Proposal by Germany (based on GRVA-05-07-Rev.3)
(Amendments in tracked change mode)

2. Definitions

2.15. "*Data Storage System for Automated Driving (DSSAD)"* enables the determination of interactions between the ALKS and the human driver.[1]

~~From EDR/DSSAD~~

~~[~~2.17. "*Occurrences*" means, in the context of DSSAD provisions in para. 8, an action, ~~fact~~ or instance of an ~~occurring,~~arising ~~something that happens,~~ event or incident, which requires storage within the data storage system.~~]~~

8. Data Storage for Automated Systems (DSSAD)

8.1. Each ~~Vehicles~~ vehicle equipped with ALKS shall be fitted with a DSSAD that meets the requirements specified below. The fulfilment of the provisions of this paragraph shall be demonstrated by the manufacturer to the technical service during the inspection of the safety approach as part of the assessment to Annex 4.

This Regulation is without prejudice to national and regional laws governing access to data, privacy and data protection.

8.2. Recorded occurrences

8.2.1. Each vehicle equipped with a DSSAD shall at least record an entry for each of the following occurrences upon activation of the system:

a) Activation of the system

b) Deactivation of the system

1. Use of dedicated means for the driver to deactivate the system
2. Override on steering control
3. Override by accelerator control while holding steering control
4. Override by braking control while holding steering control

c) Transition Demand by the system, due to:

1. Planned event
2. Unplanned event
3. Driver unavailability
4. System failure
5. System override by braking input
6. System override by accelerator input

d) Suppression of driver input

e) Start of Emergency Manoeuvre

~~f) Detected risk of imminent collision~~

~~g)~~f) ~~Detected~~ End of ~~imminent risk of collision~~Emergency Manoeuvre

~~h)~~g) EDR trigger input

[1] ~~To be revised in accordance with IWG on EDR/DSSAD.~~

Commented [IH1]: Proposal to keep definition as it stands and delete footnote

Commented [IH2]: Unclear what is meant

Commented [IH3]: Proposal just to use a different word, shouldn't use a related term within the definition.

Commented [IH4]: Copied from GRVA-05-31 (was mentioned in scope)

Commented [IH5]: Imminent collison risk = emergency manoeuvre, therefore not needed to explicitly mention under f)? (see definitions and requirements for EM)

~~i)~~h) Collision detected
Note: This may be reviewed to be in line with 5.1.1.

~~j)~~i) Minimum~~al~~ Risk Manoeuvre engagement by the system

~~k)~~j) Severe ALKS failure

~~l)~~k) Severe vehicle failure

~~m)~~l) [Detected deviation of lane of travel]

~~n)~~m) [Demist on

~~o)~~n) Demist off

~~p)~~o) Windscreen wipers on

~~q)~~p) Windscreen wipers off

~~r)~~q) Headlamp on

~~s)~~r) Headlamp off]

Each entry of Occurrences n) – s) shall be recorded if relevant functions are installed on the vehicle.

8.3. Data elements

8.3.1. For each event listed in para. 8.2., the DSSAD shall at least record the following data elements in a clearly identifiable way:

- The occurrence flag, as listed in section 2
- Reason for the occurrence, as appropriate, and listed in para. 8.2.
- Software versions relevant to the system
- Date
- Timestamp

National and regional laws may provide for additional requirements regarding the data elements.

Commented [IH6]: Copied from GRVA-05-31 (was mentioned in scope)

8.3.2. A single timestamp may be allowed for multiple elements recorded simultaneously within the timing resolution of the specific data elements. If more than one element is recorded with the same timestamp, the information from the individual elements should indicate the chronological order.

8.4. Data availability

8.4.1. DSSAD data availability shall be ~~available~~ subject to requirements of national and regional law, but shall at least be available for a period of [6 months] of use.[2]

Commented [IH7]: Does it make to sense like this? (or is it just us just stumbling over the sentence?)

8.4.2. ~~Once the storage limits of the DSSAD are achieved, existing data may [only] be overwritten following a first in first out procedure with principle of respecting the relevant requirements for data availability~~.

Documented evidence regarding the sufficient storage capacity shall be provided by the vehicle manufacturer along with an associated control strategy in case storage limits are reached as part of the Annex 4 assessment.

Commented [IH8]: A requirement should be agreed regarding the storage time period, since otherwise in our understanding it is left as "optional" for the manufacturer to choose – for example in case a country has not regulated the storage duration/period, e.g. storing only one day would be possible…!?

Commented [IH9]: Proposal to delete (not necessary) – footnotes should not contain requirements

Commented [IH10]: Principle (in draft ALKS Regulation): DSSAD storage limit reached -> DSSAD not operational -> ALKS not active

It is basically up to the manufacturer to provide sufficient storage capacity, if ALKS shall be frequently/often used.

Since there is currently no requirement of where and how to store the data (e.g. in the vehicle vs. external storage – or even a combination of both), full flexibility is given and "limited" storage should not be a problem (and therefore the original wording in para. 8.4.2. not necessary).

The intention of this newly drafted text is in our view better in line with this flexible and open approach.

8.4.3. The data shall be retrievable even after an impact of a severity level set by UN Regulations Nos. 94, 95 or 137, or other relevant national crash test procedures. If the main on-board vehicle power supply is not available, it shall still be possible to retrieve all data recorded on the DSSAD, as required by national and regional law.

[2] ~~(NOTE: Based on a recent CP data study, the IWG on EDR/DSSAD is considering that the text specifies several timestamps specifications of 2500 timestamps to correspond with a period of 6 months of use.~~

8.4.4. Data stored in the DSSAD shall be easily readable in a standardized way via the use of an electronic communication interface, at least through the standard interface (OBD port).

8.4.5. Instructions from the manufacturer shall be provided on how to access the data.

8.5. Protection against manipulation.

8.5.1. It shall be ensured that there is adequate protection against manipulation of stored data such as anti-tampering design.

8.6. Availability of DSSAD operation

8.6.1. DSSAD shall be able to communicate with the system to inform that the DSSAD is operational.

Annex 1

9. Data Storage for Automated Systems (DSSAD):

~~9.1. DSSAD Type Approval Number[1] .....~~

9.1. DSSAD performance verified after the tests performed according to Annex 5: yes/no

9.2. DSSAD documentation concerning data retrievability, data integrity self-check and protection against manipulation of stored data verified: ..... yes/no

Commented [IH11]: Based on suggestion by GRVA Secretary

~~[1] Align with work of IWG on EDR/DSSAD~~