Enhancing the transfer of ITS innovations to the market

FINAL REPORT Attachments

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PROJECT FINAL REPORT

Grant Agreement number:	**314263**
Project acronym:	**T-TRANS**
Project title:	**ENHANCING THE TRANSFER OF INTELLIGENT TRANSPORTATION SYSTEM INNOVATIONS TO THE MARKET**
Funding Scheme:	**Support Action (SA)**
Period covered:	**from** 01/09/2012 **to** 30/11/2014

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Final publishable summary report

1.1 Project Logo

1.2 Project beneficiaries

The project is co-ordinated by UAB
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1.3 Relevant figures, pictures and graphic materials

1.3.1 WP1 Management

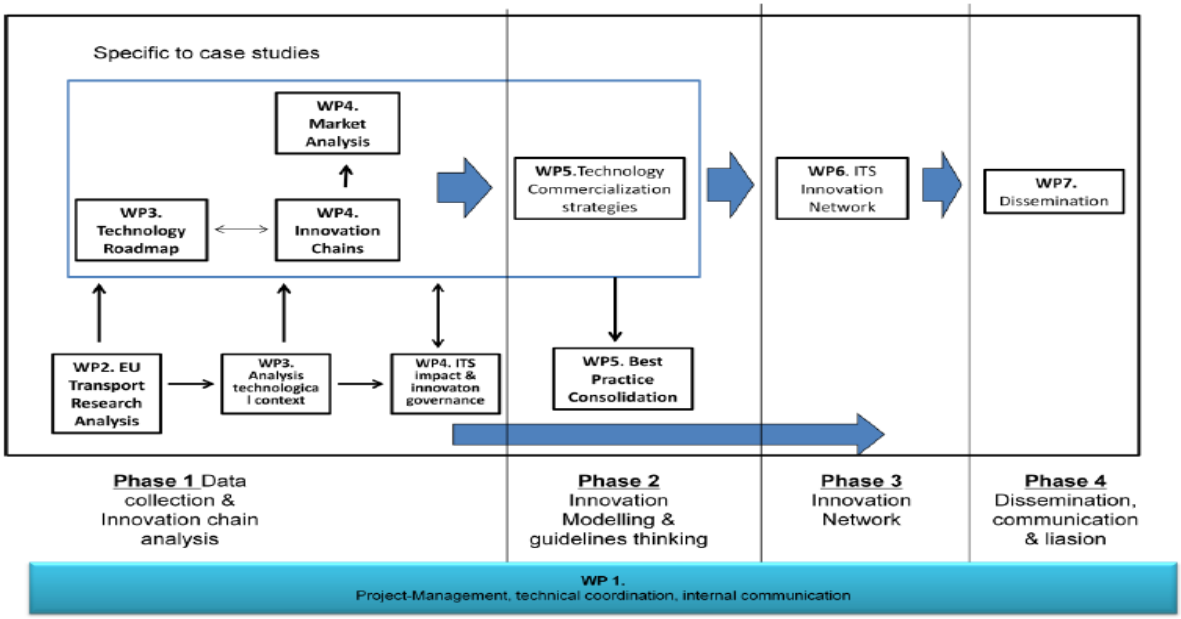


Figure 1: T-TRANS overall strategy of the work plan (From Annex I)

Picture 2: T-TRANS Kick off Meeting, Sabadell 27th of September 2012

Picture 2: T-TRANS progress and PMB meeting, Trieste 22nd January 2013

Picture 3: T-TRANS progress and PMB meeting, Paris 22nd July 2013

Picture 4: T-TRANS progress and PMB meeting, Thessaloniki 7th October 2013

Picture 5: T-TRANS progress and PMB meeting, Hamburg 6th May 2014

Picture 6: T-TRANS progress and PMB meeting, Riga 16th July 2014

1.3.2. WP3 Technology Mapping

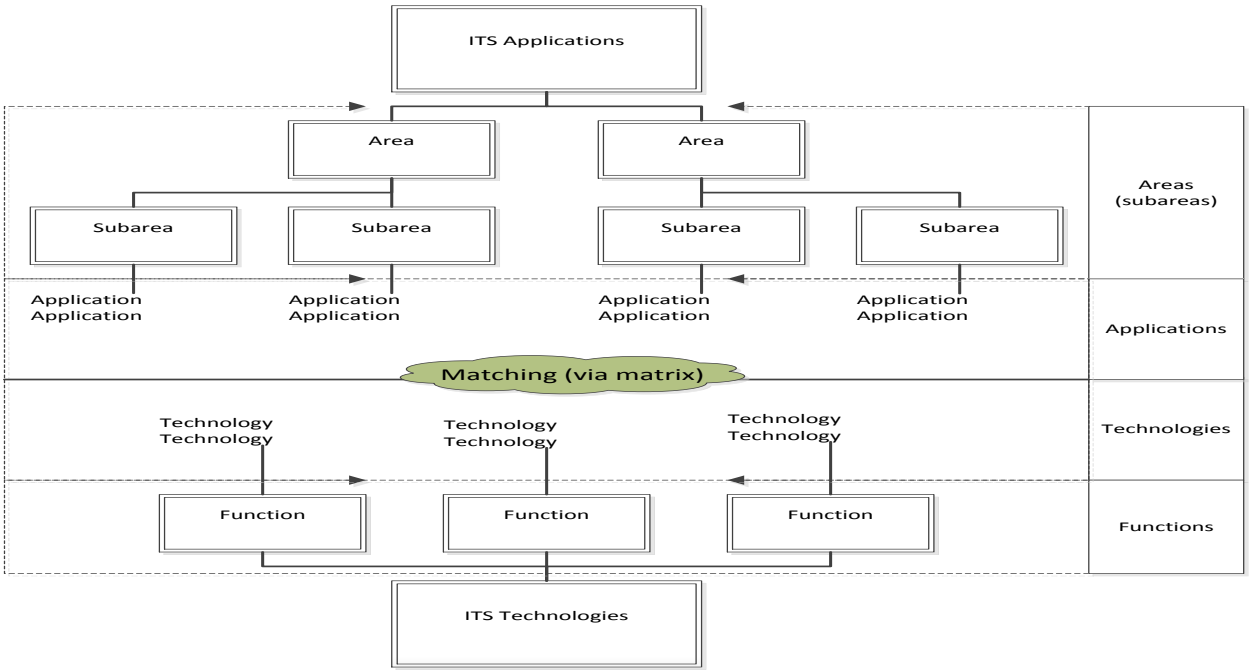


Figure 3: T-TRANS ITS Ontology scheme (from T-TRANS D3.1)

