WP2 - Investigation

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KeyResearch
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Viajeo: The Challenges

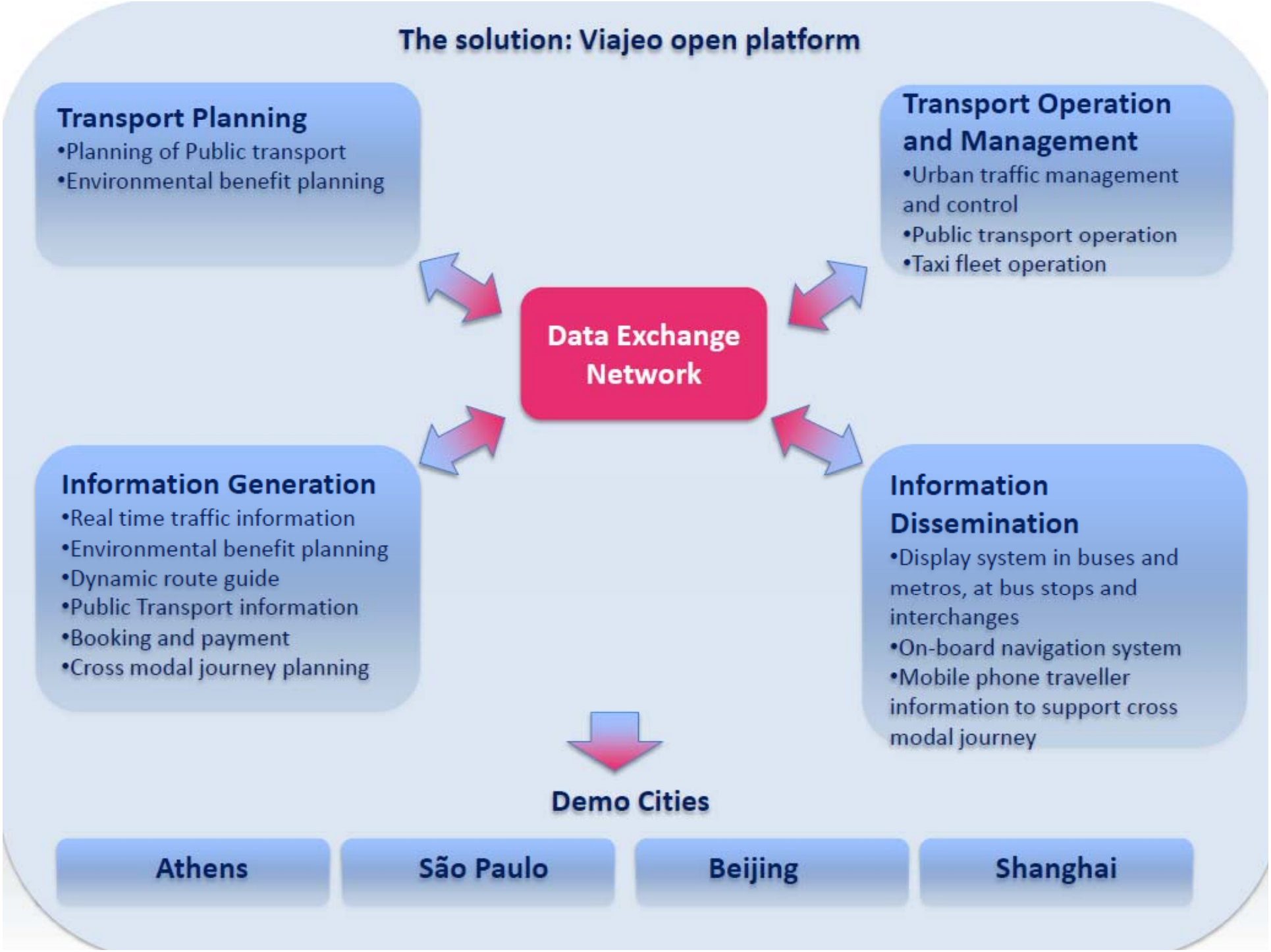
- New data collection sources to be integrated with existing data
- Heavy investment into data collection
- Data collection and information services developed based on specific requirements
- Separate ownership of traffic data
- Lack of common format

Resulting in repeated collection, inefficient use of data and non-harmonised environment

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 and long term planning


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 benefit planning
•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 demand-responsive transport services.

