ARTEMIS TECHNOLOGY CONFERENCE 2015

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Enhancing Automated Driving and Connectivity in Road Transport

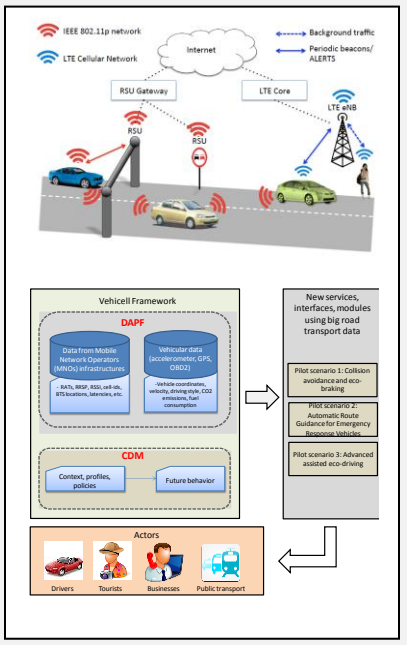
Leveraging on Mobile Telecommunication Infrastructures *(Vehicell)*

The increasing demand for mobility across the western world has been associated with the emergence of innovative, cost-effective cooperative mobility and automated driving solutions improving energy efficiency, individual safety and the effectiveness of public and freight transport.

However, standards based vehicular networking for Vehicle-to-Vehicle (V2V) suffer from reliability, resilience to interference and stability problems, as well as they are only appropriate only for communication among parties that have similar equipment. On the other hand, Vehicle-to-Infrastructure (V2I) communications are associated with high infrastructure costs that make the cost/benefit calculation challenging, demanding significant investment overhead.

In this respect, this project proposal advocates the exploitation of upcoming personal mobile communication standards as suitable mechanisms for delivering automotive applications, with a focus on the migration to ADAS and eventually to full AD. In particular, the main goal of the *Vehicell* project is to exploit emerging low latency (LTE-X2 interface) and 5G Device-to-Device (D2D) cellular technologies to deliver an integrated communication framework for providing driver assistance solutions in road transport, offering low latency, high reliability and minimum road infrastructure costs, whilst taking advantage of the real-time aggregation, intelligent processing and cognitive exploitation of Mobile Network Operator (MNO) infrastructures' and network related data.

The tangible outcomes of the *Vehicell* project are (1) a faster and more pervasive penetration of communication technology for ADAS applications, (2) novel base station solutions, (3) fast exploitation of 5G D2D interface and (4) the provision of novel proactive traffic, safety and emergency management solutions to drivers and pedestrians.



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AVAILABLE KEY PARTNERS

HUA, COSMOTE, U of Manchester, TECHNOLUTION

MISSING PARTNERS

Car manufacturer, Base station manufacturer, ADAS provider