

# Viajeo project – Open platform for Transport Planning and Travel Information



Jens Peder Kristensen  
KeyResearch  
TRA  
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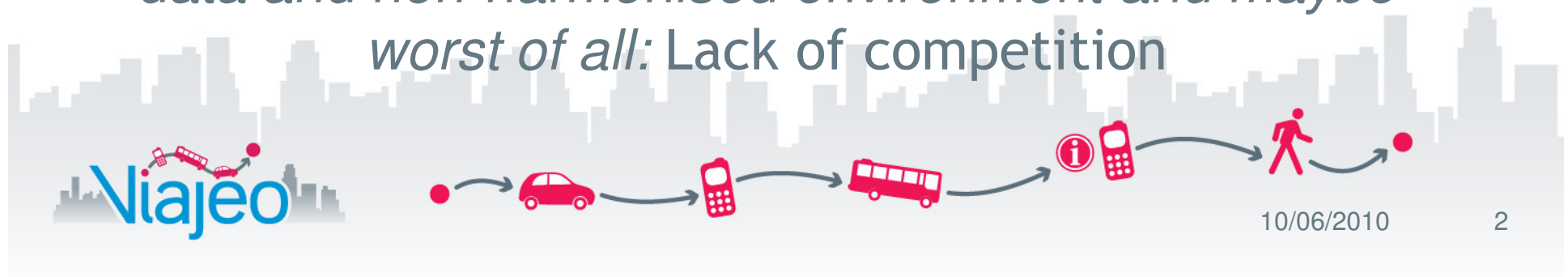
[www.viajeo.eu](http://www.viajeo.eu)

# Viajeo: The Challenges

- New data collection sources to be integrated with existing data
- Heavy investment into data collection
- Data collection and information services developed based on local requirements
- Lack of standards and common formats



*Resulting in repeated collection, inefficient use of data and non-harmonised environment and maybe worst of all: Lack of competition*



# The solution: Concept of an open platform

- To facilitate data exchange and sharing
- To define standardised interfaces
- To centralise data processing modules
- To integrate new data, historical and real-time data



*Maximising benefits from all available data in order to improve short term traffic operation, long term planning and competition*



## The solution: Viajeo open platform

### Transport Planning

- Planning of Public transport
- Environmental benefit planning

### Transport Operation and Management

- Urban traffic management and control
- Public transport operation
- Taxi fleet operation

### Data Exchange Network

### Information Generation

- Real time traffic information
- Environmental data collection
- Dynamic route guide
- Public Transport information
- Booking and payment
- Cross modal journey planning

### Information Dissemination

- Display system in buses and metros, at bus stops and interchanges
- On-board navigation system
- Mobile phone traveller information to support cross modal journey

### Demo Cities

Athens

São Paulo

Beijing

Shanghai

# Viajeo Improvements & Benefits

## Efficient travel

- Deliver and implement effective travel plans.
- Integrate all available data to support sustainable long-term planning and short-term proactive and reactive management of the transport network.

## Green travel

- Obtain environmental data.
- Sustainable transport planning and management methods providing higher environmental benefits.

## Connected travel

- Cooperation between the different transport authorities.
- Sharing information to enhance efficiency of overall urban mobility.
- Integration of new data sources and new media to disseminate information to travellers.



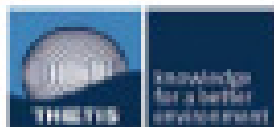
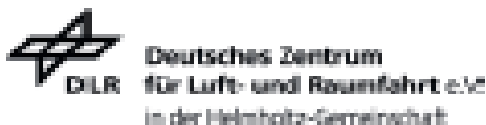
# Viajeo in brief



- Project coordinator: ERTICO – ITS Europe
- Duration: 36 months, from September 2009 until August 2012
- Demo sites: Athens, São Paulo, Beijing and Shanghai
- Total budget: €5.9 million
- EC contribution: €3.6 million
- Co-funded by the EC DG Research for Specific International Cooperation Actions (SICA) . Seventh Framework Programme (FP7).

