Instant Mobility

Multimodality for people and goods in urban areas

FP7 . CP 284906

WP7–D7.8
Scientific Results, final version

March 2013

Editor: Merja Penttinen / VTT

Instant Mobility WP7.2
D7.8 Scientific Results – Final Version

WP7.2	D7.8 Scientific Results – Final Version
Authors	Merja Penttinen – VTT
Short Description	Task 7.2 "Scientific & technical dissemination" was dedicated to the gathering, editing, and dissemination of technical and scientific results created within the project toward the research and industry community and the dissemination of the project's innovation. This deliverable is the final updated version of the scientific results.
Dissemination level	PU Public
Date	31st March, 2013
Status	Deliverable
Contributions by:	Thales, ATAC, TID, ISBAK, Volvo, Trondheim, Orange, ERTICO, IFSSTAR,
Internal review by	Cristina Peña Alcega, TID
Internally accepted by	WP7 leader
Date of acceptance	31st march 2013

Document history

Version	Date	Author /Reviewer	Description
0.1	15.2.2013	Merja Penttinen	TOC
0.2	19.3.2013	Merja Penttinen	First draft for the consortium for comments
0.5	24.3.2013	Merja Penttinen	The second draft – with a few modifications based on the consortium meeting comments
0.9	28.3.2013	comments from Sandra Borghetti, Cristina Peña Alcega	
1.0	31.3.2013	Merja Penttinen	Final version updated based on the comments from internal review

Deliverable Abstract (1 page)

Task 7.2 "Scientific & technical dissemination" was dedicated to gathering, editing, and disseminating the technical and scientific results created within Instant Mobility project. The focus was to target the research, industry, and standardization communities, and to disseminate project's innovation.

To ensure the technical and scientific dissemination of the project results, Task 7.2 was collaborating closely especially with WP3 "Use Case Scenarios", WP4 "Future Internet Enablers" and WP5 "Realisation and Prototyping". In addition, WP 6 "Societal issues" also produced valuable and interesting results that have been disseminated in scientific forums.

This deliverable 7.8 "Scientific Results – Final Version" is the final version of the scientific results produced, and disseminated during Instant Mobility project. It summarizes the overall technical and scientific dissemination activities such as conference and seminar participations, papers submitted, and other remarkable activities disseminating the results of the project.

Table of Content

1. Introduction

Task 7.2 "Scientific & technical dissemination" was dedicated to gathering, and helping in reviewing, editing and disseminating the technical and scientific results created within Instant Mobility project. The focus was to target the research, industry, and standardization communities, and to disseminate project's innovation.

To ensure the technical and scientific dissemination of the project results, Task 7.2 has been collaborating closely especially with WP3 "Use Case Scenarios", WP4 "Future Internet Enablers", WP5 "Realisation and Prototyping", and WP 6 "Societal issues".

This deliverable 7.8 "Scientific Results – Final version" is the updated and final version of the results of the scientific and technical dissemination in the Instant Mobility project.

2. Objective

The objective of the task 7.2 "Scientific & technical dissemination" was to make sure that the relevant technical and scientific outcomes of Instant Mobility project were communicated widely, especially to the research and innovation bodies, and to make sure that the results achieved in Instant Mobility will be effectively known and reused. The task was closely collaborating with other technical work packages in Instant Mobility project as well as other dissemination, outreach and exploitation tasks. (Instant Mobility, 2011)

3.   Most important dissemination results

3.1   ITS World 2011 Orlando: "Future Internet for ITS"

A special session dedicated to Instant Mobility project *"Future Internet for ITS"* was organized during ITS World Congress in Orlando, Florida. The session gathered altogether 30 participants, and the preliminary results and further plans of the Instant Mobility project raised a lot of valuable discussion among the participants.

The session included the following presentations of the project:

- *"The EU FI-PPP programme and the Instant Mobility project"* by Patrick Gatellier, Thales

  In his presentation Patrick Gatellier presented the structure and goals of the whole FI-PPP programme, and what kind of transportation related problems Future Internet enabled services can target, and how can the services help.

- *"The Future Internet and its features relevant for ITS"* by Stéphane Petti, Orange Business Services

  Orange's presentation given by Stéphane Petti, concentrated into the specific features of Future Internet that can help in creating the future services for Intelligent Transportation. The capability of handling the big data, and to collect information from travelers are among the key enablers of the new services.

- *"ITS standards and technologies for Future Internet"*, by Rene Rembarz, Ericsson Eurolab

  Ericsson's presentation given by Rene Rembarz concentrated into the specific technologies and standards related to Future Internet.

- *"Trucks and the city within Instant Mobility"*, by Hossein Zakizadeh, Volvo Technology

  The presentation given by Hossein Zakizadeh also highlighted the current transportation related challenges in the urban areas. It also analyzed further the needed improvements, and available enablers. In addition, various service concepts and expected impacts were discussed.

- *"Innovative ITS services thanks to Future Internet technologies"* by Paul Kompfner, ERTICO

  Paul Kompfner's presentation concentrated into the sustainability challenges in the urban areas, the vision of the Instant Mobility project. In addition, the preliminary use case scenarios were presented and further analyzed.

Most of the presentations slides are available via Instant Mobility webpage: http://www.instant-mobility.com/index.php/public-documents/public-deliverables-2.html

3.2   ITS World 2012, Vienna – summary of the activities

ITS (Intelligent Transportation Systems World Congress 2012) Vienna was selected as the most important dissemination forum for Instant Mobility results during 2012. The dissemination activities of Instant Mobility in Vienna covered:
- two technical papers summarised in chapter 3.4
- one special session "*Multimodal journey made easy*"(combined with Viajeo-project)