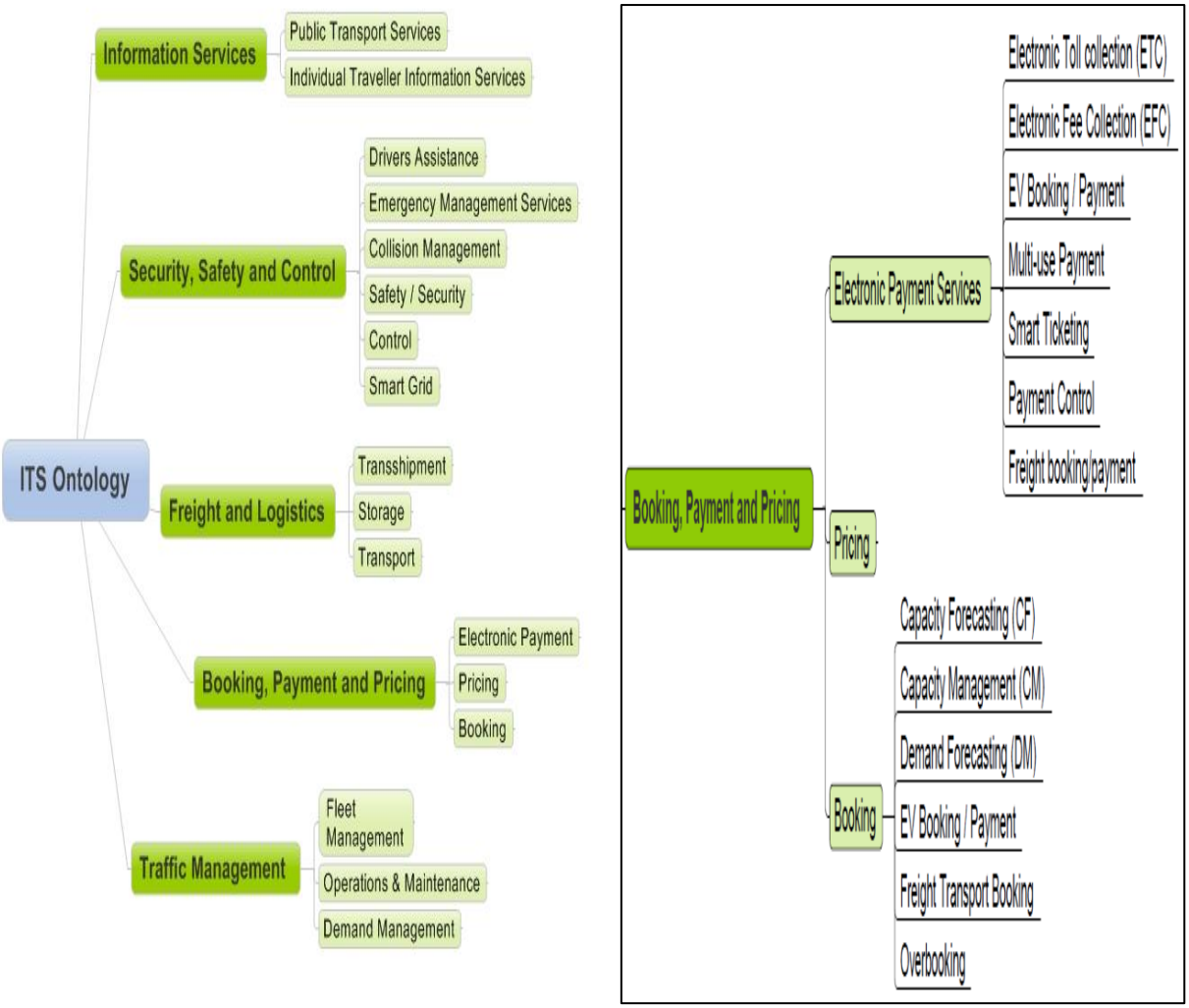


Figure 4: ITS Areas & ITS applications for “Booking, payment and pricing” (from T-TRANS D3.1)

			1	2	3	4
No.	Main Function	Technologies	Emerging	Adolescent	Early adoption	Mainstream
1	Communication technologies	Bluetooth				x
		Dedicated Short Range Communication		x		
		Ethernet II-class SAP		x		
		GSM/GPRS/EDGE (2G)				x
		UMTS/HSPA (3G)				x
		LTE (4G)			x	
		GSM-R Antenna			x	
		GSM-R Radio			x	
		HomePlug GreenPHY Technology		x		
		Infrared Data Transmission				x
		Line-side Electronic Unit (LEU)				x
		Open Charge Point Protocol (OCPP)			x	
		Radio Block Centre (RBC)			x	
		SECC Discovery Protocol (SDP)		x		
		SLAC Process			x	
		Specific Transmission Module (STM)		x		
		V2GTP			x	
		Ultra Wide Band (UWB)			x	
		Zigbee			x	
		WiMax			x	
		WLAN/WiFi				x
2	Hardware infrastructure	CBI Computer			x	
		Computer Clusters for High Performance Computing (HPC)			x	
		On-Board Computer			x	
		Scanning Devices				x
		Smartphones and mobile computing devices				x
	Software infrastructure	Cloud Computing (SAAS, PAAS, IAAS, NAAS)				x
		Decision Support Systems (DSS)				x
		E-Commerce Platforms				x
		Electronic Booking System				x
		Electronic Data Interchange (EDI)				x
		Extensible Markup Language (XML)				x
4	Algorithms	Revenue Management (RM)			x	
		Routing			x	
5	Positioning technologies	Balise				x
		Global Navigation Satellite Systems (GNSS, i.e.GPS, Galileo)				x
		Real time Locating Systems (RTLS)			x	
		Odometer pulse generator				x
		On-Board Antenna - Receive-and-Forward Unit				x
6	Sensors (monitoring and detecting)	Axle Counters				x
		Digital Video Camera				x
		End-of-Train Device		x		
		Inductive Loop			x	
		Temperature, acceleration, light, gyroscope, piezoelectric sensors				x
		Thermographic or Infrared Camera				x
		Track Circuits				x
7	Identification technologies	Charge Cards			x	
		Optical Character Recognition (OCR)			x	
		Mifare				x
		Near Field Communication (NFC)			x	
		Radio Frequency Identification (RFID)				x
		Barcodes				x
		Biometrics				x
		Smart Cards				x
8	Energy related technologies	Fast-Charger Plug			x	
		Type-1 Plug				x
		Type-2 Combo plug				x
		Type-2 Plug				x
		Energy Harvesting			x	

Figure 5: Technology readiness level of all case studies relevant ITS technologies (from T-TRANS D3.1)

		Market requirements					
		R1	**R2**	**R3**	**R4**	**R5**	**R6**
CS4		Accurate location of all trains	Real-time rescheduling tool	Simple control interface for the dispatchers	Continuous ATP/ATC system	Real-time com. between control centre and driver's desk	Simple real-time timetable interface on the driver's desk
Technological solutions	**T1** - GNSS	2,2/1,0,4					
	T2 - GSM-R					2,2/2,0,3	
	T3 - ETCS Level 2				2,2/3,1,5		
	T4 - ETCS Level 3				3,3/5,5,2		
	T5 - Driver Assistance Systems						2,3/3,2,4
	T6 - Rescheduling Algorithms		3,2/2,5,5				
	T7 - Train Control Centres		2,3/4,0,3	2,3/4,0,3			

Figure 6: Case study 4 Gap Analysis table (from T-TRANS D3.2)

