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## **American Innovators Take Robotic Technology Into the Field During Saturday's Inaugural DARPA Grand Challenge**

Primm, NV – Hundreds of amazed onlookers in Barstow, CA got a first glimpse into the battlefield of the future as 15 robotic ground vehicles attempted to navigate a rugged desert course. The vehicles were participating in the DARPA Grand Challenge, in which the autonomous vehicle to most quickly complete the route in less than the prescribed time would receive a cash prize of \$1 million.

The 142-mile course from Barstow to Primm, NV included well-traveled utility roads, switch-backs, severe elevation changes, blind turns and sheer drops. Approximately three hours before the start of the event, participants were given a CD containing the latitude and longitude of approximately 2000 waypoints, and speed limits for various legs of the route.

The vehicles left the starting area every five to ten minutes as they began their test. By four hours into the event, it was clear that a number of vehicles were having difficulty at miles 5 to 7, the steepest and narrowest roads on the route by that time, they had already completed seven turns in the first three miles.

“Today was a most important first step in a long journey,” said Dr. Anthony Tether, Director of DARPA. “Although none of the vehicles completed the course, and we were not able to award the cash prize, we learned a tremendous amount today about autonomous ground vehicle technology. Some vehicles made it seven miles, some made only one mile, but they all made it to the Challenge, and that in itself is a remarkable accomplishment.”

Competitors' entries were unmanned, autonomous ground vehicles that could not be remotely driven. Boundaries defined the course, and vehicles that went outside of them would be disqualified. Each vehicle was followed on the course by a manned control vehicle equipped with an emergency stop system to prevent unsafe situations.

These 15 teams, representing a wide variety of backgrounds, organizations and areas of the country, were selected after a week-long series of tests that determined their ability to safely navigate and avoid obstacles while running autonomously at California Speedway in Fontana.

“We have clearly sparked the enthusiasm and innovation that makes America great,” remarked Col. Jose Negron, DARPA Grand Challenge Program Manager. “This event has helped us make major strides advancing the



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technologies in the development of autonomous robotic ground vehicles. We are extremely impressed that these teams made it as far as they did today over such difficult terrain, and we know that they will continue to work to perfect their vehicle systems.”

“The course that we put together was meant to be very challenging,” said Sal Fish CEO/President of SCORE International, which provided route development and logistics for the Challenge. “At the same time, we worked very closely with the California and Nevada authorities to make sure it was as safe as possible for the spectators, judges and the environment.”

As part of this effort, DARPA’s 20 biologists charted all desert tortoise burrows close to the route and placed protective pens around the burrows. No pens or tortoises were disturbed during the Grand Challenge field test, and the pens are now being removed.

DARPA is the central research and development organization for the U.S. Department of Defense. The Agency manages and directs basic and applied research and development projects for the Department of Defense, and pursues research and technology where the risk and payoff are both very high and where success may provide dramatic advances for traditional military roles and missions.

For more information and photos from the week’s events, visit the official DARPA Grand Challenge website at [www.grandchallenge.org](http://www.grandchallenge.org).

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