



Telematics Summary

2004 NAIAS (North American International Auto Show) and 2004 CES (Consumer Electronics Show)

Telematics at the **North American International Auto Show (NAIAS)** requires that you know what to look for. You may not find exhibits or showcases for telematics as we did a few years ago. But telematics is quietly beginning to appear in more and more vehicles.

About 25 OEM brands in the US now carry some form of telematics according to the TRG Vehicle Telematics Database. This translates to over 100 models that offer solutions as standard or optional equipment.

Embedded telematics solutions such as OnStar occupy the majority of OEM brands with telematics in North America. But the increasing number of telematics-enabled vehicles continues to grow.

Hands-free interfaces using Bluetooth or universal docking stations are becoming increasingly available because they offer a solution to an immediate need. Some OEMs go this way rather than an embedded phone solution. While these devices do not have the ability to receive location-based services, they are considered a vital component of the telematics hardware portfolio.

Concept vehicles are also on display at NAIAS and it is safe to say most concept vehicles support some form of telematics hardware such as voice recognition, head-up displays or haptic controllers.

Telematics on concept vehicles is important as it represents the latest thinking in cockpit design, user interfaces, and interior features. These will play a vital role in telematics for future vehicles.



Telematics Through Mobile Devices

The **Consumer Electronics Show** (Las Vegas) is the world's largest show dedicated to consumer electronics. CES is very useful for telematics because it gives us a glimpse of where mobile devices are heading. And since mobile devices are becoming smarter, they are enabling personal "go-anywhere telematics." If telematics takes off because of smart mobile devices, it will surely impact in-vehicle telematics.



This year at CES, several small companies are working toward that killer application. And they may be getting very close! Using core telematics technologies these smaller companies are working to develop the next big automotive aftermarket opportunity.

Asset tracking may be the killer application that the aftermarket will run with. At CES we found several companies that offer hardware devices that track your vehicle for security or location monitoring. This is ideal for theft protection of cars, trailers, campers, heavy equipment, or just about anything that can be stolen.

The aftermarket will play a role in telematics with devices such as the Viper GPS Tracking System from Directed Electronics. Other companies offering solutions in this space include Networkcar's Car Guardian – this allows one to track the current location of the vehicle anytime. By accessing a personal website one can view a map and street address of the vehicle.

Perhaps the most compelling asset to track is a person. With the GPS Universal Locator for Kids from Wherify your child can be located anytime through the Internet. It's built in GPS and cell phone allows one to call for help or be located via the Internet. This device can be purchased in a wristwatch or medallion format that is tamper proof.



Delphi is a leader in telematics and been moving in to the retail with its SkyFi satellite radio receiver. Meanwhile, Delphi has introduced this Mobile Navigation receiver also for the retail channel. The unit has 64MB of internal memory and comes with 256MB of



transportable media using a Secure Digital memory card slot. TRG's sources have already found at Circuit City for \$849 -- \$50 less than its list price of \$899!

Delphi offers line-fit solutions for navigation and telematics. Some of Delphi's solutions are "thin clients" to meet low price points. Delphi's Internet Radio gets its digital content from a server and supports Bluetooth. These devices support text-to-speech output and reconfigurable displays.

Microsoft demonstrated their commitment to telematics at CES by conducting an automotive event showcasing their telematics solutions. Among those is the Microsoft T-Box -- a telematics solution that combines a handsfree interface and GPS receiver. The T-Box provides access to various off-board services including navigation and vehicle diagnostics.



Navigation systems are becoming increasingly popular for the North American Market. Navtech is the leading supplier of digital map content for the North American market whether it be on-board or off-board solutions. Navtech recently announced support for Qualcomm's Binary Runtime Environment for Wireless (BREW) platform that will enable off-board navigation solutions to run on mobile devices that utilize BREW.

Wireless and Device Integration

The Hands-Free Link is a Bluetooth-based hands-free interface that is standard equipment on the Acura TL. This hands-free interface is designed by Johnson Controls and uses QNX and Intel architectures.



Visteon demonstrated Info-fueling using an 802.11-based gateway to interface with in-home networks. The system provides access to entertainment media as well as home control of security systems and lighting.



Visteon's Splashpower wireless

charging system allows the driver to place their PDA or cell phone on the center console pad for charging.

New Trends

Motorola demonstrates what could be the next phase in telematics technologies. We call it "adaptive telematics" because the system pictured in this Cadillac Escalade will divert incoming calls if it senses the vehicle is in need of full driver attention.



Motorola is also pushing its Bluetooth-based hands-free interface to OEMs looking add this to vehicles. And Motorola also has a "Personal Telematics" solution that allows the driver to maintain remote control over the vehicle by using a cell phone!

Another trend worth mentioning is the rapid availability of in-vehicle camera-based systems that augment the safety features of cars. The most common application is the camera used for either mirror replacement or supplemental "blind-spot" viewing.

OEM line-fitted solutions will be commonplace within a few years. Pictured here are camera-based solutions from Magna Donnelly who is a supplier to multiple OEMs.



Line Fitted Solutions

OEM line-fitted navigation systems are more elegant than aftermarket solutions. Pictured here is an Alpine unit integrated into a Denso-supplied dashboard used in the new Chrysler Pacifica.



The Mercedes Vision Grand Sports Tourer is a concept vehicle for the luxury market and the navigation unit is a multifunction head unit.



For most Mercedes brand vehicles the multifunction head unit is called COMAND – this stands for Cockpit Management and Navigation Display. The Comand system augments the telematics in the vehicle.

Audi has just introduced the A8L 6.0 (12-cylinder) for the North American market. The A8 uses Audi's MMI (Multimedia Interface) and navigation display built into the instrument cluster. The system is development by Siemens VDO and minimizes driver distraction by keeping the eyes from shifting to the display on the center stack.



Perhaps the best way to deal with navigation or telematics content is through voice output but graphical information is always necessary. BMW's approach is through the head-up display on the windscreen. This option is priced at \$1,000 for the North American market. Siemens VDO is also the supplier for this system.



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About TRG

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