

## Instant Mobility – Future Internet for Travel and Transport

### The Instant Mobility vision

In the Instant Mobility vision, every journey and every transport movement is part of a fully connected and self-optimising ecosystem in which travellers, goods and collective transport will benefit from personalised and real-time information delivered by next-generation Internet technologies.

Mobility – especially in cities – could be dramatically improved for users, and optimised for operators, if travellers, goods and vehicles were interconnected and could interact by Internet.

Future Internet technologies will offer accurate positioning, continuous connectivity and a host of personalised online mobility services:

- a “Transport and Mobility Internet” will link together all the various actors involved in urban transport into one ecosystem to create and share a rich pool of instant information about the itinerary of each traveller, goods consignment and vehicle
- a “Mobility App-Store” of innovative applications and services will be online for consumers and operators, while opening new business models for data and service providers
- City traffic managers will adapt and control their signal network knowing all vehicles’ intended destination via the Internet cloud
- Public transport routes and timetables will “flex” according to customers’ needs, captured through wireless sensors and from passengers’ online itineraries.



### The Instant Mobility Project

The Instant Mobility project sets out to pave the way for the mobility revolution, through five main steps:

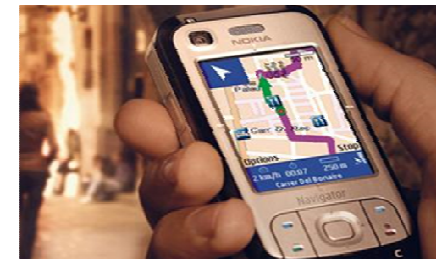
- Create and analyse a set of innovative Future Internet-based “lead scenarios” and constituent services corresponding to the needs of five key stakeholder groups:
  - multimodal travellers (using several means of transport during the same journey)
  - car drivers and passengers
  - public and other collective transport operators
  - truck fleet operators and the distribution industry
  - road operators and traffic managers.
- Define and specify essential “enablers”, generic and transport-specific technologies and components needed to support the Instant Mobility services; the generic enablers will be created in other FI-PPP activities, the specific ones in Instant Mobility project. These services will be available to any Internet-connected user, whether using a portable, vehicle-based or fixed terminal.
- Integrate the enabler specifications into a conceptual prototype demonstrating a simplified Transport and Mobility Internet and some scenario services as examples. Instant Mobility advanced services will be available on demand or “pushed” as needed, and will be equally easy to use, to develop and to deliver. They will work in on-board integrated units as well as in next-generation smartphones, tablets and computers.
- Investigate key societal issues for potential Instant Mobility deployment, including security and privacy, acceptability, business models etc.
- Dialogue with stakeholders in potential candidate cities for deployment, creating a plan for a network of pilot implementation sites in the next stage of the FI-PPP.



### Future mobility scenarios

#### Multimodal travel made easy

Travellers get multi-modal real-time travel information tailored according to their preferences. Find the shortest and most convenient journey, the cheapest, most energy efficient and reliable options. Get an updated itinerary plan whenever conditions change, book corresponding ticket booking. Context-defined services are “pushed” to the traveller just when and where needed.



#### Sustainable car

Car drivers find the “best” route, i.e. shortest, least congested and greenest, with help from crowd-sources traffic data. One day they will even be able to book a journey time and route “slot”! Ride sharing will be simple and safe, with trip requests and offers exchanged through on-demand social networks.



#### Collective transport 2.0

Internet will allow public transport and taxi operators to share service and demand information, and offer seamless, traveller-focused and demand-based services. Floating passenger data will help match vehicles, timetables and routes to actual demand, while ticketing and payment will be integrated and online from the user's mobile handset.



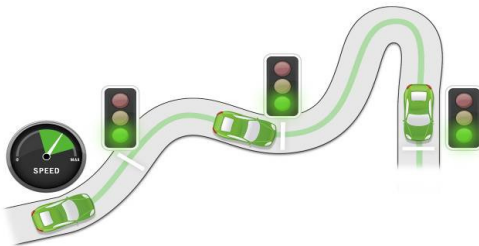
### Trucks and the city

New, flexible and green types of city goods transport, e.g. vehicles, goods, containers, infrastructure and back-end systems, will optimise deliveries through Internet services for managing drivers' shifts, delivery schedules and routeing, load/unload parking booking, local access authorisation as well as the space available to take new goods along the route.



### Online traffic & infrastructure management

Traffic management and control in the cloud will allow fully adaptive interaction between vehicles and traffic signal controllers, leading to smoother traffic flow and lower CO2 emissions thanks to fewer stops at red lights. Large-scale system optimisation will balance traffic over the whole city area, reducing congestion and energy consumption.



### Expected Project Results

Instant Mobility will deliver important results for building the mobility and transport for the future. These include:

- A comprehensive set of detailed technical, functional and non-functional specifications for the use case services
- The identification of Generic Enablers and architectural requirements needed from the FI-PPP Core Platform
- Definition of open interfaces and interoperability requirements
- Domain-specific capabilities and conceptual prototypes demonstrating critical technological solutions and the overall feasibility of the Instant Mobility approach
- Assessment of societal issues to facilitate the user acceptance and guarantee his/her safety and privacy
- Contribution to transport and Internet standards
- A plan to build a thriving user community and European city demonstration projects.

### Instant Mobility in the Future Internet Public Private Partnership (FI-PPP)

The Future Internet (FI) Public Private Partnership (PPP) is a European Union research and technology development programme that runs from 2011 to 2015. The aim of FI-PPP is to encourage European industry to enable smart infrastructures for selected application domains, whilst contributing to EU policies for innovation, sustainable growth, energy and environmental targets.

Instant Mobility addresses the identified usage area "Transport, Mobility and Logistics", and will deliver Future Internet-enabled services making use of the new capabilities such as interactions with the real world through sensor/actuator networks, network virtualisation and cloud computing, integrating existing research results developed over the past few years. Key technologies include:

- Next-generation networks
- Internet of Things
- Internet of Services
- Web 3.0 and Internet of People.



### Instant Mobility Facts & Figures

The Instant Mobility consortium brings together four groups of key actors:

- **ICT** - with European leaders (Thales, France Telecom, Telefónica, Telecom Italia, Ericsson) and innovative SMEs (Pertimm)
- **Transport** - with automotive industry (Centro Ricerche Fiat, Valeo, Volvo Technology), traffic systems (Mizar), logistics (DHL), navigation (NAVTEQ) and the European partnership for intelligent transport (ERTICO)
- **R&D** – with leading research centres (CEA-List, DLR, IFSTTAR, VTT)
- **Cities** - representing citizens and quality of life in urban areas (Italy: ATAC-Roma, Turkey: Istanbul, France: Nice Cote d'Azur, Norway: Staten Vegvesen, Spain: Toledo).

The Instant Mobility project is part of the FI-PPP initiative, co-funded by the European Commission 7th Framework Programme (FP7-2011-ICT-FI).

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Budget: €7.9 million

EC contribution: €4.9 million.

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