



Mobility is freedom

Mobility automation



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Questions at stake

To what extent self-driving and other forms of transport automation may change the picture of mobility in the next decades?

How the users mind-set may/should change?

What mind-sets change may/should emerge for planners and decision makers, public transport and other services operators, suppliers of new products and services?



- “Young people are connected to friends primarily through smartphone. Sharing driverless cars on demand will be cooler for them than owning cars.”
 - *technology needed to enable automation ~ 133,000 EUR
=> sharing is probably only viable model for mass use*
- “Acceptance problems are not caused by the technology per se, but by the social conflicts that accompany and/or hinder the diffusion of the new technologies in our societies. The future prospects for mobility automation are different in the different parts of the world.”
 - *how will automated vehicles cope with informal local norms?*

- “Who should lead mind-sets change towards accepting mobility automation are decision makers and institutions (...). Not the users, that follow the trends and fashions.”

Current WTP for automation is about an order of magnitude smaller than the estimated current cost of full automation

- “Let people try the technology and then ask/survey them, stated preference survey are too cold, generic, not really useful: they only show the current opinions and stereotypes.”

43.5% of survey respondents say they want driverless cars mainly to find a parking spot and park itself



- “Total autonomy is not necessarily an experience of freedom for the user, it may well be the contrary, because often we need some form of control over the car we use to feel ourselves in good confidence.”

car passengers experience discomfort at lower rates of acceleration than drivers;

- “Who takes the control in case of any emergency is the real issue that makes the big difference between an isolated autonomous learning driverless car which I own and I am responsible for, and the same driverless car.”

In US survey 94.5% said they could not accept a vehicle that a human can't control manually when needed.

- Mobility automation will have a critical impact both on the perception and the real risks of accidents, especially between the automated vehicles and pedestrians suddenly crossing the street.

AV reduce the need for strictly pedestrian areas, increase door-to-door mobility for mobility impaired



- **Let robots take over routine tasks** which requires optimization and context-agnostic behaviour to be performed at the best, e.g.:
 - Driving in a dense flow on an highway
 - Traffic control at intersections
 - Driving metro/trains
- **Transform some non routinary tasks** requiring cooperative behaviour **into routine** tasks and context-agnostic behaviours
- **Transform some road infrastructure and urban areas into Automated Driving Environments** where automated driving is allowed and human-driven vehicles are banned (e.g. on highways lanes) or strictly regulated (e.g. in traffic calming zones). This in another way of expanding routinary travel



THANK YOU!



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For more information please contact:

Laurent Franckx

Contact details

laurent.franckx@vito.be



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