DRAFT AGENDA

3rd meeting of the Informal Working Group (IWG) on Event Data Recorder (EDR) and Data Storage System for Automated Vehicle (DSSAD)

10-12 December 2019,
Paris (OICA offices)

Time:	Tuesday 10 December	13:30 - 17:30
	Wednesday 11 December	9:30 – 17:30
	Thuesrday 12 December	9:30 -13:00

Venue: OICA - International Organization of Motor Vehicle Manufacturers
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Chairpersons:

The Netherlands:	Mr. Tim Guiting
Japan:	Mr. Tetsuya Niikuni
USA:	Mrs. Jane Doherty

Secretariat: OICA

1. General:

1.1. Welcome and Introduction

1.2. Anti-trust rules

1.3. Approval of the report of the previous session

Document: EDR-DSSAD-02-23 (Chairs)
The report was adopted with no change.

1.4. Approval of the agenda

Document: EDR/DSSAD-03-01-Rev.1 (Chairs)

The group confirmed that a drafting group dedicated to DSSAD will take place on Thursday pm and Friday am at the OICA offices.
The agenda was adopted with no change

1.5. Outcomes of the Skype meeting #2 (31st October 2019)

The Chair recalled that the Skype meeting followed GRVA and GRSG plenary sessions, with the aim of preparing the present 3rd meeting. The group at that Skype slightly amended the comparison table.

The group also discussed the organization in drafting groups, which was followed by an internal enquiry on the ways to proceed.

1.6. Outcomes of the 179th session of WP.29 (12-14 November 2019)

The Chair informed that GRVA presented the outcomes of their 4 working groups, including EDR-DSSAD. The comments about the comparison chart and the state of play on DSSAD/EDR were very brief. WP.29 also confirmed that Mr. Richard Damm will take over the task of Chair of GRVA as from 2020.

2.   Organization of the work

Documents: Secretariat emails dated 5 November and 21 November 2019
EDR-DSSAD-03-03 (CLEPA-OICA)
EDR-DSSAD-03-05 (D)
EDR-DSSAD-01-04 (OICA)

The Chair confirmed the timelines and deliverables of the informal group.
Name: "sub-group"
Intention: should draft the regulatory text and identify the technical requirements, while the EDR/DSSAD will provide the guidance.
Expected outcome: to be submitted to the EDR/DSSAD informal group.
At next informal group meeting, a meeting of the sub-group on EDR will be organized.
Chairs: DSSAD by Niikuni san and Jane Doherty, and EDR to be led by Mr. Guiting.

DSSAD: March session of WP29
EDR: November 2020 session of WP29. Hence EDR should be ready as an official document for the October session of GRSG. For meeting the deadline, the Chairs may ask the GRSG Chair to organize a special session early in the summer.
The EC confirmed their need to get an adopted text at the November 2020 session on WP.29. should that not be possible, the EU would be forced to draft their own delegated act.
Conclusion:
- Informal group to aim for an informal document for the April 2020 session of GRSG
- Chairs to ask the GRSG Chair to organize a special session early in the summer
- Proposal: at the 4th meeting, organized the sub-group meetings on the 1st day (Tuesday).

3.   DSSAD

3.1. Review of consolidated technical requirements

Documents: ACSF-24-05 (ACSF co-Chairs)
EDR-DSSAD-Skype#2-03 (PRC)
EDR-DSSAD-Skype#2-02 (J)
EDR-DSSAD-03-06 (J)
[EDR-DSSAD-03-08 (CITA-EVU)]

D resented the document EDR/DSSAD-03-05
OICA informed understanding the presentation as a way for the DSSAD to trigger the EDR
D pointed out that their aim with DSSAD is not limited to liability, but also with research and monitoring. The d expert found the question of amount of data to be stored not relevant, while the objectives of the DSSAD is a priority.
OICA and German Safety Council noted that collecting data during the continuus automated driving is not permitted. The concern is that such data would be stored without the consent of the user; should the driver refuse it, the data should not be collected. However it is important that the group gets a clear idea of the objectives to be reached.
Allianz stressed not wanting to know who is in the autonomous vehicle, rather to know which entity is at the control of the vehicle at the time of the accident. Also very interested in research for improving the situation on the road.
D about data protection:
- The ADS will ask the driver for permission
- Research and safety go together.
OICA also suggested focusing on the ALKS at least as a 1st step.
USA supported D that research is important for safety purposes. Idea is to estimate safety benefits of the ADSs to allow improvement in road safety.
PRC stressed that for indicating the responsibility, soring only the flags is not enough, there is a need to store more data.

