

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

Address:

AVENUE DES LOUVRESSES 4
92230 GENNEVILLIERS
France

Organisation Website:

<http://www.thalesgroup.com>

EU Contribution: €533,966

Partner Organisations:

Comune Di Bologna

Address:

PIAZZA MAGGIORE 6
40124 BOLOGNA
Italy

Organisation Website:

<http://www.comune.bologna.it/>

EU Contribution: €69,530

Asociacion De Empresas Tecnologicas Innovalia

Address:

Cl/ Rodriguez Arias,8
48008 Bilbao
Spain

EU Contribution: €436,800

Cbt Comunicacion & Multimedia, S.I.

Address:

Avenida Zugazarte 8-1
48930 Las Arenas - Getxo
Spain

EU Contribution: €224,735

Deutsches Zentrum Fr Luft Und Raumfahrt E.v

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51147 KOELN
Germany

Organisation Website:

<http://www.dlr.de>

EU Contribution: €439,527

Hitachi Air Conditioning Europe Sas**Address:**

Rue Grange Dame Rose
78140 Velizy Villacoublay
France

Organisation Website:

<http://www.hitachi.eu>

EU Contribution: €286,891

Eurecom**Address:**

Route Des Chappes 450 Campus Sophiatech
6410 Biot
France

EU Contribution: €404,629

Universidad Miguel Hernandez De Elche**Address:**

Avenida De La Universidad S/n
3202 Elche
Spain

Organisation Website:

<http://www.umh.es>

EU Contribution: €409,205

Peek Traffic B.v.**Address:**

BASICWEG 16
3821 BR AMERSFOORT
Netherlands

EU Contribution: €163,716

Technologies:

Connected and automated vehicles
Field testing of cooperative car
systems

Development phase: Research/Invention

Key Results:

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