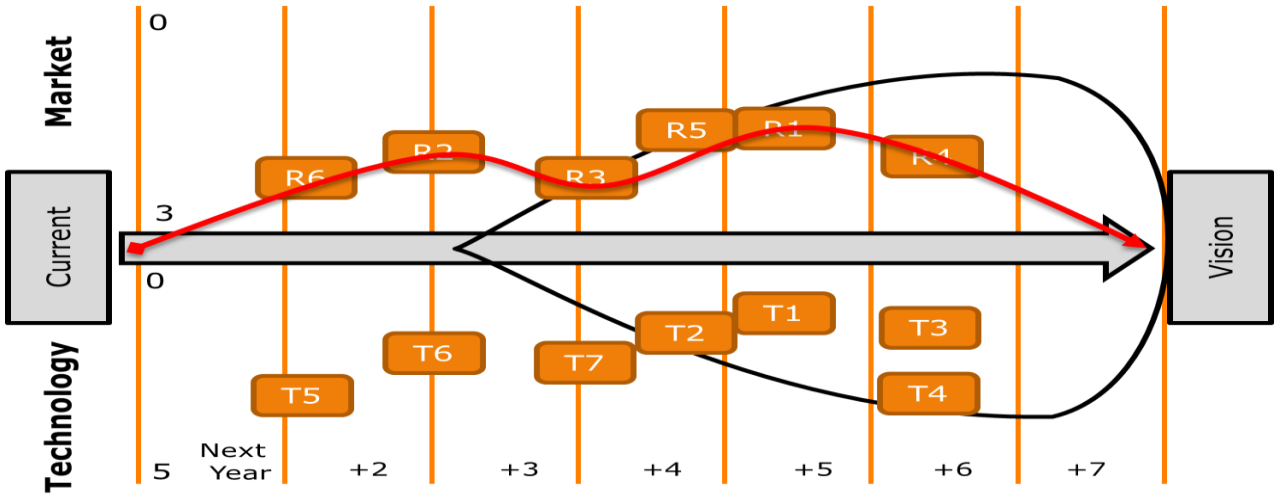
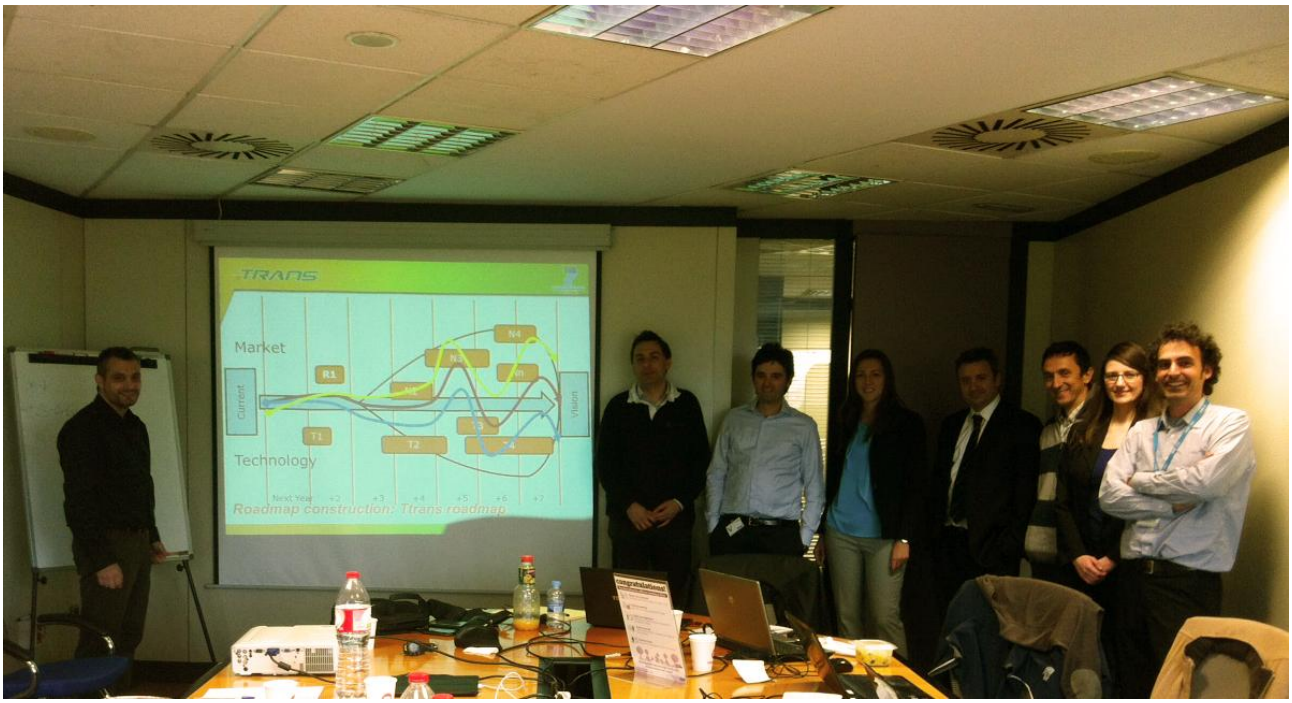


Figure 7: Case study 4 roadmap representation (from T-TRANS D3.2)