The Chair reminded the choice of dedicating EDR for accident analysis, while the debate seems to propose accident analysis for DSSAD.

OICA admitted that data collection may be some kind of 4th pillar in the MPA, yet it was always assumed that DSSAD is dedicated to the flags. The current debate is now going in the direction of a huge amount of data to be collected.

The EC wondered the purpose of collecting all those data, in particular in the case of a "soft trigger". The D description os a kind of twin of the EDR.

WP29-179-19

USA clarified their understanding that "research" should be understood as "defect investigation" or "compliance to regulation", or effectiveness of the regulation.

OICA understood the need, yet this would imply a lot of elements, as in daily life there are a lot of decisions whose relevancy depend on a lot of environment parameter. This would lead the group to a long time job, and make it deviate frm the initial purpose.

USA pointed out the the work will continue after the deadline of February GRVA, in spite the February deadline must be met for the ALKS.

Allianz stressed that the purpose od EDR is not really "accident analysis" rather "support accident analysis and research".

F:
- EDR
  - o Accident analysis
  - o ADS engagement
- DSSAD
  - o Legal responsibility

The EC found such debate not crucial at this time.

Liability vs. legal responsibility to USA understanding:
- Liability: insurance
- Legal responsibility: court

EC requested [ ] around "detecting who is driving" as the "who" should address "which entity" and not the details of the person behind the wheel. It should not be understood that the EDR should not provide information about which entity is controlling the vehicle, rather the EC position is that EDR should provide the information on which entity is at the control at the time of an event.

Conclusion:
- EDR: accident analysis. For ADS, EDR should record whether an ADS was engaged at the time of an event.
- DSSAD:

OICA presented the document DSSAD/EDR-03-03: need for a defined strategy before starting the editing. Need also to take into account the technical feasibility

The EC found that the policy should be defined on the governments policy

D found it easy to collect AEBS activation in the EDR, if the AEBS is fitted into the vehicles.

However USA found this challenging.

A debate took place about defining a new trigger, and a new regulatory requirement for EDR triggered by AEBS in two years needs to be further investigated.

OICA stressed the tremendous difficulty in re-designing the electronic architecture for the sake of additional triggers in EDR.

USA informed that introducing AEBS activation as a trigger for EDR would be a process of ca 10 years.

The Chair was keen to reach consensus on the progressive approach:

Minimum content of EDR Step 1 (Nov 2020 delivery):
- existing US EDR as a basis, including the number of events (2 vs. 3?)
- ALKS status (if fitted)
- Longitudinal and lateral acceleration

Minimum content of DSSAD Step1 (Feb 2020)
- ALKS

On the 2nd day, the group started with the revision of documents EDR-DSSAD-Skype#2-03 (PRC), EDR-DSSAD-Skype#2-02 (J) and EDR-DSSAD-03-12

DSSAD-Skype#2-02
Proposal well aligned on OICA position
Data collection is "timestamped" i.e. not continuous
Data provided by DSSAD is only generated when the system has detected an "event" (obstacle, interaction, etc.). for example, "road conditions" is provided because the ALKS detected the end of the ODD and generated a transition demand.
There was then a debate as to whether the item "end of ODD" is necessary as it would be redundant with the transition demand. The example of the item "wet road" was given as a case where the perception may differ according to the ADS.
The Chair tentatively concluded that "end of ADD" may not be needed for the case of DSSAD dedicated to ALKS.
D suggested investigating other items to be added as input for high level (vs. in-depth) research.
OICA tentatively tried to capture the request as the discussion on the best use we can make of the available data. This in turn then implies the question on what critical data is needed for the purpose of liability and responsibility.
GSC (German Safety Council) questioned the geoposition as this item is mandatory in Germany.
The Chair then proposed the following tentative conclusion:
- DSSAD for ALKS to be limited to discrete data
- Data dedicated to ALKS to be a "must"
- Other data (like "end of ODD") to be put on the shelve for the time being.
This conclusion was adopted.
PRC was keen to broader the scope, even for the case of DSSAD for ALKS.
OICA clarified that the continuous data can be collected by the EDR, and hence the two systems are complementary.
Allianz found the geoposition necessary for the case of speeding. However, the experts agreed that the Police can get the geopositionning via other means in that case.