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 travelers.

Consortium

egis mobilité

ipt INSTITUTO DE PESQUISAS TECNOLÓGICAS

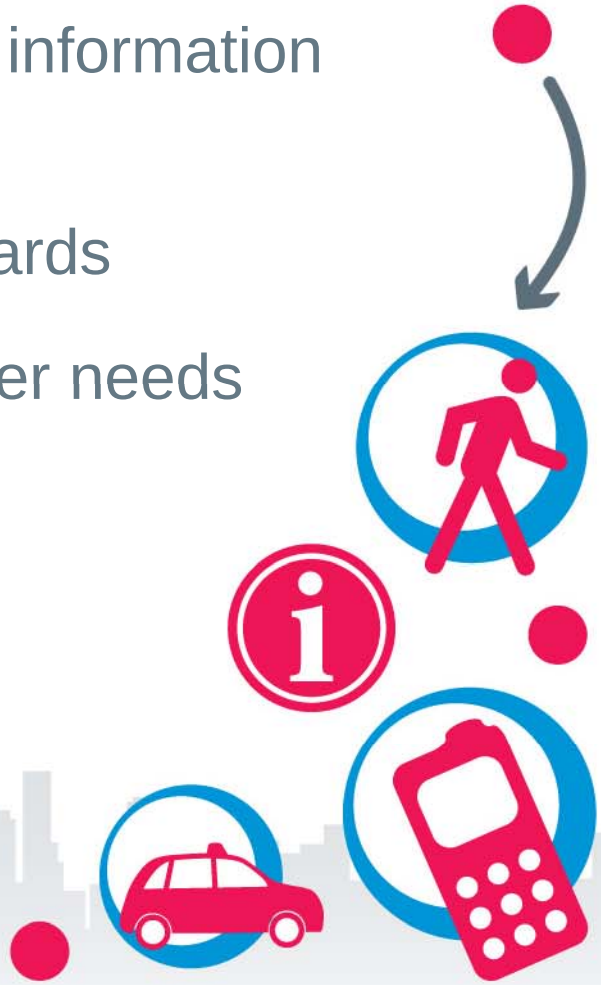
USP

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).

The Objective

- Investigate current and planned traffic information system
- Determine available technology/standards
- Uncover end user and transport planner needs
- Analyze the gap between European and Chinese/Brazilian technology/standards
- Formulate requirements