- pre-conference stakeholder/exploitation workshop summarized in chapter 3.5.5
- technical demonstrations of three scenarios (multimodal travel, smart city logistics and traffic management in the cloud) by Instant Mobility WP5
- slideshow in the IM stand, summarizing the objectives, steps and major outcomes of the Instant Mobility project (Figure 1)
- updated project brochure
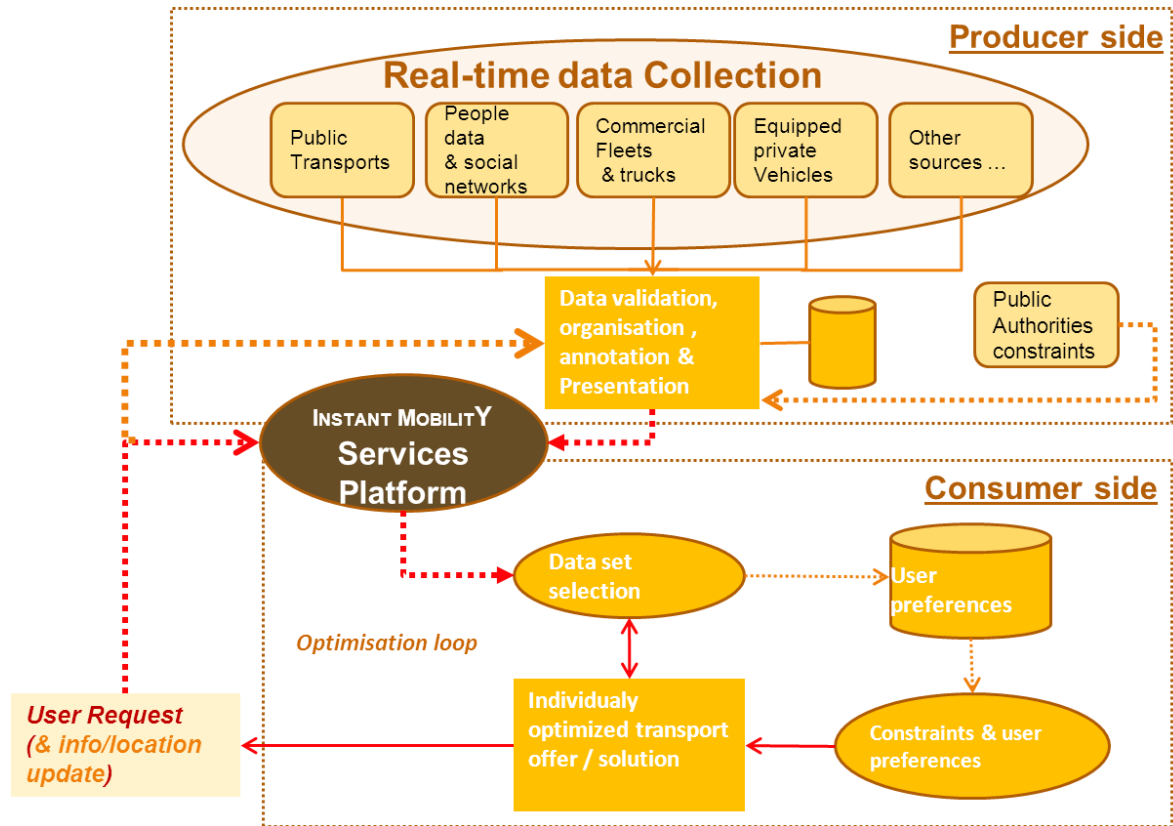
Figure 1. Overview of the Instant Mobility platform.

3.3   Mobile World Congress 2013 and FI-PPP Final Event (Barcelona)

The final event of Future Internet – Public Private-Partnership, FI-PPP-program (phase 1) was organised in conjunction with Mobile World Congress 2013 in Barcelona, on 28 February - 1 March 2013, with the aim of engaging stakeholders such as SMEs, developers, cities, regions, industry and end-users, and raise their awareness of all the possibilities to participate and benefit from the FI-PPP.

Instant Mobility, one of the usage area projects of the Phase 1, representing the transport and mobility use cases, demonstrated its three scenarios on multimodal journey planning, urban freight delivery and traffic management in the cloud. The event also included a conference and workshops to communicate and discuss the results of Phase 1 results and explain the benefits in different application domains of this new business ecosystem based on open interfaces, enabling third party services and applications to emerge and develop into new markets.

The Future Internet PPP was also present at the Mobile World Congress 2013 exhibition area, with multiple demo slots and possibility to directly engage with all the projects and the programme.

Instant Mobility Demo Scenario 1 **_Personal travel companion:_** The demonstrator simulated in a realistic way, the urban and suburban trips in the city of Bordeaux, based on the population's movement statistics. The city map displayed the live positions of buses, travellers and cars and the journey details of each traveller can be obtained in real time. The demonstration also showed the dialog between a traveller and a car driver involved in a common ride.

Instant Mobility Demo Scenario 2 **_Smart City logistics:_** This demonstrator showed how customers could get their goods delivered at a time and place customized to their needs, by sharing with the transport operator information on their whereabouts and plans.

Instant Mobility Demo Scenario 3 **_Traffic control in-the-cloud:_** Traffic control operations are hosted in the Internet in secure virtual traffic signal controllers and a virtual traffic centre. The system will be able to automatically detect critical traffic conditions and to activate dynamic green waves and selective priority policies, to keep the network under equilibrium conditions. Virtual components and data are accessible anywhere to authorised personnel and give to the system high scalability and cost-effective configuration, maintenance and upgrading possibilities.

3.4   Technical and scientific papers

3.4.1 Future Internet for a Personal Travel Companion service

The paper presented in ITS Vienna by Zargayouna et. al. (2012) describes an Internet-based "multimodal travel platform" that provides information and services able to support new types of connected transport applications. The scenario "Personal Travel Companion" was the main topic for the paper. Scenario includes almost all modes of the transport, i.e. private car, various means of public transport, car sharing, ride-sharing and non-motorized modes. The paper highlights the structure of the scenario and needed platforms as well as how the Future Internet is enabling such services.

3.4.2 Architecture methodology in the Instant Mobility project

The second paper presented in ITS Vienna by Beckmann et. al. (2012) describes in detail the architecture methodology used in Instant Mobility. It outlines the decomposition and synthesis approach for defining a rational, non-intuitive architecture that embraces conventional and Future Internet technologies, reflects the insights that have been gained from applying this methodology in the Instant mobility project. In addition, the paper also analyses and discusses the benefits and disadvantages of the outlined concept.

3.4.3 Social networking and ecomobility through nomadic devices

The special session in ITS Vienna "The impact of social media on sustainable travel choices" discussed about the possibilities to enhance the travel and traffic related information by utilizing the social media to collect and share the information. The session explored the impact and potential of social networking, and the factors that could enhance its use in supporting more sustainable travel choices. The relatively unexplored issue of how the impact of social media can be evaluated was also discussed. In her presentation, Pauzie (2012b) discussed specifically about the privacy and acceptability of the related services, emphasizing the importance to make the services suitable also for senior travelers. The presented results covered also the Instant Mobility WP6 results on the surveys in the participant cities.

3.4.4 Concept and development of ergonomic mock up as a tool for mobile Human-Computer Interaction design

Pauzie's (2012a) paper in APCHI 2012 Conference presents the use of an ergonomic mock up to "make alive" the service before its actual development. Using ergonomic mock up allows to optimize the design of the interface and the dialogues, and to communicate with the developers regarding the final product. Instant mobility service "Personal Travel Companion" was presented in the paper as one of the examples of an ergonomic mock up.

3.4.5 Acceptability and social community issues for ridesharing and multimodality success

Dubus (2012) presented the main results of Instant Mobility acceptability/social issues studies in the workshop organized by HUMANIST/DECOMOBIL (http://decomobil.humanist-vce.eu/Downloads.html). The presentation gave an overview of the Future Internet, and the goals and overall concept of the "multimodal travelling" in Instant Mobility. Furthermore, the main results of the acceptability studies in Nice, Istanbul, Rome and Trondheim were presented and discussed in detail.

The paper concludes the main results of Instant Mobility WP6/social aspects as follows:

- Current situation: a majority of the respondents uses his/her own vehicles, very few utilized ridesharing, there is a high demand for information while travelling, the information is mainly achieved by web or mobile applications, and the use of smartphones much more common than the use of more "traditional" information sources, such as information panels.
- The future services:
    o There is a confirmed need for information for daily or regular commuting.
    o The future services are well accepted by the travelers, especially when tailored to their own preferences, being better quality (especially punctuality and frequency) than the current services,
    o Acceptability of the location information (real-time and stored) is good, when conditions of anonymity and easiness to manage and check each one's own data are well taken care of.