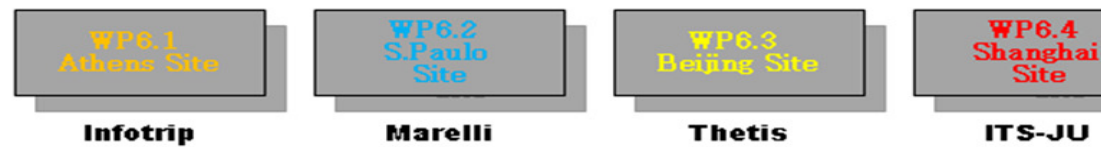


# Viajeo consortium

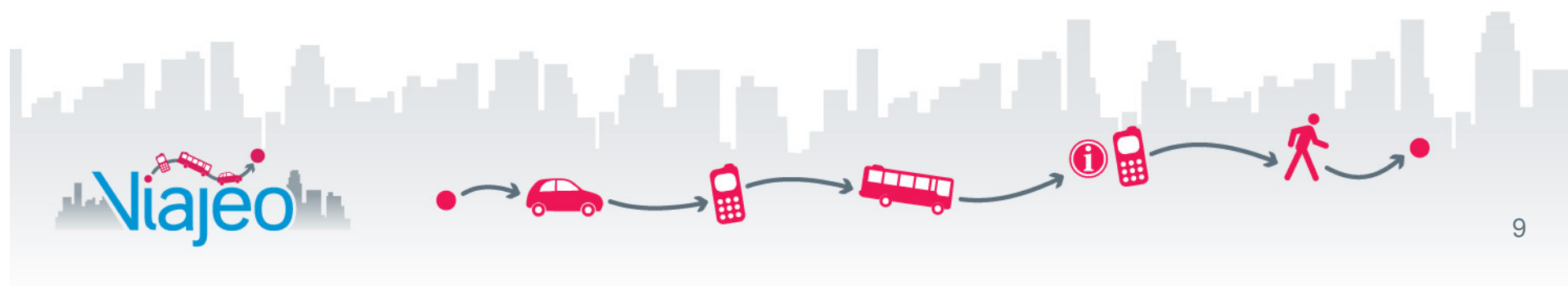


## Structure of WPs

	WP6.1 Athens Site	WP6.2 S.Paulo Site	WP6.3 Beijing Site	WP6.4 Shanghai Site
WP1 Coordination				
WP2 Investigation				
WP3 Design of Platform				
WP4 Design & Implementation				
WP5 Validation				
WP8 Dissemination				



# WP 2 user needs and gap analysis



# Needs investigation

## End users

- Motorists
- Public transport users
- Visitors (foreign/domestic)