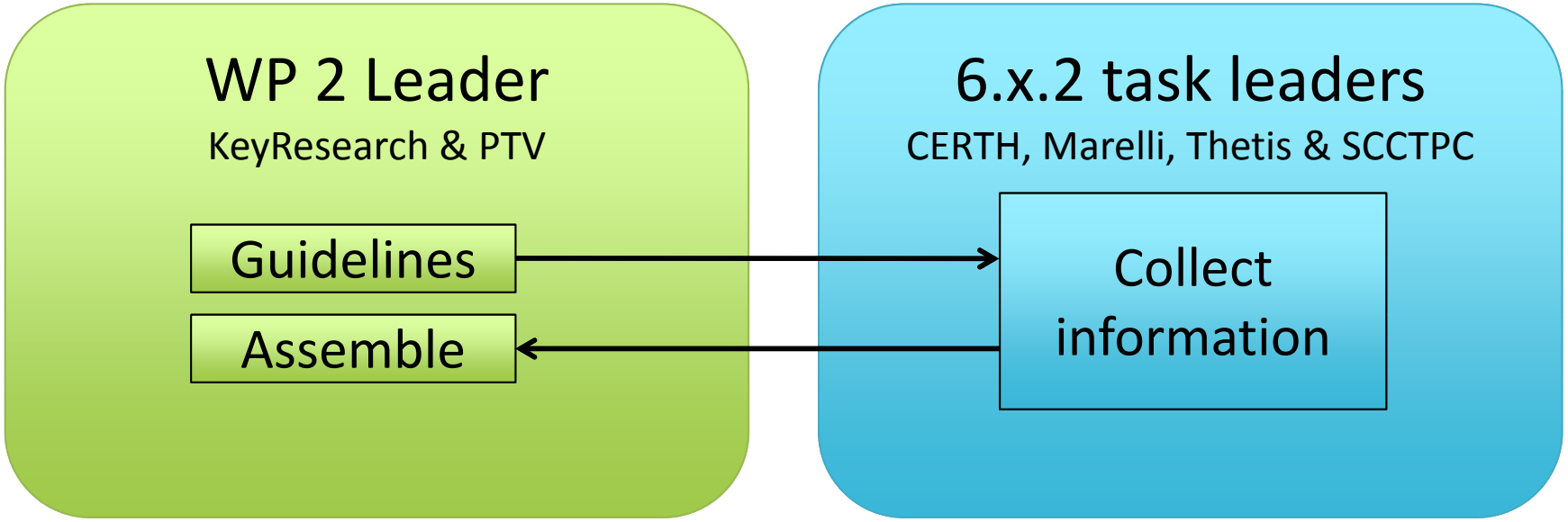


Organisation of WP2

- KeyResearch (WP2 manager, task leader)
- PTV (task leader)

	Beijing	Shanghai	Athen	Sao Paolo
Site leaders	Thetis	ITSJU	Infotrip	Marelli
Task leader	Thetis	SCCTPC	CERTH	Marelli
Additional ressources	**PTV, T-Systems, KeyResearch, BPT, BTRC, RIOH**	**ITSJU**	**Infotrip, ANCO, Marelli**	**Altea, AEA**

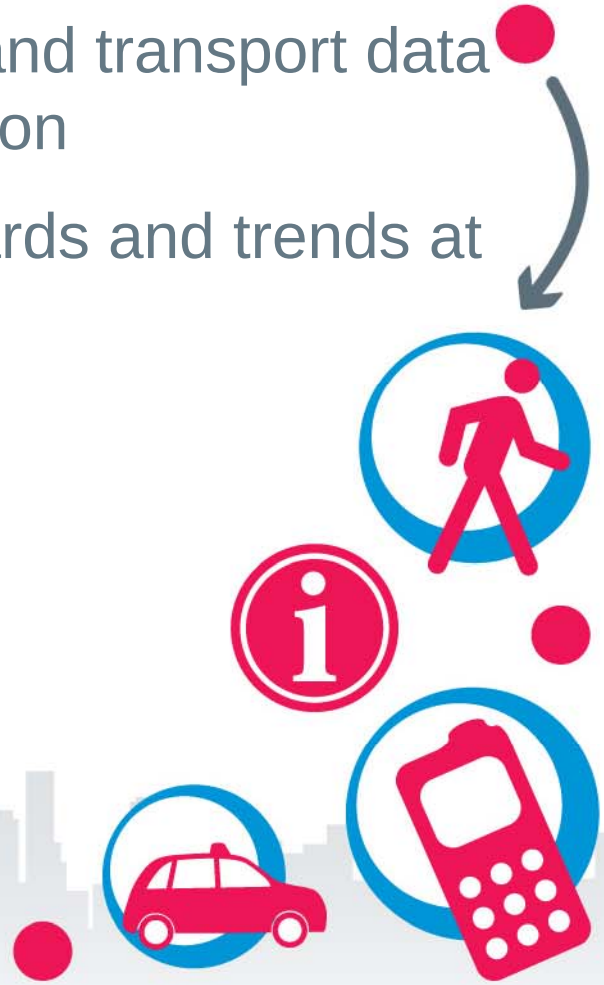
The process


WP 2 Leader
KeyResearch & PTV
Guidelines
Assemble
6.x.2 task leaders
CERTH, Marelli, Thetis & SCCTPC
Collect information

