Google Deal Adds to Company's Robotics Toolbox

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SAN FRANCISCO (AP) — Google may be gearing up to build robots that resemble props in science-fiction movies as the ambitious Internet company expands into yet another technological frontier.

To gather the expertise and research it needs, Google has purchased eight companies that specialize in robotics this year. The acquisitions are being assembled into a new robotics division headed by Andy Rubin, who oversaw Google's development of Android, now the world's leading mobile operating system.

Google added more pieces to its growing toolbox of robotics late last week with the purchase of Boston Dynamics, a military contractor that has raised intrigue by releasing videos of its inventions in recent years. Those inventions include a four-legged robot capable of galloping past Olympian sprinters and a jumping contraption that can leap onto tall buildings. Another video of a creepy-looking four-footed machine has been watched more than 15 million times since it was posted on Google's YouTube site five years ago.

Besides designing animal-like robots, Boston Dynamics also has been working on humanoids as part of a $10.8 million contract with the U.S. government's Defense Advanced Research Projects Agency, or DARPA.

Boston Dynamics' links to the U.S. military has inspired comparisons of its work with the ruthless cyborgs that overthrew humans in the "Terminator" movies. Founded in 1992 by former Massachusetts Institute of Technology professor Marc Raibert, Boston Dynamics says it is dedicating to "changing your idea of what robots can do."

Google confirmed the Boston Dynamics purchase on December 16, 2013, but declined to reveal any other information, including the sales price.

Rubin, though, evidently views the Waltham, MA, company's technology as a key to Google's robotics plans.

"The future is looking awesome," Rubin wrote about the acquisition in a message posted on his Twitter account on December 13, after news of the deal leaked out.

Google revealed Rubin is running its new robotics arm earlier this month, shortly after Amazon.com CEO Jeff Bezos used a segment on "60 Minutes" to announce that the Internet's biggest retailer is developing a fleet of automated drones called "quadricopters" to deliver merchandise to customers' doorsteps.

That has led to speculation in the media that Google hopes to build robots that would automate manufacturing and distribution center jobs currently handled by

humans. Other possibilities include housekeeping robots or automated caretakers for the elderly.

Some of the other robotics companies acquired by Google have been dabbling in humanoids and other technology that could be used for loading and unloading delivery trucks. One company bought by Google, Bot & Dolly, makes a robotic camera system deployed in the making of a recent science-fiction film, "Gravity." Other robotics companies sold to Google this year are Schaft, Industrial Perception, Meka, Redwood Robotics, Autofuss and Holomni.

Google has only said that it considers its robotics division to be a "moonshot." The Mountain View, CA, company applies that description to high-risk projects that have little to do with its main business of Internet search and online advertising. These gambles also typically take years to pay off, to the chagrin of investors who prefer that the company curb its spending on far-flung ventures and focus on its main areas of expertise.

Other Google moonshots still evolving include Internet-connected glasses, autonomous cars and Internet-beaming balloons. All of those were hatched in Google X, a secretive lab overseen by co-founder Sergey Brin. The robotics division is being run separately in a Palo Alto, CA, office located a few miles north of Google's headquarters.

Android, a technology that Google picked up through another acquisition eight years ago, also was once considered a wacky idea before it became a key piece of the company's strategy for connecting its services on smartphones and tablets. The software, which Google gives away to device makers, is now running on more than 1 billion gadgets.

Rubin, 50, stepped down as Android's leader nine months ago, spurring questions about what he might do next for Google.

Boston Dynamics' "BigDog" video: http://bit.ly/1cx025D [1]

"Sand Flea" video: http://bit.ly/Jta00x [2]

"WildCat" video: http://bit.ly/1ctkSms [3]

"Cheetah" video: http://bit.ly/1fsGiE9 [4]

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