AutoMate Cluster
POLICY BRIEF

Revolutionizing urban mobility by making transport smarter, greener and more integrated thanks to Connected and Automated Vehicles

Introduction

The transport industry represents an important share of the European GDP, and it is a major driver of the EU's competitiveness and growth. However, transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities. Within this sector, road transport is by far the biggest emitter accounting for more than 70% of all GHG emissions from transport in 2014.
The objective of the European Commission is to cut out transport related GHG emissions by 90% by 2050. More specifically, among others, the EU Green Deal has set the following specific objectives related to transport2:

- By 2030, there will be at least 30 million zero-emissions cars and 80.000 zero-emission lorries in operation.
- All large and medium-sized cities put in place their own sustainable urban mobility plans by 2030.
- By 2030, automated mobility will be deployed on large scale.

Mobility needs are bound to increase. In the light of this, aside from problems related to pollution, the EU is facing and will increasingly face other issues related to transport, such as congestion, safety and security. "The aim is to reconcile the growing mobility needs with improved transport fluidity, through innovative solutions for seamless, intermodal, inclusive, accessible, affordable, safe, secure, healthy, and robust transport systems"3.
Smart, green, integrated and automated transport plays a key role in the solution of the above-mentioned issues.
The AutoMate Cluster joins forces to revolutionise urban mobility by making transport smarter, greener and more integrated thanks to connected and automated vehicles (CAVs).

Key points

- User centric and sustainable public transport
- Ready-to-use and economically viable services
- Game changer for a new mobility paradigm
- Encourage multimodality and synchromodality
- Smart Infrastructures and CAVs integration

The AutoMate Cluster was funded under the EU programme "societal challenges - Smart, Green And Integrated Transport" which states that "the focus of activities shall be to reduce congestion, improve accessibility, interoperability and passenger choices, and to match user needs by developing and promoting integrated door-to-door transport, mobility management and logistics; to enhance intermodality and the deployment of smart planning and management solutions; and to drastically reduce the occurrence of accidents and the impact of security threats".

To achieve these goals, the AutoMate Cluster sets the following objectives:

- Deploy, test and evaluate automated shared mobility through large-scale demonstration in urban environment to understand the potential of the future driven by automation, electrification, cooperativeness, and inclusiveness.
- Create integrated network and traffic management systems, that will favour driverless automation, seamless transfer among different modes of transport, better collaboration among different stakeholders, reduction of accidents and transport emissions, in this way contributing to better standard of living to Europe's citizens.
- Validate the advantages that automated vehicles (AV) will offer to public transportation, linked with new innovative passenger service and guaranteeing road and passenger safety. It also aims to identify the issues, barriers, societal changes and economic consequences of the introduction of AVs in the public transportation services' offer.
- Provide a novel city-led innovative and data driven policy response to address the impacts of the emerging mobility patterns, digitally enabled operating & business models, and transport users' needs.
- Enable metropolitan area authorities to lead a sustainable transition to a low-carbon new mobility era and to implement the necessary related governance
- Improve understanding of the implications of the paradigm change in urban mobility and public transportation, that will be created by the introduction of Connected and Automated Vehicles (CAVs) into society.

Conclusions and Policy Recommendations

The projects of the AutoMate cluster have developed project specific policy recommendations that offer a concrete suggestion on how to transform city transportation by enhancing its sustainability, and integration through the utilization of connected and automated vehicles.

1. Integrate AV as mobility gap filler into existing MaaS/ITS to enable a citizen centric approach and sustainable mobility.

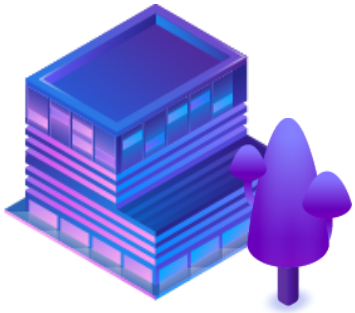
2. Ensure Open Data & Open APIs to enable interoperability and intermodality for a seamless transport service in and between cities by regarding the privacy & security of stakeholder data with adherence to the GDPR standard.

3. Use mobility data from AVs and MaaS to enable continuous improvement of the AVs but also of the mobility systems (Intelligent Transport System) through self-learning AI loops and regulation (system innovation).

4. Create a market for AVs which are aligned with 1., 2 & 3. to allow sustainable business models: PTOs & PTAs should accordingly disclose their needs & economic demands for AVs in MaaS to ensure OEMs and related ecosystem partners to finance and invest in European AV and MaaS technologies and foster attractive business models.

5. Establish a Federated Mobility Governance for AV in MaaS/ITS orchestrating and ensuring a balanced & fair win-win coopetition among all stakeholders of the mobility ecosystem to foster the creation of value (create positive and mitigate negative externalities) and a fair distribution of the created value to serve the general interest and avoid a winner-takes-it-all scenario.

6. Motivate and incentivise multimodality - Encourage the use of multimodal transportation, promoting stronger collaboration among operators and infrastructure managers, and a more integrated transport planning approach.



7. Instigate future synchromodality research - To further develop future research and development, specifically targeting synchromodal solutions (inter- and co-modal transport concepts within a cooperative stakeholder network) and technologies ramification.

8. Enable smart traffic management - Develop intelligent traffic management systems that can reduce congestion and enhance overall transportation efficiency through real-time data analysis and adaptive control mechanisms.

9. Society involvement - Implement public engagement and consultation processes to involve civil society and citizens in decision-making where appropriate. Establishing mechanisms for transparency, accountability, and inclusiveness of the deliverables and solutions should be a focus too.

10. Motivate alternative transport - Establish road- use policies as an alternative to promote the use of public transport, in the passenger's case; and to promote the use of inland waterway transport, in the freight case.

Bibliography

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Join us on our mission to accelerate the transition towards smart, integrated, sustainable and automated urban transport!

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