Automated Decision-making in Automated Driving: Striking a Balance between Individual Autonomy and General Road Safety

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Abstract

In an attempt to increase road safety, car manufacturers turn their attention to the interior of the vehicle. If the driver falls asleep, or is intoxicated, this will be picked up by sensors and cameras inside the vehicle. If it is deemed unsafe for the driver to continue the trip, the vehicle will pull over and bring itself to a stop so as to prevent endangering other road users. This automated decision-making process is not only affecting the autonomy of the driver, it is also challenging law as it gives rise to many legal and ethical questions.

Vehicles (will) collect data on their surroundings. These data form a crucial part of so-called Advanced Driver Assistance Systems (ADAS), which support the driver in the performance of the driving task by, for instance, making sure the vehicle stays within its lane and adjusts its speed to the vehicle travelling in front of it. This should increase road safety. However, there is a risk to ADAS: because the driver has to execute less tasks, he might pay less attention to traffic, possibly so much so that he falls asleep behind the wheel. This is where driver monitoring systems come into play. These systems – a combination of software and hardware, such as cameras and sensors – keep an eye on the driver by collecting data on the physical state of the driver. The General Data Protection Regulation (GDPR) defines these data as personal data. Driver monitoring systems register, for instance, if the driver falls asleep. That could set off an alarm (audio, shaking of the driver's seat, etc.) to wake up the driver, or, in the most extreme case, could bring the vehicle to a stop so as to avoid endangering the driver as well as other road users. Volvo, for example, has announced that all of its vehicles produced from 2020 onwards will bring the vehicle to a stop when it detects sleepiness, distraction or intoxication in the driver.

Recent legal literature on automated driving has mainly focused on civil liability problems concerning fully self-driving vehicles, leaving aside more pressing legal challenges regarding driver monitoring. The contribution of this research to legal scholarship consists of balancing the individual interests in personal autonomy and the general public's interest in road safety. In doing so, this research will analyse Article 22 of the GDPR on automated decision-making. This Article sets boundaries to decisions that are solely based on automated processing whilst also providing for some exceptions. However, these exceptions focus on the individual data subject's rights, not on the general public interest in road safety. The European Court of Human Rights has already found states to have a positive obligation in the context of road safety under Article 2 of the European Convention on Human Rights (ECHR). So when does the autonomy of the individual and its right to data protection weigh heavier than the public interest of road safety? This research aims to answer that question and fill the existing gap in legal literature.