3.4.6 Agent-based Simulator for Travelers Multimodal Mobility

The paper submitted and to be presented in May 2013 in KES-AMSTA (Agents and Multi-agent Systems – Technologies and Applications) 2013 by Zargayona et. al. (2013) is presenting a proposal for a multimodal travel simulator that allows for the understanding and the prediction of future status of the networks. In addition, it allows the testing of the new online applications and their impact. The application simulates the movements and choices of travellers on the different networks while taking into account the changes in travel times and the status of the networks. The considered transport modes include pedestrians, private cars, all modes of public transport as well as ridesharing.

3.4.7 Traffic light signaling by cloud computing

The paper by Tsegay et. al. (2012) in Traffic Engineering and Control Magazine (TEC) presented the concept of traffic control in the cloud – as described in scenario 2 in Instant Mobility WP3 and further in WP5. The paper also discussed the virtual intersection concept, which can be used where dynamic adaptive control technique is already working. The following benefits of the control in-the-cloud were listed as follows:
-   feasibility to apply complex algorithms and adaptive strategies,
-   cost effective fault control and maintenance,
-   remote access to the traffic control (for authorized personnel)
-   seamless configuration, installation, and upgrading possibilities,
-   computing resources can be pooled to serve multiple intersections, and local units by using a multi-tenant model,
-   rapid elasticity: computational power can be balanced to intersections where is it more needed in certain time.

3.5   Stakeholder workshops

3.5.1 Summary of the stakeholder workshops

To ensure the involvement of stakeholders in the different phases of the Instant Mobility project, a series of stakeholder workshops was planned and organized throughout the project. The workshops concentrated in the most recent tasks and findings of the project, and targeted to both participating cities and ITS industry.

Altogether, four stakeholder workshops were organized. The first two were held during the first year, and the last two during the second year of the project. The first workshop was organized in Brussels, to allow participant cities and various stakeholders especially in Brussels area to participate. The next two workshops were organized in close co-operation with the two largest pilot cities, Roma and Istanbul, to allow the local stakeholders to participate and give their valuable feedback to the achieved results and future plans of the project. In both of the city-based workshops, there were presentations from the project, from the participant city. There was also a roundtable at the end to discuss about the relevant issues of the city and the expected results from the project and the possible exploitation of the results in the city. In addition, the last workshop was targeted more towards the FI-PPP –program, and was organized as a pre-conference workshop in connection to ITS World Congress in Vienna.

The main issues and main results of each stakeholder workshop are summarized in the following sections.

3.5.2 First workshop, Brussels, October 2011

The first stakeholder and exploitation workshop was targeting to the needs of the cities in regards to the created scenarios. It was organized in co-operation with WP3 in Brussels in October 2011. The objectives of the workshop were as follows:

-   To explore the concerns and the aims of the cities and other participants. To discuss, how the Internet-based solutions could help in solving the problems.

- To validate the Instant Mobility scenarios and to understand what is missing or needs to be modified.

- To start a dialogue with potential candidate cities to host a pilot implementation of Instant Mobility applications in the second phase of the FI-PPP programme.

The workshop gathered together 40 participants, and included presentations of the participant cities: Rome, Toledo, Istanbul, Trondheim and the Basque Region, and the current issues they are facing in the area of transportation and related information services. In addition, the preliminary scenarios created in WP3 were presented in the workshop.

The main challenges the city participants raised were congestion (and related environmental issues), and the urgent need to shift the balance from individual to collective transport modes. Efficient and sustainable management of goods distribution and commercial vehicles in cities, and the lack of reliable online & real-time information across transportation modes were also concerning the city representatives. (Instant Mobility, 2011)

It was discussed, how internet technology could influence people to choose greener means of travel and transport through multimodal real-time and personalized information, including also online ticketing. Moreover, Internet could help in collecting data from travellers and vehicles moving in the city, and making real-time (and forecasted) information accessible online. This would help travellers, and to improve overall traffic management. In addition, the environmental impacts could also be reduced. (Instant Mobility, 2011)

In conclusion, the Instant Mobility project was seen producing technologies and services that could support better collaboration between public and private mobility actors in the cities. The project is seen to contribute in making mobility information more complete, reliable, and available for users. It also shows how Future Internet technologies can help in integrating existing services to create next-generation mobility for all. (Instant Mobility, 2011)

The report of the workshop is also available via Instant Mobility webpage: http://www.instant-mobility.org/index.php/news/past-events/127-workshop-on-im-future-scenarios.html

3.5.3 Second workshop, Rome, March 2012

The second stakeholder and exploitation workshop was organized in Rome in connection with the March 2012 consortium meeting, as recommended by the reviewers in the first annual review. Altogether 85 participants attended the workshop organized in ATAC premises.
The workshop was targeting especially to
- the local mobility and transportation related challenges in Rome,
- the capabilities of the Future Internet in relation to the challenges in the urban areas,
- social acceptability of the Instant Mobility/Future Internet enabled services,
- the current Instant Mobility scenarios and related functional and non-functional requirements, and
- the challenges and the next steps in the Instant Mobility project.

In the beginning of the workshop, Peter Fatelnig (EC, FI-PPP) gave an informative, challenging and also encouraging presentation of the Future Internet and its capabilities. He reminded the consortium, that even in the economic downturn, Internet has been able to provide new jobs. He also highlighted the European strengths and encouraged to focus on those sectors not fully "internetlized" yet. The overview and the capabilities of the Future Internet were also explained in details in Andrea Bragagnini (Telecom Italia) presentation.

The coordinator of Instant Mobility, Patrick Gatellier, presented the main ideas and the expected outcomes of the Instant Mobility project, emphasising that the project is about all mobility related issues, not only transportation. The main goal of the project is to help travellers and drivers to be more informed, and to participate in creation of the new services.

The ATAC representative, Luca Masciola (Head of business process integration department) gave the audience a very informative and interesting presentation of the issues the city of Rome is facing. To summarise, over 6 million trips are made in Rome every day. In addition, to the almost 3 million inhabitants living in the city, over 23 million tourists visit the city every year. The most important issues to be solved are:
- optimization of the transportation network usage (including all modes of transportation)
- traffic congestion
- correct and timely mobility information, real time traffic management, safety and security
- enhancing park-and-ride area usage
- facilitate events and incidents management.

Sustainability was seen as one of the major goals. The challenges and the means to get people to change from private modes to the public ones were discussed a lot. It was mentioned that the increased fuel prices have been already seen to have some impact on the usage of public transportation in Rome.

In addition, the three created Instant Mobility use case scenarios were presented with the related functional and non-functional requirements. All of those raised questions and discussion in the audience. Moreover, the preliminary findings of the work package 6 "Societal issues" were presented. Although no detailed analysis of the collected data was available, the most important fact raised was the number of people interested in the Instant Mobility services. In both Istanbul and Rome, over 1000 people had already participated the online survey. In addition, over 300 had responded already in Nice.

