

Darpa seeks robot enthusiasts to face off for \$2m prize

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Hardware, software, modeling and gaming developers sought to link with emergency response and science communities to design robots capable of supervised autonomous response to simulated disaster.

As iconic symbols of the future, robots rank high with flying cars and starships, but basic robots are already in use in [emergency response](#), industry, defense, healthcare and education. DARPA plans to offer a \$2 million prize to whomever can help push the state-of-the-art in robotics beyond today's capabilities in support of the DoD's disaster recovery mission.

DARPA's Robotics Challenge will launch in October 2012. Teams are sought to compete in challenges involving staged disaster-response scenarios in which robots will have to successfully navigate a series of physical tasks corresponding to anticipated, real-world disaster-response requirements.

Robots played a supporting role in mitigating fallout from the Fukushima nuclear plant disaster in Japan, and are used by U.S. military forces as assistants for servicemembers in diffusing

improvised explosive devices. True innovation in robotics technology could result in much more effective robots that could better intervene in high-risk situations and thus save human lives and help contain the impact of natural and man-made disasters.

The DARPA Robotics Challenge consists of both robotics hardware and software [development](#) tasks. It is DARPA's position that achieving true innovation in robotics, and thus success in this challenge, will require contributions from communities beyond traditional robotics developers. The challenge is structured to increase the diversity of innovative solutions by encouraging participation from around the world including universities, small, medium and large businesses and even individuals and groups with ideas on how to advance the field of robotics.

"The work of the global robotics community brought us to this point-robots do save lives, do increase efficiencies and do lead us to consider new capabilities," said Gill Pratt, DARPA program manager. "What we need to do now is move beyond the state of the art. This challenge is going to test supervised autonomy in perception and decision-making, mounted and dismounted mobility, dexterity, strength and endurance in an environment designed for human use but degraded due to a disaster. Adaptability is also essential because we don't know where the next disaster will strike. The key to successfully completing this challenge requires adaptable robots with the ability to use available human tools, from hand tools to vehicles.

"Robots undoubtedly capture the imagination, but that alone does not justify an investment in robotics," said DARPA Acting Director, Kaigham J. Gabriel. "For robots to be useful to DoD they need to offer gains in either physical protection or productivity. The most successful and useful robots would do both via natural interaction with

humans in shared environments."

The DARPA Robotics Challenge supports the National Robotics Initiative launched by President Barack Obama in June 2011.

To answer questions regarding the Robotics Challenge and provide an opportunity for interested parties to connect, DARPA will hold a virtual Proposers' Day workshop on April 16, 2012. This online workshop will introduce interested communities to the effort, explain the mechanics of this DARPA challenge, and encourage collaborative arrangements among potential performers from a wide range of backgrounds. The meeting is in support of the DARPA Robotics Challenge Broad Agency Announcement. More information on the BAA and Proposers' Day is available at: go.usa.gov/mVj.

Provided by DARPA

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