

*Cal-(IT)2 Seminar
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Position-Aware Telematics Services for Driver, Vehicle and Road Safety

ABSTRACT

Telematics, until now, has essentially served as a means to provide dynamic navigation and mayday services to vehicle users. The market move towards electronic business in general and mobile commerce in particular now widens the range of potential telematics services. Consequently, the bundling of an ever increasing and constantly changing set of telematics services to one single portal is a current main theme for all car manufacturers in the telematics domain.

While existing telematics services largely focus on improving mobility and comfort, an upcoming generation of car-centric services will target vehicle and driver safety. In these services, information communicated from outside the vehicle or obtained from an adaptive map database will be used as an additional sensor for driver assistance—and potentially at one point vehicle control. This blurs the border between autonomous warning and control systems and telematics services—a distinction which is also increasingly becoming obsolete in the area of in-car multimedia where content is received from on-board as well as off-board sources. Utilizing higher positioning accuracy and reduced communication latency, telematics will enable new safety applications ranging from alerting the driver about an imminent danger to active interference into the vehicle controls.

Examples of such services are hazard warning or collision avoidance. Most of those applications require a sense of the environment of the vehicle as well as information about the traffic ahead including cross-traffic. Telematics extends on-board sensors, permits to communicate intentions, and facilitates road courtesy.