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Auto pilot engaged

on 30 September 2000, 22:00



by [Niall McKay](#)

Every day, test drivers from [DaimlerChrysler's](#) Mercedes-Benz division take a 90-mile-an-hour spin down Germany's Autobahns. Each car may look like any other \$70,000 Mercedes, but under the hood, onboard computers called global positioning satellite (GPS) units and wireless communications systems work together to ensure that drivers just sit, arms folded, and see that the car's equipment is working properly.

Several time zones away, researchers at [Carnegie Mellon University](#), the mecca for artificial intelligence, have turned the tables and are developing cars that can tell if drivers are tired, distracted, or inattentive.

This is the future of transportation. Thanks in part to wireless technology, drivers will soon become passengers and will be able to take a nap, socialize, or catch up on some work while they are taken safely to their destination.

It will be some time, of course, before this is ready for the family wagon. In the meantime, auto manufacturers are moving toward using voice-based interfaces to integrate personal computing, the Internet, and wireless communications into vehicles. This means that technology such as traffic management systems, GPS navigation systems, which read turn-by-turn directions, and seamless cell phone and email integration with the in-car audio system, will soon become as common as a cassette player. It means a user can say, "Get milk," and the car's computer will order it and pay for it. It also means that users can access any radio station or CD track and reroute it to or from a home or office stereo in a hurry.

So what's missing? Nothing that won't be dealt with in the next three to five years, according to Paul Chou, manager of Automotive Solutions for Thomas J. Watson Research Center. "What we really need now is the systems integration," Mr. Chou says.

It's a seemingly small order until you realize that not long ago, there was no wireless data infrastructure, so getting the data was impossible. And there was no useable voice recognition software (using keyboards is impractical while driving). Nor were there easy-to-connect devices with in-car control and audio systems.

[Bluetooth](#), the short-range wireless networking standard, will solve this problem in part. It will dispense with the need for wires, universal serial bus ports, and messing around with docking stations to connect devices such as MP3 players and cell phones to car audio systems.

Broadband wireless infrastructure, we are told, is just a few years away from full rollout. And voice recognition software that actually works for control systems is getting better each year.

Auto manufacturers like Mercedes and BMW and car audio vendors like [Clarion](#) (OTC: CRILF) are providing GPS navigation systems, but these are integrated with maps stored on CD-ROMs. The next stage is to go directly to the Internet for map information. In the United Kingdom, Germany, and Japan, trials are already under way to integrate navigation technology with traffic management systems.

So why the hullabaloo? It's increasingly difficult for automakers to differentiate their products. That's why [General Motors](#) decided last year to sink \$3 million into a project with Carnegie Mellon University to investigate how technology could improve the driving experience.

The project has already yielded some interesting results, such as a rudimentary autonomous vehicle technology using little more than a Windows 98 laptop computer and a couple of video cameras. Carnegie Mellon used artificial intelligence software to analyze the data from the cameras to program the car's direction and speed. The car collects data like the location of other vehicles and road conditions, which it then uses to decide whether to turn, stop, or hold its position. Engineers say the system is accurate enough for a vehicle to cross 98 percent of the United States. The remaining 2 percent worried GM lawyers, so the company pulled the project.

Meanwhile, electronic engine monitoring, tuning, and maintenance technologies are progressing. It's easy to imagine a day when one gets into the car and it says, "I'm not going anywhere until you take me to the dealership for a tune-up."

ADDITIONAL RESOURCES

Link to the [Mercedes-Benz USA media Web site](#). Your password is greatcars.

Meet Daniel P. Siewiorek, Director of the Human-Computer Interaction Institute at [Carnegie Mellon University](#).

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[Gmail BETA, See You Lata](#)

Google's gmail loses its "BETA" label.

[Bada Bing, Bada Boom?](#)

Microsoft's Bing.com gets some traction in online search, according to the numbers in from ComScore.

[Calpers to Pump up PE Stake](#)

The nation's largest pension fund is mulling a 40 percent increase in its private equity investments.

[Peripheral Madness](#)

The living room is a jungle of plastic and wires – I say enough already.

[Wii Storage Ups Strong Bad Sales](#)

One company is feeling the love because of Nintendo's Wii storage solution: Telltale's Strong Bad.

[Amazon Sells Xbox Live Games](#)

No more leftover points—buy XBLA games off Amazon.

[GDC 09 Keynote: What About Wii?](#)

Satoru Itawa's keynote touched on both systems, but it seems like the Wii got the short end of the stick.

[Steam Vaporizes DRM and Piracy](#)

Steam's added anti-piracy measure does away with DRM.

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