



## Meet the 2017 RBR50: Top 50 Robotics Companies

RoboticsBusinessReview.com

#### **Editor's Note**

by Eugene Demaitre, Senior Editor

The past year marked a period of solid advancements for the robotics industry, and 2017 looks to continue that trend. The International Federation of Robotics expects strong growth worldwide, especially in industrial robots.

The U.S. was well-represented in this year's RBR50 list, with 32 of the companies residing in the states. That's no surprise, since the U.S. has a mix of strong university research, a healthy investment climate, and applications across numerous sectors, from manufacturing and military to supply chain and surgical.

The number of industrial robots in North America grew 10.2% to 30,875 units worth \$1.8 billion in 2016, <u>according to the Robotics</u> <u>Industries Association</u>.

It's also no surprise that industrial powerhouses such as Germany, Japan, and China are represented, but don't count out rising robotics nations such as India and Canada or smaller ones such as Denmark and Estonia.

A dozen companies, or 24%, are new to this year's RBR50. That's slightly less turnover than in past years, but it reflects the fact that certain end-user industries are stable, if still growing. We plan to look at startups separately later in the year.

What does it take to be a leader in the robotics industry? We received many nominations, and we ultimately chose 50 companies based on three key attributes: commercial success, innovation, and influence.

#### **Commercial Success**

As in the each RBR50 list of the past five years, the "big four" of industrial automation -- ABB, <u>FANUC</u>, KUKA, and Yaskawa Motoman -- remain on top. They all serve automotive manufacturing, which is the first and still the biggest user of robotics. However, they've also provided robots for materials handling and responded to the <u>rise</u> <u>of collaborative robots</u>, or cobots, which could extend automation into small and midsize enterprises.

<u>Midea Group's purchase</u> of Germany-based KUKA validates the latter's success and reflects the desire of China, which is regarded as "the world's factory," to work more closely with those who can help it increase its <u>robot</u> <u>density</u>.

Similarly, Siasun, China's biggest maker of industrial robots, has <u>reportedly been scouting</u> in Europe for potential acquisitions. U.S. companies would do well to watch for <u>such</u> <u>team-ups</u> to make sure they stay flexible and <u>open to such partnerships</u> themselves.

Just behind manufacturing, supply chain and logistics are the areas of most interest in automation. We expect these segments to continue growing this year, <u>driven</u>



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Several robotics executives have told us that they foresee a day coming soon when the entire supply chain is automated -- from taking an order and personalized manufacturing of, say, shoes or a car, to packing, shipping, and delivery. No human would touch the product until it's received by the consumer.

Companies such as Aethon, Clearpath, Locus Robotics, Omron Adept, Seegrid, and of course, Amazon Robotics (formerly Kiva Systems) are poised to build on and benefit from this interest.

Several companies on our list are clear leaders in their respective fields, including DJI for drones, Intuitive Surgical for <u>surgical robotics</u>, iRobot for consumer vacuum cleaners, and The Lego Group for toys and education.

Not only are Lego and iRobot household names, but they've also made the idea of robots in the home more palatable. Amazon Alexa and Google Home are just the beginning of social robot appliances and what one company called "a pipeline into the home."

#### Innovation

Perception, manipulation, and mobility, in combination with artificial intelligence, are constantly improving. The organizations that are advancing and combining these technologies for practical uses promise nearly unlimited growth for the robotics industry as a whole.

Gripper provider <u>Robotiq</u> is among the few companies to make the RBR50 list for all of the past five years, on the basis of its development and support of gripper technology, which works with fellow listee <u>Universal Robots</u>' arms.

A number of <u>AI</u> companies made this year's list. Google parent Alphabet and IBM Watson are working to provide big data analytics and machine-learning capabilities much like Amazon Web Services has been the leader for cloud computing.

How will the emerging Industrial Internet of Things combine with AI and mobile robots? We'll be watching the agriculture, healthcare, healthcare, service, and more industries for answers in the coming year.

The major automakers, including this year's RBR50 listees Honda and Toyota, are investing billions of dollars in self-driving car research and development.

This includes R&D around sensors, infrastructure, and AI. The more cautious carmakers have said they're developing "driver-assist" tech rather than rushing to replace humans, but fierce rivals (and RBR50 members) Uber and Waymo want nothing less.

Interesting enough, Honda and Toyota are also noteworthy for working on service robots to help aging populations worldwide.

We're always on the lookout for novel and genuinely helpful applications, such as ULC Robotics' Cisbot, offered through a Roboticsas-a-Service (RaaS) model for inspecting live gas mains.

#### Influence

Component makers are the unsung heroes of the robotics industry, with Intel, Maxon, and Micromo providing key parts inside many models of robots. As software and AI become bigger differentiators, expect to see new companies alongside hardware providers.

One didn't need to look far at this January's Consumer Electronics Show (<u>CES</u>) in Las Vegas to see the influence of SoftBank Robotics (formerly Aldebaran). SoftBank's Pepper is a humanoid social robot already in use in stores in Japan and Europe and <u>starting</u> to roll out in the U.S., and it had a host of imitators at CES 2017.

In addition, SoftBank has established a <u>\$1</u> <u>billion Vision Fund</u> to build up the entire industry, not to mention the ecosystem for its own products.

Many businesses have pivoted from consumer to commercial markets, particularly those in the drone, 3D printing, and therapeutic robot spaces. We'll be watching all of the RBR50 companies throughout the year to see how they execute against their business models.