Task 2.1 and 2.2

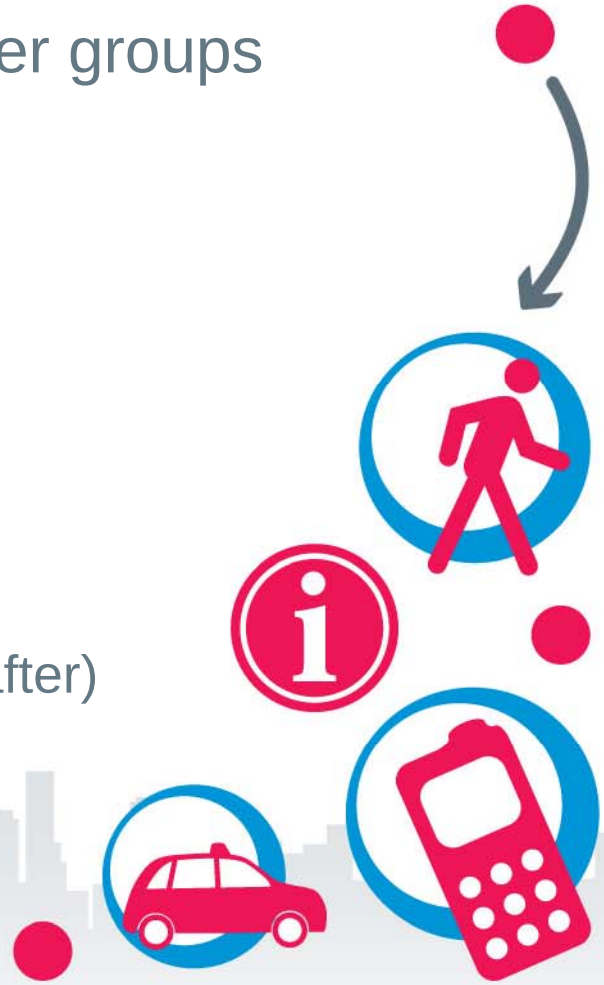
- Task 2.1: Current and planned traffic and transport data collection, processing and dissemination
- Task 2.2: Available technology, standards and trends at the test sites
- Close relationship between the tasks
- Common guideline:

  - overview tables
  - systems diagrams
  - detailed questionnaires
  - reporting: filled out guideline



Task 2.3 – User needs

- Identify needs and requirements of user groups
- Methods
  - personal interviews
  - focus groups
  - existing surveys
- Guidelines:
  - Segmentation
  - Organizing focus groups (before, during, after)
  - Evaluating existing surveys
  - A disposition reporting



Task 2.4 - Transport planners

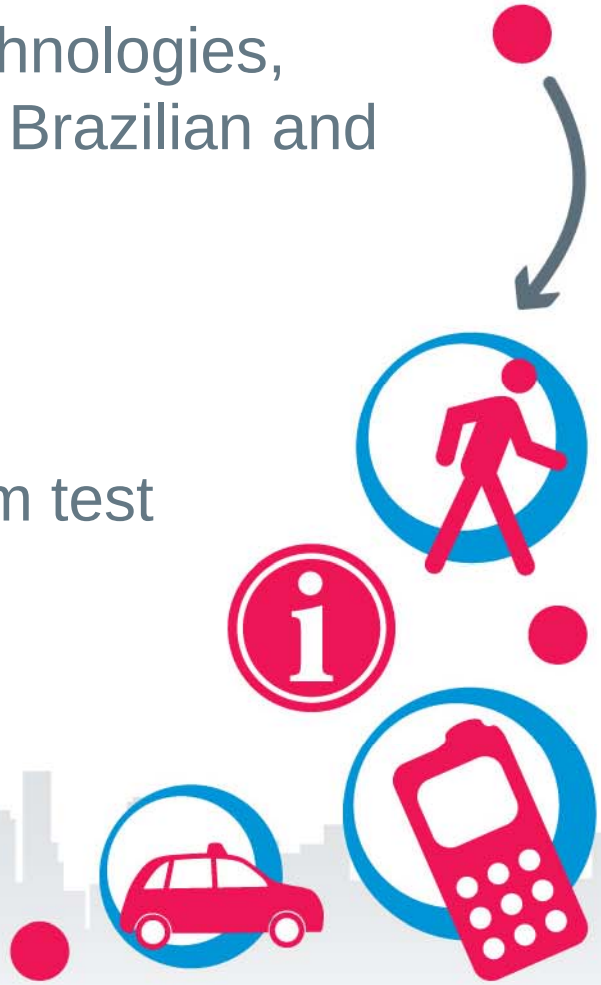
- Identify needs of local transport planners (PT and road infrastructure)
- Methods: Interviews with high level decision maker and lower level civil servant with more technical insight
- Guideline

