

Position Paper on:

New shared and automated mobility services



Summary

Overall mobility and especially in urban and suburban areas faces significant challenges with respect to accessibility, safety, security, environment, service quality of public transport, increasing demand in logistics as well as financing, funding and cost sharing models. Shared and automated mobility services have the potential to address these challenges and to offer concrete solutions which are not technically or economically feasible with conventional public transport systems and long haul/urban freight delivery services.

In order to maximise benefits of road automation, it is crucial to think beyond automated vehicle itself and explore new opportunities at mobility service levels. Shared and automated mobility services are a unique opportunity to bridge the gap between individual mobility needs and community interests by delivering complementary mobility offer integrated with existing high capacity multimodal public transport.

The main challenges to be addressed are:

- How to create the most suitable framework conditions for successful market introduction and sustainable operations of shared and automated mobility solutions?
- Do we need to adapt regulatory frameworks to facilitate shared and automated mobility services?
- What could be the effects of sharing economy on the mobility organisation?
- What could be the effects of sharing mobility on the economy?
- What could be the impact of automated driving on professional driver services management?
- How will automated driving impact the emergence of new business models for private, commercial and public users?
- What roles should national and local transport authorities play?
- How to integrate new shared and automated mobility services with existing public transport and soft modes (walking, cycling)?
- How to foster innovation and creativity?
- How to tackle the issue of social inclusion and mobility for all?
- How will the development of transport automation impact inter-urban and urban logistics mobility in combination with e-commerce?
- How to adapt and upgrade existing tools and simulation models to analyse mobility demand and to assess impact of new shared and automated mobility services?

In order to make time and cost effective progress towards the deployment of new shared and automated mobility services, future research should address following issues:

- Safety and security assessment of the overall transport system,
- New hybrid and integrated transport models,
- Overall Cost/benefit analysis of the shared and automated mobility services and business opportunities,
- Modelling and simulation tools dedicated to new mobility services enabled by automated driving,
- User behaviour and adaptation of new mobility services,
- Role of (local) road operators, e.g. (exemptions) for parking regulation of shared cars or dedicated car parks for shared (automated) vehicles,

- Impact on cities and society and new steering instruments,
- Development of innovative, user centric, reliable, fair and ubiquitous mobility and transport services for the local users based on global standards and systems,
- New models and services for sharing of transport assets,
- Explore the potential of combined people and goods vehicles
- Connected and self-organised services for Long Distance Freight Transport,
- Large-scale demonstrations of integrated bundle of shared and automated mobility services using multi-brand and multi-category vehicle fleets.

It is recommended to focus future research activities on the development and demonstration of innovative user centric mobility services based on low to full automation, not on replication of automated vehicle technology showcases. There is a need to gain more knowledge through demonstrations and pilots of innovative use cases in large diversity of real-life conditions in order to progress on standardisation and interoperability, to increase robustness and reliability and to foster replication.

Expected Impact

Research, innovation and deployment of shared and automated mobility services will support competitiveness of European transport industry including vehicle manufacturers, automotive suppliers, public transport operators, freight and logistics, innovative mobility service providers and technology suppliers. It is important to notice that European ecosystem is composed on many international leading industries working in close cooperation with high innovation potential start-ups and SMEs that have the capacity to take global leadership.

Shared and automated mobility services can contribute to make collective transport more effective and more customized to user needs and therefore support local mobility policies in terms of accessibility, social inclusion, multimodality, environment, safety and reduction of road transport externalities.