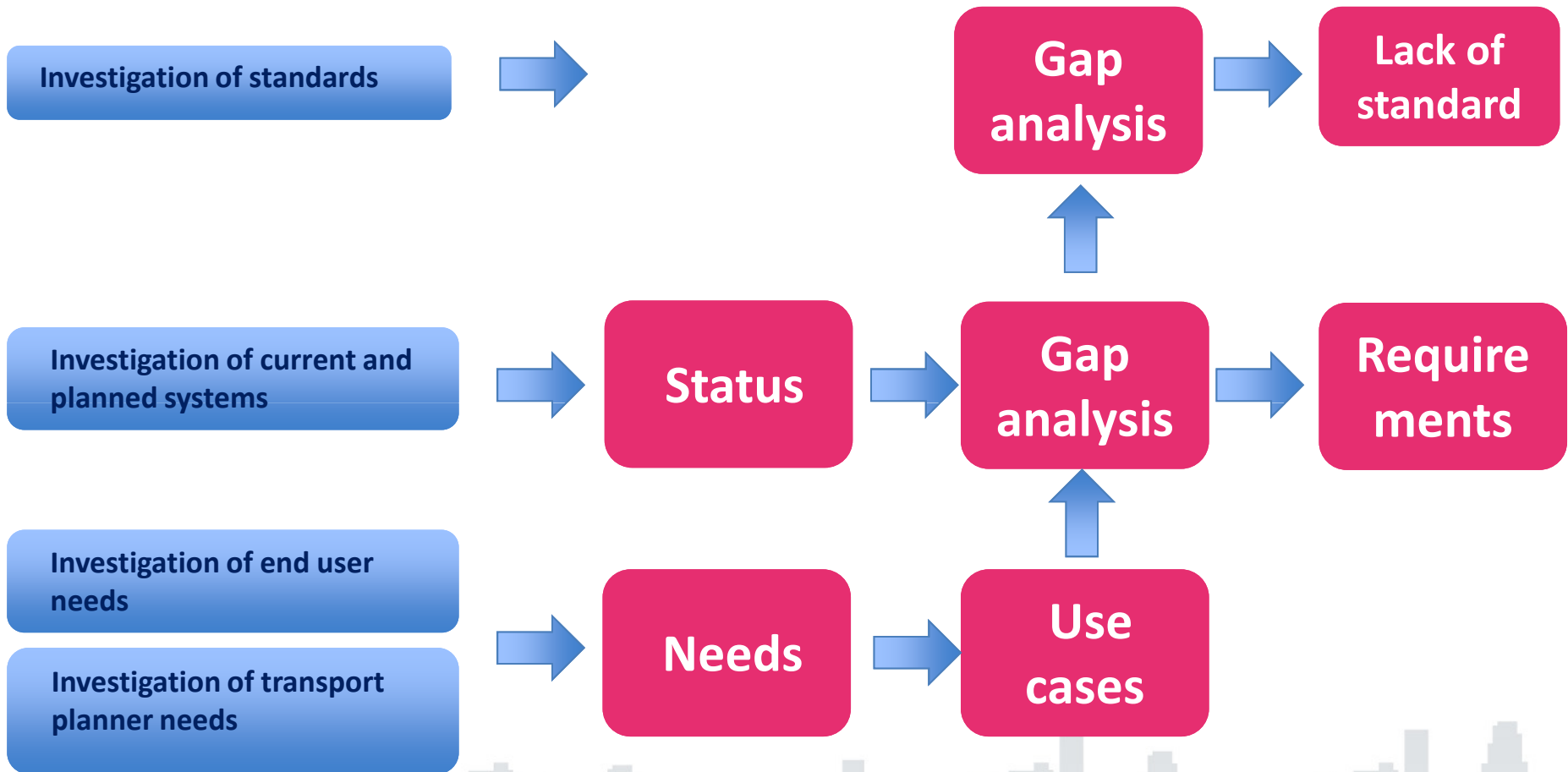


## Transport planners

- Road planners (Athens + Shanghai)
- Public transport planners (Athens)



# Overview of Work Package 2



# User needs information

End user needs			Relevant demo sites			
Number	Category	Short definition	Athens	Sao Paolo	Beijing	Shanghai
1	Public transport and car drivers	More complete information	X		X	X
2	Public transport and car drivers	More correct information	X			X
3	Public transport and car drivers	More timely information	X		X	X
4	Public transport and car drivers	Information on SMS to mobile phone	X		X	
5	Public transport and car drivers	Information through the radio	X		X	Exists
6	Public transport and car drivers	Information via Email to personal mobile with access to the web	X			
7	Public transport and car drivers	Information via internet			X	Exists
8	Public transport and car drivers	Information from restricted geographically areas	X		X	X
9	Public transport and car drivers	Information via enquiry hotlines			X	
10	Public transport and car drivers	Personalised information, possibility to select which information to receive			X	X
11	Public transport and car drivers	Interactive selection of which information to receive			X	X
12	Public transport	Estimated travel times of public transport	X		X	Exists
13	Public transport	Public transport timetables	X		X	Exists
14	Public transport	Accurate public transportation arriving time	X		X	X
15	Public transport	Information about occurred incidents affecting public transport (accidents, etc for buses, closed stations for trains, etc)	X			X
16	Public transport	Information on displays in stations and bus stops	X		X	X
17	Public transport	Information in the bus on arrival time at next stop				X
18	Public transport	Better visibility of bus stops			X	X
19	Car drivers	Estimated travel times for car drivers	X		X	
20	Car drivers	Real time information regarding incidents such as accidents, strikes, closed roads due to public works, etc.	X		X	X
21	Car drivers	Park & Ride information	X		X	X
22	Car drivers	Information via VMS and DMS systems	X		X	Exists
23	Car drivers	Information through personal navigation system	X		X	X
24	Cross modal	Best travel route based on real time traffic information	X		X	X
25	Cross modal	Information on most environmental route	X		X	
26	Cross modal	Information on most environmental friendly transport mode	X			
27	Visitors	Information in other languages than the official language	X		X	
28	Road transport planner	Multi system cooperation between providers of traffic information	X			X
29	Road transport planner	Road traffic congestion information	X			X
30	Road transport planner	Traffic congestion causes				X
31	Road transport planner	Countermeasures analyses				X
32	Road transport planner	Real-time road traffic condition	X			X
33	Road transport planner	Vehicle fleet and type				X
34	Road transport planner	Information on traffic flows	X			
35	Road transport planner	Tools to conduct speed measurements and occupation of lanes	X			
36	Public transport planner	Information on freight transport in the city centre	X			
37	Public transport planner	Multi system cooperation between providers of traffic information	X			



