Shared Autonomy

Potentiale für den Einsatz gemeinschaftlich genutzter autonomer Fahrzeuge im ländlichen Raum

The introduction of autonomous vehicles means that we will witness a fundamental change of our transportation system over the next ten years. This will most likely radically change our ideas of mobility and bring about new ownership models and mobility patterns, which, in turn, open up an enormous potential for the development of sustainable mobility solutions, in particular demand responsive transportation systems (DRT) in rural areas. Making the driver redundant will substantially decrease operating costs and make demand responsive transportation affordable and financially sustainable at last. Moreover, as we know from mobility research, (mobility) habits are hard to change, and it usually requires radical changes to alter people’s mobility behavior. And indeed, the new types of mobility usage such as Shared Autonomous Mobility do have the potential to be innovative and attractive enough to reach large numbers of new users and meet their mobility needs. This will have a significant impact especially on demand responsive transportation systems because these systems heavily rely on being used by a critical mass of people, and this large-scale use makes it possible to bundle rides in a smart way to achieve a high ecological impact.

Driverless car technology is not automatically intelligent and socially beneficial. A scenario with autonomous but privately owned cars would likely further aggravate the current ecological situation. The challenge is to combine these evolving technological innovations with innovative offerings and business models. The general conditions of the mobility sector have to be shaped proactively to make the evolving mobility ecosystem inclusive and sustainable.

This project will explore and compare the opportunities, challenges and risks of self-driving cars in different scenarios. Qualitative research on the users and their interaction with these vehicles—focusing on the currently most promising European pilot projects in the field of autonomous public transportation—will provide new insights, enable knowledge transfer and provide access to international state-of-the-art research.

In addition, ride recordings from existing demand responsive transportation systems in Austria will serve as a data source for quantitative impact measurement for various scenarios under different local conditions.

This exploratory investigations will lay the groundwork for a pilot project encompassing the first deployment of communally used autonomous vehicles in Austria. The relevant partners and required legal and technological framework will be identified and action points for the creation of the necessary general conditions will be defined.