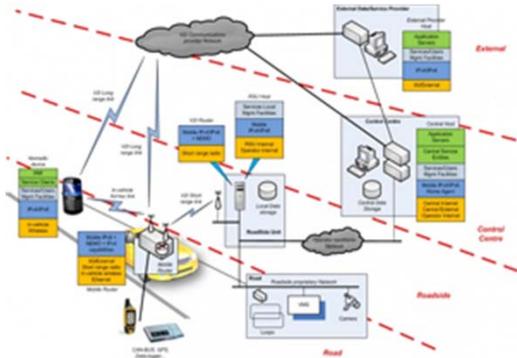


## FOTsis Finalises its Communications Architecture



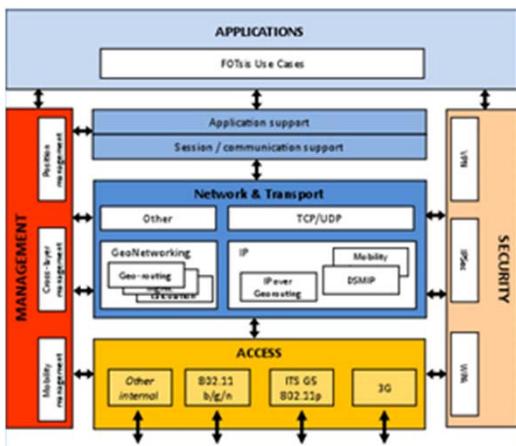
After months of intensive work and preparation, the FOTsis project has completed its communications architecture, a unique showcase for the interoperability of different entities in a complex but realistic ITS deployment scenario.

### The Challenge



One of the most important and difficult milestones of any FOT is to set up a communications framework which complies with regulatory standardisation requirements. The challenge for FOTsis has been no less significant. FOTsis includes seven distinct services and a much bigger number of use cases related to them. These services cover a wide range of user's requirements and needs, and they pose therefore a challenging but at the same time realistic set of features that the FOTsis architecture has had to face and meet.

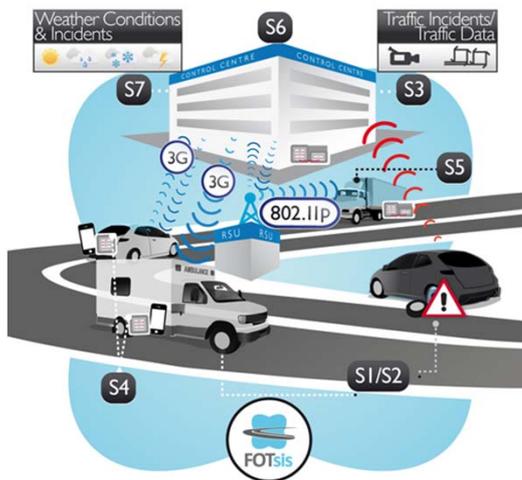
### The Conceptual framework



The conceptual framework of the FOTsis architecture is the ETSI ITS Station. It integrates the concepts necessary to help bring to life the general idea of Cooperative Systems into a set of modules covering a whole communications and applications stack and which, as a whole, will provide the capabilities to meet the requirements of Cooperative Systems and Services.

FOTsis has fully taken into account all the possibilities of the ITS-Station considered in the corresponding ETSI standard, and is thus a unique showcase for the interoperability of different entities in a complex but realistic ITS deployment scenario, comprising a Control Centre, a number of Service Providers, the relevant ITS entities in the road operator infrastructure (namely, the Road Sides Units) and finally the user's vehicle on-board entities.

## The Communications architecture (see image)



The general FOTsis architecture deployment model can be seen in the following figure. While it can look relatively complex, the main ideas are that road users will always be connected to the road infrastructure through long range 3G connections or through short range links over 802.11p with the road side units. Long range, wide area links can provide the greater coverage, at the expense of longer latency times, while short range links provide selective coverage to road vehicles and tighter latency time control.

## FOTsis Present at ITS World Congress Vienna



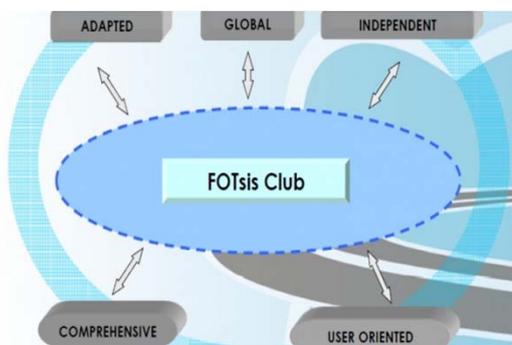
FOTsis was present in several ways at the ITS World Congress held in Vienna. Firstly, the project carried out a joint demonstration together with the project ITSSv6, showing a successful and effective integration of ITSSv6 ITS Station Stack with the FOTsis environment.

Secondly, FOTsis colleagues attended several meetings as FOT-Net Fifth international workshop and the iMobility Forum.

Thirdly, FOTsis colleagues presented FOTsis developments in sessions as “Weather applications and services in FOT’s” by Pertti Nurmi from the Finnish Meteorological Institute.

