



---

# Action Plan for the Future Mobility in Europe

Horizon 2020 - Coordination and Support Action

## *D5.7 – Workshop on Novel and Innovative Mobility Solutions*

Version: 0.1  
Date: 18.07.2016  
Responsible Partner: VDI/VDE-IT



## Document Information

---

Document Number	D5.7
Document Title	Report on 2 <sup>nd</sup> Workshop
Version	0.1
Status	draft
Work Package	WP 5
Deliverable Type	Report
Contractual Date of Delivery	31.08.2016
Actual Date of Delivery	15.08.2016
Partner Responsible	VDI/VDE-IT
Contributors	VDI/VDE-IT
Keyword List	Workshop, Trends, Solutions, Context Map
Dissemination level	PU

---

## *Document change record*

Version	Date	Status	Author	Description
0.1	15/07/2016	Draft	Annette Brückner (VDI/VDE-IT)	Creation of the document
1.0	15/08/2016	Final	Beate Müller	Revision after review by partners

## Consortium

1	(Coord.) VDI/VDE INNOVATION + TECHNIK GMBH	DE
2	VRIJE UNIVERSITEIT BRUSSEL	BE
3	INSTITUT FRANCAIS DES SCIENCES ET TECHNOLOGIES DES TRANSPORTS, DE L'AMENAGEMENT ET DES RESEAUX (IFSTTAR)	FR
4	CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS	GR
5	DEEP BLUE SRL	IT
6	SIEMENS AG	DE
7	CENTRO RICERCA FIAT SCPA	IT
8	FUNDACION ZARAGOZA LOGISTICS CENTER	ES
9	BAUHAUS LUFTFAHRT E.V	DE
10	ECHANDIA MARINE SWEDEN AB	SE
11	STMICROELECTRONICS S.A.	FR
12	HUMANIST	FR
13	Osborne Clarke SCRL/CVBA	BE
14	AUTORITAT DEL TRANSPORT METROPOLITA	ES
15	Vereniging reizigers openbaar vervoer Rover	NL
16	International Longevity Centre – UK ILC	UK
17	Budapest Association of Persons with Physical Disabilities	HU
18	Teknologian tutkimuskeskus VTT Oy	FI
19	INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION EUROPE GGMBH	DE

# Table of Contents

1	SUMMARY OF WORKSHOP PROCEEDINGS.....	6
2	AGENDA.....	12
3	PARTICIPANT LIST.....	13
4	ANNEX: HANDOUT FOR WORKSHOP.....	14

# List of Figures

Fig. 1	Current draft of the Context Map that was handed to the workshop participants....	8
Fig. 2	Example portfolio of mobility solutions (Opportunity Map).....	8
Fig. 3:	Template for group work .....	9
Fig. 4 and 5:	Collected solutions for the trend Distribution of Wealth and Labour Market Developments and.....	9
Fig. 6 & 7:	Collected solutions for the trend Urbanisation and Smart Cities and Environmental Protection.....	10
Fig. 8 & 9:	Collected solutions for the trend Digital Society and Internet of Things and Novel Business Model and Innovation in Transport .....	10
Fig. 10 & 11:	Collected solutions for the trend Security in Transport and .....	10

# 1 Summary of workshop proceedings

The second workshop of the project Mobility4EU was held on 05 July 2016 in Brussels. The objective was to identify novel and innovative solutions that answer the societal requirements and demands on mobility (WP 2). The event brought together experts for innovations in transport of people and goods across all modes to discuss novel and innovative solutions that are currently being researched or started to be implemented.

Within the project Mobility4EU the powerful visualisation technique called story mapping is being employed. The story mapping process will facilitate discussions during a series of participatory workshops:

Workshop 1- societal requirements and current challenges for transport	<b>Context Map</b> – visualises <b>societal requirements</b> and current challenges for transport
Workshop 2- novel and innovative mobility concepts and solutions	<b>Opportunity Map</b> – visualises <b>novel and innovative solutions</b> for transport system and mobility
Workshop 3- vision for transport 2030	<b>Vision for transport in 2030</b> – visualises a vision panorama for future transport system
Workshop 4 – Action Plan	<b>Roadmap</b> – visualises the implementation path toward the vision

Thus, the workshop on novel and innovative solutions should help to validate, expand and enrich the topical work done in the project and will especially produce the solid basis for the opportunity map, the second part of the storymap.

