PUBLIC COMMITMENT AND IMPLEMENTATION SCENARIOS FOR SELF DRIVING AND CONNECTED VEHICLES

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1. INTRODUCTION
There has been a rapid development of self-driving vehicles and the discussion have over the last years gone from the visionary discussion on the implications this may have on our society to the more practical discussion on implementation and what roles and responsibilities the involved actors have. The discussion nowadays is also focusing on connected vehicles and how to deal with the huge amount of data they will produce as much as on the vehicles themselves (SMMT, The Society for Motor Manufacturers and Traders Limited, 2017). Most vehicle manufacturers are now promising vehicles with advanced self-driving functionalities within the next 2-3 years, and connected vehicles are already being rolled out. These vehicles are primarily connected to a manufacturer specific cloud allowing for instance a Volvo to communicate and warn other Volvo’s of potential hazards. There is however no framework in place to allow for communication between different vehicle manufacturers or between vehicle manufacturers and Road operators.

In the EU project NordicWay (Funded by the The European CEF-program (Connecting Europe Facility) an interchange server allowing communication between vehicles from different manufacturers to communicate seamlessly with each other as well as surrounding infrastructure and road operators cross border have been build, implemented and successfully tested (European Commission - INEA, 2014). The project has demonstrated the functionality of this communication channel by the services road works warning (TMA-trucks (Truck Mounted Attenuator) in operation), hazardous location warning (vehicles with activated hazard lights), and slippery roads warning (vehicles with ESP or ABS activation). The project has demonstrated this in the border area between Sweden and Norway as well as Sweden and Denmark showing that the communication works cross brand as well as cross border.

Now that many of the technical issues with this kind of interchange server have been solved and the work is now focusing on industrial implementation, the practical and administrative issues are far from solved. These issues concern who will build, run and operate the interchange server, who will have access to data, what data and who will pay for this. The distinction between the public commitment in comparison with the private initiatives are yet to be solved.

This study aims to identify the tasks, the services and the digital infrastructure that need to be in place as well as legal and administrative framework required for the implementation of connected and automated vehicles. This work will also highlight where there is agreement between the actors and where there is a disagreement and thereby identifying the criticalities in terms of implementation.
2. METHODOLOGY
In NordicWay an interview study will be carried out starting with the actors involved in building and operating the interchange server. The actors to be interviewed represents the vehicle manufacturers, telecom industry and road operators involved in NordicWay. The interviews will be carried out starting in June 2017 and ending in September 2017 and the focus of the interviews are how they see their role compared to the other actors, what business models they foresee and how they reason in terms of investment costs and revenue. The aim is that the interviews should result in a few plausible scenarios ranging from “largely driven by private interests” to “a large public commitment”. These scenarios will then be discussed with all involved actors in a workshop aiming to identify the path to implementation, where there is agreement and where there is a disagreement between the actors.

3. RESULTS AND CONCLUSIONS
NordicWay ends in December 2017 and this work will be included in the final report. The intention is to present a few plausible scenarios and the implications they will have. This work will include the Swedish actors involved in NordicWay but all of these actors operate in a European and even global context and it is not feasible that there will be a Swedish, or even Nordic solution. Instead what is done in NordicWay will have a European perspective and to some degree even Global.

REFERENCES