EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR COMMUNICATIONS NETWORKS, CONTENT AND TECHNOLOGY

Future Networks
Internet of Things

EVENT REPORT – Workshop on AI in mobility and transport: Applications, opportunities and barriers

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On February 5, 2025, the **Workshop on AI in Mobility and Transport: Applications, Opportunities, and Barriers** took place, organised by DG CNECT in collaboration with DG MOVE. The event gathered policymakers, industry leaders, startups, and researchers to explore the latest AI applications, challenges, and opportunities in the European transport sector. With almost 400 attendees, the workshop served as a platform to identify leading use cases, explore the role of collaborations, and address key obstacles aiming to accelerate AI adoption. Insights from these discussions will help shape future EU policies in research, innovation, and deployment, and contribute to the preparation of the **Apply AI Strategy**.

AGENDA

Welcome and introduction: Max Lemke, *Head of Unit, DG CNECT E.4 - Internet of Things*; Moumen Hamdouch, *Head of Unit, DG MOVE B.4 - Sustainable & Intelligent Transport*

Scene setting: the policy context: Cécile Huet, *Head of Unit*, Mariusz Baldyga, *Policy Officer, DG CNECT AI Office;* Kristof Almasy, *DG CNECT E.4 - Internet of Things, EU Policy Mobility*

Session 1: Leading use cases and their potential impact

- Benjamin Beck - *Fraunhofer Institute for Material Flow and Logistics*
- Mateusz Maj - *VivaDrive*
- Oliva Garcia Cantu - Nommon Solutions and Technologies

Moderated by: Seiana Priante, *DG CNECT E.4 - Internet of Things*

Session 2: Challenges for the development of AI in the mobility and transport sector

- Bastian Koller - *High-Performance Computing Center in Stuttgart (HLRS)*
- German Castignani - *CitCom.ai* and *Luxembourg Institute of Science and Technology*
- Jim Athes - *i2cat*
- Laure de Cock - *IMEC*

Moderated by: Kristof Almasy, *DG CNECT E.4 - Internet of Things*

Session 3: The European ecosystem of AI in mobility and transport

- Coen Bresser - *ERTICO*
- Han Hoogeveen - *Innovation Centre for Artificial Intelligence (ICAI)*
- Margriet Schijndel - *AI Data Robotics Association (ADRA)*
- Margot de Caminel - *Greater Paris Region*

Moderated by: Seiana Priante, *DG CNECT E.4 - Internet of Things*

Closing remarks: Moumen Hamdouch - *Head of Unit, DG MOVE B.4 - Sustainable & Intelligent Transport*; Kristof Almasy, *Policy Officer, DG CNECT E.4 - Internet of Things*

KEY TAKE AWAY

The workshop provided insights into the current and future state of AI applications in the mobility and transport sector. The key takeaways summarized here reflect the dynamic discussions and collaborative spirit that characterized the event, highlighting both opportunities and challenges in advancing AI within the European ecosystem.

Opportunities and applications:

- Artificial Intelligence (AI) is driving innovations in passenger and freight transport, improving efficiency, sustainability, and user experience. High-potential applications range from autonomous vehicles and real-time traffic management to logistics optimisation.
- Global AI competition is fierce, particularly in generalist large language models. According to most workshop participants, the EU is also currently lagging on AI for mobility. But it has an opportunity to differentiate itself by focusing in sector-specific AI models and applications by leveraging its rich data sources in specific industries and domains —if it acts decisively.
- The workshop showcased real-world AI use cases, such as monitoring, predicting and planning logistics operations, electric car fleets, or transport services, leveraging digital twins.
- Generative AI is increasingly used, for instance to make complex information more usable for decision-makers, generate synthetic data and support compliance and reporting.
- The workshop cautioned against a "hype-driven" approach, emphasizing practical applications that address real problems.

