

# Application Network Mobility

Mobility is an important factor for economic growth and employment. Regionally and internationally network solutions for transport markets will become a key element for the development of economy and society due to the fact that mobility in future will no longer be provided by one individual carrier or a particular technology. Rather one of the focus areas is the increased effectiveness of the overall system by networking the various modes of transport.

In the mobility market the German automotive electronics sector has been an important market for sales for more than ten years for the semiconductor industry and has pointed relatively constant and increasing growth rates until 2008. The prevailing stagnation by the dramatic slump in the automotive industry in 2009, however, has come to an end. In the next few years rising sales figures are expected, especially the mobility market is steadily increased by the introduction of electric vehicles and even airplanes. The value of electronic components is now almost 30% of the total value of a vehicle and will continue to increase due to the BMBF's (Federal German Ministry for Education and Research) target of 1 million low emission electric cars on German roads by 2020 on.

read moreThese developments require the integration of electronics into all levels of transport technology and transport. Intelligent engine management units and even sensors and actuators are needed to reduce the fuel consumption in today's internal combustion engines. Power electronics, power management units and systems for energy storage are needed to enable a changeover to Hybrid and subsequently the transition to electric cars. The increased use of detectors and sensors (infrared cameras, ultrasonic sensors, radar) for real-time obstacle detection and driver assistance enhance the passive and active safety. Challenging communication systems (car- to-car communications, GPS - based position detection) improve the navigation by enabling a better synchronization of flow of traffic information. In the future, new semiconductor technologies must be adapted in less time to meet the specific requirements of the automotive electronics, such as terms of reliability. This drastically shortening of the maturity period, which means the time required for controlling initially unreliable semiconductor technologies in safety-critical applications, has become a major challenge.

The transition from fossil fuels to electric mobility will also increase the level of energy efficiency and cost pressure will grow due to the mass application. Consequently the automotive industry has to consider productivity and energy efficiency while improving robustness and reliability.

In the future, real-time capability is also gaining importance as a transition from mechanical to electronic control (eg assistance systems) takes place.

## Organisations

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