# Use cases

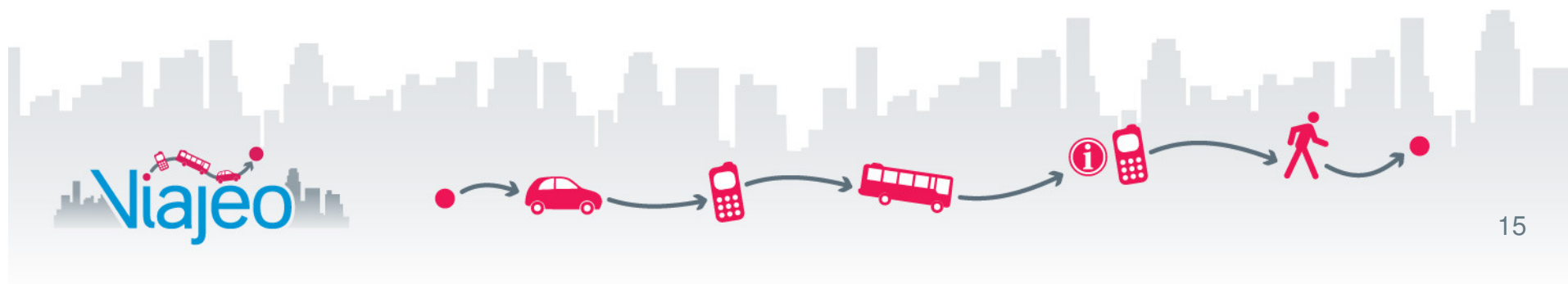
Number	Use cases - Description
1	Real time bus arrival information on displays at bus stops
2	Web-based cross modal route planner (based on both real time and historic data)
3	Park & Ride information via VMS and Internet
4	Public transport planner using traffic model to plan public transport (smart cards)
5	Dynamic assignment of taxies
6	Traffic alerts and new best route calculation
7	Traffic information to end users
8	Road transport planner uses traffic model
9	Selection and payment of public transport
10	Real time bus operation
11	Accessing web-based cross modal planner on the bus
12	Traffic environmental monitoring and traffic related emission model simulating air quality



