

[Review of the existing national / regional activities and a proposed way forward for DSSAD]

This document aims at providing information on the existing national / regional activities on DSSAD and individual contracting party recommendations for a proposed way forward for DSSAD, per the request of WP.29 at their 178th session (June 2019) and the revised Framework Document ECE/TRANS/WP.29/2019/34/Rev.1.

According to the above document, the first deliverable of the IWG is the technical requirements dedicated to “Automated Lane Keeping System (ALKS) for low speed application” to be attached to the UN Regulation No.79 which has been developed in GRVA. The present document delivers an analysis of the national / regional activities on DSSAD, as expected from the IWG subsequent to the completion of activities with regard to ALKS.

European Union

1. Review of the existing national / regional activities (European Union)

The European GSR does not require motor vehicles to be equipped with the DSSAD. However, the EDR on automated vehicles must collect and store information on whether the driver or the system was in control of the vehicle at the moment of the collision.

2. Way forward for DSSAD

The European Commission will be constructively contributing to the development of the DSSAD requirements at the UNECE. After March 2020, this might include consideration of collection by DSSAD of a wider range of data, useful for the purposes of in-service monitoring.

China

1. Review of the existing national / regional activities

China has started the preliminary research on national mandatory standard of DSSAD.

2. Way forward for DSSAD

Many OEM in China plan to mass produce L3 vehicles around 2021 and the industry has an urgent demand for DSSAD. On the basis of the fact, China suggests that the globally harmonized DSSAD regulation shall have a clear timeline. China will be contributing to the development of the harmonized DSSAD requirements.

France

1. Review of the existing national / regional activities

Mandatory for testing

National decree 2018-211 related to automated vehicles testing on public road

extract : *“The vehicles are equipped with a recording device making it possible to determine at any time whether the vehicle has been travelling in partial or total delegation of driving mode. The data is automatically and regularly deleted.*

In the event of an accident, the data recorded during the last five minutes are kept by the authorization holder for one year.”

2. Way forward for DSSAD

Expectation for real life

France strongly supports to have DSSAD as mandatory with accessible data for a duration from 6 months to one year (for needs of investigation or litigation between the driver and the manufacturer).

Manufacturers should ensure the integrity of such data during conservation times.

The data access interface in the vehicle must be, as most as possible, standard, and easy accessible for the police officer in the event of roadside control, whatever the model of the vehicle (a unique tool for connection to the vehicle).

Data recorded should be only all the status flags of the AD system (activation – deactivation, transition demand, emergency manoeuvre....)

Germany

1. Review of the existing national / regional activities

Since 2017 German law requires “data processing in the case of vehicles with a highly or fully automated driving function” (see Eight Act amending the Road Traffic Act).

The main purpose of such data processing is to clarify responsibilities. The data may be used as well in a depersonalized form for accident research.

It is mandatory to store the position and time data captured by a satellite navigation system when:

- control of the vehicle changes from the driver to the highly or fully automated system and vice versa,
- the driver is prompted by the system to retake control of the vehicle or
- the system experiences a technical default.

Since Germany’s desire is to globally harmonize technical vehicle requirements, Germany is strongly interested in an alignment of the DSSAD requirements currently being developed and their national requirements.

2. Way forward for DSSAD

In principal Germany favours an international harmonised regulation which technically enables the storage of a variety of data points. On this harmonised technical basis, national regulations can require specific data points to be stored and provided to authorities.

Currently Germany has no practical experience in processing data from a DSSAD from vehicles with highly or fully automated driving functions as no such vehicles are type approved for the German market (this excludes vehicles under test).

Germany assumes the DSSAD requirements will be revised after a certain period of time to include any additional requirements that may be necessary and/or changes based on experiences gathered with ALKS-DSSAD.

Japan

1. Review of the existing national / regional activities

Japan published “Guideline regarding Safety Technology for Automated Vehicles” (September, 2018) and it defines “Data Recording Devices”:

(5) Installation of Data Recording Devices

Automated vehicles should be equipped with a device that records the operational status of the automated driving system, the status of the driver, etc., as data¹².

Specific requirements for data recording devices (requirements such as what to be recorded as data, recording time, retention time, for what purposes data is used, how to handle personal information, etc.) and mandatory installation of such devices will be discussed and determined.

<Requirement>

A device that records the operational status of the automated driving system, the status of the driver, etc.,¹² shall be provided.

Note:12 Data to be recorded may include the operation status of the automated driving system, state of the driver, information on surrounding, control information of the vehicle, etc. Specific data to be recorded will be considered according to the international trends and trend about how to take responsibility for accidents in the future.

Netherlands

1. Review of the existing national / regional activities

DSSAD National activities of the Netherlands

- **VSSF.** Development of a Vehicle Security and Safety Framework. This is a method to measure the maturity of an OEM in Security and Safety process for Vehicle software. RDW is developing it as a (self) certification framework which can be used in the type approval process.
- **VDLF.** Development of a Vehicle Driver License Framework. This is a method to test the autonomous capabilities of a vehicle, does the car behave like a driver, does it make the same choices? The VDLF results in a driver license for the vehicle.
- **ADAS Alliance.** Research has shown that consumers have little knowledge on how to use ADAS systems. This ADAS Alliance is supported by the Ministry, and its goal is to improve the knowledge and use of ADAS systems by consumers.
- **Testplan Roadsafety.** To determine Roadsafety issues of new developments in Vehicles and infrastructure (Road worker warning, ADAS (AEBS, LKA/LKS), Road lighting).

2. Way forward for DSSAD

Way forward for DSSAD of the Netherlands

- The Netherlands believes there are three important steps to test, admit and control automated components in vehicles and Autonomous vehicles:
 - o VSSF for software in type approvals (see above)
 - o VDLF for testing automated vehicles (see above)
 - o DSSAD for monitoring the behaviour of the vehicle.

- That is why the DSSAD must also be used by a monitoring facility. With the data in the DSSAD, type approval authorities can check whether an automated component is still working within the boundaries of the type approval. They can check whether software updates are done (correctly), and check whether the vehicle still behaves like it is intended to do.

United Kingdom

1. Review of the existing national / regional activities

There are currently no activities in the UK regarding DSSAD, other than that related to the regulation being discussed.

2. Way forward for DSSAD

The UK is clear that the essential function of the DSSAD is to determine liability and legal responsibility. However, in-use compliance monitoring of automated systems will be necessary and where the data required for this cannot be found elsewhere, the DSSAD should also perform this function.