Self-Parking Cars – "Killer Application" for Autonomous Driving?

Barbara Lenz & Rita Cyganski

DLR (German Aerospace Center) Institute of Transport Research
Rutherfordstrasse 2
12489 Berlin

Current surveys on the acceptance of automated driving reveal that (potential) users are still quite hesitant towards the new technology. One reason for this reluctance can be found in the lack of obvious usefulness of autonomous driving. Promises that are linked to autonomous driving are often not strong enough or not relevant enough for the everyday user of a car:

- Several benefits occur only on the aggregate level of traffic, like for instance smoother traffic flows.
- Some individual benefits are of interest only for smaller groups of people, so for example working while driving.
- Other individual benefits, like having time to watch a movie or to play a game, do not make sense due to the short duration of trips made in an everyday context.

Against this background the question arises which perceived advantages of the (fully) automated car would (i) support its introduction into the mobility market, and (ii) influence future mobility behavior.

A scan through existing surveys shows that automated parking is an application that seems to be interesting to car users from their today's perspective. This also applies to our survey among car users in Germany. There we found that parking was the car function that got the highest number of positive answers when we asked people about the functions they would like to delegate to the automated car. Automated parking was seen as particularly helpful for trips in the city and with shopping and luggage haulage. This observation was supported by correlations we identified for the importance of freedom from stress with the willingness to hand over parking to an autonomous system.

While automated parking can become the "killer application" for autonomous driving, it might also have an impact on mode choice that gives rise to an increase in car use. When asked for what kind of trips they would find autonomous vehicles particularly useful, respondents rated automated parking as most beneficial specifically in an urban context, when going shopping or having luggage with them.

With our contribution we want to explore in depth

- demographics and attitudes of people being interested in using automated parking function
- correlations of willingness to use automated parking with "emotions" about the car and driving
- potential consequences of the use of automated parking on mode choice.