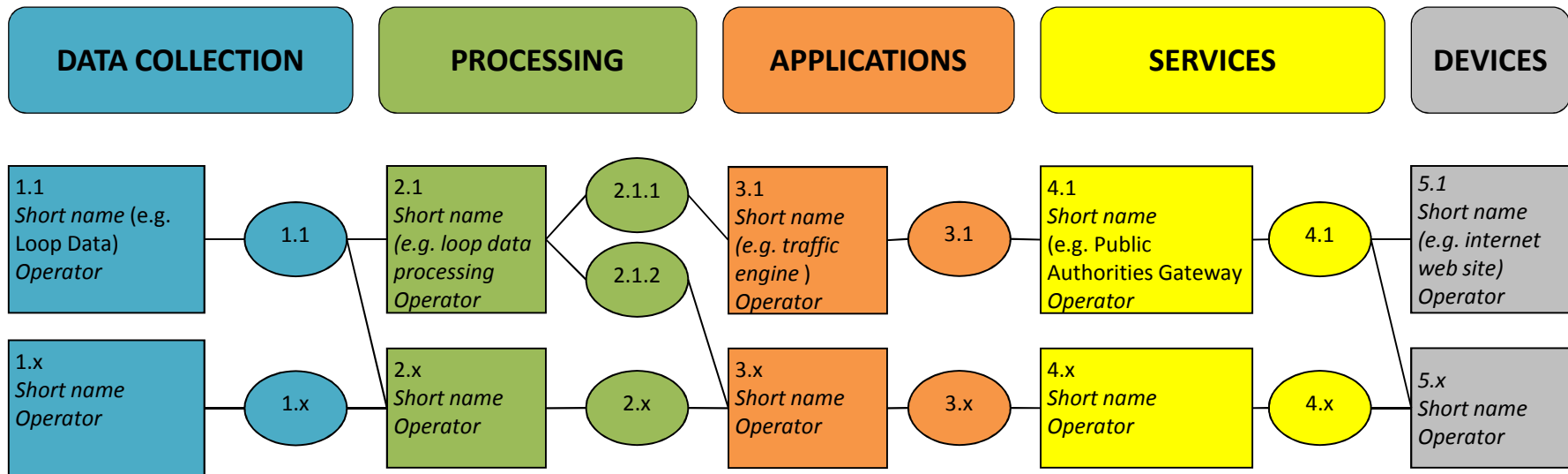
# Use cases ↔ user needs

Number	Description	User needs covered
1	Real time bus arrival information on displays at bus stops	2, 3, 14, 16
2	Web-based cross modal route planner (based on both real time and historic data)	2, 3, 4, 6, 7, 8, 10, 12, 13, 14, 19, 21, 24, 25, 26, 27
3	Park & Ride information via VMS and Internet	7, 21, 22
4	Public transport planner using traffic model to plan public transport (smart cards)	
5	Dynamic assignment of taxis	This use case covers the needs of professional drivers and a taxi dispatch centre. Their needs have not been uncovered in the investigation but the service match needs 1, 2, 3, 19, 23, 24 of car drivers
6	Traffic alerts and new best route calculation	This use case covers the needs of professional drivers and a taxi dispatch centre. Their needs have not been uncovered in the investigation but the service match needs 1, 2, 3, 19, 23, 25 of car drivers
7	Traffic information to end users	1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 15, 19, 20, 27
8	Road transport planner uses traffic model	29, 31, 32
9	Selection and payment of public transport	
10	Real time bus operation	29, 31, 32
11	Accessing web-based cross modal planner on the bus	17
12	Traffic environmental monitoring and traffic related emission model simulating air quality	29, 32

# WP3 the platform



# Information value chain



Interface N°  
Interface Name  
Purpose  
Standard used

# EO Platform System Boundary

## I 1 - FCD Interface

FCD Provision from vehicle to centre

*SIMONE*

## I 4 - Static Public Transport Information

Provision of time tables and stop positions

*SIRI*

## I 7 - Traffic Information Provision to Mobile Clients

Provision of traffic information by air interface

*TPEG TEC*

## I 2 - Roadside Traffic Data

Roadside Traffic Data provision to centre

*DATEX II (reduced)*

## I 6 - Cormodal Routes

Exchange of elaborated route data between centres

*eMotion/  
IN TIME*

## I 5 - Dynamic Public Transport Information

Provision of delays and dynamic PT info

*SIRI*

## I 3 - Centre Road Traffic Interface

Exchange of road traffic /environmental info on centre level

*DATEX II*

## I 6 - Roadside Environmental Data

Roadside Data provision to centre

*DATEX II (reduced)*

## Road Traffic Data Processing

Processing of traffic data sets into information pieces for further elaboration or distribution

*Process Input:*

- FCD Data (I1)
- Roadside traffic data (I2)
- Information from other centres (I3)
- Roadside Environmental Data (I6)

