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ADS recognizability

Submitted by the Netherlands

This document focuses on recognizability of ADS in light of enforcement and its aim is to assist in working towards a harmonized and uniform standard for recognizability. The recognizability that is workable for enforcement and which may prevent unwanted behaviour from road users. It is hoped that the document will aid the discussion that is still in an exploratory phase.

Goal

1. During the 85th meeting of WP.1, agenda item ‘Optical and/or audible signals in DAS and ADS vehicles’ will be discussed. The goal of this agenda item is to continue discussion on the topic of optical and/or audible signals in DAS and ADS vehicles to indicate their status and to communicate their intended actions on the roads.
2. The goal of the presentation to be held by the Netherlands is to aid that discussion. Specifically, we call attention to recognizability of ADS vehicles from the perspective of enforcement. The focus lies on ADS vehicles, though certain aspects might also apply to DAS vehicles. Our aim is to work towards a harmonized and uniform standard for recognizability, that is workable for enforcement officers and may prevent unwanted behavior from road users. The standard set by WP.1 can be further elaborated on and incorporated into harmonized vehicle regulations for ADS by WP.29.
3. We propose to involve a group of experts from varying backgrounds, such as legal, human factors, technical and law enforcement.
4. Please note that this is an informal paper, and hence, does not present the official position of the Netherlands on ADS vehicle recognizability. Moreover, this paper provides a non-exhaustive list of considerations. The input is based on discussions with human factor specialists, enforcement agencies and colleagues from other relevant ministries.

Considerations

5. Recognizability is of importance for enforcement officers such as (traffic) police and other road users. Despite the fact that some ADS legislation mentions that ADS vehicles should be recognizable, it remains unclear how recognizability should be interpreted, let alone in a harmonized way.
6. In discussion with relevant colleagues, the following considerations came up as to why recognizability is important for enforcement officers, as well as what could possibly aid harmonized and uniform recognizability:

Responsibility

- An important aspect in the work of an enforcement officer, is to understand who is responsible for a certain action. In the case of ADS vehicles, situations where an enforcement officer must make a snap decision should be prevented as much as possible.
- There should be no confusion for an enforcement officer who is in control and who therefore might be committing an offense. For example, in case ADS is engaged, the human driver might be occupied with activities that would otherwise be considered an offense.
- For practical reasons, certain information should be easily accessible and readily available for the enforcement officer:
 - How can an ADS vehicle be recognized?
 - How can an enforcement officer recognize the mode an ADS vehicle is in (in other words, whether ADS is engaged)?
 - How do we ensure such information is readily available and easy to use for the enforcement officer, e.g. also in cases of dealing with vehicles from other countries (thus with foreign license plates/vehicles)?

Remote operation of ADS vehicles

- Colleagues from the UK and Northern Ireland have submitted an informal paper on remote driving before. As the colleagues from the UK and Northern Ireland rightly point out, remote driving systems have considerable potential, but pose additional challenges as well, e.g. for enforcement.
- Enforcement of remote operation of ADS vehicles comes with practical challenges:
 - How can the enforcement officer determine who the remote operator is, and where the remote operator is located?
 - How do the enforcement officer and the remote operator deal with situations where the remote operator can no longer control the vehicle?
 - How does the enforcement officer know whether the remote operator meets the standards for remote operation?
 - How should enforcement deal with cross-border remote operation, and should we allow cross-border remote operation at all?
- In that regard, and in addition to the informal paper of the UK and Northern Ireland, additional standards for remote operation of ADS vehicles could be considered.

Exemption/permit/status of the system

- It must be clear for the enforcement officer what the vehicle and its occupants are (not) allowed to do. In case of an exemption or permit, relevant documents and information should be easily accessible and readily available for the enforcement officer. Moreover, the information should be easy to understand so that the enforcement officer can act promptly and adequately.
- Currently, procedures of checking the vehicle status is relatively simple: an enforcement officer can check the license plate number in a registry, where additional information and information on the mode of the vehicle is available. In addition, the officer can observe if the human driver's hands are on the steering wheel, etc.
 - How does this work for ADS vehicles?
 - How can we ensure enforcement officers can access the information needed for enforcement?

Police street checks

- An important aspect of enforcement is the response to (stop) signs officers communicate.
 - How is an ADS vehicle's response to (stop) signs of enforcement officers ensured?

Final note

7. We invite all participants of WP.1 to share their views on the topic and to respond our presentation and the informal paper. We propose to create a (in)formal document on considerations on recognizability of ADS vehicles with regard to enforcement, to be presented during the 86th meeting of WP.1 in March 2023. Said document may describe considerations for varying parties (e.g. OEM's, enforcement officers, (remote) drivers, member states, etc.) and elaborate on relevant work done so far.