To conclude the workshop, Paul Kompfner (leader of the work package 3) encouraged the audience to participate the discussion of "why aren't the presented scenarios reality already now?" Many ideas were raised, and are reported in details in the Instant Mobility webpage with the presentations. One of the key points was the co-operation between the different stakeholders in producing and providing new services. The other big challenge is the traveller behaviour: how to get the people to change their travelling into greener modes?

3.5.4 Third workshop, Istanbul, June 2012
The third stakeholder workshop was organized in Istanbul in connection with the June 2012 consortium meeting. The stakeholder workshop took place in central Istanbul, and gathered altogether 57 participants, of which majority were local stakeholders.

The workshop was targeted specifically to compare the needs of the multimillion city of Istanbul and the possibilities Future Internet services have in such an environment.

The workshop started with two local presentations by *Istanbul Metropolis Municipality* (Director of EU relations) and *ISBAK* (Director General). Transport problems were seen as one the most important problems in the Istanbul metropolitan area. ISBAK is one of the key players in transport sector, having good cooperation between universities, SME's and industry. ISBAK has currently

traffic management systems, and also information/monitoring systems to make the traffic more intelligent and to target the traffic related problems.

Instant Mobility coordinator, **Patrick Gatellier**, gave a general presentation of FI-PPP-program Phase 1 and future Phase 2, and Instant Mobility project, highlighting the most important issues Instant Mobility is targeting, through its selected scenarios/application areas. In addition, Patrick Gatellier gave presentation on the Scenario 1: "***Individual journey planning from door to door***". In the presentation, the utilization of unused cars' capacity was throughout discussed. At some point of the travel, and for part of the travel, possibility to use someone else's car unused capacity (ride sharing), but for that, we need to collect the right data. Indeed this will give so many possibilities in the various modes of transport that it will improve mobility as a whole. Rental car example: we shouldn't have to bring it back to station but be able to hand it over to the next user. Future Internet will offer the possibility to get information about the traffic status and position of the traveller. This is suited for places where there is not yet a single authority handling all the information.

Fredrik Cederstav from Volvo presented Scenario 2: "***Smart city logistics***". Due to current shopping patterns (ordering through internet) and densified cities, there are too many vehicles in the city centres and thus it is important to find solutions for "last mile delivery" because:

- one third of carbon footprint is coming from logistics side, and EU's future regulations will be tough in terms of GHD-emissions
- last mile delivery is different from long-haul where it is easier to improve the efficiency

Most people prefer today to have their parcels delivered at work; in the future, there will be intelligent goods (internet of things = smart objects) and shared calendars to show exactly where the person is at certain point in time, so as to determine best delivery place and time. Thanks to Future Internet it will be possible to know exact position, itinerary and load of delivery trucks, so as to allow new order or pick up or easy rescheduling in case of deviations (e.g. delays), which will be better communicated. There is also something that can be done as to how the vehicles are driven: this scenario includes an application for eco-optimized driving (not only eco-driving, but an extension, including C2C-communication, coaching, eco-competition, etc.).

In the discussion after the presentation, there were questions about different companies' willingness to co-operate in the area of last-mile delivery in the future. It was seen that the restrictions and fuel consumption reduction goals are becoming so tight in the future that the delivery companies are forced to co-operate. In addition, it was seen that the artificial intelligence does not have that much effect on the deliveries, but Internet of Things (IoT) does.

Marco Bottero from Swarco-Mizar gave a presentation of Instant Mobility Scenario 3: "***Traffic Management in the Cloud***". He highlighted the most important features available through the utilization of Future Internet in traffic management. To summarize, the future traffic management with Future Internet includes:

- Dynamic and integrated (various modes and priorities) traffic management
- Dynamically updated strategies and control traffic flows using Future Internet technologies
- Traffic control units will be moved from the roadside to the cloud (virtual RSU's + connected optimising algorithms)

In addition, traffic management (scenario 3) also serves other scenarios by allowing the optimization of different traffic flows based on selected priorities.

In the discussion after the scenario 3 presentation, it was asked, how Future Internet could help in the situation, where there is an accident in one part of the network, and the information related to that is spread via radio (to all the drivers). At the current situation, the traffic flow is rerouting (not controlled way), and the congestion is just moving from one place to another. It was seen that Instant Mobility solutions can help in many ways. First of all, the route guidance can be given dynamically, and not the same guidance will be given to all the affected vehicles. In addition, if the information is received already before starting the trip at all, one could even postpone the trip – or if combining the scenario 1 and scenario 3 – selecting the ride-sharing instead of driving him/herself. It was also noted, that the acceptability of ride-sharing may differ in different cultures.

Thierry Nagellen from Orange gave a presentation of "*What is Future Internet*". Cloud computing allows to share data between different companies and especially competitors in one city:
- Interoperable cloud combines everybody with Smart things.
- Data and context management: not possible today to use the same query to extract and use data from a sensor and data from a delivery system
- Internet of networks: connectivity + use of interfaces to connect to networks, which will be included in the definition of new applications in the future
- Concerns regarding security: the main one is privacy; tomorrow people will have lots of profiles, as a traveller, as driver, when you are not in your own city, etc.

Not all data are public and free to be used. FI-WARE (the core platform project in the FI-PPP programme) is dedicating part of its budget for open calls that can be an opportunity for the present stakeholders: the first call is now closed but the second is opening soon and there will also be a third one at the end of this year. The dedicated topics (e.g. streaming technologies) are meant to involve new partners with new technologies. Information: http://www.fi-ware.eu/open-call/

In his presentation, *Jean-Marie Dautelle* discussed about the possibilities "*Future Internet enablers*" are providing. In Instant Mobility, the FI-enablers are used e.g. to enable e.g. location-related privacy. Data provided will be completely anonymized: one won't be able to identify who is the person but the data can be used by other use cases or traffic operators to measure traffic density or identify bottlenecks. The trip can also be handled in parts, so that one doesn't know if the location related data relates to beginning or middle of the trip.

Patrick Gatellier also gave an oversight of the *Phase 2* planning of the *FI-PPP-program*. He highlighted that the Phase II is not a follow up of consortia in Phase I; the proposals will need:
- More innovation
- New partners
- To link together tourism, environment, mobility, etc
- To lead to effective trials and demonstrations

It is an opportunity for SMEs to push new innovative services with large funding available. Call for Phase 2 will close at the end of this year (October 2012)

Seyma Ulucay (ISBAK) gave a presentation of "*Istanbul as a pilot city*". She first highlighted the biggest challenges and needs in Istanbul transportation system in general:
- Infrastructural challenges (outside of the Instant Mobility scope)
- Geographical challenges (bridges crossing the 2 sides of the city at rush hour)
- Social challenges (car ownership) and lack of enforcement systems

In addition, she told about the already on-going plans to build a third bridge across Bosporus and to have a connected railway network on both continents. In Instant Mobility, the acceptance of the future services has been studies, and in Istanbul, more than 3000 people participated the survey. Ride sharing is not yet officially implemented in Istanbul, but it is common to use shuttle services taking from home to work, so this could be the understanding of the participants in answering the survey. The main concern of participants is not to share their location in case this information is shared with a third party, but if they agree to it, they are requesting confidentiality.

