PROJECT

iTETRIS

An Integrated Wireless and Traffic Platform for Real-time Road Traffic Management Solutions

**Funding:** European (7th RTD Framework Programme)

**Duration:** Jul 2008 - Jan 2011

**Status:** Complete with results

**Total project cost:** €4,462,209

**EU contribution:** €2,968,999

**Call for proposal:** FP7-ICT-2007-2

**CORDIS RCN:** 87318

**Background & policy context:**

Wireless vehicular cooperative systems have been identified as an attractive solution to improve road traffic management, thereby contributing to the European goal of safer, cleaner, and more efficient and sustainable traffic solutions. The use of V2V and V2I communication technologies can not only help reducing road fatalities but also a more efficient and adaptive traffic management that contributes to reducing energy and environmental costs while improving our lives.

V2V-V2I communication technologies can improve traffic management through real-time exchange of data among vehicles and with road infrastructure. Routing and data dissemination policies suited to the wireless vehicular environment operational characteristics need to be designed and optimised. It is also of great importance to investigate the adequate combination of V2V and V2I technologies to ensure the continuous and cost-efficient operation of traffic management solutions based on wireless vehicular cooperative solutions. However, to adequately design and optimise these communication protocols and analyse the potential of wireless vehicular cooperative systems to improve road traffic management, adequate test-beds and field operational tests need to be conducted.

**Objectives:**

Despite the potential development of Field Operational Tests to obtain the first insights into the benefits and problems faced in the development of wireless vehicular cooperative systems, there is yet the need to evaluate in the long term and large dimension the true potential benefits of wireless vehicular cooperative systems to improve traffic efficiency. To this aim, iTETRIS is devoted to the development of advanced tools coupling traffic and wireless communication simulators. This will enable large scale computing analysis and development of adequate protocols and algorithms, overcoming the limitations of current data dissemination and routing proposals; characterised by over-simplistic wireless conditions.

**Methodology:**

iTETRIS integrates wireless communications and road traffic simulation platforms in an environment that is easily tailored to specific situations allowing performance analysis of cooperative ITS at city level. Engineered for collaboration, it enables each stakeholder of a cooperative ITS project to benefit from functionalities exposed through open interfaces and to provide others with its own expertise. The accuracy and scale of the simulations leveraged by iTETRIS reveal the impact of traffic engineering on city road traffic efficiency, operational strategy, and communications interoperability. Therefore, quantifiable results of city level deployment and investment on cooperative ITS applications can be presented to road authorities.

**Parent Programmes:**

FP7-ICT - Information and Communication Technologies
Institute type: Public institution
Institute name: European Commission
Funding type: Public (EU)

Lead Organisation:

Thales Six Gts France Sas
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EU Contribution: €533,966

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EU Contribution: €69,530

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EU Contribution: €439,527
Before cooperative Intelligent Transport Systems (ITS) are widely deployed and evaluated in Field Operational Tests (FOTs), road authorities need clear evidence at city level of the benefits and impact of these solutions for their own particular scenarios.

To address this need the iTETRIS project developed an open European Telecommunications Standards Institute (ETSI) standard, compliant, and flexible simulation platform that creates close collaboration between engineering companies, road authorities, and communications experts. iTETRIS integrates wireless communications and road traffic simulation platforms in an environment that is easily tailored to specific situations allowing performance analysis of cooperative ITS at city level. The accuracy and scale of the simulations leveraged by iTETRIS reveals the impact of traffic engineering on city road traffic efficiency, operational strategy, and communications interoperability.
Strategy targets

Innovating for the future: technology and behaviour: Integrated urban mobility

Documents:  
Large Scale Simulation Platform for Cooperative ITS, Scenarios

STRIA Roadmaps: Network and traffic management systems  
Transport mode: Road transport  
Transport sectors: Passenger transport  
Transport policies: Digitalisation  
Geo-spatial type: Other