

Boston Dynamics founder shares robot updates at Fab Lab meet

18 August 2015, by Nancy Owano



The setting: The 11th Fab Lab Conference and Symposium in Cambridge, Massachusetts, earlier this month. The speaker: Marc Raibert, the founder of Boston Dynamics. This was a good time to pull away from all the past videos of Big Dog, LS3 and Atlas strutting their stuff in the lab and get a sense of what Raibert and his team tries to accomplish and what it's up to now.

To fast-forward to the "new" news: Boston Dynamics has been taking its quadruped and biped heroes out of the lab and into the real world, where real challenges lie in wait. They are being tested out of doors.

Raibert narrated a video showing at first not robots but live animals deftly making their way up a mountain. Insights into Boston Dynamics' goals lists for their robots come from seeing how Raibert sees the animals.

"My goal is to build robots that rival humans and animals, or maybe even exceed humans and animals, in their ability to move around in the world, manipulate things, perceive what's around them."

Raibert said, "It's pretty tall order." The animals, shown scrambling up the rocks on extremely rough terrain, are moving dynamically which, he said, means there is energy in the motion. "They are not doing slow moving things; they keep everything under control; they are just moving right through the space." Pan to a big quadruped robot and its loud buzz.

"So we've been working hard trying to rival those animals and eventually we hope to surpass them." Raibert showed some past four-legged versions including one that was designed to carry a 400-pound payload, anywhere a soldier might go and designed for a 20 mile mission.

Then he showed a kinder, gentler, smaller version of quadrupeds, one that has the same kind of control systems and a lot of the same construction techniques, and this model showing "remarkable mobility," said Raibert. The video showed it outdoors and it impressively handled an incline. Raibert said it has a sensor system that looks at the terrain and on-board controls. It was shown sprinting with a human companion. "It's not quite man's best friend but ...it has unbelievable balance."

Also, it was outfitted it with a manipulator, "which gives it a little more autonomy. It's not stuck in the lab."

Turning to [humanoid robots](#), he commented on the rock-stepping model in the video. "Our focus is on balance and dynamics—working a little bit the way people and animals do, where you move quickly in order to keep yourself stabilized if disturbed."

Raibert said, "we are interested in getting this [robot](#) out into the world.—just a totally different challenge than in the lab. You can't predict what it's going to be like."

It was not completely free being out in the world because there was a power tether, "but we are

working on a version that doesn't have that."

The biped walked at an impressive pace through the outdoor terrain.

"We are making pretty good progress," he said. "I'm not saying it can do everything you can do but you can imagine that if we keep pushing we'll get there."

Last but not least, Raibert showed a vision of the future on a chart where they print parts. He said, "We're pursuing this pretty aggressively, and, I think, by the end of the year, you'll see robots from us that use an approach of fabrication that's more like that."

More information:

www.fab11.org/photos-and-video/

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