Philadelphia-Based Autonomous Car Finishes DARPA'S International Urban Challenge Competition

Lockheed Martin Provided Autonomy Technology to Driverless Automobile

The Ben Franklin Racing Team and its entrant "Little Ben" and five other remaining autonomous automobiles finished the Defense Advanced Research Projects Agency's (DARPA) first Urban Challenge in Victorville, Calif. Little Ben was the fourth car to finish the course.

In 2006, DARPA asked designers worldwide to develop automobiles that could intelligently and safely drive themselves through a 60-mile urban course in less than six hours. The cars had to obey traffic laws while merging into moving traffic, navigating circles, negotiating busy intersections and avoiding obstacles.

DARPA progressively winnowed competitors through a series of demonstrations in the months leading up to the final competition. Of 89 original international entrants, 53 qualified for site demonstrations earlier in the year. DARPA then selected 35 for the national qualifying trials Oct. 26-31 at the urban military training facility on the former George Air Force Base, Victorville. Little Ben was evaluated as the top contender going into the qualifying trials. It later emerged as the fourth best robot following the trials and joined 10 others to compete in the final competition.

The final event consisted of three missions and a number of sub-missions. Of the 11 cars competing, five did not finish the first mission event. The remaining six entrants, including Little Ben, successfully completed all mission scenarios.

DARPA evaluated the robots on speed and overall behavior. Behavioral characteristics included how well the robots observed the rules of the road and how smoothly they executed typical driving maneuvers. A consortium led by Carnegie Mellon University won first place and claimed a $2 million prize. Stanford University placed second for $1 million, and Virginia Tech took third place for $500,000.

Little Ben is a Toyota Prius and the product of the Ben Franklin Racing Team, a consortia led by the University of Pennsylvania with Lehigh University and Lockheed Martin Advanced Technology Laboratories (ATL).

"We are thrilled for the University of Pennsylvania and Lehigh University," said James Marsh, Lockheed Martin ATL director. "A very talented group of engineers spent some very long hours and surmounted some very formidable technical obstacles to achieve something that has game-changing implications for how we view and use autonomous technology."

As a sponsor and member the University of Pennsylvania team, Lockheed Martin ATL contributed behavior management and sensor fusion technologies to provide Little Ben with behavior and mission planning and high-level perception. It also provided project management for the team.

"I couldn't be happier for our team and, of course, Little Ben," said Brian Satterfield, Lockheed Martin ATL project manager. "It's amazing when you consider that we were the only B-team entry to finish the final competition, and we were only one of two finishers who had not previously competed in DARPA's 2005 Grand Challenge."

At the outset of Urban Challenge in 2006, DARPA awarded up to $1 million in technology development funds to 11 Track-A teams. These teams had to achieve key technical milestones to receive the funds. Little Ben and the other 77 Track-B teams did not receive these funds.

Lockheed Martin ATL funded its participation throughout the program.

For more information on the Ben Franklin Racing Team and videos of "Little Ben": www.benfranklinracingteam.org

For more information on Urban Challenge: www.darpa.mil/grandchallenge

Photography and digital video of Little Ben is available.

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

For additional information on Lockheed Martin Corporation, visit our website: www.lockheedmartin.com

First Call Analyst:
FCMN Contact:

SOURCE: Lockheed Martin Advanced Technology Laboratories

Web site: http://www.atl.external.lmco.com/
http://www.lockheedmartin.com/
http://www.benfranklinracingteam.org/
http://www.darpa.mil/grandchallenge

Company News On-Call: http://www.prnewswire.com/gh/cnoc/comp/534163.html

---

https://news.lockheedmartin.com/2007-11-04-Philadelphia-Based-Autonomous-Car-Finishes-DARPAS-International-Urban-Challenge-Competition