Picture 7: WP3 special working meeting, Barcelona 25th April 2013

1.3.4 WP4 Market roadmap

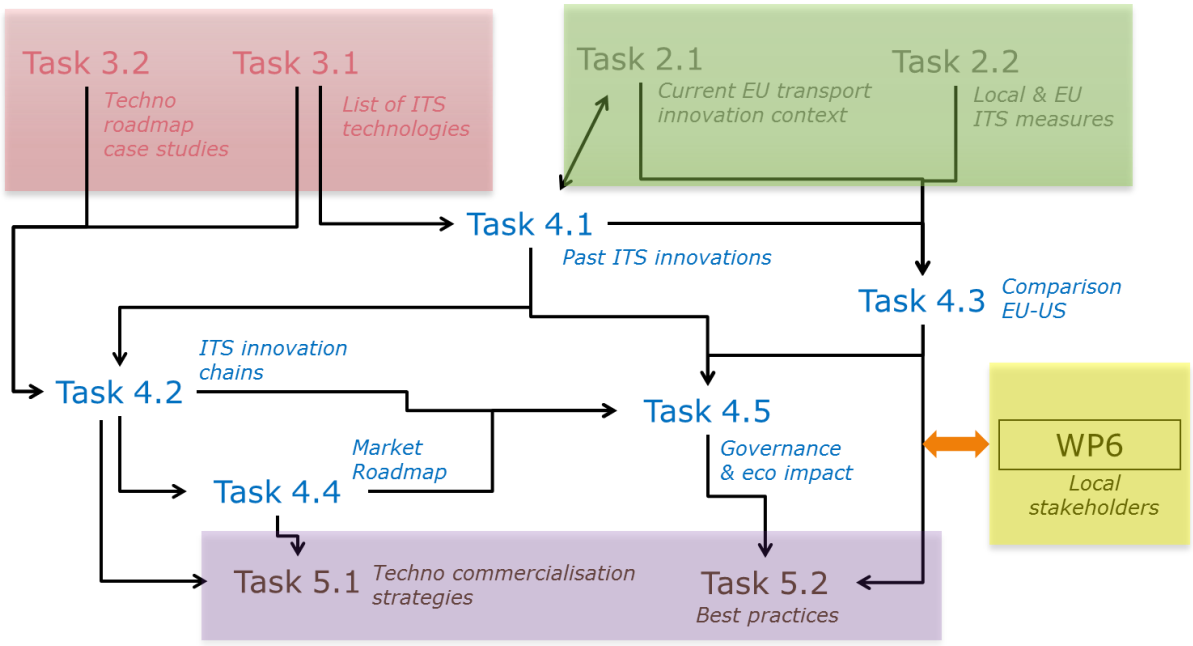


Figure 8: Interrelation between WP4 and other T-TRANS activities

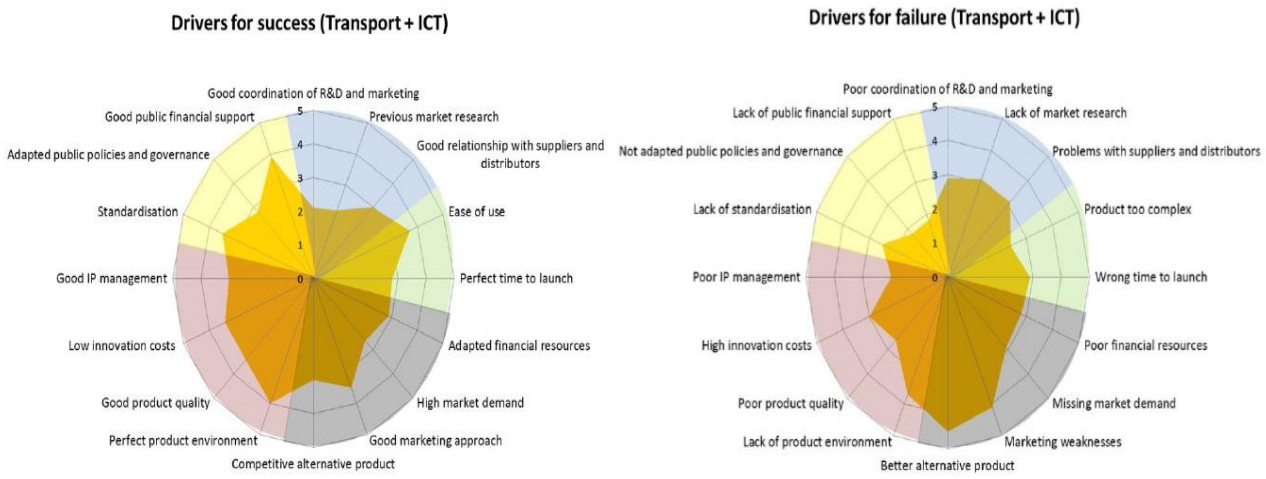


Figure 9: Drivers for success and failure (from T-TRANS D4.1)

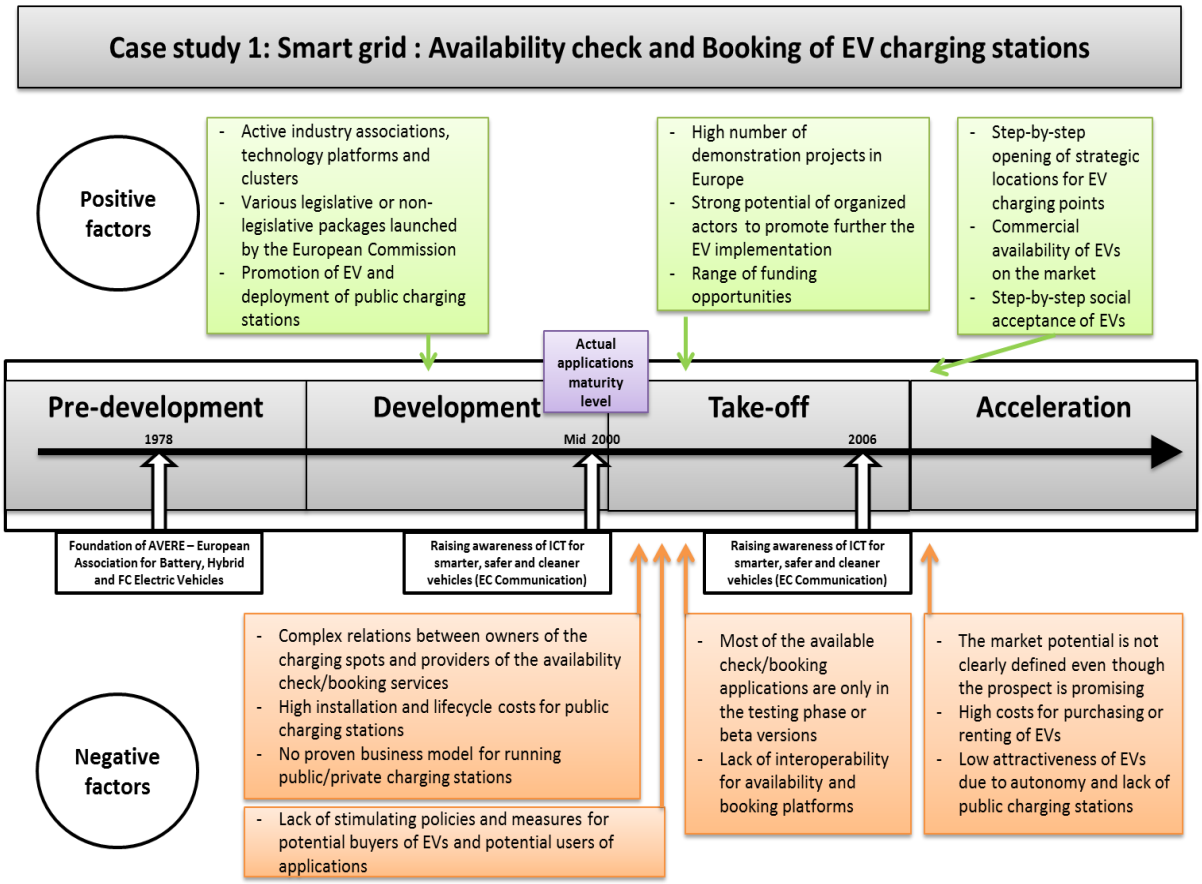


Figure 10: Case Study 1 Innovation Chain

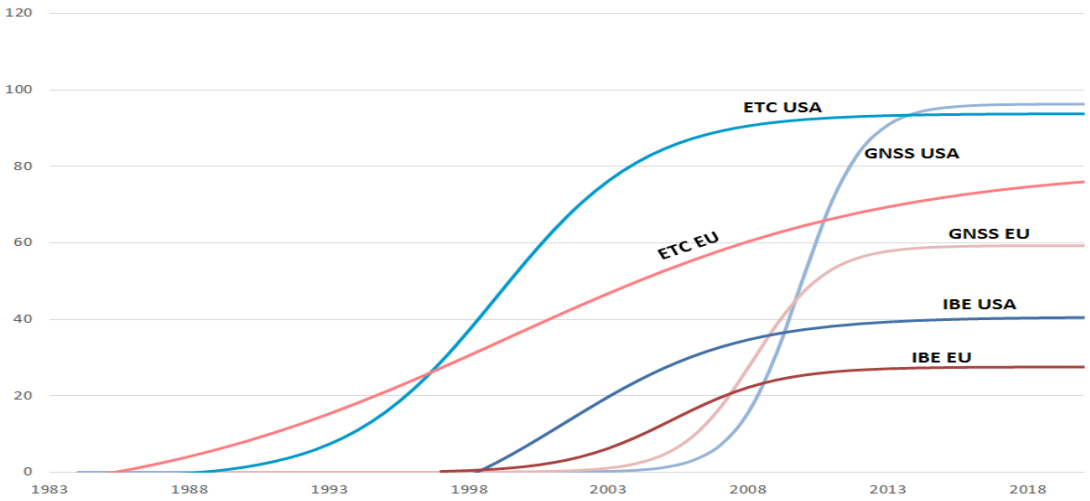


Figure 11: Comparisons of penetration rate US-EU (from D4.3)