In the discussion after the presentation, there we additional questions concerning the public transportation in Istanbul, First of all, there will be new metro lines connecting the two continents. In the future, there will also be Marmaray Rail (www.marmaray.com). In addition, the bus and minibus networks are going to be optimised and new metro lines are going to be opened. It is true that the demand for public transport is exceeding the supply at the moment. For example, public transport is dealt with by several busses companies, public and private ones, and they are not interconnected. Moreover two new "cities" are being built north of Istanbul but this is a concept project right now so the public transport strategy in relation has not started yet.

In the *panel discussion* after the presentations, the following issues were raised and discussed:

Ridesharing:
Ride sharing as such (in the meaning understood in the project) is not implemented yet in Istanbul. Acceptance still needs to be tested because so far only a few initiatives (websites) exist based on social networks but security is a major concern and the municipality should guarantee it before it is being used, which would engage their responsibility so they are reluctant. Ride sharing incentives could be a solution, e.g. specific lanes in the United States or reduced taxes. There is also the incentive of fuel costs savings for the one proposing seats in his car.

The typical travel time in Istanbul & public transport as a solution:
It was stated that the average travel time to cross between European and Asian side is between one and two hours. In Istanbul, in rush hours, there are extra lanes on bridges, which are normally for traffic in the opposite direction, dedicated to direction of main traffic flow and vice versa in the evening when people going back home in other direction. Not easy to travel in Istanbul with public transport: a lot of changes needed for not such a big distance (+a new ticket each time changing from metro to tram or even between tram lines which is unlike other cities in Europe) and not so much information available about the network. A multimodal route-planner has been developed and will be available in a few months (not published yet) on android and internet. Mobile payments by NFC technologies; other subsidiary than ISBAK (BELBIM), is currently developing apps for mobile phones. Making public transport easier to use, and more comfortable, would induce people to leave their car and travel by public transport instead.

How should the travel-related information be offered to the travellers?
It was emphasised that the travel related information should be free; building a system like that (multimodal planner) does not cost so much or at least the business model could be to sell the system to other cities.

Deliveries in the city of Istanbul:
Istanbul has strict policies on logistics: deliveries are allowed only after 4 o' clock (PM) or during night time. There is also a project to restrict (tolling) entrance to historical centre of Istanbul.

Parking system(s) in Istanbul:
There are parking lots guarded by people at 5 Turkish Lira for 2 hours. And there is another affiliated
company of IMM managing parking system. (http://www.ispark.com.tr/Default.aspx?Lang=1).

3.5.5 Fourth workshop, Vienna, October 2012
The fourth and last stakeholder workshop was organized in Vienna, in connection to the ITS World Congress. It was targeted especially to larger audience of ITS community, and also to recognize the synergies between the FI-PPP projects.

Paul Kompfner from ERTICO ***welcomed*** the participants to the workshop and explained the reason to have the workshop in connection to the ITS World Congress: ITS Vienna is seen as a meeting place for the ITS community, from public authorities, government, policy makers to industry, service providers and users. So ITS ("connected data") touches everybody. Future Internet will not be radically different from today but much better, i.e. new ways of using Internet and its technologies, and it is becoming a founding technology for transport and mobility. Instant Mobility within the FI PPP program is the only usage area project with a stronger focus on transport and that includes cities as partners.

Arian Zwegers, European Commission, DG CONNECT gave a common presentation of the ***FI-PPP-program***. He highlighted the platform-based business model; to have a "Common base with SW on top of it for different use cases, and to have an open interface to allow people to build on top". Some of the core parts are kept proprietary. He also emphasized the following important aspects of FI-PPP-program:
- From platform to product: you need to provide some core functions and you need to allow people to build on top of it, so you need proper guidelines
- Value model: it increases if more people use it (e.g. telephone model)
- Both sides of the market are needed for it to work: the sellers and the users that adopt it (and once it starts rolling, you get more of users and more of sellers)
- Who will pay for it? (chicken and egg issue)
- FI-PPP comprises both the application point of view and the research point of view.
- Dependencies between the FI-PPP usage area projects: use cases have requirements that they put down to FI-WARE (technology foundation) and together they discussed what are the key building blocks to be put down emphasis shift from platforms components to platforms being built in Phase II of the FI-PPP program; and actual use of platform by third parties in Phase III
- Scenarios, platform from the use cases + components and tools from the FI-PPP, combined with policy, communities, you will get services (happy users and entrepreneurs)

The questions and discussion after the FI-PPP presentation stated that not all platforms are driven by R&D since technology alone is not sufficient, but there is also a lot of business model innovation (there is also a working group in FI-PPP looking at that). In addition, it was questioned, how easily entrepreneurs can set up a platform reusing components/enablers from the program when there are consortia and agreements involved? Conditions, price and constraints for use beyond the FI-PPP Program still need to be agreed. In addition, EC is also running into the questions concerning the openness of the platform.

Ryan Titley (ERRIN) provided next a presentation of **CONCORD**. He stated that ERRIN network is an interface with regions and cities. The FI-PPP usage area projects develop services that have an impact on the regional and local level (high social and economic impact), they have to bring a benefit to citizens. He also reminded that five (5) use case projects should come out of Call 2 closing on 24 October 2012, with a capacity building project. Engaging SMEs and entrepreneurs is a key point of Phase III

Cristina Peña-Alcega from Telefónica I+D presented **FI-WARE**. She highlighted the role and importance of open interfaces. She also reminded that the connection between FI-WARE and Infinity is going to take place in Phase II. She also explained the current developments in FI-WARE: Things are unreliable for the moment: little information, not easy to use; operators struggle with the same problem, i.e. they don't know what is happening in their system. So they are real economic and social reasons why to improve these through internet. **How FI-WARE generic enablers can be useful to transport area**:
- e.g. fleet management: to connect telematics in the vehicle to infrastructure, track assets, drivers, fleet of taxis,
- to support onboard services to avoid collisions, to implement eCall
- to integrate the payment system
- multimodal traveller assistance
- traffic infrastructure management from the cloud

Sandra Borghetti, from Rome (ATAC) presented **a view from a city** that can use the services developed in Instant Mobility. The main issues/questions covered were:
- Who is going to run the platform? (who is interested and can afford to) - Public transport operators are the owners of the information. In Instant Mobility business modeling activity, all the stakeholders who are needed to run this are analyzed.
- Long-term actions (infrastructure) to improve mobility, e.g. extending tube, are not the most suitable for a city like Rome, because of the historical vestiges, thus rather short term actions to get more people on public transport thanks to Future Internet.
- Acceptability surveys: we got an impressive number of response and interesting suggestions from citizens to help us measure which project results are matching objectives

Haluk Gokmen, Arcelik, **FINEST**-project emphasized that Future Internet has enormous ecological impact of transport & logistics. He also stated that limited visibility is considered the main challenge from this sector point of view. E.g. air cargo is not using their capacities fully because of late shows → Solution: Future Internet-based process network, e.g. use the Platform for: following status of your goods, selecting services and making offer, delivery planning, and business to business Facebook (ranking), allowing use of new suppliers.