Access to data and computing infrastructure:

- Data fragmentation poses a significant barrier, for the development and deployment of AI solutions, with difficulties in identifying, using and integrating data from various sources, leading to wasted resources.
- The lack of interoperability on the technical, semantic but also organisation and legal level complicates integration and usage, necessitating a collective effort to promote shared standards and governance.
- The experience of the deployEMDS project shows that data spaces can be a solution for enhancing the use of data for AI, offering a trusted collaborative environment for data sharing. However, their implementation and adoption requires finding value creation opportunities to convince public and private actors to share data.
- A key factor for the development of AI is access to high-performance computing. While the availability of infrastructure is important, their usage has to be proportionate to needs and user-friendly to ensure that SMEs and startups fully profit from it. AI Factories are an important initiative to address this challenge as they help SMEs with services to support, co-create, up-skill the people and not only access to computing power.
- High-speed connectivity and deployment of cloud and edge computing infrastructure, is essential for AI applications, enabling real-time data processing and decision-making. This is particularly

critical for distributed intelligence in connected vehicles, where low-latency communication supports functions like autonomous driving, traffic optimisation, and predictive maintenance.

Skills and workforce development:

- Skills gaps, especially among SMEs lacking in-house AI expertise, are a major obstacle. There is a gap in the understanding of the possibilities and limitations of AI among mobility experts.
- Training initiatives and programs are needed to educate and upskill the workforce in AI-related competencies. Initiatives bringing closer AI experts and domain specialists are valuable.

Regulation, environmental and ethical considerations:

- Regulations should balance fostering innovation with ensuring ethical and responsible AI use in transport. There is a need for more transparency in energy consumption and algorithm behaviour.
- A framework is essential to assess the added value, reliability, transparency, social and environmental impact of AI models. The EU can differentiate itself by leading on trustworthy AI for societal good.
- Transparent communication and public engagement are crucial for ensuring broad acceptance and effective deployment of AI solutions.

Collaboration and partnerships:

- Partnerships between research, industry, and public authorities are crucial for driving innovation and ensuring effective AI application.
- The EU can play a central role in supporting collaborations, promoting common standards, allocating funding, skill development, and establishing regulatory frameworks.
- Europe's relatively fragmented stakeholder landscape can be a challenge compared to other regions with different development models. This calls for a strong emphasis on collaboration and for a more integrated approach. Adopting a more open and balanced cooperative model to the development of AI could provide a unique competitive edge.

Policy context

- President von der Leyen’s Political Guidelines, Commissioner Tzitizkostas’s mission letter and the Competitiveness Compass Communication give a clear mandate to boost AI usage in the mobility sector.
- The EU’s policy framework supports this goal. This includes regulation (e.g. AI Act), access to high-performance computing (AI Factories), and research and innovation (e.g. GenAI4EU).
- A set of regulations (e.g. Data Act, ITS Directive) and the deployment of a common European mobility data space are supporting data access, sharing and re-use within the sector and beyond.
- The European Commission will work with Member States, industry, and civil society to develop an Apply AI Strategy to boost new industrial uses of AI and improve delivery of public services.

REFERENCES: projects and initiatives mentioned during event

AI strategy, policy and actions

- European approach to artificial intelligence
- AI Act
- AI Innovation Package Commission launches AI innovation package
- AI Factories, during the workshop HammerHAI was mentioned
- Testing and Experimentation Facility for Smart Cities and Communities, CitCom.ai
- FFplus, project supporting SMEs and startups in the adoption of HPC and generative AI.

Data access and sharing

- European Data Strategy
- Common European mobility data space
- Unlocking the potential of mobility data
- preparatory action and deployment action (**deployEMDS**) for the creation of the Common European mobility data space
- Generative AI and Data Spaces, Data Spaces Support Centre

AI and mobility and transport

- Monitoring the uptake and impact of AI applications in the mobility and transport sector Transport and mobility - European Commission
- Sustainable and Smart Mobility Strategy: Mobility Strategy - European Commission
- Key technologies for the digitalisation of transport
- Commission Recommendation (EU) 2024/236 of 29 November 2023 on means to address the impact of automation and digitalisation on the transport workforce

Reports and documents

- Draghi Report EU competitiveness: Looking ahead - European Commission
- Commission Recommendation (EU) 2024/236 of 29 November 2023 on means to address the impact of automation and digitalisation on the transport workforce

Other relevant projects and partnerships

- Flanders European Digital Innovation Hub: Flanders AI EDIH
- Data Space Demonstration Centre of Catalonia
- TM2.0 innovation platform
- ERTICO white paper