  - how to identify relevant interviewees
  - the practicalities of interviews
  - a list of questions for inspiration
  - no strict disposition of reporting was provided in the guideline

Task 2.5 - Gap analysis

- Gap analysis of existing European technologies, standards and protocols and needs of Brazilian and Chinese traffic information market
- Methods

  - desk research
  - analysis of informations received from test sites



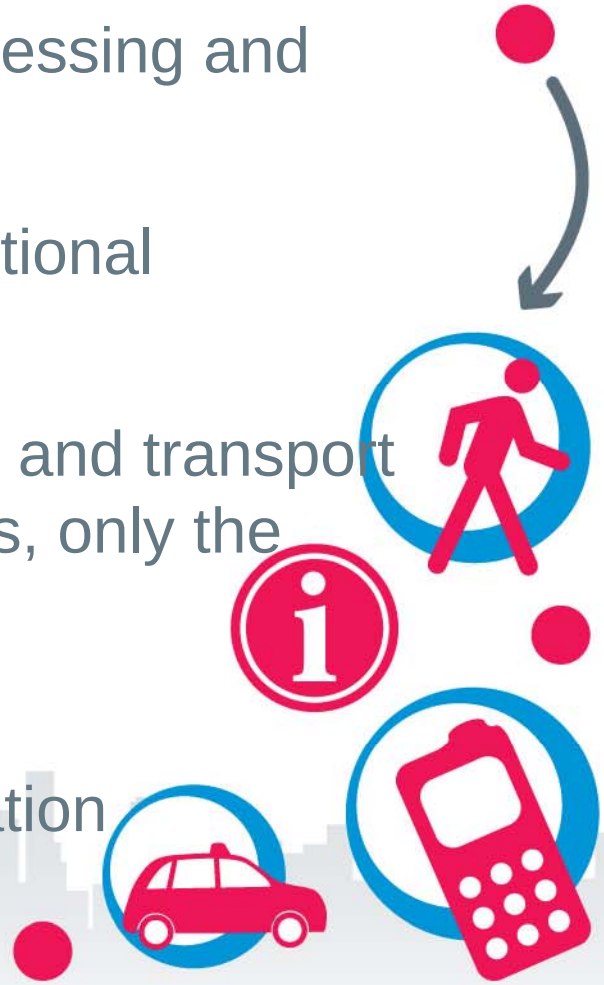
Task 2.6 – Requirements and final D2.1 Report

- Requirements for data collection, processing and dissemination

  - a combination of use cases and functional requirements.