The workshop had the following structure:

- Opening remarks by Rafal Rowinski, EC, DG RTD
- Keynotes with impulses from external fields as big data, sports innovation, robotics and gamification
- Two interactive group work and discussion sessions
- Initial legal assessment of solutions by Osborne Clarke
- Wrap up of the day and first conclusions

The detailed workshop handout (see annex) was sent to the attendees in the forerun of the workshop. It included a project introduction, the workshop aims and structure, an explanation of the story mapping process, a presentation of the results of the 1st workshop and an introduction to the societal trends that were identified in the first phase of the project and the first workshop.

## Opening session:

The **opening remarks by Rafal Rowinski from EC, DG RTD** explained the context of the STRIA and COP 21. These are the two main strategies that call for and impact activities for the decarbonization of transport. Mr. Rowinsky pointed out that decarbonization and competitiveness do not need to be contradictory but can work hand in hand. He stated that currently the US provides solutions but Europe needs to catch up. The STRIA roadmaps will directly feed into the process of drafting the work programme for 18/19. The prospective focus of the next work programme for transport will be set to

decarbonisation, digitalization, big data, safety and (data and cyber) security, automation and connectivity in all modes, resilience, new social attitudes towards transport, e.g. mobility as a service, new business models, breaking the silos of the modes as well as incremental and disruptive innovation. For the latter disruption will be the more important topic.

After an **introduction about the project by Beate Müller, VDI/VDE-IT**, four short keynotes about **big data (by Imre Keseru, VUB)**, **sports innovation (by René Wijlens, Sports & Technology Cluster)**, **gamification (by Stefan Schaffer, DFKI)** and **robotics (David Bisset, euRobotics)** gave impulses and new perspectives on possible innovative transport solutions.

**Imre Keseru (VUB)** stated that mobile communication sensor networks, cloud computing and the new technologies and methods for data analysis referred to as big data enable smart mobility. Big Data in transport is currently mainly used for forecasting and intervention but many other applications can be thought of and are being researched.

**Rene Wijlens (Sports & Technology Cluster)** pointed out that smart has also to mean vital and active. This is followed for instance in the Vital Cities Initiative. Co-creation with end-users is possible and necessary. Mobility should mean move citizens this should always encompass active modes.

**Stefan Schaffer (DFKI)** reported from the gamified mobility app that was developed within the Streetlife project. He showed that the stereotype about gamers is wrong and more adult women than under 18 males are gamers. Thus, gamification can not only be used in any context where gaming rules apply but can also target the desired audiences in case of mobility. Mr. Schaffer gave a multitude of ideas where gamification could enhance sustainable and active mobility of persons and goods.

**David Bisset (euRobotics, SPARC PPP)** gave an overview of possible applications of robotics in mobility not just in the obvious field as robot cars but also in the niches. He pointed out that regulation is key to support innovation especially in this field and in connection to mobility.

Since the workshop should serve to contribute to the storymapping process (details see above and in the annex) **Linda Napoletano (Deep Blue)** presented the **current draft of the context map** which constitutes the first part of the story map and shows the conclusions of the first workshop and the current results on societal trends and drivers generated in the project (see fig. 2).

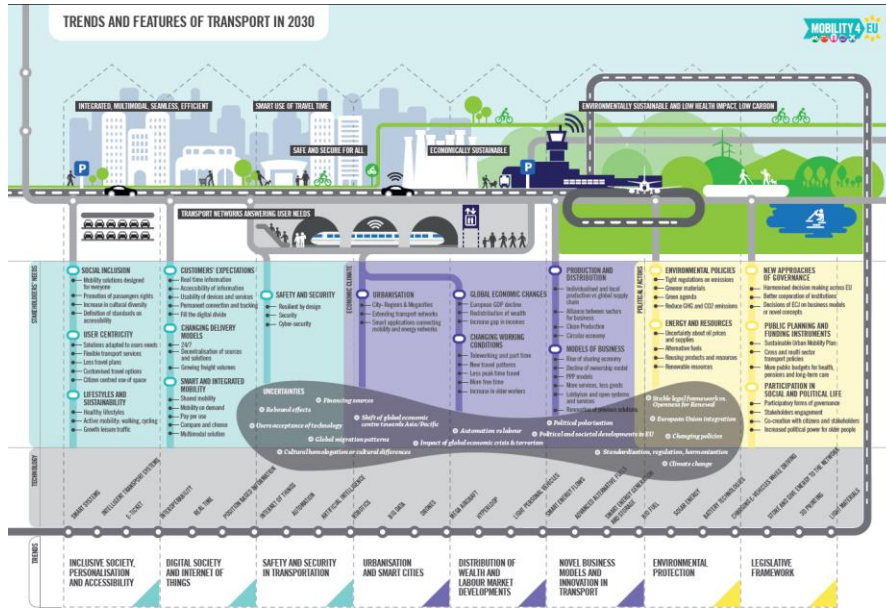


Fig. 1 Current draft of the Context Map that was handed to the workshop participants

In the next step, **Beate Müller (VDI/VDE-IT)** introduced the **Opportunity Map**, a portfolio example of mobility solutions for the different transport modes (see fig. 3) and explained concept and aims of the workshop.

