Building a vision for transport in EU 2030
The project Mobility4EU

AMAA 2016
Smart Systems for the Automobile of the Future
23 September 2016 - Brussles, Belgium
Action Plan for the Future of Mobility (CSA)

Duration: 1 Jan 2016 – 31 Dec 2018

Consortium: 19 partners from 11 countries

- VDI/VDE-IT (Germany)
- VUB (Belgium)
- Ifsttar (France)
- CERTH (Greece)
- Deep Blue (Italy)
- SIEMENS (Germany)
- CRF (Italy)
- Zaragoza Logistics Center (Spain)
- Bauhaus Luftfahrt (Germany)
- Echandia Marine (Sweden)
- ST Micro (France)
- HUMANIST (France)

Funding: DG RTD

- Osborne Clarke (Belgium)
- Transport Authority of Barcelona (Spain)
- Dutch Passenger Association (Netherlands)
- International Longevity Centre (UK)
- Budapest Association of Persons with Physical Disabilities (Hungary)
- VTT (Finland)
- ICCT (Germany)
Objectives

• identify and assess societal trends and challenges that will influence future transport demand and supply

• find and categorise promising cross-modal technical and organisational transport solutions

• establish a future vision of a transport system in 2030

• develop an action plan including a roadmap for the implementation of that vision

• recommend tangible measures in research, innovation and implementation

• engage a broad stakeholder community into the consultation processes of the project and its implementation

• sustain the work of the project beyond its duration, e.g. in the form of a new European Transport and Mobility Forum
Creating the Context Map

Societal Requirements and Current Challenges for Transport (03 May 2016, Berlin)

• What are the features of the transport system in 2030?
• Which political, economic and societal factors will probably determine mobility demand in 2030?
• Which technology frameworks will probably enable the supply of transport solutions in 2030?
• Which uncertainties will remain?
First workshop

Societal Requirements and Current Challenges for Transport (03 May 2016, Berlin)

• What are the features of the transport system in 2030?
• Which political, economic and societal factors will probably determine mobility demand in 2030?
• Which technology frameworks will probably enable the supply of transport solutions in 2030?
• Which uncertainties will remain?
Compiling the Opportunity Map

Novel and Innovative Mobility Concepts and Solutions (05 July 2016, Brussels)

- 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
Compiling the Opportunity Map
# Novel and innovative solutions

## Societal trends and drivers

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

Synergies

Electrification
- reduces cost (tco)
- manages re-charging

Car Sharing
- reduces service cost
- accelerates adoption

Automation
- optimizes energy use
- simplifies controls

Simplifies controls
Optimizes energy use
Reduces service cost
Manages re-charging
Reduces cost (tco)

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Methods: Story Map & MAMCA

Context Map

Opportunity Map

2030 Vision Panorama

Story Mapping Process

Stakeholder Dialogues

Multi-Actor Multi-Criteria Analysis (MAMCA)

Roadmap - „the Action Plan“

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Action Plan: Vision and Roadmap

Example: European Roadmap Smart Systems for Automated Driving, EPoSS, 2015
• Pursuing the drive for synergies

Convergence of automation and electrification

Driverless electric pods hitting the road – The Lutz Pathfinder project
Neil Fulton, Programme Director, Transport Systems Catapult (UK)

Beyond Cars – Media and urban design redefining the autonomous EV
Lino Vital Garcia-Verdugo, Automotive R&D consultant, Independent design researcher
Disruptive approaches to urban electric mobility

EU- projects from the Call on Light EVs

- SilverStream
  Riccardo Groppo, Ideas & Motion srl (Italy)
- Resolve
  Martin Perterer, KTM-Technologies (Austria)
- ESPRIT
  Bodo Schwieger, team red Group (Germany)
- WEEVIL
  Jon Madariaga, Tekniker (Spain)
Associated Partners

AGE Platform (BE)
Athens Development and Destination Management Agency (GR)
AVERE (BE)
European Cycling Federation (BE)
Fincantieri (IT)
Knowledge Transfer Network (UK)
Low Carbon Vehicle Partnership (UK)
MOV’EO (FR)
Procter & Gamble (BE)
Rupprecht Consult (DE)

Liaised with ALICE
And more contacted..... Let us know if you are interested!
Contribute to Mobility4EU

• Stakeholder consultation starts late fall 2016
  – Online surveys
  – Workshops
  – Continuous updates on website

Drop us a note
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Action Plan for the future of mobility in Europe (690732)

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