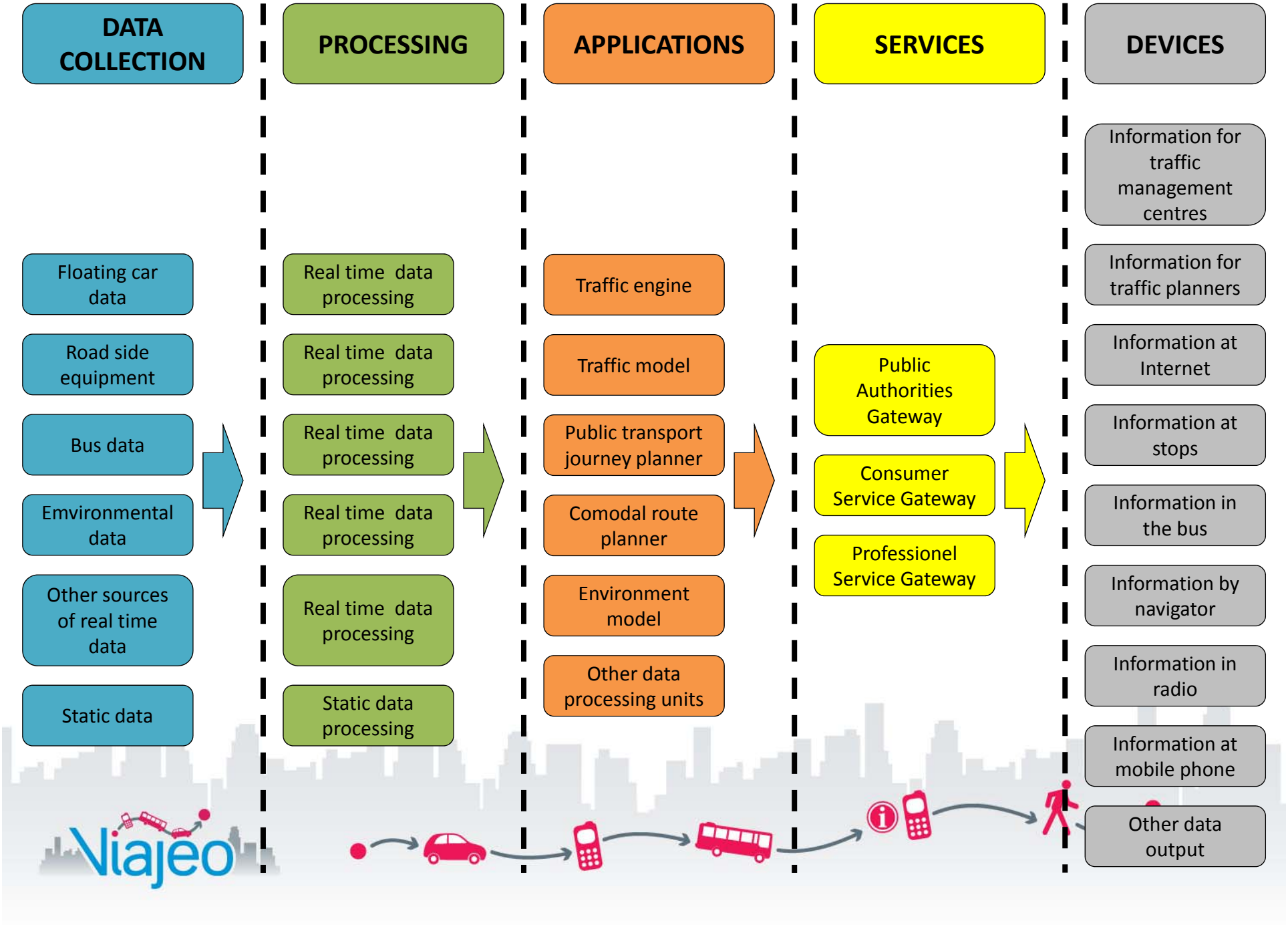
  - not all the requirements of end users and transport planners are reflected in the use cases, only the needs which can be satisfied by the demonstrations already planned.