The representative from PRC then presented document EDR-DSSAD-Skype#2-03
The Chair recalled that the 1st delivery of the informal group. Is DSSAD for ALKS
Allianz pointed out that the approach per PRC could not function in the EU, hence the outcomes laid down in the PRC document should be taken as a PRC situation.

The group then agreed to start taking the document EDR-DSSAD-03-12 as a basis, and pull out the elements needed for the ALKS for producing a "skeleton" document for DSSAD dedicated to ALKS. The USA voiced that the document 12 as such is too complete for them for the time being.

Paragraph 2.6.: D keen that the DSSAD captures and store data about any failure of the ADS that occurred in the past, and there is a technical possibility to collect that at a later stage. In addition, the text should identify the data to be transmitted to EDR.

About data retrievability, there was a debate on the need to be technology neutral, but simultaneously permit easy retrieval. USA were agnostic as regard storage location. The group discussed the problem of change of owner: D has a process in place to ensure the 1st owner's data are not used by the following one. This can also be done via a "reset" button, together with a way for the owner to retrieve all the data from his vehicle.
About anonymization: USA stated that it should not be necessary since the data is not "PII" (Personal Identification Information). However, OK to anonymize for the sake of e.g. research, but for the sake of driver responsibility the data cannot be anonymized, either for the driver or for the judge. The challenge is to make data transmission possible for both purposes.
Vehicle identification number:
- subject to national law. However UK keen to review this at the next meeting.
- D: need to clarify the assumptions of the group.
- F: suggested a list of necessary data, and a list of optional data that can be added for national reasons.

Conclusion:
- Sub group to work on the main elements of the document EDR-DSSAD-12
- Output of the subgroup to be compatible with the document ACSF-24-18
- Outcomes of subgroup to be reviewed by plenary informal group.

3.2. Review of the existing national / regional activities and a proposed way forward for DSSAD

Document: EDR-DSSAD-03-04 (co-Chairs)

Conclusion:
- All to provide data to the secretary, for both DSSAD and EDR
- New Secretary details to be provided to the group.
- Deadline 17 January

New Secretary details:
Temporary Secretary:
 Mr. Scott Schmidt
 Alliance
 sschmidt@autoalliance.org
 +1 (202) 841 2139

The Secretariat will be provided by the Alliance of Automobile Manufacturers.
The expected dedicate expert is Mr. Shawn Kimmel
QS-2
Shawn.Kimmel@QS-2.com
The Alliance however informed that best efficiency can be reached if the Mr. Scott Schmidt is the referenced secretary until official announcement is done.

4. EDR

Documents: EDR-DSSAD-03-02 (EC-TRL)
    EDR-DSSAD-03-07 (CITA-EVU)
    EDR-DSSAD-03-09 (KATRI)
    EDR-DSSAD-03-10 (KATRI)
    EDR-DSSAD-03-11 (KATRI)

German Safety Council proposed that the EDR of the future ("ED logger") contain the AD elements

Conclusion:
- Minimum level is the US EDR standard.
- Need to identify which other mandatory elements should be required.

ROK presented the documents EDR-DSSAD-03-09, 10, 11
USA informed the US EDR regulation as an "if fitted" regulation, and clarified that NHTSA did not find it necessary to make EDR mandatory since already 98.8% of the fleet is already fitted with no rule enforced.
D questioned how deep to go in the definition of the data to mandate
German Safety Council and OICA stressed that usually the EDR data are not used as an evidence in court, rather as information supplementary to the other sources. This was confirmed by the USA.

Allianz then presented the slides 20 and 21 of document EDR-DSSAD-03-13, as an additional information at the service of the informal group.
The EC presented the document EDR-DSSAD-03-02 as a presentation of the broad ideas and positions expressed to date by the parties with regard to the data to be collected in the EDR.

Conclusion:

- Contracting parties to provide inputs by 17 January about mandatory vs. optional data elements (for EDR Step 1), using the TRL table as a template

The group also reviewed the document EDR-DSSAD-01-03, to serve as a reference document for constructing the set of provisions which should have no reference to administrative provisions.