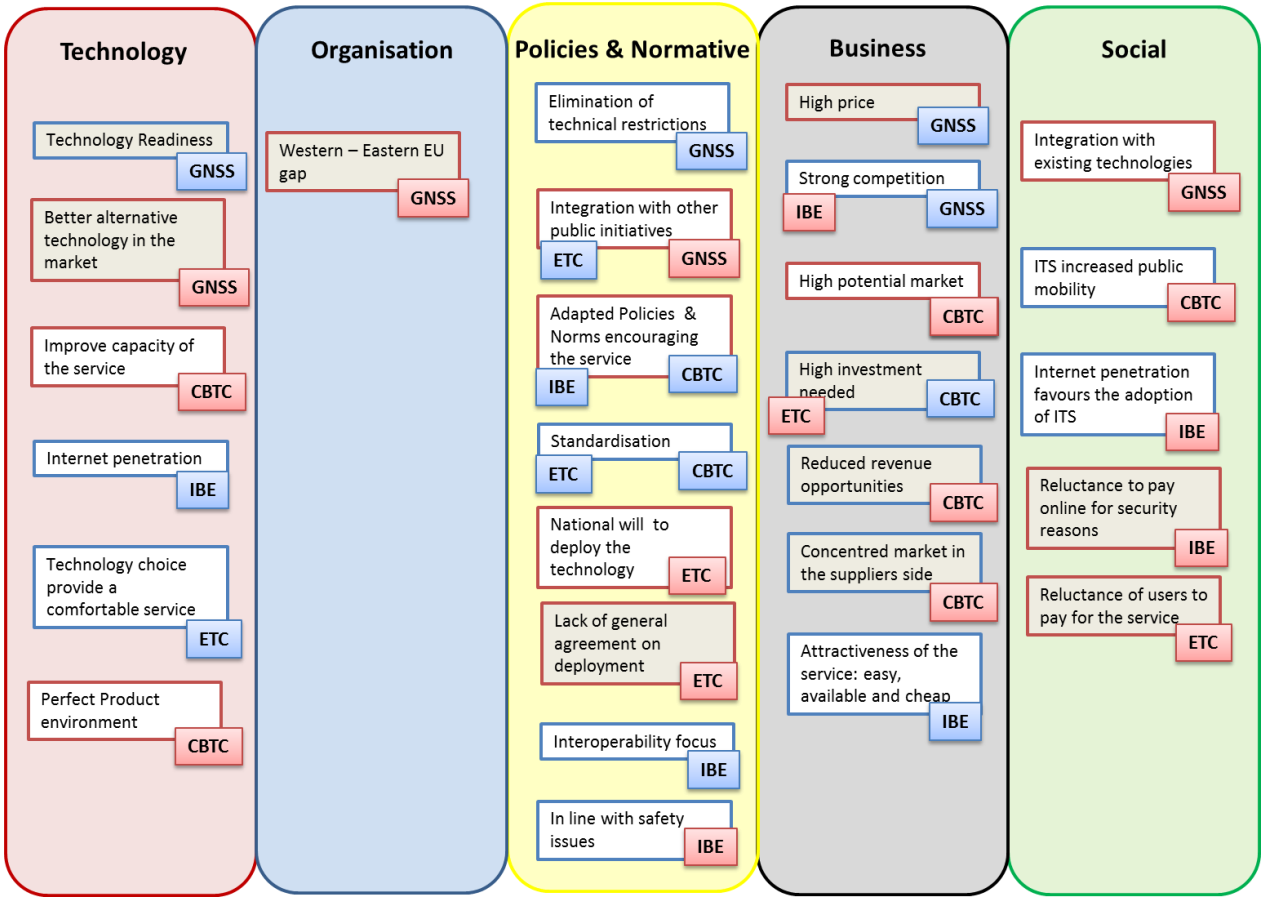


Figure 12: Market drivers and blocking mechanisms affecting EU-US technology diffusion