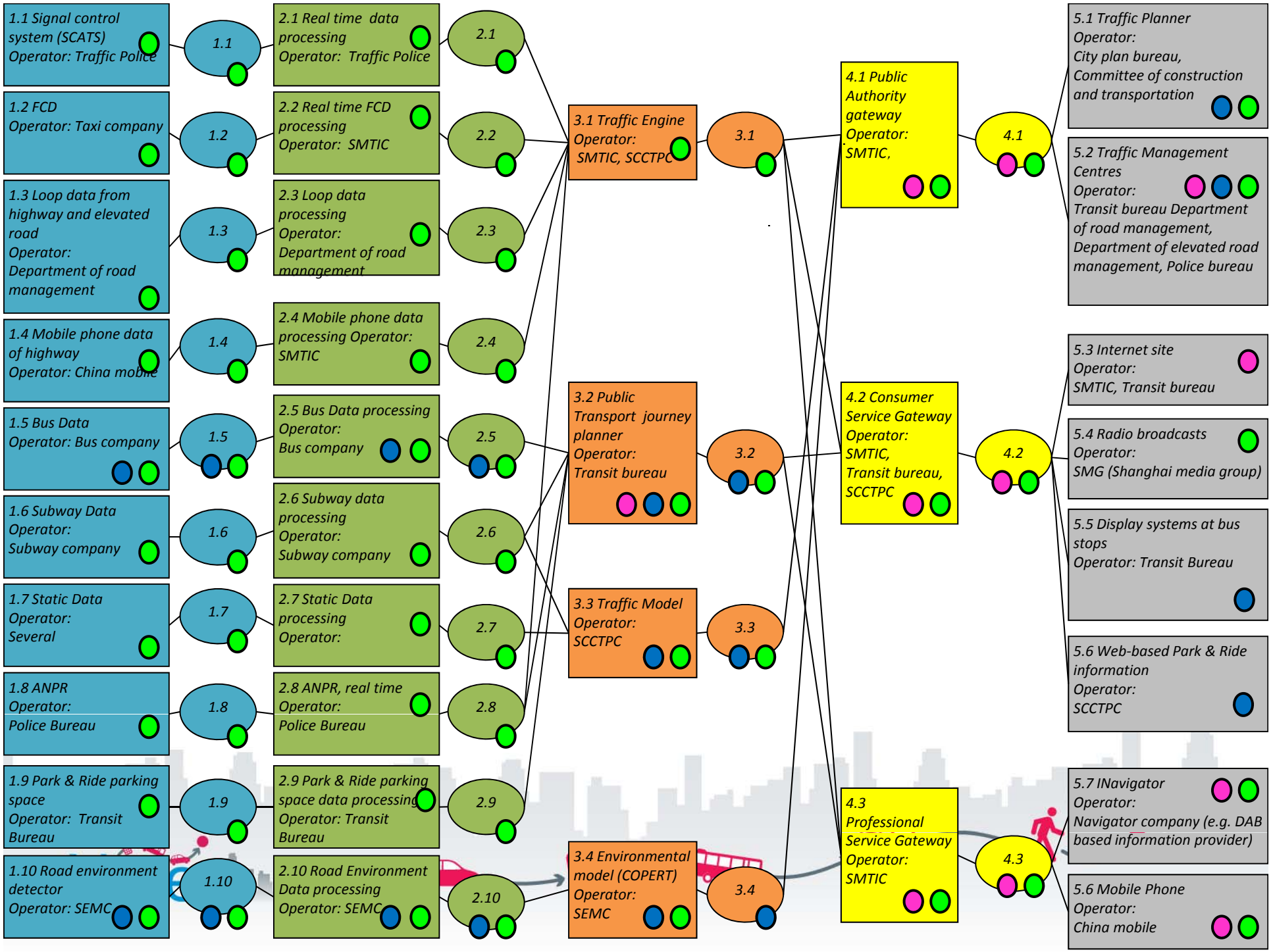
- Finalise the deliverable D2.1 Investigation Report



WP2 - Results

- Diagrams of services
- List of end user and transport planner needs
- Use cases


DATA COLLECTION
PROCESSING
APPLICATIONS
SERVICES
DEVICES
Floating car data
Road side equipment
Bus data
Emvironmental data
Other sources of real time data
Static data
Real time data processing
Real time data processing
Real time data processing
Real time data processing
Real time data processing
Static data processing
Traffic engine
Traffic model
Public transport journey planner
Comodal route planner
Environment model
Other data processing units
Public Authorities Gateway
Consumer Service Gateway
Professionel Service Gateway
Information for traffic management centres
Information for traffic planners
Information at Internet
Information at stops
Information in the bus
Information by navigator
Information in radio
Information at mobile phone
Other data output
Viajeo