Paragraph 5.1. (Data elements)
No comment

Paragraph 5.2. (Data capture)
Wording is understood as covering both the "deployment" and other "trigger thresholds".
D was keen that "detection of soft object collision" and other "triggers on other events" be kept in mind for future regulatory development.
Conclusion: position of the parties on the triggering paragraph to provided for the next session.

Paragraph 5.3. (Survivability)
The group supported a copy/paste of the proposed provisions

Paragraph 5.4. (Information)
USA questioned the presence of that paragraph. FSD flagged their comments that this should be subject to national law.
Conclusion: paragraph deleted

Paragraph 5.5. (Data retrieval tools)
conclusion:
- Storage mandatory in the vehicle, then retrieved from the vehicle: supported by US, J, NL, ROK, PRC
- Storage out of the vehicle to be optional
- Tool to be "commercially available

Paragraph 5.6. (System Deactivation)
It was clarified that "deactivation" addresses the possibility for the driver to easily switch off the EDR via e.g. a dedicated control on the dashboard.
USA informed that they do not prevent EDR deactivation since it is impossible to enforce; there is no possibility to prevent the driver from e.g. cutting the steering control, and then bear the consequence of their action.
There was a debate on the pros and cons of EDR deactivation and the technical feasibility.
Conclusion:
- No deactivation control on the dashboard
- Wording in [ ]
- Request for guidance at GRSG-118 (30 March – 3 April 2020)
- If no consensus is reached at GRSG, then the provision may be simply deleted

Missing specification
- Standardized data format: some parties (FSD/CITA, PRC) supported a standardization of the data format. However it was argued that the timeline assigned to the informal group does not permit reaching consensus on a data format standard, and hence the informal group should opt for a "retrieving tool independent from the OEM".
  USA informed that they mandate "a commercially available tool" to avoid being forced to approach the OEM to get the data. This generated a short debate on which body is actually producing the retrieving tool. USA challenged a standardized data format.
  OICA suggested referring to existing international standards (e.g. ISO, CEN, etc.) in the regulatory text.
  ROK informed having national ongoing activities on this matter
  Conclusion:
    o Next session to decide on the data format
    o ROK to provide a written contribution in advance of the 4th meeting
    o FSD/CITA to produce an explanatory presentation, in collaboration with the interested parties

- EDR malfunction:

- o Industry clarified the technical functioning of EDR: EDR is no separate dedicated component, rather a fully integrated software in the passive safety ECU (airbags). Industry then voiced for no dedicated EDR malfunction tell-tale, rather using the e.g. airbag malfunction tell-tale (could even be an incentive to the driver to service the vehicle). Industry in addition found EDR a non-safety related functionality hence needs no dedicated tell-tale.
- o D wondered how this information on EDR failure is currently transmitted to the driver
- o AVERE was keen that some provision exist in the regulatory text, and that some threshold be defined
- o UK was keen to at least have a text to serve as a basis for discussion
- o The delegate from the EC wondered what the consequence would be should such failure tell tale illuminate.
- o USA supported the OICA position that there is no need for provisions since the EDR is not safety related.
- o The EC on the contrary explained that EDR, as a mandatory feature, needs some malfunction information to inform the driver that the mandatory system is out of order.
- o Sweden pointed out that, for highly automated vehicles, there will be a need for more than a simple tell-tale.
- o A tour de table was organized to capture the positions of the parties about self-check and tell-tale:
  - ▪ mandatory self-check
    - • supported by F, EC, D, UK, J and NL
    - • opposed by USA
    - • reservation by ROK and PRC
  - ▪ mandatory tell-tale
    - • supported by F, EC, D, UK, J, NL, yet can be combined with that of another system
    - • rejected by USA. N addition, a combined tell-tale would be confusing for the driver
- o conclusion:
  - ▪ no consensus
  - ▪ item to be put forward to GRSG-118

- Privacy by design: EC may provide draft provisions at a future opportunity.