Thierry Nagellen (France Telecom) presented other examples from **OUTSMART** and **FINSENY** – projects.

In addition, the scenarios of **Instant Mobility** were presented. *Patrick Gatellier* (Thales) presented the Scenario 1, concentrating specifically to the stakeholders related to scenario 1. He highlighted that running the platform is a technical operation so not all the cities necessarily want to run it, because they don't have the capacities nor knowledge, hence there is a need for dedicated platform operators. In addition, data operator is a second role in that platform.

Hossein Zakizadeh, (Volvo) presented the scenario 2 point of view. He concentrated into the eco-driving and analyzed how Future Internet can contribute into the reduction of emissions from the

traffic. He reminded that eco-driving can't be achieved just by improving the vehicle but also getting information about the infrastructure into the vehicle. Other projects active in eco-driving, such as eCoMove, have investigated what kind of information is needed and how it needs to be merged for optimized driving into a truck or a bus.

Ørjan Tveit, (Norwegian Public Road Administration) presented the scenario 3. He stated that scenario 3 should actually be the basis for the other two scenarios since it is about real-time traffic data collection. He also emphasized that the added value of running traffic control in the cloud as opposed to SCOOT for traffic optimization is the flexibility, e.g. synergies and savings on running the software. The cloud needs to be nearby because you have little time to compute to optimize the traffic flows based on the real-time data.

As last part of the workshop, the *acceptability* of the Instant Mobility services and related features was presented by *Merja Penttinen* (VTT), and the *business models* by *Thierry Nagellen*, (France Telecom). From acceptability surveys, it was clear, that there are still privacy concerns, and the users want to know what kind of data is collected, and how they can check and modify their own profile in the information system. From business model point of view, a couple of most important issues are:

- Public authorities are seen as a key stakeholder but there will be a direct exchange with the final user to give feedback and improve the quality of data.
- There is no mechanism today to share data, though there are lots of data collected already nowadays; we are learning how to. Though if data is your business, you don't want to share.

3.6 Other presentations in seminars and conferences

3.6.1 Summary of other seminars and conferences

The technical results of the Instant Mobility project, have been presented in many Future Internet related conferences and seminars, such as:

- FIA (Future Internet Assembly), Budapest, May 2011

- Future Internet Summit, Luxembourg, June 2011

- European Innovation Summit, Future Internet&Smart Cities, Brussels, October 2011

- Future Internet Innovation day, Helsinki, November 2011

- FI-PPP program meeting, January 2012

- 3rd European Summit on Future Internet, Aalborg, May 2012 (see the notes in chapter 3.6.2)

- Future Internet Assembly, Aalborg, May 2012 (see the notes in chapter 3.6.3)

- Future Internet for New Century Cities Conference, Zaragoza, November 2012

- THNS Forum (Sino-French Sustainable Development of Urban Transport Systems) in Shanghai (China), November 2012

The presentations are available via Instant Mobility webpage: http://www.instant-mobility.org/index.php/public-documents/public-deliverables-2.html

In addition to the above mentioned international forums, many partners have been disseminating the results nationally. E.g. Orange and VTT have been presenting the capabilities and preliminary results of the Instant Mobility project for the national "Smart Cities" programmes. IFSTTAR and Thales will also present the Instant Mobility project in the "New Technologies for transportation" Forum in May 2012. The partner specific dissemination activities are listed more detailed in Annex 1.

3.6.2 3rd European Summit on Future Internet

The two-day summit included many interesting presentations and panel discussions. To summarize, the future was seen as more global – European stakeholders need to co-operate with e.g. Asia, Middle-East, Russia, US. In addition, the plans for Horizon 2020 – as seen in May 2012 were considered very positive, supporting the global co-operation. In addition, the role of different stakeholders, open data, and various business models were also discussed broadly. Social networks, security and privacy were seen as important issues to be taken into account when planning and implementing the Future Internet enabled services. Instant Mobility was well presented in the panel discussion by the project coordinator.

3.6.3 FIA, Future Internet Assembly, May 2012

Several interesting seminars. The opening round the table discussion was about future smart cities and what kind of services citizens might need in the future. This is very much a bottoms-up approach. Some highlights:

Reinhard Scholl. There is a law that says that when cities grow, both the average income increases and also the number of patents per inhabitant. Some cities have started with competitions (ex. Big Apps in New York) for getting citizens input. For old people it is important to use IoT to increase safety (ex. Armband with RFID). This to prevent people to get lost.

Dr Chip Elliott. GENI-project: This is a virtual lab for exploring FI at scale with distributed cloud services sliced. 200 universities involved in this project with a parallel internet. The problem is how to disseminate a whole new internet. Link: http://www.geni.net/?page_id=26

In addition, various cities, and ICT stakeholders presented their Smart city concepts. It was also highlighted that the engagement of the citizens is very important to ensure the acceptance of the new services. Instant Mobility project was presented by Patrick Gatellier. He stated, that the target is to go from 5% to 40% in car sharing. Instant Mobility is contributing to real-time information about traveling, and is hence helping in changing the travel patterns. Patrick also reported a good response from involved cities. An interesting discussion followed around who is owning and will own data in the future. There was an example from a private bus company in UK who wanted to charge 3rd party suppliers for using their timeschedule data. The whole issue was solved thru a negotiation with the trade unions. (It would be a very difficult situation for a bus driver not to answer the passengers around timetable questions !). The data is now free.

3.7   Standardization work

As described in Instant Mobility D7.6 "Standardization and regulation recommendations – preliminary version", Instant Mobility is closely following related standards to use some subset functionalities with some major issues:

- o   Improvement of geographical location services
- o   Implementation of message-oriented multimodal services (ITS)

- o Deployment of devices-as-sensors and vehicles-as-sensors services
- o Deployment of secured and certified services

Details of the standardization work and its major outcomes are presented more in detail in the deliverables D7.6 "Instant Mobility standardization & regulation recommendations – preliminary version" and later in D7.9 "Instant Mobility standardization & regulation recommendations – final version".