	Distribution of wealth, labour market	Inclusive Society, Personalisation, Accessibility	Urbanisation, Smart Cities	Environmental Protection	Digital Society, IoT	Novel Business Models, Innovation Systems	Safety	Security
<b>Road</b>	Big data in transport behavior and location analytics	Vehicle architectures to improve accessibility	Shared mobility and co-created concepts	Ecodesign methodologies	Car Platooning for connected vehicles	Dynamic access regulation and pricing of the use of shared infrastructure	VRU protection as e.g. sticky coating	Hijack-safe security protocols for connected cars and infrastructure
<b>Rail</b>	Personal rapid transport	Ensured first/last-mile connection	Automated trains	Regional train service with higher frequency and shorter travel time	Asset management just in time	Mobility as a service	Information and Communication Systems (ICS) for signalling	Resilient design for rail services
<b>Air</b>	4h-door-to-door	Cabins designed under health and accessibility aspects	Low-noise aircraft	Light (solarpowered) electric aircraft	Automation of passenger drop-off baggage	Air-plane on demand	Advanced air traffic management	Checkpoint of the future
<b>Water</b>	More flexible commute through integrating waterborne transport	Design for VEC	Floating delivery hubs	Ultra-efficient and alternatively powered ship	Automation on rivers and canals	Pallet shuttle barge as multimodal logistic concept	Advanced HMI for crew	Monitoring and tracking of shipping containers
<b>Urban/Rural</b>	Shared mobility for commuters	Urban personal transport devices	Intelligent Parking	Zero emission buses	Gamification for active modes	Comprehensive route planners (plan, book, measure impact)	Cooperative driving	Nominative ticketing
<b>Inter-modal Freight</b>	Integration of passenger and freight	24/7 delivery	urban consolidatin centers	Impact calculation in freight, Modal shift	Physical internet	Logistics as a service	Truck platooning	Smart incident management

Fig. 2 Example portfolio of mobility solutions (Opportunity Map)

**Interactive discussion sessions:**

During the interactive discussion sessions 8 poster boards, one for each of the following trends, was interactively filled with novel and innovative solutions in all modes by the workshop participants:

- Distribution of Wealth and Labour Market Developments
- Inclusive Society, Personalisation, Accessibility
- Urbanisation and Smart cities



- Environmental Protection
- Digital Society and Internet of Things
- Novel business model and innovation in transport
- Security in Transport
- Safety in Transport

Each board held a blanco template with columns for each transport mode, intermodal private and freight transport and others (see fig. 4). The main questions of the work were:

- What is the potential technical or organisational solution or concept?
- What is the impact and how does it answer to the respective trend?

Road
Rail
Air
Water
Urban & Multi-Modal &
Intermodal Freight Transport
Others

Fig. 3: Template for group work

The workshop attendees walked around, discussed and pinned solutions (rectangular note) and corresponding impacts (oval notes) to the demands that the respective trend creates. Besides new ideas were generated during the interactive work and also collected on the boards. In a short review session all attendees should stick three marking points at the solutions which are the best from their individual point of view. The final versions of the filled boards are shown in the figures 5 – 12.



Fig. 4 and 5: Collected solutions for the trend Distribution of Wealth and Labour Market Developments and Inclusive Society, Personalisation, Accessibility



Fig. 6 & 7: Collected solutions for the trend Urbanisation and Smart Cities and Environmental Protection