Test procedures
D: need to be sure that the EDR survives hard impacts, hence R94 might not be enough.
USA supported Germany, in addition the provisions should be "Agreement neutral", hence possible to refer to other standards (FMVSS, others,)
The Chair cited the example of UN R13H which gives the choice in the procedure to assess the adhesion.
USA proposed the US standard solution, which refers to the trigger threshold.
Debate on the survivability:
- OICA keen to avoid additional unnecessary tests for certification
- D keen to ensure survivability
- F proposed to inspire from AECS (ecall)
- OICA: AECS is a good counter-example: ecall needs to function post-crash to send the MSD, while the EDR does not need this. EDR does not need to function more than 3ms after the crash. Other difference: EDR in integrated into an existing ECU that cannot be homologated as a component, while AECS can be homologated as a separate component
- PRC: keen to refer to R94, 95, 137: the impact test only is not sufficient
- TRL: while supporting the idea of testing the survivablility of EDR, wondered whether the experience in the last years showed evidence on a difficulty to retrieve the data.
- USA confired having not experienced any difficulty, yet testing in crashes related to occupant safety in real world, the quantity of such events is so low, and the nature of those events is such the relevancy can be questioned.
- The suppliers informed that the key part is the memory. The EDR ECU is usually located in the most crash resistant part of the vehicle. In addition, as the EDR ECU is also that of the airbag (and the whole passive safety system), the power supply is ensured even during the impact for ca 500ms.

- USA added that the port is necessary.
- OICA informed that the US regulation has requirement beyond 300ms only for roll angle, at the discretion of the manufacturer.
- F questioned the difference between EDR and AECS wrt power supply; in both cases the dedicated battery can ensure supply until ca 300 ms, then the main power supply can take over for longer times.

USA keen to get research about EDR triggered by VRU etc (encompassing the most possible causes of triggering). Yet it seems difficult for the time being since the only sensors on the market today cannot detect VRU.

The Chair recalled the terms of reference that refer to existing research.

Conclusion:
- 2 issues:
  - EDR triggering: can be performed by a crash test similar to R94/95, at least for the deadline of Nov 2020. Then data retrieval test.
  - Survivability of data: no consensus
    - No additional test or
    - Sled test similar to AECS
- Informal group to solve this at the next opportunity
- Need to take into account the deadline of Nov 2020.
- All to collect field data for the next meeting,
- All to make a position.
- All to provide existing regional/national activities wrt to EDR experience.

5.   List of action items

Organization of the work
- Chairs to ask the GRSG/GRVA Chairs to organize a special session around June 2020

DSSAD
- Sub group to work on the main elements of the document EDR-DSSAD-12
- Outcomes of subgroup to be reviewed by plenary informal group in January 2020

Review of the existing national / regional activities and a proposed way forward for DSSAD
- All contracting parties to provide data to the secretary, for both DSSAD and EDR, templates on the web page
- New Secretary details to be provided to the group.
- Deadline 17 January

EDR
- Contracting parties to provide inputs by 17 January about mandatory vs. optional data elements (for EDR Step 1), using the TRL table as a template
- Missing specifications (in the working document):
  - Standardized format
    - Next session to decide on the data format
    - ROK to provide a written contribution in advance of the 4th meeting
    - FSD/CITA to produce an explanatory presentation, in collaboration with the interested parties
  - EDR malfunction: item to be brough forward to GRSG for guidance
- Test procedures
  - All to collect field data about survivability for the next meeting
  - All to make a position wrt survivability
  - All to provide existing regional/national activities wrt to EDR experience and research (VRU)

6.   Dates and venues of next meetings

Meeting	Dates	Venue	Note
EDR-DSSAD-03	10-12 December 2019	OICA	National strikes may jeopardise transportations
Deadline for inputs	17 January		Please make it as early as possible
Sub group DSSAD-02	28 January 2020	JASIC (Tokyo)	Full day
Sub group EDR-01	28 January 2020	JASIC (Tokyo)	Full day
EDR-DSSAD-04	29-30 January 2020	JASIC (Tokyo)	Full days – finishing around 4:00 pm the last day Attention to VISA application – 1 month Discussion on standardized format to take place o 30 January, when the ROK delegate can attend
GRVA-05	10-14 February 2020	Palais des Nations	
WP.29-180	10-13 March 2020	Palais des Nations	
Sub group DSSAD-03	24 March 2020	DOT Washington	Hopefully unnecessary
Sub group EDR-02	24 March 2020	DOT Washington	
EDR-DSSAD-05	25-26 March 2020	DOT Washington	High security check
GRSG-118	30 March – 3 April 2020	Palais des Nations	
EDR-DSSAD-06	May TBC	Germany TBC	Sub group meeting schedule to be decided
Special GRVA/GRSG	June 2020 TBC	Geneva	TBC
GRVA-06	21-25 September 2020	Palais des Nations	
GRSG-119	6-9 October 2020	Palais des Nations	