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Automated driving

Collaboration and common approaches between WP.1- WP.29 on automated vehicles

Submitted by Canada

This document submitted by Canada as informal document No. 3 (September 2019) proposed a methodological approach on how WP.1 and WP.29 could cooperate. Informal document No. 3/Rev.1 is the version approved by WP.1 at its September 2019 session.

COLLABORATION AND COMMON APPROACHES BETWEEN WP.1-WP.29 ON AUTOMATED VEHICLES

Background

The Global Forum for Road Traffic Safety (WP.1) focuses on improving road safety through the harmonization of traffic rules. The forum oversees the application of the 1949 and 1968 Conventions on Road Traffic and the 1949 and 1968 Conventions on Road Signs and Signals. There has been a growing interest within WP.1 to address concerns related to automated driving, such as ensuring that existing international law is compatible with automated vehicles (AVs). The Informal Group of Experts on Automated Driving (IGEAD) was created to assist WP.1 with its work on automated driving. In September 2018, through the work of IGEAD, WP.1 adopted a ***Resolution on the deployment of highly and fully automated vehicles in road traffic***. WP.1's key work priorities in this area relate to the need to provide guidance to support the safe deployment of AVs in road traffic. Additional work is ongoing within IGEAD to develop other guidance to determine how best to apply the principles of the 1949 and 1968 Conventions in the context of automated driving, e.g. remote controlled driving and activities other than driving for drivers of highly automated vehicles.

The World Forum for Harmonization of Vehicle Regulations (WP.29) offers a unique framework for globally harmonized regulations on vehicles. The forum oversees the 1958 and 1998 Agreements which establish global motor vehicle regulations. Like WP.1, WP.29 has added an automated driving mandate to its work. The Working Party on Automated and Connected Vehicles (GRVA) was created along with sub-working groups to address various automated driving-related regulatory issues. Recently, a ***Framework document on automated vehicles*** was developed by GRVA and adopted by WP.29 to provide guidance for the sub-working groups by identifying principles to facilitate and guide discussions and activities on AV performance. One key sub-group of the GRVA identified in the framework is Functional Requirements for Automated Vehicles (FRAV). Key work priorities for FRAV currently include functional requirements for the combination of different functions for driving, e.g. longitudinal control, lateral control, and environment monitoring.

Purpose

At its 81st session in February 2019, the Inland Transport Committee invited WP.1 and WP.29 to continue their close cooperation to facilitate the safe deployment of automated vehicles. Given the importance of automation to the work of both WP.1 and WP.29, it is important that both parties collaborate to ensure that the evolution of international conventions on road safety is carried out in concert with safety requirements to avoid any incompatibilities. The decision to create a joint work plan between WP.1 and WP.29 immediately followed a joint one day seminar sponsored by WP.1 and WP.29 on the "safe deployment of automated vehicles in traffic."

Objectives

This paper seeks to propose a framework and areas of joint work to ensure successful collaboration between WP.1 and WP.29 for work related to Automated Vehicles.

Scope

This collaboration is intended to facilitate joint work around SAE Level 3 to Level 5 automated vehicles and their safe deployment in traffic environment.

Governance

The WP1-WP29 Executive Task Force (ETF) will coordinate and facilitate on a regular basis the collaborative efforts and direct joint specific technical activities on the subject of automated driving. The ETF will leverage the technical expertise of existing informal working groups (e.g. IGEAD for WP.1 and GRVA/FRAV for WP.29).

Working principles:

- fostering a cohesive approach between the two working parties and contributing to an ongoing understanding of roles and responsibilities of the two working parties when addressing the diverse safety aspects of automated vehicles and their safe operation;
- facilitating consultations on specific deliverables of both working parties to ensure alignment of their priorities, objectives, e.g. draft decisions, resolutions, and other documents; and,
- facilitating joint educational seminars, workshops, and engagement activities with industry and other relevant stakeholders.

Key activities

At this time, three priority areas of expected collaboration have already been identified as follows:

- The development of a common glossary of terminology for AVs to be updated as the technology evolves;
 - Research on HMI and Human Factors to further define activities a driver can engage in without compromising road safety; and,
 - hosting a joint annual meeting starting in 2020 as appropriate to foster discussion and share knowledge/expertise.
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