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Entrepreneurs

Six Technologies To Cure Bad Driving

Maureen Farrell, 09.15.10, 6:00 PM ET

The roads are alive with the sound of honking horns and crunching metal.

While the number of traffic fatalities in the U.S. has dropped to about 34,000 annually (the lowest level since 1954), pushing that number lower will only get tougher. Nearly 8 out of 10 seniors aged 70 years and up—the most crash-prone demographic—have drivers' licenses, more than ever before, according to the Insurance Institute for Highway Safety.

That's why car makers, parts suppliers and startup companies are betting on a host of new technologies—from simulation software to boost drivers' reaction speeds to night-piercing cameras to anti-slumber seats—to make the roads safer (and to put more vehicles on them). The U.S. government, too, is stepping on the gas with IntelliDrive, a five-year, \$500 million research program focused on using mobile technology to make cars communicate with and react to their surroundings.

The ultimate vision, says Roderick MacKenzie, chief technical officer at ITS America, an intelligent-transportation-systems trade group in Washington, D.C.: "These are small steps toward an eventual goal of having fully autonomous vehicles that essentially drive themselves."

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Even the most optimistic futurists say autonomous vehicles are 20 years away, but brakes that take over in an emergency and cars that can talk to each other are on deck in the next five years. "The newest trend is [software] that predicts what's going to happen and what the driver will do," says Thilo Koslowski, vice president of automotive and vehicle research at Gartner.

Herewith, a sample of some of the newest technology coming down the pike.

Advanced Warnings

Mobileye has created a camera-based warning system that alerts drivers if a collision is imminent. Dashboard-mounted, monitor-and-beep hardware that takes the guesswork out of parallel parking has been in cars for some time. Up ahead: Mobileye Chief Executive Skip Kinford says his next-generation systems will automatically take over a car's brakes in an emergency. For now, camera-sensor retrofits go for \$800 per car.

Skill Tests

Are you a good driver? GreenRoads thinks it can tell you. Using a barrage of sensors wired to your car, its software monitors habits like changing lanes without signaling and stopping suddenly at traffic lights. The company delivers updates over the Web. For now, GreenRoads sells its services to automobile fleet companies. (It won't disclose pricing.) Down the road, Chief Executive Dan Steere aims to sell monthly subscriptions to individual drivers.

Brain Games

Posit Science aims to sharpen the minds of older drivers. Using brain fitness research from the University of Alabama at Birmingham, the company's DriveSharp videogame software increases an older person's ability to process what comes into her "useful field of view," or the 180-degree area in a driver's sightline. National Institute of Health research estimated that DriveSharp reduces accident risk in older adults by 50%. Insurers All-State and The Hartford will write \$50 and \$25 checks, respectively, to seniors who spend 10 hours using the software, which costs \$89.

Night Vision

Flir Systems, maker of infrared cameras, has teamed up Autoliv, an autoparts company, to give drivers the same kind of night vision as troops in Iraq and Afghanistan. Flir's cameras use thermal sensors to capture images five times further away than those able to be seen with bright headlights and flash them on a screen in a car's dashboard. BMW, Audi and Rolls Royce offer the systems as an option for about \$2,200, but Flir Chief Executive Andy Teich hopes to get the price down below \$800 in the next few years. (For more, check out [Flir Systems Sees Growth In The Dark.](#))

Unsnarled Roads

Traffic drained \$87 billion from the U.S. economy in 2009, causing drivers to waste 4.2 billion hours per year, according to the Texas Transportation Institute. Worse, moving at a snail's pace encourages people to send text messages, making the roads even more treacherous. INRIX aims to eliminate the "I got stuck in traffic" excuse. The company takes real-time traffic information from the vehicles of partner companies like UPS and Ford to generate predictive traffic patterns. Motorists looking to know how it will take to get to a destination via different routes can pay \$10 per year for a mobile phone application (running on the iPhone, and soon on Google's Android). INRIX plans to ink deals with more car companies to get their systems in cars by 2013.

Anti-Slumber Seats

Much like ridges in the road before a toll both, engineers are looking for ways to shake drivers awake when they start to drift off. Teams at Daimler, Berlin's Fraunhofer Institute and George Washington University are testing new anti-slumber devices that do just that—say, by using sensors that measure pupil sizes and heart rate to trigger a series of warning beeps. Gartner's Koslowski says to expect these systems in the next three to five years.

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