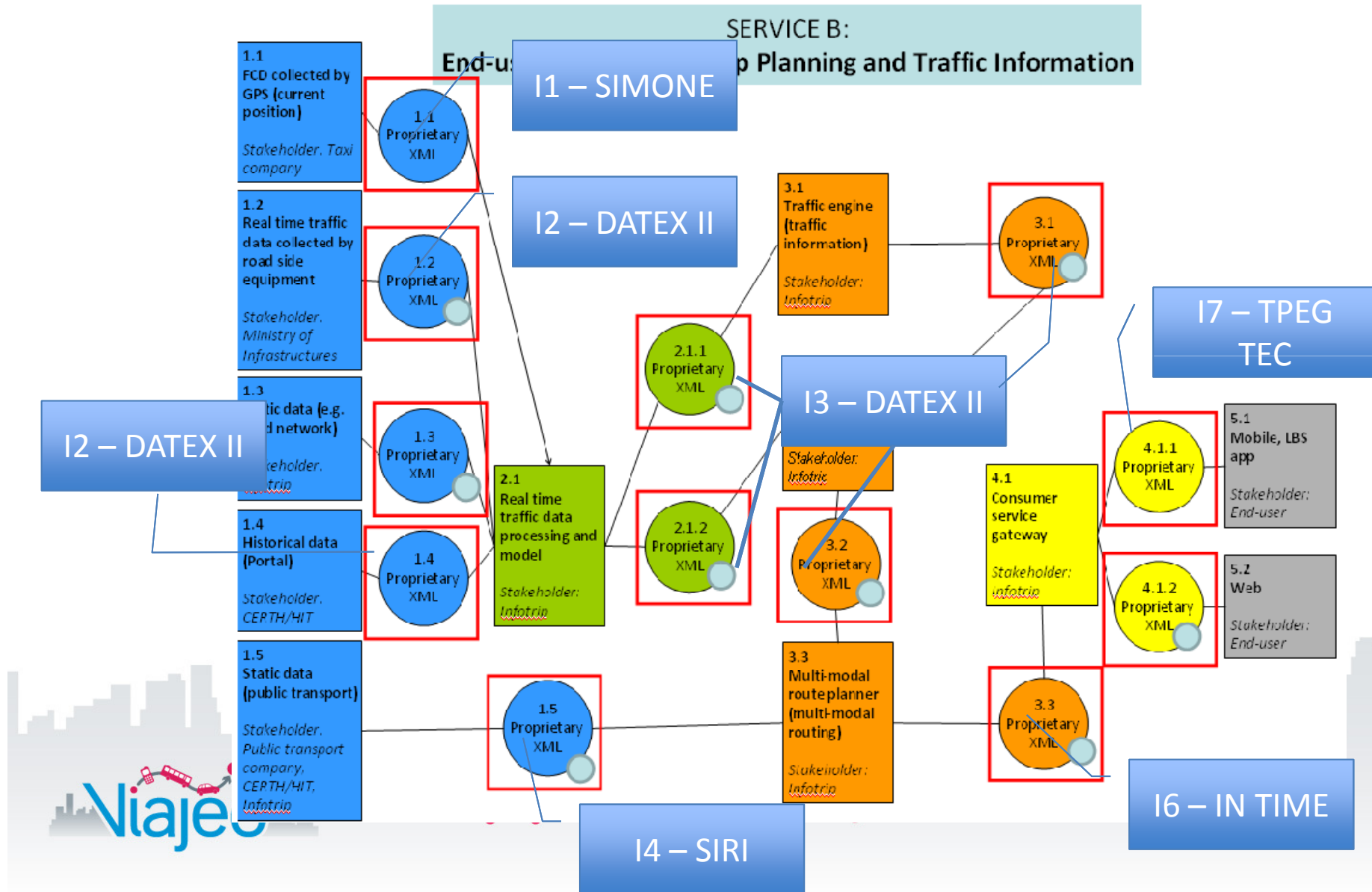
*Process Output:*

- Information to other centres (I3)



Viajeo

# Mapping to Athens TS



# Thoughts about the future cooperation

- We still need to see the impact of Viajeo, and I am optimistic.

But

- We are out late. There are national standards in China, but they are not used.
- Cooperation on a more precommercial level can lead to shared standardisation work and open competition
- Maybe a need for a shorter reaction time.
  - From identification of potentiel to cooperation, to call, to project, to project results maybe 5 years.
  - To slow in a world where we say an internet year is a calender month.



# Thank you!

[www.viajeo.eu](http://www.viajeo.eu)