1.1 Signal control system (SCATS) Operator: Traffic Police
1.2 FCD Operator: Taxi company
1.3 Loop data from highway and elevated road Operator: Department of road management
1.4 Mobile phone data of highway Operator: China mobile
1.5 Bus Data Operator: Bus company
1.6 Subway Data Operator: Subway company
1.7 Static Data Operator: Several
1.8 ANPR Operator: Police Bureau
1.9 Park & Ride parking space Operator: Transit Bureau
1.10 Road environment detector Operator: SEMC
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
1.10
2.1 Real time data processing Operator: Traffic Police
2.2 Real time FCD processing Operator: SMTIC
2.3 Loop data processing Operator: Department of road management
2.4 Mobile phone data processing Operator: SMTIC
2.5 Bus Data processing Operator: Bus company
2.6 Subway data processing Operator: Subway company
2.7 Static Data processing Operator:
2.8 ANPR, real time Operator: Police Bureau
2.9 Park & Ride parking space data processing Operator: Transit Bureau
2.10 Road Environment Data processing Operator: SEMC
2.1
2.2
2.3
2.4
2.5
2.6
2.7
2.8
2.9
2.10
3.1 Traffic Engine Operator: SMTIC, SCCTPC
3.2 Public Transport journey planner Operator: Transit bureau
3.3 Traffic Model Operator: SCCTPC
3.4 Environmental model (COPERT) Operator: SEMC
3.1
3.2
3.3
3.4
4.1 Public Authority gateway Operator: SMTIC,
4.2 Consumer Service Gateway Operator: SMTIC, Transit bureau, SCCTPC
4.3 Professional Service Gateway Operator: SMTIC
4.1
4.2
4.3
5.1 Traffic Planner Operator: City plan bureau, Committee of construction and transportation
5.2 Traffic Management Centres Operator: Transit bureau Department of road management, Department of elevated road management, Police bureau
5.3 Internet site Operator: SMTIC, Transit bureau
5.4 Radio broadcasts Operator: SMG (Shanghai media group)
5.5 Display systems at bus stops Operator: Transit Bureau
5.6 Web-based Park & Ride information Operator: SCCTPC
5.7 INavigator Operator: Navigator company (e.g. DAB based information provider)
5.6 Mobile Phone Operator: China mobile

End user needs			Relevant demo sites			
Number	**Category**	**Short definition**	**Athens**	**São Paolo**	**Beijing**	**Shanghai**
1	Public transport users and car drivers	More complete information	X		X	X
14	Public transport users	Accurate public transportation arrival times	X	X	X	X
15	Public transport users	Information about occurred incidents affecting public transport (accidents, etc. for buses, closed stations for trains, etc.)	X	X		X
16	Public transport users	Information on displays in stations and bus stops	X		X	X
17	Public transport users	Information in the bus on arrival time at next stop				X
18	Public transport users	Better visibility of bus stops			X	X
19	Car drivers	Estimated travel times for car drivers	X	X	X	
20	Car drivers	Real time information regarding incidents such as accidents, strikes, closed roads due to public works, etc.	X	X	X	X
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	X
25	Cross modal	Information on most environmental route	X		X	
27	Visitors	Information in other languages than the official language	X	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
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			

An example

Use Case ID	3	
Description	Park & Ride information via VMS and internet	
Date/Version	25.01.2010	0.1
Relevant demo sites	Shanghai	
User needs covered	7, 21, 22	
Initiating event/trigger	A change in capacity at Park & Ride facility	
Involved entities	**End user, VMS, website,** Park & Ride facility	
Included use cases		
Extended by		
Pre-conditions	Park & Ride facilities	
Post conditions	End user receives information on capacity and location of Park & Ride facility	
Sequence steps	Vehicle enters Park & Ride facility. New number of available spaces is sent to the Viajeo Platform New number of available spaces is sent to VMS sign and website	
Features	Entering and existing cars at Park & Ride facility should be registered to continuously know number of available spaces. VMSs and website should be updated continuously with the number of available spaces. Both website and VMS should show location of Park & Ride facilities.	

Thank you!

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