3.8 Co-operation with other FI-PPP projects

There is a dedicated work package, WP2 "Program collaboration" which aims at organizing the information exchange between the Instant Mobility project and the other usage area projects (task 2.2), Infinity (task 2.3) and Core Platform (FI-WARE) (task 2.1) in FI-PPP programme (*figure 2*).
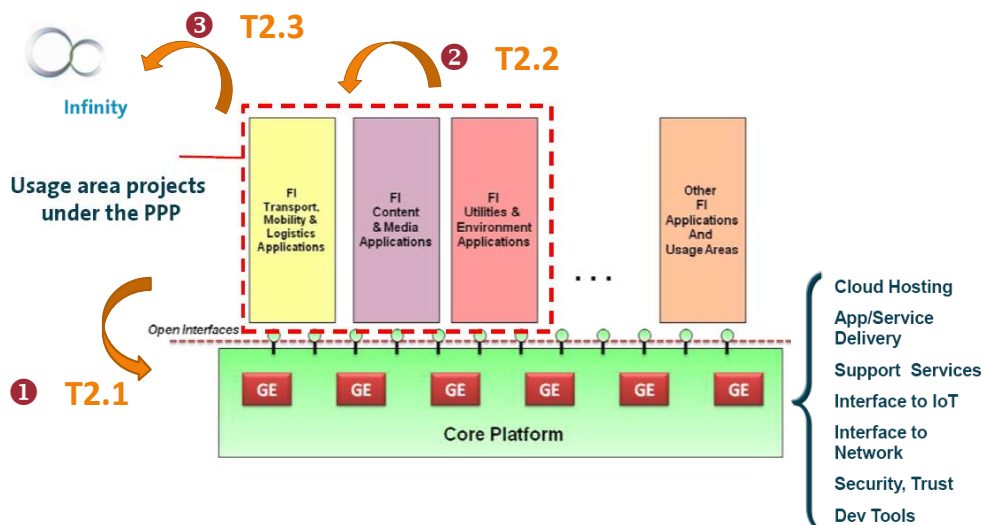

Figure 2. Co-operation between Instant Mobility and FI-PPP projects (WP2).

Program collaboration is further discussed in the deliverable D7.7 "Exploitation plan – Final version".

3.9 A project video

A video presenting the capabilities of Future Internet in the area of Transport and Mobility was produced for Barcelona event. The video highlights the most important scenarios – and can be seen and downloaded in Instant Mobility webpage.

3.10 Other dissemination activities

The other dissemination activities of the Instant Mobility project cover the

- Continuous updates of Instant Mobility webpage – 43 953 visitors between June 1st 2011 – March 18th, 2013. (compared to 12 686 visitors between June 1st 2011 – March 26th, 2012)
- Social media participation (LinkedIn group[1] and Facebook page[2])
- Providing material and articles to the FI-PPP Snack newsletter, e.g. advertising the stakeholder workshops, surveys and main results.
- Several releases for press and media, e.g.:
  - o Kick off meeting in Nice – local newspapers and France TV3,
  - o Telefónica corporate press releases about their participation in FI-PPP-projects, including Instant mobility,

---

[1] http://www.linkedin.com/groups/Instant-Mobility-4350665
[2] https://www.facebook.com/pages/Instant-Mobility/160241434096621

- o Telecom Italia has presented Instant Mobility in the corporate newsletter of "Research and Prototypes" department
- o Mizar contributed an article "*Cloud technologies for traffic monitoring and control*" to iMobility newsletter (Feb. 2012)
- o A virtual presentation of IM-project at the Volvo Tech Show Exhibition 2011. (May 2011)
- o Various local media participating and publishing about DHL's participation in Instant Mobility (press conference given during December consortium meeting in Madrid, Spain)
- o Dedicated Orange Business Newsletters for B2B communication
- o ATAC using a dedicated webpage both in English and Italian (www.atac.roma.it)
- o Many press releases and webpage updates to disseminate the survey in the participating cities; Nice, Trondheim, Rome, Istanbul and Toledo.
- o A dedicated press conference in Toledo in connection to the consortium meeting, October 2012.
  http://www.ayto-toledo.info/index.php?option=com_content&task=view&id=8839&Itemid=1
- o Barcelona demonstrations mentioned in UK-based blog:
  https://connect.innovateuk.org/web/intelligent-mobility/articles/-/blogs/future-internet-event-and-instant-mobility-demonstration-at-mobile-world-congress-2013-in-barcelona

- Close co-operation with other (national) smart mobility programs: TNO is a central partner in many national and EU-wide smart mobility programs, and also partner of hundreds of smart mobility SME's in the area of mobility and ICT. In addition, VTT has been making a smart city roadmap for the city of Helsinki, utilizing the findings and results in Instant Mobility.
- Other, specific dissemination activities per partner are listed in the Annex 1.

3.11 Scalability of the Instant Mobility applications and results

The scalability of the Instant Mobility applications and results will be discussed in details in the deliverables D4.9 (Multimodal journey), D4.13 (Goods transport), and D4.14 (Traffic management) specifically for each of the scenarios.

4.   Future dissemination plans

The results of wp6 – societal issues, will be further analyzed and a scientific article will be submitted later this year.

5.   References

Beckmann, D., Köster, F., Zargayouna, M., Scemama, G. (2012). *Architecture Methodology in the Instant Mobility Project.* Proceedings of the 19th ITS World Congress, Vienna, Austria, 22nd – 26th October, 2012.

Dubus, N. (2012*). Acceptability and social community issues for ridesharing and multimodality success.* A paper presented in DECOMOBIL workshop, Nomadic transport services for multimodal mobility - December 2012, Lyon, France. http://decomobil.humanist-vce.eu/Downloads.html

Instant Mobility webpage (2011). http://www.instant-mobility.org/index.php/news/past-events/127-workshop-on-im-future-scenarios.html

Instant Mobility (2011). Instant Mobility, Annex 1. Description of Work.

Pauzie, A. (2012a). *Concept and development of ergonomic mock up as a tool for mobile Human-Computer Interaction Design*. Proceedings of the APCHI 2012 Conference, August 28 – 31, 2012. Matsue, Japan.

Pauzie, A. (2012b). *Social Networking and Ecomobility through Nomadic Devices*. A presentation in the Special Session "The impact of social media on sustainable travel choices", in 19th ITS World Congress, Vienna, Austria, 22nd – 26th October, 2012.

Tsegay, S., Tveit, Ø., Bottero, M. (2012). *Traffic light signaling by cloud computing*. In Traffic Engineering and Control Magazine (TEC), July 2012. pp. 276–278. http://www.tecmagazine.com/

Zargayouna, M., Scemama, G., Kompfner, P., Gatellier, P., Constant, P., Beckmann, D. (2012). *Future Internet for a Personal Travel Companion Service*. Proceedings of the 19th ITS World Congress, Vienna, Austria, 22nd – 26th October, 2012.

Zargayouna, M., Zeddini, B., Schemama, G., Othman, A. (2013). *Agent-Based Simulator for Travelers Multimodal Mobility*. A paper submitted and to be presented in KES-AMSTA (Agents and Multi-agent Systems – Technologies and Applications) 2013 conference, Hue (Vietnam), May 2013.

6. Annex 1 – a list of partners' dissemination activities

Telefonica:

April 9th, Diario Telefónica, online, internal.

Short note about Instant Mobility was published in "Diario Telefónica", Telefonica group internal electronic newspaper. It raised some curiosity and the author was contacted several times during the day to explain better the expected results of Instant Mobility. Audience: Global Telefónica Group

April 9th, Web de Responsabilidad Corporativa, online, public.

Very similar news were made public outside Telefónica:
http://www.rcysostenibilidad.telefonica.com/blogs/2012/04/09/telefonica-id-facilitara-a-las-smart-cities-un-sistema-de-movilidad-ecologica/ with bigger impact. Audience: Public.

