

News & Analysis

Slideshow: Darpa's Virtual Robotics Challenge Gets Underway

R. Colin Johnson

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PORTLAND, Ore. -- The first phase of the Defense Advanced Research Project Agency (DARPA) Robotics Challenge (DRC) was completed last week, with nine of the 26 teams that competed being selected to move onto the next round.

The first phase of the Virtual Robotics Challenge (VRC), featured 26 teams from eight countries competing in a simulated virtual arena.

"The Virtual Robotics Challenge itself was also a great technical accomplishment," said Gill Pratt, DRC program manager in a [press statement](#). "We have now tested and provided an open-source simulation platform that has the potential to catalyze the robotics and electro-mechanical systems industries."

The winners move on to the next phase of the competition where real robots will repeat the tasks from the VRC simulation -- plus perform five more -- in a real-life arena where physical robots will compete for a \$2 million purse. The next phase of the DRC will take place in December of 2013, with the final phase a year later in 2014.

The top nine winners (by points) of the VRC were:

1. Team IHMC from the Institute for Human and Machine Cognition, Pensacola, Fla. (52 points)
2. WPI Robotics Engineering C Squad (WRECS) from the Worcester Polytechnic Institute, Worcester, Mass. (39 points)
3. Massachusetts Institute of Technology (MIT), Cambridge, Mass. (34 points)
4. Team TRACLabs, TRACLabs, Inc., Webster, Texas (30 points)
5. JPL/UCSB/Caltech, Jet Propulsion Laboratory, Pasadena, Calif. (29 points)
6. TORC/TU Darmstadt/Virginia Tech, Blacksburg, Va. (27 points)
7. Team K, Japan (25 points)
8. Trooper, Lockheed Martin, Cherry Hill, N.J. (24 points)
9. Case Western University, Cleveland, Ohio (23 points)

The simulated arena that the competition was staged in was created by the Open Source Robotics Foundation (OSRF). The Robotics Challenge Simulator tested each teams algorithms on three tasks: enter a golf cart and use the standard pedals and steering wheel to drive it; walk to a building exit then outside across a mud flat and over a rubble pile; locate a fire hose, screw it onto a hydrant, and open the valve. Each of those steps will be illustrated in this slideshow.

The winners were awarded an Atlas robot by Boston Dynamics, to which they will upload their algorithms for the real-world competition in a real arena in December.

Click on image below to view slideshow.



In DARPA's Virtual Robotics Challenge, contestants wrote software that controlled a virtual robot whose first task was to enter and drive this utility vehicle down debris-strewn roads.

(Source: DARPA)

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