

Roomba-maker iRobot clears path for robotics

April 22 2011, By Alana Semuels

Top scientists around the world are trying to improve upon robots, which can already detect bombs, perform surgery and even go into battle.

At iRobot Corp., they're trying to make a better vacuum.

Of course, iRobot's scientists do other things too. The company, best known for its Roomba floor vacuum, recently sent machines to Japan's Fukushima Daiichi [nuclear plant](#) disaster to help detect radiation, to the war zone in Afghanistan to find bombs, and to the [Gulf of Mexico](#) to locate spilled oil in the water.

But home robots - dominated by vacuums - make up 55 percent of the company's revenue and are part of the reason iRobot is on a tear. Shares are up 43 percent since the start of the year, and the company earned a profit of \$26 million on sales of \$401 million last year, up from \$3 million on \$299 million in revenue the year before.

Last week, the company announced it had won a contract to make bomb disposal robots for the Navy.

That iRobot, the only public company that focuses purely on robotics, is getting attention from investors indicates that this young industry is becoming more mainstream. As analysts and consumers get more comfortable with robots, more companies might succeed in the space.

"It's almost like buying Internet companies in the 1990s," said Alex

Hamilton, an analyst with Early Bird Capital who covers iRobot. "The sky's the limit."

Not everyone is a fan. A 2008 Consumer Reports review of vacuums found that the Roomba 560 "was among the worst performers at cleaning edges and corners." On consumer tech site CNET, comments ranged from "always broken, warranty poor" to "It's awesome! Great for what it costs."

The company is now trying to boost sales of secondary items, such as pool and gutter cleaners, to go along with its bestselling Roomba and Scooba robots.

Next up: a device on wheels that can follow you around the house like Rosie from "The Jetsons" and someday maybe even bring you a beer. The company predicts an expanding market in robots that assist the country's aging population.

"No one has ever made money with robots before," said Chief Executive Colin Angle, a freckle-faced 43-year-old who happens to be married to Erika Ebbel, Miss Massachusetts 2004. "But ours create more value than they cost to build."

The growth is evident at the company's headquarters in a Bedford, Mass., office park, where young men in ties and white shirts follow a tour on their first day of orientation. Awards from the last decade sit along the walls: gold-plated and silver Roombas, a crystal Entrepreneur of the Year award for Angle. IRobot now employs about 650 people.

The success is new for a company that teetered on the edge of survival for its first decade and a half. Founded in 1990 by Angle, MIT professor Rodney Brooks and graduate student Helen Greiner, the company's mission was initially vague: to make practical robots that could be useful

in everyday lives.

At the time, few investors believed this was a profitable venture, so the three put company expenses on their credit cards, and struggled.

"We were unfundable," said Angle, walking through an exhibit in the company's headquarters of experiments from iRobot's past - a baby doll [robot](#), a Zamboni-like vacuum, a furry creature that runs away from humans when it senses anger.

iRobot didn't receive its first venture funding until 1998. Even then, its endeavors were disjointed, spread across eight divisions: robots that could vacuum floors, entertain children and work on oil wells, to name just a few. It sent robots to work in war zones in Iraq and Afghanistan, but the government contracts weren't profitable enough to support the flailing consumer side.

The company nearly went under in 2002 as it tried to find retailers that would stock the newly completed Roomba. Just when its founders had given up hope, the Brookstone retailing chain called, saying that a test run of the machines had gone well and that consumer demand was increasing.

"We went from the lowest of the low to the most exciting time," Angle said. "Suddenly, things started to work."

Even after the company went public in 2005, its financial problems continued. Its stock slid, precipitously at times, to a low of \$7 in 2009 as the company burned through cash because of manufacturing issues and the high price of nickel, which is used to make batteries.

A new chief financial officer, John Leahy, has helped the company better manage its finances, analysts say, as has a focus on what it does

best: robotic vacuums. Demand is growing overseas as the company expands into Latin America and Europe. International sales grew 70 percent in 2010, and international home robot revenue made up two-thirds of the company's home [robot](#) sales.

The military machines have been a success too: IRobot is one of only two companies that provided robots to the military that have actually ended up on the ground, said Barbara Coffey, managing director at Brigantine Advisors, an investment research company. And the contracts keep coming in. Aside from the Navy deal, the Army said in March that it had ordered 76 small unmanned ground vehicles from iRobot.

"The company during that period really did grow from focused on the next flashy thing to the nuts and bolts of running a business," Coffey said. "Things like quality assurance and all the heavy lifting stuff came to bear."

[IRobot](#) hopes next to enter the health care field with Ava, essentially a device on wheels that works with existing tablet computers and can follow people around, sensing walls and other obstacles. If someone is trying to reach a senior citizen who isn't answering the phone, for example, Ava can go find the person, Angle said.

The company is inviting iPad developers to get into the game, designing apps for Ava.

It's just one way the company is expanding outside of cleaning products to make robots a more common presence in our lives.

"Nearly 100 percent of robots are going to help us do more and more and be part of a better life," Angle said. "It's the stuff of dreams."

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Distributed by McClatchy-Tribune Information Services.

Citation: Roomba-maker iRobot clears path for robotics (2011, April 22) retrieved 10 April 2024 from <https://phys.org/news/2011-04-roomba-maker-irobot-path-robotics.html>

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