Finally, and taking advantage of the presence of FOTsis colleagues in the congress, two major project meetings were held in Vienna: the 5th Steering Committee meeting and the 5th General Assembly.

## FOTsis Club Preparation gathers pace



Over the summer, the FOTsis project has intensified its efforts for setting up the FOTsis Club.

Conceived as platform for privileged two-way relations, the objective of the FOTsis Club is to establish a main framework for cooperation between FOTsis and key external reference groups, with a view to both disseminating project results and establishing a forum for the generation of input to the project from outside the Consortium.

Invitations have already been sent out to key stakeholders and a number of representatives have confirmed their interests in joining the Club to date. The FOTsis Club will meet three times throughout the life-time of the project with the first meeting expected to take place at the end of November in Brussels.

Stakeholders targeted include: Transport Ministries, national & regional road authorities, road network operators, logistics operators, equipment manufacturers, road construction organizations, ITS & telecomm application suppliers and technology providers, vehicle manufacturers, and of course the final end user.

## FOTsis enhances cooperation with other projects

### FOTsis signs memorandum of understanding with PRESERVE project

The general FOTsis architecture deployment model can be seen in the following figure. While it can look relatively complex, the main ideas are that road users will always be connected to the road infrastructure through long range 3G connections or through short range links over 802.11p with the road side units. Long range, wide area links can provide the greater coverage, at the expense of longer latency times, while short range links provide selective coverage to road vehicles and tighter latency time control.

### FOTsis and ITSSv6 agree on joint architecture demonstration

The **FOTsis** and **ITSSv6** projects have agreed to hold a joint architecture demonstration within the content of the ITS World Congress that will take place in Vienna between 22-26 October. The demo will be organised under the Cooperative Mobility theme and will be open to the public on the following dates:

- **Tuesday 23 October**
- **Wednesday 24 October**
- **Thursday 25 October**

The **joint architecture demonstration** will aim to demonstrate how an IPv6 stack provided by ITSSv6 can be integrated in a communications management centre provided by FOTsis, as well as how 802.11p communications could be used in road side units.

Moreover, taking advantage of the presence of both project coordinators at the ITS World Congress in Vienna, a Cooperation Agreement will be signed between both projects. According to the agreement, FOTsis and ITSSv6 intend to cooperate on the deployment of IPv6 for Cooperative Intelligent Transport Systems (Cooperative ITS) services on a mutually beneficial basis.



## FOTsis Progress Review

The deployment of FOTsis services in the different test sites is a challenging task. In order to ensure a proper deployment of all the services, a step-by-step approach has been defined.

To begin with, two different communications' pilot tests have been defined in order to test the different approaches to the FOTsis common communications architecture: the first approach is based on WiFi 802.11n and IPv4 and has been successfully validated during May and June in the Baixo Alentejo test site.; while the second one is based on 802.11p and IPv6 and will be tested in the A2 section 1 by the end of October.

In addition, during the services software development, some preliminary services' tests are being carried out in labs as to ensure a smooth running of the software once installed.

The successful services' pilot tests will pave the way for the first on-site deployment of the service. Each FOTsis service will be tested in two different test sites in a successive manner. More specifically, each service will be first deployed in one test site where tests will be carried out by internal users. Once the service pilot test of each service is successfully accomplished, the service will be deployed in the two test sites, and include final users in the actual test.

## FOTsis Progress Review

On 19 June, the FOTsis consortium was invited to Brussels to present its achievement to the European Commission (EC) officials and the appointed external reviewers. The consortium presented the progress to date and gave an overview of the challenges lying ahead, especially with the deployment of the Field Operational Tests. At the end of the day, the EC and the external reviewers concluded that the FOTsis project has made very good progress towards its ambitious objectives and encouraged the members to maintain their high level of performance.

### Where have you met FOTsis project

27/05/12 - 30/5/12: 40 ASECAP Days

3/06/12 – 7/06/12: IEEE 2012

### FOTsis in the Press

Traffic Technology International

FMI Review

### Meetings

23/10/12: 3rd FOTsis Plenary will take place on 23 October in Vienna

### Where have you met FOTsis project

#### 22-26 October:

- Cooperative Mobility sections in the demo launch area in Hall A of the Exhibition and Congress Centre
- Joint FOTsisITSSv6 cube in the ITS Austria stand in Hall B of the exhibition and Congress Centre

**Sunday 21 October:** 5th FOT-NET International Workshop

**Monday 22 October:** FOTsis-ITSSv6 joint demonstration (VIP demo)

**Tuesday 23 October:** FOTsis-ITSSv6 joint demonstration (all day)

**Wednesday 24 October:** FOTsis-ITSSv6 joint demonstration (all day)

#### Thursday 25 October:

- FOTsis-ITSSv6 joint demonstration (all day)
- TS063 – Sensor and Detection Systems:
  - Weather applications and services in FOT's, Pertti Nurmi, Finish Meteorological Institute, Finland (9-10:30)
- FOT-NET Networking Hour (15:30-16:30)

**FOTsis is a research project co-funded by the European Union within the 7th Framework Programme**

