

Proposal for DSSAD Section in ALKS requirements

Section XX: DSSAD

1. Purpose (to be discussed)

x. Definitions (to be combined with Definition Part)

- x.1. “*Data Storage System for Automated Driving (DSSAD)*” means a system which aims at giving a clear picture of the significant interactions between the driver and the ADS by storing a set of data.
- x.2. “*Data*” means a series of timestamped information entries related to a logic signal indicating that the ADS was switched ON or OFF, or a specific significant interaction between the driver and the system occurred at a precise time.
- x.3. “*Storing data*” : means collecting and keeping the collected data for future retrieval or “read only” access.

2. Specifications

2.1. Each vehicle equipped with a DSSAD complying with the definition of Paragraph x.1. shall meet the requirements specified in paragraph 2.2 for data elements, paragraph 2.3 for data format, paragraph 2.4 for data storage, paragraph 2.5 for retrievability, and paragraph 2.6 for information to the driver.

2.1.1. Data shall be available by using a dedicated retrieval tool or any other solution.

2.1.2 The data shall be stored on-board unless it ensures that there is adequate protection against manipulation.

2.2. Data elements

2.2.1 Each vehicle equipped with a DSSAD shall store information which be able to determine elements listed below; (If duplicate, record in combined is allowed.)

- ✧ Time stamped switches of the ADS from a status to another status
- ✧ Time stamped Transition Demand by the ADS
- ✧ Time stamped Minimal Risk Maneuver engagement by the ADS
- ✧ Time stamped Override through steering, brake, and accelerator control by the driver
- ✧ Time stamped Driver not available
- ✧ Time stamped System failure
- ✧ ODD status information (road condition, vehicle condition, environmental condition) when the system defines that vehicle will exit or exits the ODD limits)

2.3. Data format

Each data element listed in Paragraph 2.2 shall be recognized without any possible confusion by the codification that will be chosen by the manufacturer.

Each time stamp attached to this data shall enable to determine when the significant interaction (change of ADS status, Transition Demand release, Minimum Risk Maneuver or Emergency Manoeuver or Override by the driver) occurred with a resolution of [1 second] in GMT time.

2.4. Data storage

DSSAD shall be able to store a minimum of [X.000] timestamped significant interactions or cover a minimum period of [6] months of use, whichever is achieved first.

Once these storage limits of the DSSAD are achieved, additional data storage may erase the previous data, following the “First In / First Out” rule, and data over these limits may be impossible to retrieve.

2.5. Data retrievability

If the main onboard vehicle power supply is not available, it shall be possible to retrieve stored timestamped data from the DSSAD with the appropriate tool or method provided by the manufacturer.

After a UN Regulation No. 94 (Frontal collision) impact test, it shall be possible to retrieve timestamped data stored prior to the impact, from the DSSAD, with the appropriate tool or method provided by the manufacturer.

2.6. Protection against manipulation

DSSAD should be ensured that there is adequate protection against manipulation of stored data such as anti-tampering design.

2.7. Information to the driver

The manufacturer shall provide in the vehicle owner's handbook, or by any other communication means in the vehicle, the necessary information about DSSAD.

The manufacturer shall provide the following information in the vehicle owner's handbook, or by any other communication means in the vehicle.

- ✧ The vehicle is equipped with DSSAD
- ✧ The purpose of DSSAD
- ✧ No personal information is included
- ✧ The way to retrieve data