#### Coming Soon: Top 10 Breakouts!

This year's nominations were very competitive, and our team had the challenge of sorting through many worthy companies.

At the same time, comparing a midsize company such as Vecna Technologies, which makes <u>telepresence</u>, logistics, and service robots, to defense giant Lockheed Martin or Alphabet, which has multiple divisions, is like comparing apples and oranges.

So this year, we're trying something new: We'll be breaking out five Top 10 lists around components, construction and infrastructure, healthcare, industrial automation, and logistics and supply chain.

Some of the RBR50 will be on these breakout lists, but we'll be able to focus more on what's happening in different vertical markets.

If your company didn't make this year's RBR50 but you think it should be on one of these Top 10 lists, <u>let us know!</u>

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## **RBR50 2017 Companies**

#### **ABB Robotics**

Country: Switzerland Industry: Manufacturing

#### <u>Aethon</u>

Country: United States Supply Chain

#### Alphabet (Google)

Country: United States Industry: AI, Vehicles

#### Amazon Robotics (Kiva Systems)

Country: United States Industry: Supply Chain

#### <u>Anki</u>

Country: United States Industry: Consumer

#### Autonomous Solutions

Country: United States Industry: Energy, Vehicles

#### **Bosch Group**

Country: Germany Industry: Manufacturing

#### **Boston Dynamics**

Country: United States Industry: Mobile, Service

#### **DJI (Shenzhen Dajiang Innovations)**

Country: China Industry: Drones

#### **EPSON Robots**

Country: United States Industry: Manufacturing

#### **FANUC Robotics**

Country: Japan Industry: Manufacturing

#### Fetch Robotics

Country: United States Industry: Supply Chain

#### **GreyOrange**

Country: India Industry: Supply Chain

#### Honda Robotics

Country: Japan Industry: Service, Vehicles

#### **IAM Robotics**

Country: United States Industry: Manufacturing

#### **IBM** (Watson)

Country: United States Industry: Al

#### Intel Corp.

Country: United States Industry: Components

#### Intuitive Surgical

United States Industry: Healthcare

#### **iRobot**

Country: United States Industry: Consumer

#### Kawasaki Robotics (USA)

Country: United States Industry: Manufacturing, Vehicles

## KUKA Robotics

Country: Germany Industry: Manufacturing

#### Lego A/S (The Lego Group)

Country: Denmark Consumer

#### Lockheed Martin

Country: United States Industry: Aerospace, Security

#### Locus Robotics

Country: United States Industry: Supply Chain

#### maxon precision motors

Country: United States Industry: Components

#### **MICROMO**

Country: United States Industry: Components

#### <u>Nvidia</u>

Country: United States Industry: Al, Vehicle

#### **Omron Adept Technologies**

Country: United States Industry: Supply Chain

#### **Open Bionics**

Country: United Kingdom Industry: Manufacturing

#### OTTO Motors

Country: Canada Industry: Supply Chain

#### **Rethink Robotics**

Country: United States Industry: Manufacturing

#### **Robotiq**

Country: Canada Industry: Manufacturing

#### <u>Savioke</u>

Country: United States Industry: Service

#### **SCHUNK**

Country: Germany Industry: Manufacturing

#### <u>Seegrid</u>

Country: United States Industry: Supply Chain

#### Siasun Robot & Automation

Country: China Industry: Manufacturing

#### Simbe Robotics

Country: United States Industry: Supply Chain

#### **Soft Robotics**

Country: United States Industry: Supply Chain

#### **SoftBank Robotics**

Country: Japan Industry: Service

#### **Starship Technologies**

Country: Estonia Industry: Supply Chain

#### <u>Toyota</u>

Country: Japan Industry: Service, Vehicles

#### <u>Uber</u>

Country: United States Industry: Vehicles

#### **ULC Robotics**

Country: United States Industry: Infrastructure

#### Universal Logic

Country: United States Industry: Manufacturing

#### Universal Robots A/S

Country: Denmark Industry: Manufacturing, Supply Chain

#### Vecna Technologies

Country: United States Industry: Service, Supply Chain

### Waymo

Country: United States Industry: Vehicles

#### <u>WowWee</u>

Country: China Industry: Consumer

#### Yamaha Motor

Country: United States Industry: Vehicles

#### <u>Yaskawa Motoman</u>

Country: United States Industry: Manufacturing



#### **About Robotics Business Review:**

Robotics Business Review (RBR) is the only publication dedicated to the business of commercial robotics. Whether you're investing in, developing or purchasing robotic solutions, RBR provides an unparalleled view into this rapily developing and growing market so you can stay informed, do your job better and be competitive.

RBR members have full access to our growing company index including insights on RBR50 companies, insider interviews, whitepapers, industry reports, podcasts, webcasts, and financial reporting.

Our members span the robotics ecosystem and use RBR to:

- Stay up-to-date on global trends and areas of growth and development in robotics
- Know where to invest their time, money and resources in robotics
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- Scout for new markets, opportunities, technologies and potential partnerships
- Gain intelligence on the people and companies at the forefront of robotics innovation

RBR members also receive discounts to industry events, including RBR's annual RoboBusiness Conference and Expo (The Global Congress of Robotics and Business) and employers can freely list jobs on RBR's highly active job board.

As a thank you for downloading this whitepaper, **<u>use code WPRBR5017 to save \$200</u>** on your membership.

We hope you take advantage of this offer and join RBR's community of informed business professionals who are actively investing in, developing, purchasing and profiting from commercial robotics.