

Essay on Self-Driving Cars – A. J. Geel, 19-10-2015

Last week a new high was reached in the field of self-driving cars; Tesla released an update for its Model S, allowing users to access beta versions of features such as *Autosteer*, *Auto Lane Change* and *Autopark*¹. It's no wonder that people all around the world received this update with a lot of anticipation, the industry for autonomous driving is booming, billion-dollar companies such as Google, Apple, BMW and more are allocating a big amount of resources towards creating a smoothly operating self-driving car, but nobody has been able to bring a fully functioning self-driving car to the market as of now.

The benefits of self-driving cars are enormous. One of the main effects that it will have on society is the fact that it will drastically improve the safety of using cars. Over 90% of the accidents that happen are caused by an error on the driver's part² that could have been averted if a self-driving car had been used. Another one of the main arguments in favor of self-driving cars is the fact that it would help solve a lot of traffic issues. The precision computers have could allow speed limits to be raised safely, and allows cars to use the roads in a more efficient manner, virtually eliminating traffic jams altogether. Not having to pay attention to the road also means that the drivers get to use their time commuting more efficiently. One final and often overlooked benefit is that introducing a bulk of technology to cars could allow us to turn roads into one big source of information; data captured by the cars can be collected to allow for environmental studies to be done much easier, and roads could be monitored to notify the state whenever road maintenance is needed.

Still, not everybody has a positive opinion on self-driving cars. A big factor in this is the fact that remaking the infrastructure in such a way that fits self-driving cars would cost a lot of money, and nobody is sure who will be the one to take that hit, whether it be the government, the big companies in the car business or the people who need to be driven by cars themselves. Remaking the infrastructure would also most likely mean eliminating the regular driver from the roads, and a lot of people seem to be hesitant to stop driving manually altogether. In fact, a studies from 2012 suggests that only one out of five drivers would be interested in purchasing a fully autonomous car³.

Finally, the fact that cars would no longer be controlled by humans leaves a concern. Faulty software could lead to errors in the judgement of the operating software, but third parties can also influence the program. Since nearly all of the self-driving car projects use some kind of internet connection, there is a possibility for third parties (hackers) to adjust the driving of the self-driving car. Self-driving cars should be equipped by a strong anti-hacking mechanism before it gets released.

All things considered, I believe self-driving cars can and will change the future for the better. Fact is that there needs to be a strict guidance on what is allowed and what is not. I believe the government should step up and take charge in this revolution of cars by refining relevant laws over time. Self-driving car producers should keep developing their products with user safety as one of the highest priorities.

¹ Tesla Motors. (2015, October 14th). Tesla Model S Autopilot Press kit. Retrieved from <http://www.teslamotors.com/presskit/autopilot>

² NHTSA, (2015, February). Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey. Retrieved from <http://www-nrd.nhtsa.dot.gov/pubs/812115.pdf>

³ J.D. Power and Associates, (2012, April 26). U.S. Automotive Emerging Technologies Study (SM) .Retrieved from <http://www.jdpower.com/sites/default/files/2012049-uset.pdf>