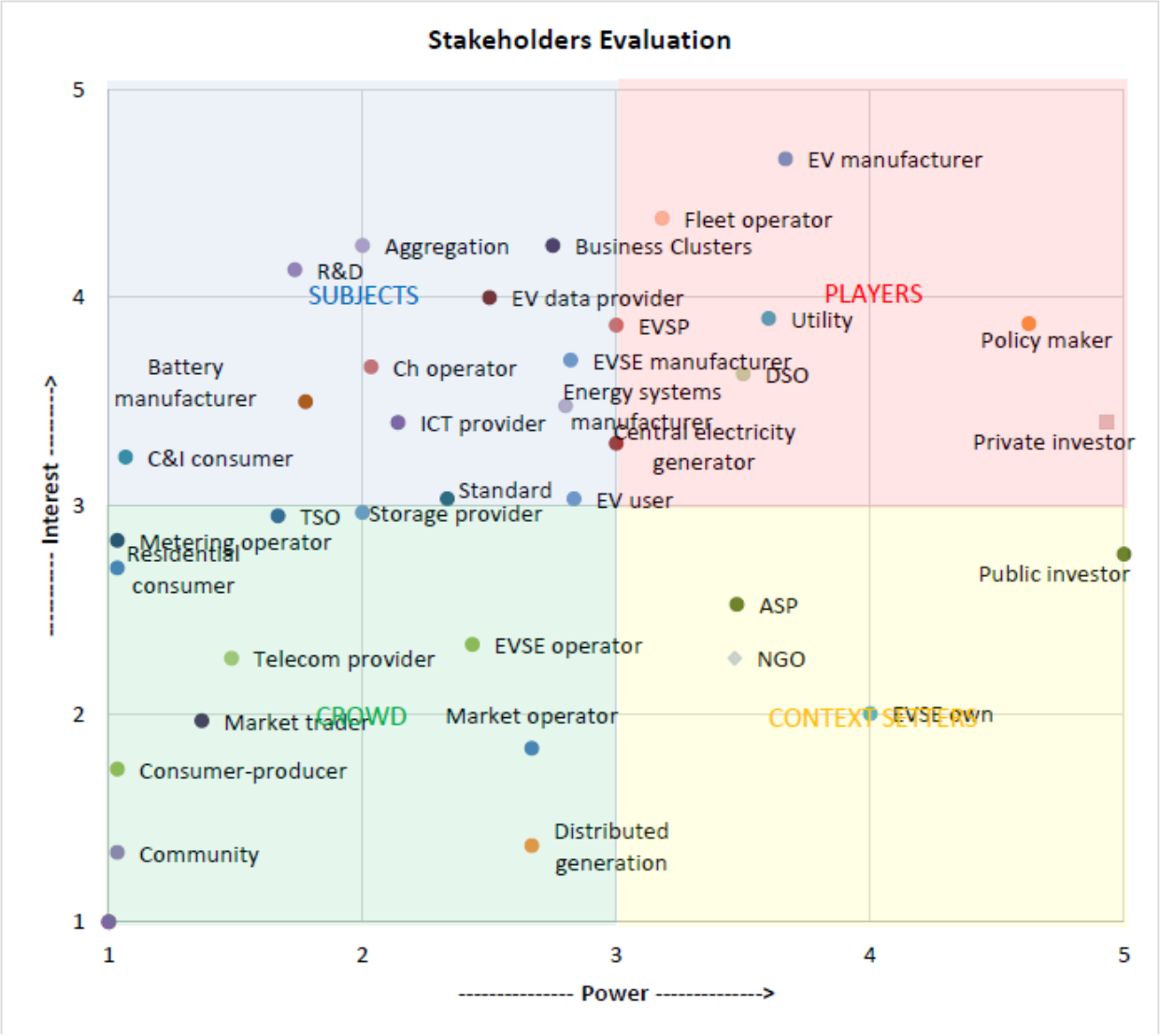
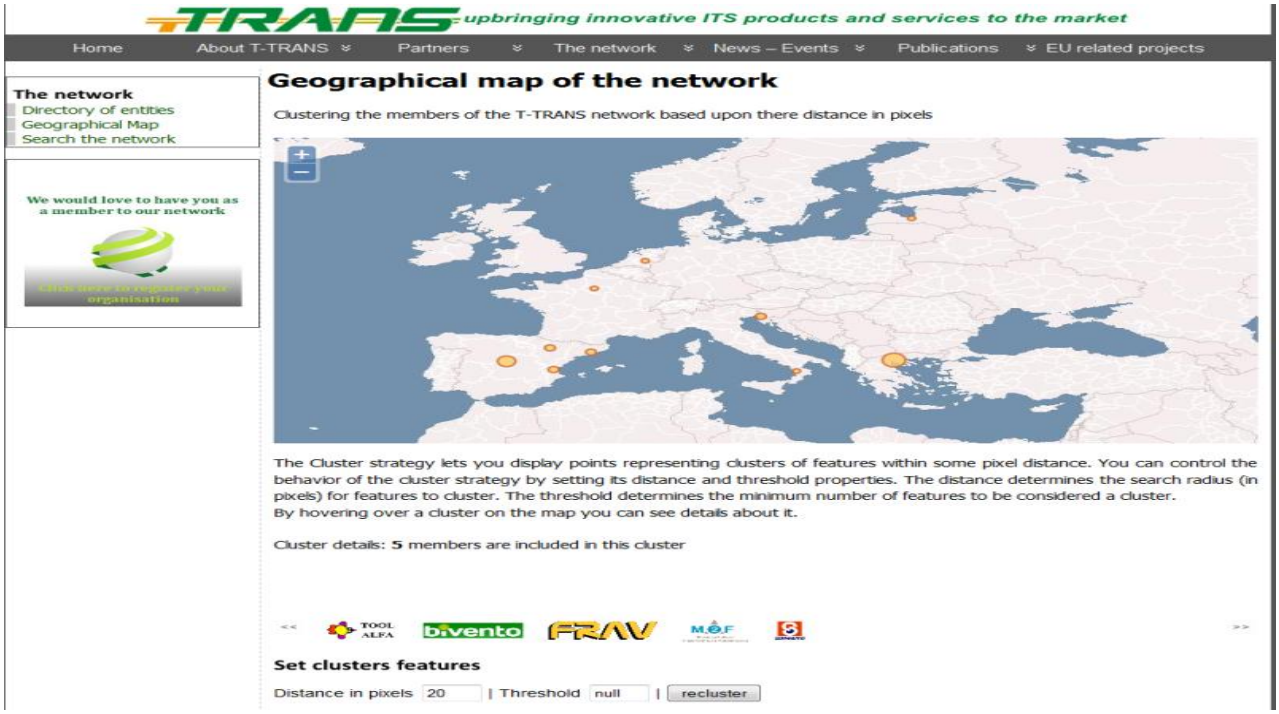


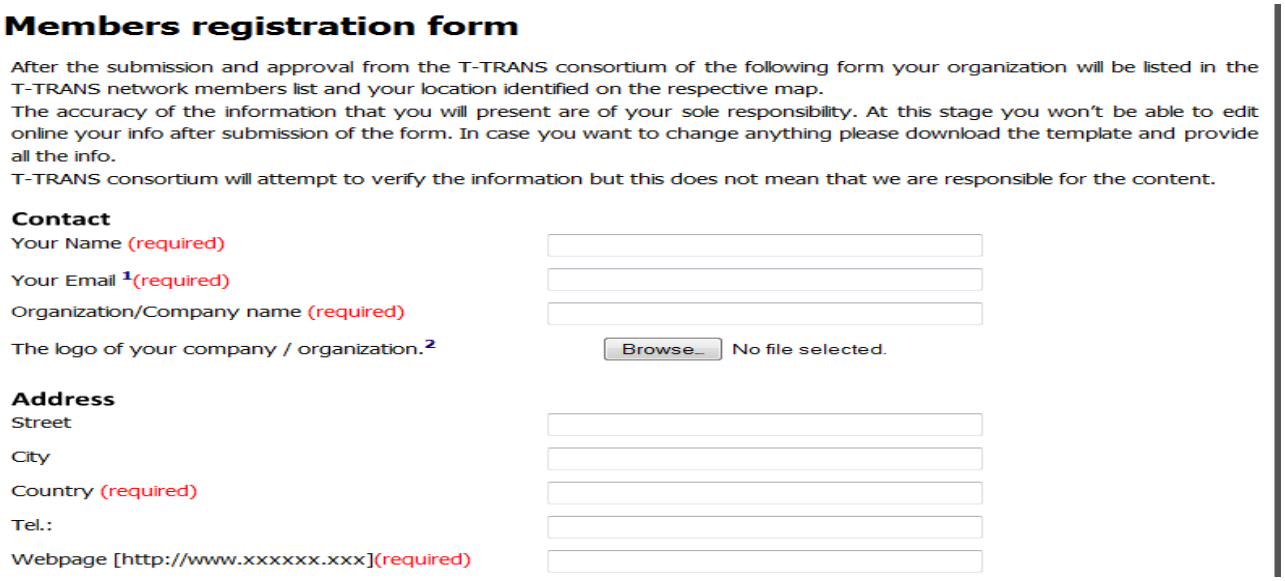
Figure 13: Matrix of power vs. Interest of stakeholders, CS1 (from D4.4)

1.3.5 WP5 Guidelines for market optimization

Picture 8: WP5 Second seminar Barcelona 30th April 2014

1.3.6. WP6 Innovation Network for ITS





Members registration form

After the submission and approval from the T-TRANS consortium of the following form your organization will be listed in the T-TRANS network members list and your location identified on the respective map.
The accuracy of the information that you will present are of your sole responsibility. At this stage you won't be able to edit online your info after submission of the form. In case you want to change anything please download the template and provide all the info.
T-TRANS consortium will attempt to verify the information but this does not mean that we are responsible for the content.

Contact

Your Name (required)

Your Email [1](required)

Organization/Company name (required)

The logo of your company / organization.[2] Browse... No file selected.

