

## Las Vegas electronics show goes into overdrive

*by Jonathan Sidener*

LAS VEGAS - A driverless blue Chevrolet Tahoe, its roof topped by antennas and unidentifiable technology, jumps to life and takes a spin around a parking lot, its steering wheel turning back and forth to navigate a course marked by orange cones and its brakes slowing the vehicle for a stop sign.

For the robotic vehicle dubbed "Boss" by its Carnegie Mellon University developers, the drive is a piece of cake. After all, the Boss drove 60 miles autonomously amid traffic in November to win the DARPA 2007 Urban Challenge competition.

The Boss was put through its paces Monday across the street from the Las Vegas Convention Center, where this year's Consumer Electronics Show touts the convergence of auto and consumer technology.

At the four-day trade show, which opened Monday, several auto component manufacturers are showing systems that warn drivers who veer out of their lanes, slow down cars that approach another vehicle too quickly and help drivers ease into tight parking spaces.

One wing of the sprawling Convention Center is filled with navigation system makers, music and video system companies and Bluetooth developers hoping for a windfall when California's ban on hand-held driver cell phone use takes effect in July.

Other companies are displaying steering wheels with imbedded LCD displays that give navigation information while allowing the driver to keep one eye on the road and license-plate cameras that display video on the rear-view mirror.

To emphasize the automobile's new role as an electronics center, General Motors Chairman and Chief Executive Rick Wagoner is scheduled to give a keynote speech today (Jan. 8). The role traditionally is

reserved for the Samsungs, Microsofts and Sonys of the world.

The show provides Wagoner a bully pulpit with 140,000 attendees, 2,700 electronics manufacturers and the world's technology media chronicling the new gadgets. The world's largest automaker, which helped sponsor the Carnegie Mellon robotic car, sees the show as a way to enhance its high-tech image.

The car's high-level advances will lead to smaller practical progress - auto safety "stepping stones," said Bakhtiar Litkouhi, a manager in GM's Electrical & Controls Integration Lab in Warren, Mich.

"This isn't going to happen overnight," Litkouhi said. "We don't envision the driver ever giving up complete control, but if you're tired or distracted you will be able to give some of the control to these systems."

At Delphi's booth, two spokesmen from the auto parts company explained that many of today's higher-priced cars are already beginning to look a little like the Chevy Tahoe Boss. Cars from Volvo, Mercedes, Cadillac and Lexus use simpler versions of the same technologies to make decisions on slowing the cars and monitoring their positions relative to lane markers, they said.

"Like the Carnegie Mellon car, we're using radar and lasers and taking that information to control the car," spokesman Paul Martindale said. "If you're using adaptive cruise control set at 80 and you come up on a car going 60, your car is going to slow before you get to the other car."

Not far from the Delphi booth, South Korean car maker Hyundai displayed a digital version of its parking assist system, which monitors the distance between a parking car and potential obstacles. The analog version of the Hyundai technology has begun to appear on high-priced cars, but the digital version will reduce the price by more than half, Hyundai says.

Monday, San Diego-based Qualcomm debuted prototype devices, which include auto navigation features, based on its Snapdragon line of chips.

Qualcomm's vision for personal navigation devices centers around thin gadgets - small enough to fit in a pocket - that serve as a portable media player and mobile TV but also can snap into a dashboard cradle to provide navigation. Some will include Bluetooth hands-free phone call management, said Chief Operating Officer Sanjay Jha, who demonstrated the prototypes at a hotel near the Convention Center.

This year's buzz over automotive convergence builds on the big success Ford has enjoyed after launching its Sync dashboard information computer here last year. The Sync provides hands-free control of cell phone calls, music, text messages and e-mail.

The popularity of the Sync in new Fords is creating demand for products to retrofit cars on the road, said Stan Gafner, chief executive of San Diego startup Raytel.

Raytel showed its line of Bluetooth automotive gadgets with a range of voice, music, navigation and video features. The top-of-the-line model can dial phone numbers dictated by drivers, read incoming text messages and stream music from Bluetooth-enabled phones through a car's speakers.

Gafner said he expects a boost in hands-free system sales in California as the July 1 deadline approaches.

"Some people will just pay the \$20 fine and keep on talking," Gafner said. "I'd like to see them raise the fine."

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