

PROJECT

ITSSV6

IPv6 ITS Station Stack for Cooperative Systems FOTs

Funding: European (7th RTD Framework Programme)

Duration: Feb 2011 - Jan 2014

Status: Complete with results

Total project cost: €2,470,708

EU contribution: €1,850,000



Call for proposal: FP7-ICT-2009-6

[CORDIS RCN : 98319](#)

Objectives:

ITSSv6 aims at developing a reference open-source IPv6 ITS Station stack available to European and national third parties (projects, industry and academia) using IPv6 for Internet-based communications in Field Operational Tests (FOTs) of Cooperative Systems.

Methodology:

The IPv6 networking capabilities of the ITS Station under standardisation at ISO TC204 WG16 (CALM) and ETSI TC ITS are extended with additional IPv6 features required for operational deployment of Cooperative Systems i.e. enhanced performance, embedded security, remote management of deployed systems and ease of configuration. New features and their perfect integration within the ITS Station architecture (particularly ITS Station management and ITS Facilities) are specified.

The project takes as an input the FP6 CVIS core communication software and additional modules developed by FP7 GeoNet. It produces an enhanced IPv6 ITS Station stack adapted to operational use in large scale FOTs to the benefit of a variety of Cooperative Systems applications which require Internet communications (road safety, traffic efficiency and infotainment types of applications). The new software is validated on a basic open platform with recommended physical interfaces (802.11p and 3G).

The project gathers key partners from the CVIS and GeoNet projects and key expertise in the specification and development of the IPv6 software. Reasonable resources are allocated for the training, portability and integration of the released ITSSv6 stack to a selection of third parties involved in FOTs. Prospective users are constantly informed of the progress of the project through a user forum and regular newsletters, software version releases and bug fixes. Project partners actively participate to the continuing standardisation effort and to fill up gaps in standards whenever relevant. In parallel, a scientific evaluation of the performance of the IPv6 stack is performed both indoor under idealistic conditions and outdoor under realistic situations.

Parent Programmes:

[FP7-ICT - Information and Communication Technologies](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Institut National De Recherche En Informatique Et Automatique

Address:

Domaine de Voluceau- Rocquencourt
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France

Organisation Website:

<http://www.inria.fr/>

EU Contribution: €563,378

Partner Organisations:**Schalk & Schalk Og****Address:**

Mantscha-Wald-Weg
8054 Graz
Austria

EU Contribution: €93,246

Bluetechnix Mechatronische Systeme Gmbh**Address:**

Waidhausenstraße
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Austria

EU Contribution: €56,640

Universidad De Murcia**Address:**

Avenida Teniente Flomesta S/n - Edificio Convalecencia
30003 Murcia
Spain

EU Contribution: €314,588

Association Pour La Recherche Et Le Développement Des Méthodes Et Processus Industriels**Address:**

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EU Contribution: €0

Institut Mines-Telecom**Address:**

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75014 PARIS
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Organisation Website:

<http://www.institut-telecom.fr>

EU Contribution: €373,388

Magyar Tudományos Akadémia Számítástechnikai Es Automatizalasi Kutatointezet**Address:**

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1111
Hungary

Organisation Website:

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EU Contribution: €224,800

Lesswire Gmbh

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12489 BERLIN
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Organisation Website:

<http://www.lesswire.com>

EU Contribution: €223,960

Ecole Nationale Supérieure Des Mines De Paris

Address:

BOULEVARD SAINT MICHEL 60
75272 PARIS
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EU Contribution: €0

Technologies:

Connected and automated vehicles
Field testing of cooperative car
systems

Development phase: Research/Invention

Key Results:

The study does not demonstrate any final results yet as it is still ongoing. However, mid 2012 preliminary system recommendations and specifications were released.

Preliminary System Recommendations

This document presents system recommendations for the deployment of IPv6 in Field Operational Tests (FOTs) of Cooperative Intelligent Transportation Systems (C-ITS). The document contains a description of the context of this study, a description of the ITS station reference architecture (as currently specified in the International Organisation for Standardisation (ISO) and the European Telecommunications Standards Institute (ETSI) standards), a description of some ITS scenarios where IPv6 will contribute to increase road safety, traffic efficiency and road users comfort and finally defined requirements for the specification of an IPv6 protocol stack for ITS use cases complying with C-ITS standards.

The initial version of the document is provided early on in order to convince FOTs for making necessary adjustments in existing platforms while a revised version will be produced around the end of the project in order to inform future FOTs and operational deployment stakeholders.

Preliminary System Specifications

This document presents a preliminary specification of the IPv6 protocol block of the ITS station networking & transport layer of the ITS station reference architecture jointly defined by ISO (Technical Committee 204) and ETSI (Technical Committee ITS) for C-ITS communications. The IPv6 protocol block is a collection of features corresponding mostly to protocols specified by the Internet Engineering Task Force (IETF). These features are selected specifically to meet ITS use cases and are arranged into a set of modules performing a subset of the required functions. The preliminary specifications reported in this document are being contributed to both ISO, The European Committee for Standardization (CEN) and ETSI.

The present specification of the IPv6 protocol block will be revised, taking into account standardisation

progress. The final system specification will be published in February 2014. The revision will specify the modules which are not yet totally detailed and will include IPv6 features required for personal ITS stations which are not yet treated.

Documents:

 [Preliminary systems recommendations \(Other project deliverable\)](#)

STRIA Roadmaps: Network and traffic management systems

Transport mode: Multimodal transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Digitalisation

Geo-spatial type: Other