

AUTONOMOUS VEHICLES: THE MOBILITY OF TOMORROW

Based on 'Think Good Mobility. Autonomous vehicles negotiating a place on the road. A study on how drivers feel about interacting with Autonomous Vehicles on the road'¹ by The London School of Economics and Political Science and Goodyear.



¹ <http://www.thinkgoodmobility.goodyear.eu/the-survey>

Introduction

Autonomous vehicles provide car manufacturers and drivers with a range of benefits:

- Tracking and finding a stolen vehicle

Integrated GFS- and UHF trackers that are continuously reporting the location of the car can immediately alert in case the vehicle has been stolen.

- Predictive maintenance

Smart sensors installed in a driving vehicle can detect wear of car components in order to avoid accidents, so the driver can directly make an appointment in a workshop.

- Emission level control

An active emission level control allows monitoring fuel consumption and driving behavior, whether the vehicle is more frequently used in a city traffic or on a highway.

- New user groups

Experts say the technology will allow new user groups gaining an access to cars, e.g. physically disabled persons and minors without driving license.

The benefits of AVs are doubtless. It is questionable, however, how people actually feel about interacting with an autonomous car on the road.

The survey insights

The research of the London School of Economics (LSE) and The Goodyear were focused on humans' readiness for autonomous vehicles. In particular, it included 2 main questions:

- How would you feel about driving alongside autonomous cars?

- How would you feel about using an autonomous (driverless) car instead of driving a traditional car?

"26% of respondents describe themselves as comfortable (either totally, very, or quite) with the idea of using an AV and 29% for driving alongside one. Conversely, 44% feel uncomfortable about using an AV, whilst 41% feel uncomfortable about driving alongside one."

In order to understand the different levels of comfort, the respondents were asked for their opinion about AVs concerning such aspects as:

- Perception of safety

- Reliability of technology
- Likely ease of interaction
- Enjoyment of driving

The answers were used to clarify their attitude towards AVs.



Self-driving cars are safer

Safety is clearly an area where respondents feel more positively about AVs.

*"43% of respondents agree with the argument "Most accidents are caused by human error, so autonomous vehicles will be safer."
37% agree that "Machines don't have emotions so they might be better drivers than humans."*

However, the majority of interviewees wish a human driver in the vehicle being able to keep control of the car.

"70% agree that "As a point of principle, humans should be in control of their vehicles."



Steering wheel should remain

80% said 'yes' to the question whether an AV should have a steering wheel.

Despite the positive attitude of the respondents towards AV safety, **73%** of them have concerns that "Autonomous Vehicles could malfunction."

"60% agree that "Machines don't have the common sense needed to interact with human drivers."

Regardless of the media hype about AV, most of people have never driven one.

"60% of survey respondents say they "don't know enough about driverless cars."

The respondents, nevertheless, believe that driverless cars will become a part of our daily life in the coming future; humans just need time to get accustomed to the new technology.



Tech-savvy people are more liberal towards AV

The survey found out, that drivers who already use the available technologies, such as satnav, seem to feel more comfortable about driverless vehicles.

"The research shows that respondents who already rely more on in-car technology are, on average, more open to AVs. So, while only 15% of respondents say that they regularly use cruise control, of these 61% are in the top half of the scale in terms of openness to AV."



Driverless cars 'behave well'

An interesting point is that some survey participants consider an AV without a driver in control more as a taxi or a bus providing a mobility service.

Concurrently, driverless vehicles are expected by the respondents to 'behave' better than human drivers on the road as they are programmed to strictly follow the rules on the road.

"Participants generally expect AVs to be 'well-behaved' and abide by the rules of the road."



Retaining control

As already mentioned above, drivers are not ready to give up the entire control.

"[...] fully 82% answer "probably or definitely" to the question "If using an AV and not needing to pay attention to the road, would you...prefer to keep aware of the road around you?"

Despite all the advantages of giving up control, e.g. reading news or drinking coffee, the minority of respondents were ready to use this possibility.

"Survey respondents were less ready to embrace the possibilities, few saying that they would sleep (19%) or watch a video (18%) if they didn't have to pay attention to the road."



Road as a social space

The level of openness to AVs seems to depend on such aspect as 'driving sociability'. In fact, 'cooperative drivers' see driving as a social activity and are therefore less excited about the idea of AV. In contrast, 'combative' road users are more open to the technology, as they don't like to interact with other drivers.

"Generally speaking, we found that the respondents least open to AVs are those who are more sociable drivers with lower optimism about technology on average."

Conclusion

Much has been written about a greater safety, daily comfort and economic benefits of AVs. The research, however, gave interesting insights into humans' expectations on how AVs should act on the road and the way they should fit into it.

Roads will remain a social space, so the AVs need to be integrated into them and to the demands of drivers. Generally, people are open towards the new technology, though they have particular concerns about it. It should be taken into account, that their opinion is based on a general feeling about AVs and less on the real experience.

About Qulix

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