

Volkswagen and Infineon Find New Ways to Integrate the Telephone Into Cars

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Infineon Technologies and Volkswagen have jointly developed a platform concept for wireless telecommunication and use of location-based information services in motor vehicles. The aim of the cooperation was to build a scalable telephone and telematics platform that additionally provides telematics functions for the price of an existing in-car telephone unit and so permits advanced information services that were previously the preserve primarily of the luxury car category to be used in all classes of vehicle. Volkswagen and Infineon intend marketing the platform as a manufacturer-independent solution by making it available to all interested automobile manufacturers and suppliers. Installing a platform that is standardized as far as possible across the industry will result in considerable cost savings, particularly with high-volume vehicle models. Differentiation will be provided by the application software, the functions offered, and also by the user interface and retention of the vehicle-specific interior design.

The new platform - known by the project name “Basic Telematics Unit” - removes the need for a corded handsfree facility in order to use a mobile phone in a car. The data on the SIM card from the chosen mobile phone of a vehicle passenger is made available to the basic telematics unit via Bluetooth™ and all telephone calls are automatically diverted to the unit. SMS messages, telephone numbers or names of callers appear on the instrument panel display. The driver can dial telephone numbers directly by voice input or using controls on the steering wheel. Other potential applications include in-car fault diagnosis with subsequent relaying of the fault information by GSM/GPRS mobile radio to the

nearest repair shop, as well as automatic calls to breakdown and recovery services.

The joint project with Infineon is part of Volkswagen's electronics strategy. "For Volkswagen as an automobile manufacturer, mastering the increasing complexity of electronic components is an important objective in the development of future-oriented, customer-centric vehicle concepts. Volkswagen is committed to the earliest possible integration into the supplier's development process and to the development of software which is reusable group-wide and which, wherever possible, should be used on a manufacturer-independent basis," said Dr. Volkmar Tanneberger, Head of Function Electronics Development at Volkswagen.

"Only a holistic approach will guarantee the car becomes a stable complete system. Closer cooperation between all automotive suppliers and the car makers will bring huge benefits to all involved and build mutual understanding and know-how," said Dr. Reinhard Ploss, Senior Vice President & General Manager of the Automotive and Industrial Group at Infineon Technologies AG. "With this cooperation project we have pooled our comprehensive expertise in the automotive and communications sector and will deliver hardware that meets the exacting requirements of the automobile industry."

The basic telematics unit is based on Infineon's TriCore™ 32-bit chip architecture, which was developed specifically for automotive use. Infineon has also incorporated its system know-how for linking different communication technologies. The basic telematics unit includes Infineon's SingleStone module for the Bluetooth application, its GPS chipset for satellite-based positioning, and its GSM/GPRS chipsets for mobile communication and Internet access. Volkswagen developed the software architecture and the complete software package, which is modular in design and reusable. The use of standardized interfaces and

rejection of manufacturer-specific software was a basic condition for this. Volkswagen integrated the unit into the vehicle in accordance with its own requirements for electrics, mechanical equipment, design and user guidance.

Volkswagen will trial the basic telematics unit in an internal fleet pilot starting in fall 2004. The scalable telephony/telematics platform co-developed by Volkswagen and Infineon can be used by interested carmakers and automotive suppliers for their own products.

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