Address

Street

City

Country (required)

Tel.:

Webpage [http://www.xxxxxx.xxx](required)

Figure 14: T-TRANS network section on website screenshots

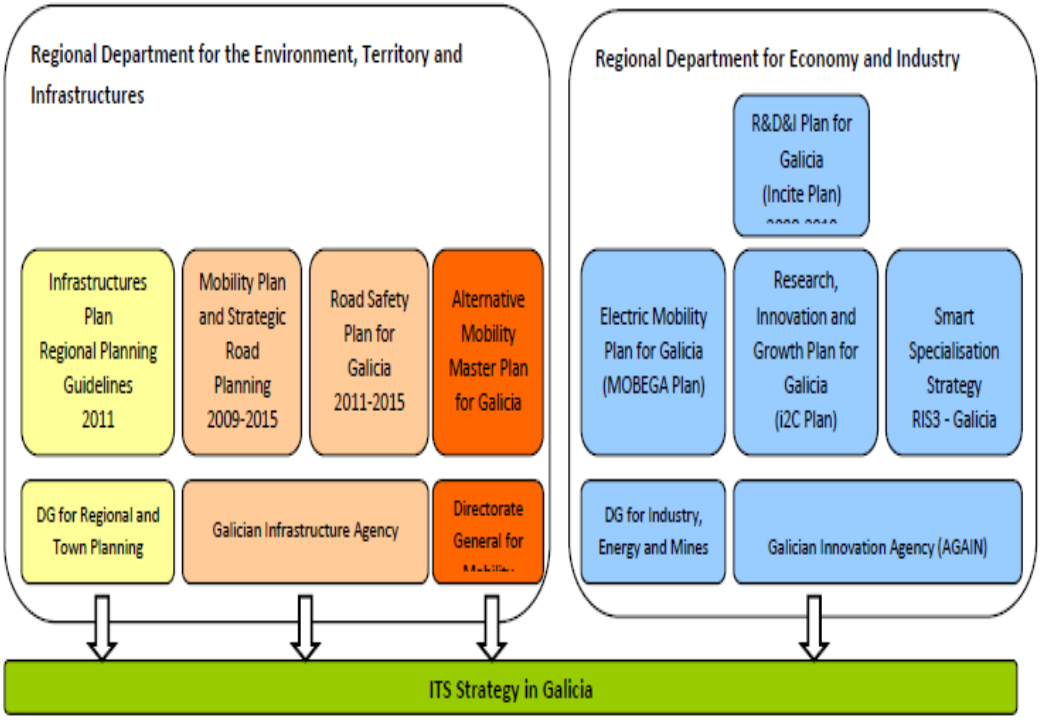


Figure 15: ITS strategy in Galicia

3.1.1.7 Detailed description of the initiative

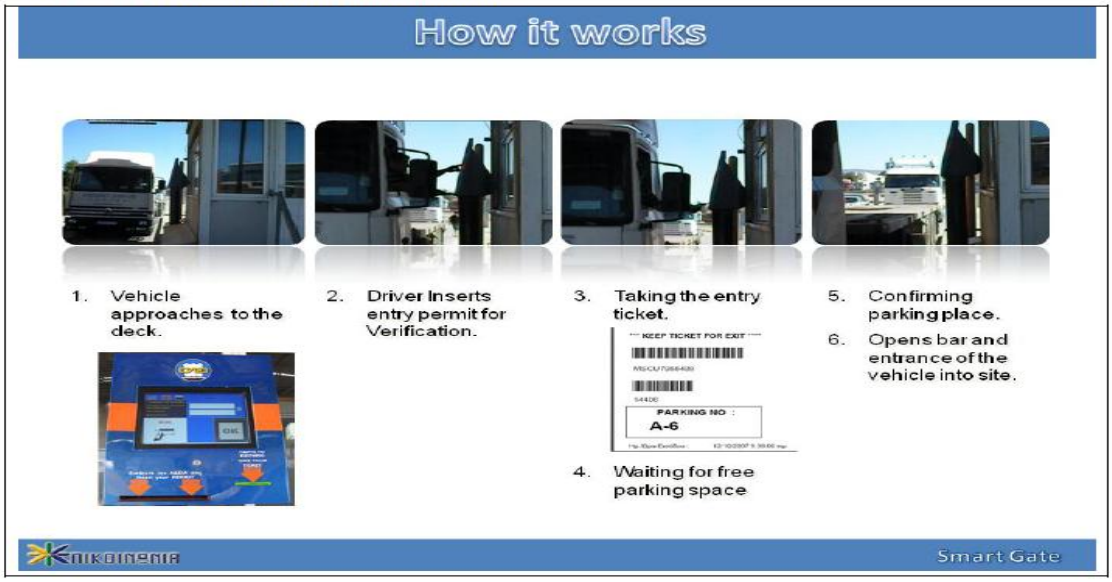


Figure 16: How smart gate works, commercial application of EPIKINONIA Ltd.

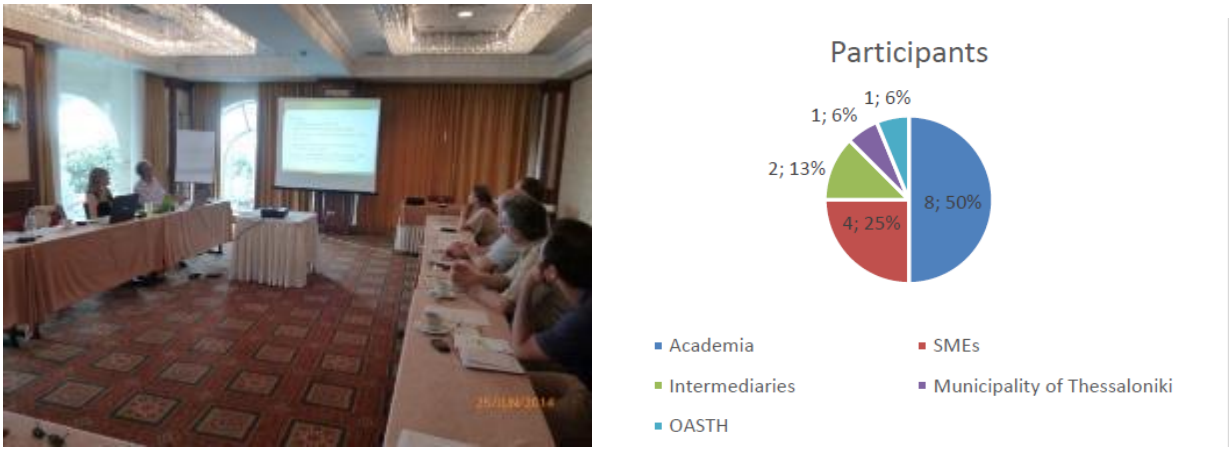


Figure 17: Attendants to second workshop in Thessaloniki, extracted from D6.2.

Figure 18: Attendants to second workshop in Vigo, extracted from D6.2.