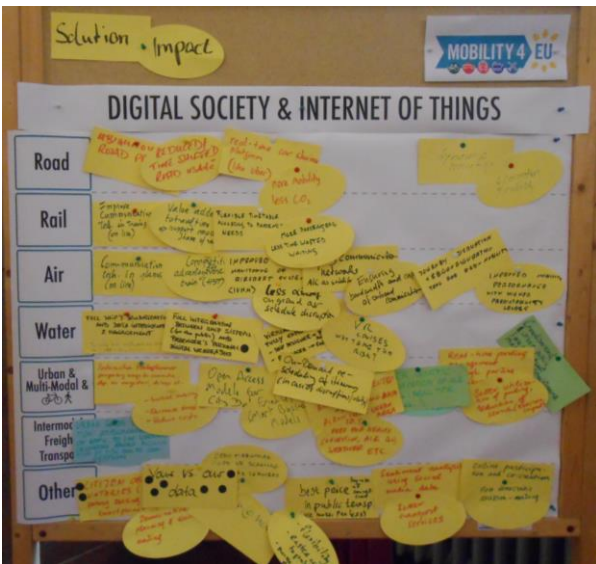


Fig. 8 & 9: Collected solutions for the trend Digital Society and Internet of Things and Novel Business Model and Innovation in Transport



Fig. 10 & 11: Collected solutions for the trend Security in Transport and Safety in Transport

In the end of the workshop Yves Sans from Osborne Clarke gave an assessment for the discussed solutions from a legal point of view. He pointed out that standardisation will have to play an increasing important role and main questions that have to be solved. For instance

- Who will own the data that emerges from transport solutions (insurances, legal institutions) and what are the consequences for the consumer?
- Under which conditions shall be given access to these data?
- What is the best way of European legal control – regulations or directives?

The task will now be to validate the work done on solutions so far and to extent and revise it where necessary. Furthermore, the Opportunity Map will be transferred into a publishable visualization that will be used to disseminate the results on novel and innovative mobility solutions and their impact on transport in 2030.



## 2 Agenda

MOBILITY4EU – 2<sup>nd</sup> Interactive Workshop  
**Novel and Innovative Mobility Concepts and Solutions**  
05 July 2016, 10:00 – 16:00  
Fondation Universitaire, 11 rue d’Egmont, Brussels

Moderation: *Gereon Meyer, VDI/VDE-IT*

### 10:00 Introductions

Opening Remarks  
*Rafal Rowinski, EC, DG Research*

The Project Mobility4EU  
*Beate Müller, VDI/VDE-IT*

### 10:20 Keynotes

Big Data in Urban Transport  
*Imre Keseru, Vrije Universiteit Brussel*

Impulses from Sports Innovation  
*René Wijlens, Sport & Technology*

Gamification in Transport  
*Stefan Schaffer, DFKI/Streetlife Project*

Application of Robotics in Transport  
*David Bisset, Robotics ETP*

### 11:20 Portfolio of Mobility Solutions & Aims of the Workshop

Context Map  
*Linda Napoletano, Deep Blue*

Portfolio of Mobility Solutions  
*Beate Müller, VDI/VDE-IT*

### 11:40 Interactive Work and Discussion on Novel and Innovative Solutions and on Opportunity Map

*All*

### 12:30 Lunch

### 13:30 Interactive Work and Discussion on Novel and Innovative Solutions and on Opportunity Map

*All*

### 14:30 Review of Results

*All*

### 15:15 Assessment from a Legal Perspective

*Yves Stans, Osborne Clarke LLP*

### 15:45 Conclusions

*Gereon Meyer, VDI/VDE-IT*

### 16:00 End of the Event

### 3 Participant List

Participant	Institution
Sergio Barbarino	Procter & Gamble
David Bisset	Robotics ETP
Annette Brückner	VDI/VDE-IT
Eleni Chalkia	CERTH
María Teresa De la Cruz Eiriz	ZLC
Oliver Drewes	Dutch Railways
Richard Foggie	KTN
Alessia Golfetti	Deep Blue
Riccardo Groppo	Ideas & Motion
Stefania Grosso	Osborne Clarke
Paolo Guglia	Fincantieri
George Holley-Moore	ILC-UK
Oleg Kamberski	IRU Projects
Imre Keseru	VUB
Cornel Klein	Siemens
Juho Kostianen	VTT
Kevin Mayne	ECF
Alain L'Hostis	IFSTTAR
Jonas Linder	Siemens
Gereon Meyer	VDI/VDE-IT
Beate Müller	VDI/VDE-IT
Linda Napolitano	Deep Blue
Kay Plötner	Bauhaus Luftfahrt
Christina Pou	ATM
Rafal Rowinski	EC, DG R&I
Stefan Schaffer	DFKI
Christoph Schneider	Munich Airport
Joachim Skoogberg	Echandia Marine
Yves Stans	Osborne Clarke
Ineke van der Werf	Rover
Rene Wijlens	Sports & Technology

## 4 ANNEX: Handout for workshop