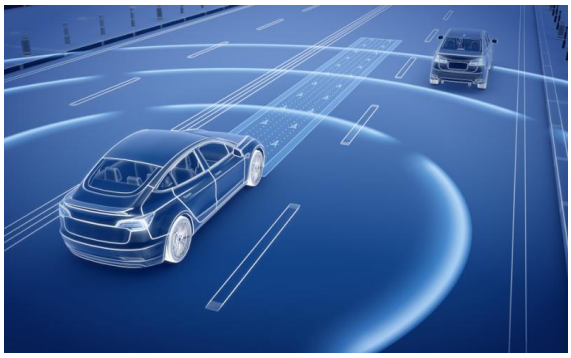
Viability of Safety Performance Indicators (SPI)



Problem description

The automotive industry is currently undergoing a shift towards automation and electrification of the vehicles. This comes under the ambition of safer and more sustainable automotive industry. As type approval authority RDW is faced with a particular challenge of striking a good balance between safety and innovation. To ensure safe deployment of Automotive Driving System (ADS) many assessment criteria are being developed and proposed. One such assessment methodology is In-Service Monitoring and Reporting. The In-Service Monitoring and Reporting (ISMR) is considered as post deployment activities to ensure safe operation of the ADS and proper reporting.

In-Service Monitoring and reporting is executed to ensure that the ADS performance is within the nominal performance of the vehicle during its operation. The manufacturers can demonstrate an effective ISMR through multiple Key performance indicator (KPI) and Safety performance indicator (SPI). KPIs aim to assure that monitoring is performed at an optimal level and addresses any issues affecting the effectiveness of the monitoring program. However, SPIs aim at monitoring the safety performance/behavioral competences over the operational lifecycle of the ADS.

Assignment

This project is aimed at researching the viability of different SPIs. SPIs can be divided into two categories: Lagging metric and Leading metric. As part of this project the researcher needs to determine the applicability of one or more SPI through a practical experiment.

This project can be divided into three phases. The first phase consists of choice of SPI for the project, wherein the researcher shall decide upon one or more SPI to investigate as part of this project. The second part of the project consists of an experiment where the researcher needs to collect the necessary data in a mixed traffic environment (virtual) and plot the performance of the ADS against the SPI chosen.

The final phase entails presenting the research findings in a master's thesis.

Research group

Transport & Planning

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Information

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