

Knowledge and Perception of Advanced Driver Assistance Systems in Austria

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Active safety systems and advanced driver assistance systems (ADAS) in cars evolved rapidly towards the end of the 20th century and additionally shifted from their initial focus of safety and supportive assistance under normal conditions, to electronic systems, designed to maximise comfort and relieve the driver of his duties in the long term and take over vehicle control. The modern car is equipped with a multitude of ADAS, which can support the driver while driving the vehicle and can decrease the risk of accidents up to 90% (an approximate value of man-made accidents in Austria over the last years). However, the driver could experience a new burden due to unfamiliarity with the systems or incorrect use. Therefore, it is essential that every driver has a solid basic knowledge and acceptance on all driver assistance systems of the respective car, to fully exploit the support of these systems and to overall improve road safety (Austrian Road Safety Board, 2020; Kienle, 2014; Lindgren & Chen, 2006)

In 2019, 2020 and 2021, a survey was conducted by the Austrian Road Safety Board (KFV), with a focus on Austrian Citizens (holding a driving licence) and their knowledge on ADAS and attitude towards these systems. Some of the most interesting questions were addressing the information status regarding the driver assistance systems of the driver, their estimation on support of the ADAS regarding accident prevention, their willingness to use the advanced driver assistance systems and the influence of these systems when purchasing a vehicle.

The most important assistance systems for most people surveyed, are the parking assistant, ACC and the ABS (anti-lock braking system). Further, the percentage of users from ADAS, especially the speed limiter, the tyre pressure monitoring system and the fully automatic

parking, rose considerably over the years. The greatest effect on reducing accidents with material damage was attributed to the automatic emergency brake assistant, the collision warning (distance warning) and the blind spot assistant. Regarding personal injury and especially in the case of accidents involving vulnerable road user, the greatest impact was attributed to the automatic emergency brake assistant, the blind spot assistant and the night vision assistant. Overall, 37% of the participants in the survey in 2021 considered assistance systems to be important when buying a car and around 57% stated, that driver assistance systems would play a role in a future car purchase.

Nevertheless, some participants stated that they actively do not make use of the driver assistance systems, which might be caused by the lack of understanding of the functionalities. The main reasons for deactivating ADAS are that it is perceived as unnecessary, unsafe, stressful, and inconvenient.

Further, about more than three quarters of the respondents believed that driver assistance systems will and should be part of the general driver training in the future (practical as well as theoretical part). Almost 57% were even willing to attend a half-day training course on driver assistance systems.

The overall outcome of the surveys in 2019, 2020 and 2021 was, that there is a lack of information and trust regarding the systems and that many drivers were not familiar with the actual functionalities. Therefore, the KFV, in cooperation with other partners (BMK, AUVA, ARBÖ, AK Vienna, VVO), has implemented a new information platform for driver assistance systems (www.smartrider.at) (Austrian Road Safety Board, 2021).

Finally, the overall question is: Is there a need to improve the knowledge of driver assistance systems to increase road safety? This was KFV's research question, which can clearly be answered with a yes. The more drivers are aware of all available ADAS and are familiar with the handling of the systems, the higher is the potential for reducing accidents and increasing road safety, due to ADAS.

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Maria Fleischer completed her Master's degree in Transport Planning at Newcastle University, England, with a focus on the environment.

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Raffaella Neustifter worked many years in the field of traffic psychology, with a main focus on traffic psychological assessments and trainings, project work and driving aptitude.

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