

Brussels, Tuesday, 10 April 2018

Position Paper on User's Awareness, Societal Acceptance and Ethics

Summary

Increasing user's acceptance of CAD will be achieved through building awareness on the societal and economic benefits of autonomous driving and building user's trust on the new technologies. It will be necessary to develop a strategy to enhance vehicle-human system interaction reducing complexity and providing users a face-to-face experience with CAD.

When assessing the impact of CAD, it will be needed a holistic approach that consider all users clusters regardless age, driving background and will also include people with disabilities. Low-skilled drivers as well as expert will be part of a long-term study that will include a series of tests. Such test should pursue the objective to make all drivers comfortable with CAD and collect information of their behavior before and after trying automated driving.

Besides, new mobility trends such as car-sharing and alternative mobility services will be considered when assessing and evaluating the impact of CAD.

The long-term studies will be crucial for preventing errors and avoiding potential challenges such as:

Challenge 1. Road users are not aware of the advantages and possibilities of CAD and about safety and liability matters which directly impact their trust

Challenge 2. Generational gap will affect acceptance of CAD, young people will be more willing to take advantage of new technologies and new mobility trends

Challenge 3. Users concerns over data protection and cybersecurity

Challenge 4. CAD costs remain high for some segments of the population

Challenge 5. Concerns over interaction between pedestrians, cyclists and other non- driverless cars and fully autonomous vehicles in urban environments.

Challenge 6. Education and training on different levels of automation and complex driving logic

Challenge 7. The need of requirements and driving permits accordingly the level of cars automation

Future research needs

- Research on socio-economic benefits in terms of inclusiveness, more livable cities and user-centric activity-based mobility solutions
- Long-term studies on how automation supports mobility



- Research on how CAD can be integrated into new mobility trends such as car-sharing and other alternative mobility services.
- Research on how users data can be protected and how the information collected on itineraries and driving behavior can be storage and responsibly used to improve users experience
- Research on sustainable AVs car manufacturing, waste management and battery technologies
- Research on how citizens and public authorities could influence the evolution of CAD, and what tools and process could enable maximum influence and stimulate public debate
- An inventory of ethical issues needs to be made, investigating how research plays a role on making the relation between legal aspects and ethics.
- Research on emerging new mobility patterns
- Research on how trust, acceptance and adoption of road automation develop over time and with more exposure and experience with automated systems
- Research on how far competition in the market, user choice and the related societal benefits can be boosted through open data policies and open data standards and platforms

Expected benefit and impact

As car sharing systems and new transportation services are already affecting the way people live, work, travel, travel and travel, CAD will create a new traffic system, where humans and automated vehicles will share the traffic environment.

New rules and new behaviours will emerge, and new mobility patterns will arise due to ART, contributing to a more sustainable transport system. Some of the benefits will be on:

Safety: Autonomous cars will reduce accidents caused mainly by human errors improving people's safety.

Travel efficiency: CAD will improve travel efficiency, reducing congestion and ensuring optimal driving behavior that will improve the quality of life of citizens. Road users will save a considerable amount of time during their daily commute, for example, the time they consume parking.

Improve transport of goods: Automated trucks platooning will also economically impact society by making the transportation of goods safer and faster.

Environment and Health: AVs will also have a positive impact on the environment and people's health since a large deployment of autonomous vehicles will increase the use of active transport modes such as bicycles, reduce CO2 emissions and provide a more liveable urban environment.