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Cars Will Let Motorists Drive And Surf

Auto industry is betting drivers will want hands-free phones and wireless Internet access

By [Bob Wallace](#)



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The next wave of motor vehicles will do more than take you from point A to point B. If the auto industry has its way, your next vehicle will be a mobile office, a data center on wheels, a node on an E-commerce network, and a moving entertainment center.

Automakers, their parts suppliers, and a bevy of infrastructure providers in the software, hardware, and services businesses have ambitious plans. Known collectively as the telematics industry, they're betting that consumers will soon want more in their cars than air conditioning, a CD player, and an automatic braking system. They say most future cars will also have hands-free, voice-activated telephones, wireless Internet access, and location-based services.

"Cars in the near future will be a communications platform offering wireless, Internet, and entertainment services representing a transformation from comfortable transport," says Elliott Hamilton, director of global telematics at research firm the Strategis Group. "The driving factors behind the race to introduce these services is for vehicle differentiation and safety."

That was the strategy behind General Motors Corp.'s OnStar in-vehicle navigation and safety system, which was launched in 1996. The auto-maker's unit is signing up 1,500 subscribers a day, with the goal of hitting 1 million subscribers by the end of 2000 and 4 million by 2003, says Tim Smith,

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director of business evolutions at e-GM, the automaker's business-to-consumer E-business unit. "The goal is to grow OnStar by offering additional services," he says.

GM plans to build on the concept of the mobile office by offering a Virtual Advisor, which provides voice-activated Internet access for the retrieval of E-mail through the OnStar .com portal. And GM has already partnered with Verizon Communications Inc. to offer voice-activated wireless phone calling.

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The auto industry sees big money in these new services. Sales of telematics equipment and services are expected to rise from \$735 million in 2000 to \$5.3 billion in 2005, according to the Strategis Group. Part of that growth will come from automakers offering telematics in more vehicles, moving from luxury cars into the midpriced market.

The research firm predicts that about 84% of new cars sold in 2005 will have telematics available as optional or standard equipment, up from around 17% today.

While revenue may soar, profits may be harder to generate. "Telematics represent a large revenue opportunity, but it's not at all clear if they represent a large profit opportunity," says David Bello, VP of strategy at technology consulting firm Tallan Inc., formerly called CMGI Solutions. "There's low penetration of these services, subscribers only want to pay \$3 to \$4 a month for them, the cost of technology development is high, and there's lots of potential competition. Also, it's not clear that any one company can succeed on its own."

That's exactly why automakers, their suppliers, and other industry members are rapidly partnering with wireless service providers, speech-recognition companies, text-to-speech synthesis firms, software vendors, device manufacturers, and global positioning system chipmakers to provide complete service packages.

Delphi Automotive Systems in Troy, Mich., is working with Palm and Ericsson to put the finishing touches on a plug-in system called the Communiport Mobile Productivity Center, which combines a cell phone and a personal digital assistant to give drivers hands-free access to information in Palm V devices. A microphone and voice-recognition capabilities let users request and listen to entries from the Palm's calendar, to-do list, memo pad, and E-mail. Using voice commands, a user can instruct the unit to load a phone number from the address book into the phone and place a hands-free call. The portable Communiport plugs into a 12-volt power source.

The value of hands-free products is increasing. More than 20 states have legislation pending to severely restrict or prohibit the use of handheld cell phones while driving.

"That's why voice is the key interface to telematics services," says Brian Radloff, business development manager for telematics and multimedia systems at Visteon Corp., a Ford Motor Co. auto systems spin-off in Allen Park, Mich. "As a result, speech recognition is the enabling technology for safer access to information."

There are many crucial issues that must be resolved before telematics catches

on in a big way. "What if the technology doesn't work?" asks Phil Korevevis, an attorney at Butzel Long, P.C. "I'm expecting product-liability suits. And who's responsible? In lawsuits, it's usually the company with the deepest pockets."

Distractions can cause problems at high speeds. Korevevis says a car moving at 60 miles an hour travels 88 feet per second, and 0.75 to 1.5 seconds can elapse while a driver perceives and reacts to an event. He urged the industry to support some regulation to ensure that telematics systems don't overload a driver. "If you don't self-regulate, someone else will step in fast," he says.

There also are major applications of telematics outside the consumer market, ones that require little or no driver interaction. Fleet-management systems, for example, let fleet operators manage vehicles from a central location. While such systems aren't new, they're being improved to provide greater control and capabilities.

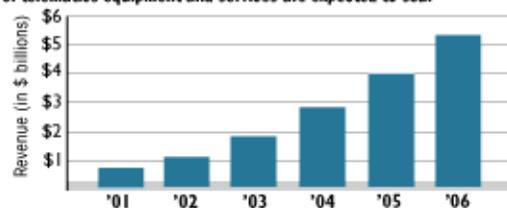
Startup EverTrac Inc., a joint venture of software maker Computer Associates and global-positioning system chipmaker United Microelectronics Corp., has developed a fleet-management system with a twist: Owners use CA's Unicenter systems management software to track and receive diagnostics from each GPS-enabled vehicle and monitor it as if it were a server, router, or switch.

To enable that functionality, a small box in the vehicle's engine contains agents that collect operational data from sensors on major systems and pass them back to Unicenter. The fleet operator can set policies that result in alerts when pre-set thresholds are exceeded. If a vehicle is on the road too long without an oil change, for example, the system will turn an icon on Unicenter's visualization system yellow, and the car will be taken off the road for service.

EverTrac CEO Imran Anwar often refers to cars as data centers on wheels. "A vehicle can be part and parcel of an E-business transaction," he says. "If a truck breaks down en route and doesn't deliver a product to its destination by a preset deadline, the transaction is lost. With the GPS chips in vehicles, fleet managers know where each one is and if there are any business-impeding problems." The enhanced fleet-management system lets managers know and control the health of a vehicle and pinpoint its location, he says.

Driving Sales

As automakers add more technology and service capabilities to vehicles, sales of telematics equipment and services are expected to soar



DATA: THE STRATEGIS GROUP

Still, it's consumer services that are attracting the most attention and posing the toughest challenges. Imagine your children watching loud DVD movies in the back seat while you're trying to tune in a high-quality satellite-based music-delivery service.

"Home entertainment products with large displays are quickly headed to cars, which is why I call the next wave of vehicles 'the moving home entertainment center,' or better yet, 'the multimedia vehicle,'" says Dr. K.

Prasad, senior technical specialist for the vehicle electronics systems department at Ford. Although he wouldn't divulge specifics, he says that MP3 audio and in-vehicle Bluetooth wireless networks "are awaiting our attention." Bluetooth would serve as the backbone data network linking all mobile devices.

Meanwhile, Sirius Satellite Radio Inc. last fall launched the third of three satellites it will use to directly broadcast up to 100 channels of digital-quality, commercial-free radio--music, news, and talk channels--to motorists for \$9.95 per month. The New York company already has alliances to install special radios in BMW, DaimlerChrysler, Ford, Jaguar, Mazda, and Volvo vehicles, as well as Freightliner and Sterling heavy trucks. Older vehicles can access the feed using an adapter.

But Sirius wants to do more than merely deliver commercial-free radio. "We'd like to create our own programming and look at value-added services such as using a back channel on the radio to let drivers order CDs using one button," Sirius VP Tracey Stanyer says. This could be done in conjunction with OnStar, which knows the vehicle's position and driver information. "We want to use position-based commerce, or P-commerce, to turn drive time into buy time." ■

Illustration by Marty Blake

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