

## Race Car Prepares for DARPA Urban Challenge

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*Using technology supplied by two Minnesota automation components suppliers, an autonomous vehicle prepares for November competition.*

In a final test and demonstration before the upcoming 2007 DARPA Urban Challenge, the autonomous race car, the Lone Wolf, took itself for a spin Aug. 15 at sponsor Comtrol Corp.'s headquarters in Minneapolis.

This unmanned, computer-driven Lotus Elise employs technology from Minnesota manufacturers Comtrol, Maple Grove, Minn., and Minneapolis-based Sick Inc., among others. Comtrol supplies the Lone Wolf with DeviceMaster equipment that is instrumental to coordinating the car's complex system of sensors necessary for autonomous operation. These laser measurement system sensors, developed by Sick, use laser radar technology to help the car "see" obstacles and navigate the terrain.



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The Lone Wolf from Insight Racing, based in Morrisville, N.C., is an entrant in the DARPA (Defense Advanced Research Projects Agency) Urban Challenge taking place on Nov. 3. The race is part of a congressionally mandated research initiative to ensure that by the year 2015, one third of military vehicles will function

autonomously, as a way to help isolate troops from roadside threats. The Lone Wolf's programming, which allows it to maneuver in traffic with no human assistance, also provides many opportunities for enhancement of future automobiles.

### Crash avoidance

Comtrol's DeviceMaster allows real-time data to be fed from Sick vehicle sensors to on-board computers, enabling the Lone Wolf to react to intersections, other moving vehicles and traffic laws. Comtrol's data communications products are used to connect and control peripheral serial devices in industrial automation applications, military sensor devices, process control and manufacturing automation devices, and transportation/traffic monitoring and control systems.

By combining their efforts, Insight Racing, Comtrol and Sick have delivered a solution pertinent to the everyday lives of commuters worldwide, the companies believe. This technology also may eliminate some of the current threat to soldiers operating vehicles in military combat.

The Lone Wolf provided ride-alongs for industrial representatives at an Aug. 15 demonstration. Comtrol also invited local media to take a test ride in the Lotus Elise unmanned vehicle, later offering a behind-the-scenes look at the technology behind the drive. A host of engineering students from the University of Minnesota also were encouraged to attend.

### Culture chord

"We're thrilled to be part of this important collaboration with Insight Racing and Sick, and participating in an initiative to help save lives in military combat is an honor," said Bradford Beale, Comtrol vice president. "We've offered innovative data communications products to military and industrial applications for a quarter century, but with this and many more applications in queue, we've really struck a chord with modern culture. Today we saw from the earliest Lone Wolf demonstrations that attendees—especially U of M students—were excited to see how this technology may affect each of them individually, as well as change the way we think of transportation as a whole."

Jeff Wuendry, product marketing manager for Sick, explained how this sophisticated vehicle is able to operate autonomously. "The Sick Laser Measurement System (LMS) Sensors are one of the key components of the navigation system, helping the car to 'see' using laser radar technology," Wuendry said. "The LMS relies on Comtrol's DeviceMaster to enable real-time communication of terrain and obstacle data to the Lone Wolf's multiple computer systems."

To watch video footage of the Lone Wolf in action at Comtrol, visit [www.comtrol.com](http://www.comtrol.com)

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