns.

The winners: semiconductor companies, manufacturers, robotics providers

5) Augmented and Virtual Reality will redefine what's we view as “real.”

As new products and capabilities hit the market, the buzz—and investments—in augmented reality, virtual reality, and mixed reality will escalate. AR is already being used in digital transformation for applications to support construction and on-site repair, and VR workstations are being powered by everyday eyeglasses. As this technology gets more powerful and wends its fingers into more aspects of our lives, it will begin to merge with autonomous vehicles, machine learning, and edge computing technologies. Just as the release of iPhone X has been a watershed moment for broadly viable facial recognition, 2018 will see many AR use cases move from mere speculation to reality, with VR breakthroughs not far behind.

The winners: AR/VR technology providers, automakers, manufacturers, 3D printing

6) Voice-assisted AI and voice computing will be fully embraced.

Amazon delayed its launch of its Alexa a full year to be sure the device could respond to the user in less than one second—rather than two. The reason: the company wanted to make a human interface, not a computer. That diligence has paved the way for a new era of voice computing.

2018 will bring voice-assisted AI and voice computing into the mainstream as businesses and consumers begin to capture the power of these technologies. Voice-assisted AI is already used for everything from scheduling office meetings to trading stocks to ordering groceries in real time. How soon will computer keyboards become relics of the past? It's only a matter of time.

The winners: AI technology providers, consumers

Because of the sheer reach of robotics, automation, and AI, the opportunity for investors is huge. The only way companies can survive in this new world is to use these technologies to enable their businesses. Investors who are positioned for this new growth will be tomorrow's biggest winners. What's the key to capturing that potential? Investing in companies across the entire RAAI supply chain—including companies of every size, market cap, geography, and sector like those in the [ROBO Global Robotics & Automation Index](#). As we move into 2018, now is the time to jump on board,



buckle up, and grab on tight for what is certain to be an unprecedented period of innovation, growth, and prosperity as we enter into the next phase of robotics, automation, and artificial intelligence!

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. Past performance of an index is not a guarantee of future results. It is not intended that anything stated above 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.