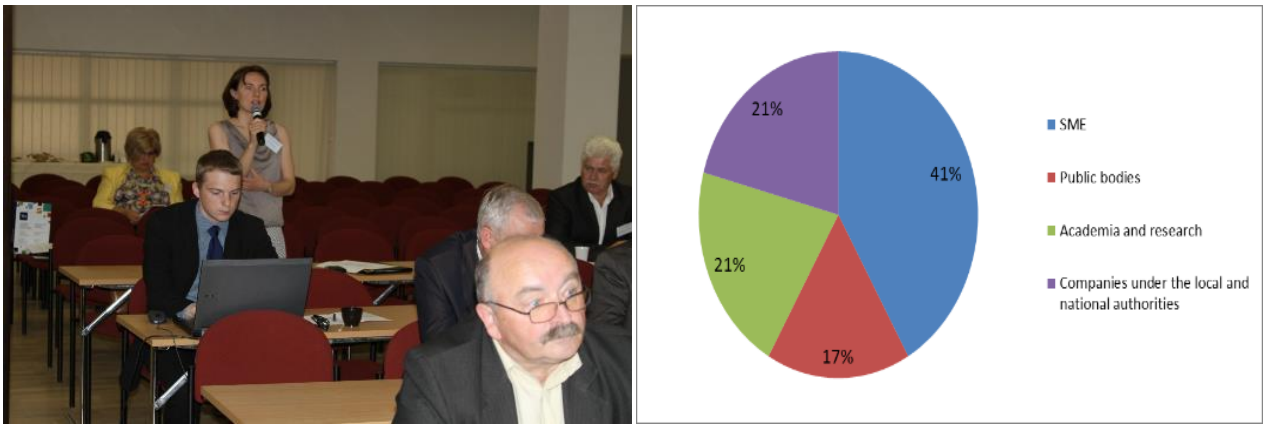


Figure 19: Attendants to second workshop in Riga extracted from D6.2.

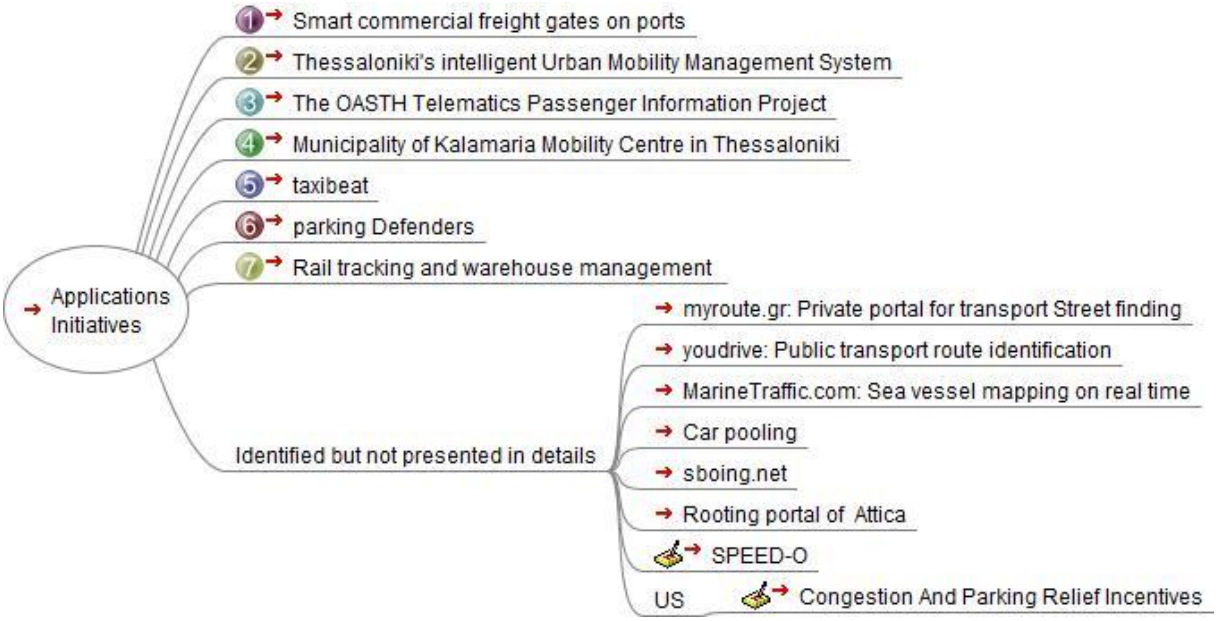


Figure 20: Identified applications/initiatives in Central Macedonia, from D6.2.

1.3.7. WP7 Dissemination

Figure 21: T-TRANS project web front page, version 2

Figure 22: T-TRANS leaflet

Figure 23: T-TRANS poster (version 2)

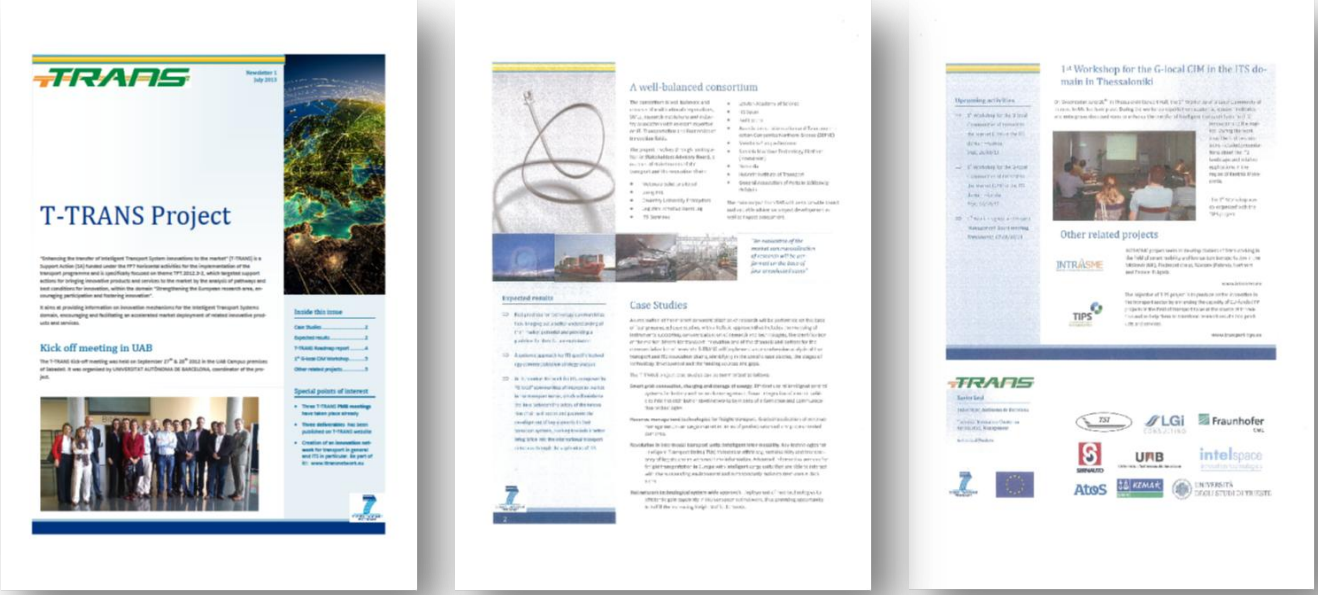


Figure 24: T-TRANS newsletter (version 1)

Figure 25: T-TRANS video, available in Youtube

https://www.youtube.com/watch?v=1jMF52AbIRk&list=PLvZvbwAr8eP8ZhH_K1l3

Figure 26: T-TRANS article in Projects Magazine

Picture 9: T-TRANS final event, Barcelona 4th November 2014

Picture 10: T-TRANS final event, Barcelona 4th November 2014

Picture 11: T-TRANS final event, Barcelona 4th November 2014