August 16th, Telefonica Product Development and Innovation Intranet

Dissemination article providing overview of Instant Mobility and its scenarios. Audience: Telefónica PDI employees.

Nov.8th, Future Internet for New Century Cities Conference, Zaragoza

Presentation: "**Instant Mobility: Future Internet for New Century Multimodal Cities**"

Estimated number of participants: 100 (local and from EU, USA and Japan). The subject of the conference was Future Internet for New Century Cities. The organizer was most interested in Instant Mobility scenarios and their relationship to Instant Mobility cities. So, a general overview of the project was given followed by the explanation of the 3 development scenarios and its relationship to Region of Nice, Rome, and Trondheim. Audience was participative. 3rd scenario was perceived as the most innovative but scenario 1 captured more attention. After the presentation, main subject of discussion was around possible ways of exploitation of Instant Mobility results and FI-PPP results. http://www.instant-mobility.com/index.php/public-documents.html

Jan, 10th, Telefónica M2M Community Workshop on FI-PPP technical approaches.

Presentation: "**The Instant Mobility Project**" Number of participants: 20 Architecture was discussed and compared against FI-WARE IoT chapter, Outsmart and Finseny. No relevant feedback received since the projects under discussion barely overlap.

IFSTTAR:

THNS Forum (Sino-French Sustainable Development of Urban Transport Systems) in Shanghai (China), November 2012

A paper in the forum entitled "Future Internet for real-time planning and monitoring of multimodal trips". Number of participants—: 150 (estimation). Attached material: the paper (http://www.urba2000.com/club-ecomobilite-DUD/IMG/pdf/IFSTTAR_article_future_internet_multimodal_trip_17112012.pdf)

The ATEXPO ITS Congress, Paris (France), January 2013

A paper in the congress entitled (in French)–: "Un service Internet du Futur pour le suivi des voyages multimodaux" A demonstration of the simulator developed by Ifsttar for the project IM. Number of participants : 1110. A video demonstrating the simulation of travels and road blocking.

KES-AMSTA (Agents and Multi-agent Systems – Technologies and Applications) 2013 conference, Hue (Vietnam), May 2013 (to come)

A paper in the conference entitled "Agent-Based Simulator for Travelers Multimodal Mobility" Number of participants : 400 (estimation)

Orange:

Idate (a French consulting company) workshop, September 2012.
The theme of the workshop is "innovative services in Transport for Smart Cities".

IT Suppliers of Orange Business Services (OBS) meeting, October 2012
Instant Mobility presentation related to the new emerging geolocation services.

Nice Chamber of Commerce, workshop of Mobility and Transport, June 2012.
Participants : 35 persons. Audience: local transport and mobility actors as public transport operators, Intermodal node project manager, Municipalities, ADEME (French subsidized association for Sustainability and Energy reduction), car-pooling operators. The audience was very interested. There are been a lot of questions, related to trust issues, cost of the development, means of dash boarding the whole system for local governments, lever to access the application for tourists (especially for roaming issues for data).

ATAC:

Researchers' Night - 'Light 2012', Roma, September 2012:
ATAC took part in the event Light 2012 (Researchers' Night), held in Roma on 28th September 2012. In its stand, ATAC displayed an advertising totem with the logos of some ongoing EU projects, among witch Instant Mobility. The Marie Curie Researchers' Night is an annual Europe-wide event, which happens simultaneously in more than 300 European cities. It has the goal of bringing together the large public and researchers. In Italy (http://www.eventolight.it/), it was held in five cities, the main location being Rome, at the Rome Planetarium inside the Museum of Roman Civilization (Estimated number of visitors: about 20.000).

FI-PPP Event, Barcelona, 28th February / 1st March 2013:
ATAC promoted the event (which was also Instant Mobility external final event) through a press release, published in its official website, in its intranet, and sent to several press agencies.

ISBAK:

Instant Mobility project was mentioned in various press-releases:
http://www.zaman.com.tr/haber.do?haberno=1310057
http://www.haberler.com/isbak-avrupa-nin-its-devlerini-istanbul-da-3740493-haberi/
http://www.ajans5.com/detay/2012/06/27/isbak-avrupa-nin-its-devlerini-istanbul-da-agirladi.html
http://www.habertv.org/isbak-avrupa-nin-its-devlerini-istanbul-da-agirladi.html
http://www.timeturk.com/tr/2012/06/27/isbak-avrupa-nin-its-devlerini-istanbul-da-agirladi.html
http://yurthaber.mynet.com/yorum/liste/297466
http://www.yenieksen.com/haber/guncel/isbak-avrupanin-its-devlerini-istanbulda-agirladi/65000.html

Toledo:

Instant Mobility project has been promoted via several press-releases:

http://www.ayto-toledo.info/index.php?option=com_content&task=view&id=8839&Itemid=1

http://www.ayto-toledo.info/index.php?option=com_content&task=view&id=6493&Itemid=71

http://www.latribunadetoledo.es/noticia.cfm/Local/20110726/toledo/participa/programa/europeo/mejorar/movilidad/D7AE291A-C302-6F55-411D57B9D6C1E25E

http://www.abc.es/20110726/toledo/abcp-informacion-para-moverse-toledo-20110726.html

http://www.globalclm.com/j-toledo/j-toledo-capital/711479--la-ciudad-de-toledo-aprueba-su-adhesion-el-programa-europeo-instant-mobility

http://www.alicante.ciudadred.es/1072/toledo/11886-la-ciudad-de-toledo-aprueba-su-adhesion-el-programa-europeo-instant-mobility.html

http://www.abc.es/20110811/toledo/abcp-toledo-adhiere-programa-europeo-20110811.html

http://www.latribunadetoledo.es/noticia.cfm/Local/20110811/ciudad/toledo/aprueba/adhesion/programa/europeo/instant/mobility/0F65F5AD-DD9A-C8AE-2BE8F7946C3A86DC

http://www.toledovirtual.eu/news/view/el_alcalde_de_toledo_asegura_que_el_gobierno_municipal_trabaja_intensamente_para_que_la_ciudad_se_s

http://www.lacerca.com/noticias/toledo/aplicacion_programa_movilidad_toledo-116466-1.html

http://eldiadigital.es/not/51438/toledo_avanza_en_la_aplicacion_del_programa__instant_mobility_/

http://www.ayto-toledo.info/index.php?option=com_content&task=view&id=7983&Itemid=158

http://lasagra.portaldetuciudad.com/es-es/noticias/toledo-el-gobierno-municipal-avanza-en-la-aplicacion-del-programa-de-movilidad-instant-mobility-lasagra-006_1_1_314105_46.html

http://www.teletoledo.es/noticia.php?id=3462&no=El%20gobierno%20municipal%20de%20Toledo%20avanza%20en%20la%20aplicación%20del%20programa%20de%20movilidad%20Instant%20Mobility

http://www.abc.es/20120430/toledo/abcp-toledo-avanza-conocer-estado-20120430.html