High-Level Dialogue on Connected and Automated Driving

18-19 June 2024, Ghent

Break-out session 2

Shared Autonomous Mobility

Pitch ULTIMO

Prof. Guy Fournier

Pforzheim University / CentraleSupélec

Automated vehicles as game changer for Sustainable Mobility:

Research results (AVENUE & ULTIMO)

High-Level Dialogue on Connected and Automated Driving
Gent, June 18th 2024

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ULTIMO
Advancing Sustainable User-centric Mobility with Automated Vehicles

How to integrate automated vehicles in a future transport system in the city?

ULTIMO

automated privately owned vehicle

automated robotaxi

Automated e-minibus
Bike-sharing
Scooter-sharing
Ride-hailing
Car-sharing, Ride-pooling
Public transport

Automated e-minibus in public Transport or in a MaaS

(Recommendation of UITP 2019)

Automated e-minibus in a MaaS/ITS could be a game changer for urban mobility!

- **Citizen centric approach:**
  - individual combination of all means of transport to one trip
  - Temporal and spatial availabity
  - better **accessibility** (incl. PRM)
  - **affordable and inclusive** (thus an alternative to private car)

Transport Operators: improved efficiency, flexibility and safety
  - better use of existing capacities and resources,
  - experience fair competition and balanced collaboration

- **City/State: serving the general interest (societal goals)**
  - **Better service** for citizens even in suburban and rural areas
  - **Better performance and resilience of the transport system**
  - **Avoidance** of the "**winner takes it all** phenomenon" (gatekeeper)
  - **Sustainable mobility** through enabling commons (pos. externalities) and avoiding negative externalities **making cities better liveable**
  - **Non coercive** policy: enabling transformation of societal behavior through attractive mobility service

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Automated e-Minibus in an open MaaS/ITS for citizen centric mobility

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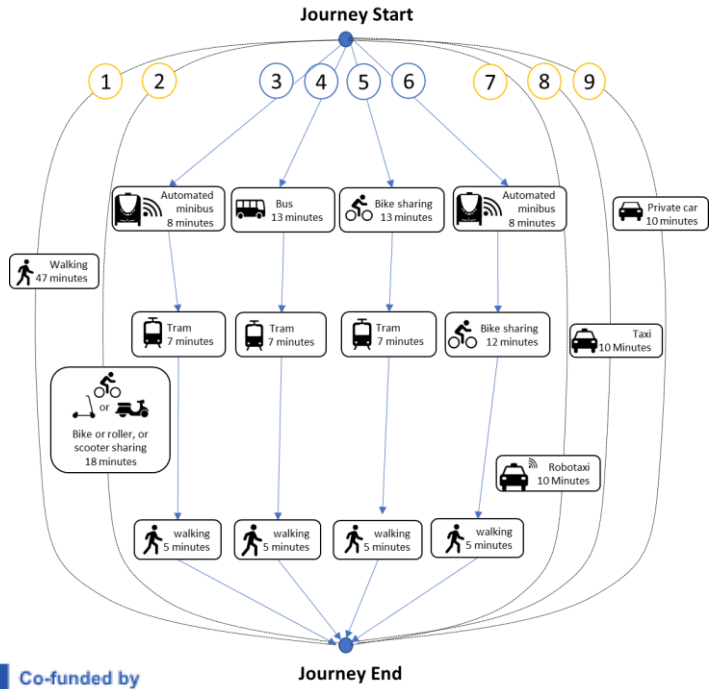

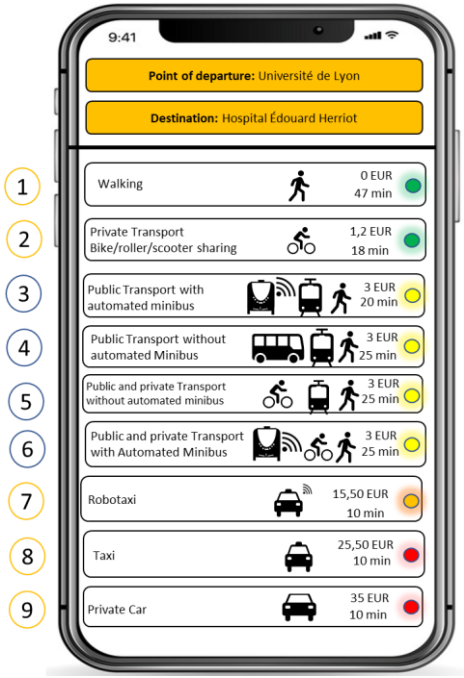

A citizen centric, inclusive, system approach (not AV product centric!)

Tram
Robotaxi
Taxi
Private car
Pedestrian
Bike sharing
Automated minibus
Bus

No environmental impact
Low environmental impact
Medium environmental impact
High Environmental impact

Citizen as MaaS user:
self-determined citizen requests an offer depending on its individual profile, persona or even weather

- unimodal
- intermodal

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The European AV ecosystem is facing challenges in creating **viable business models & companies** towards sustainable mobility goals:

Challenges:

- The European **AV market is highly fragmented** and makes the exploitation of economies of scale and economies of scope very difficult
- The **European Regulations still favour consumers interest more** than those of European Industry, European Sovereignty (e.g. avoiding private monopoly on data to capture value) and normative Values
- **Lack of high risk investments** in Europe (No clear technology and market strategy in the EU)

Suggested solutions:

- A **common long term vision towards AV in MaaS/ITS** is needed in the EU to **(1)** leverage societal goals (social, economic, environment) *and serve the general interest but also* to enable **(2)** symmetry in competition, the *integration of the market* and **(3)** a *non-coercive transformation (pull) policy by service improvement*
- **PTOs and PTAs should disclosure and bundle their procurement** and **business strategies** to give a long-term perspective to the AV ecosystem and ease financing and innovation of AV in MaaS/ITS. The emergence of strong OEMs / ADS providers and their related AV ecosystems would thus be supported

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Springer Nature

“The best way to predict the future is to create it“
Peter F. Drucker

Thank you for your attention!

Book: Automated Vehicles as a Game Changer for Sustainable Mobility - Learnings and Solutions

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ULTIMO project

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