

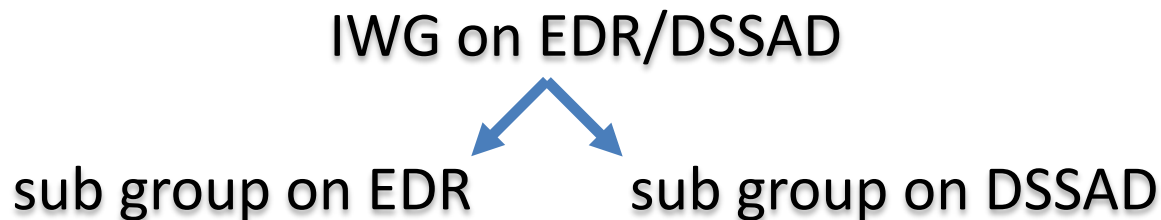
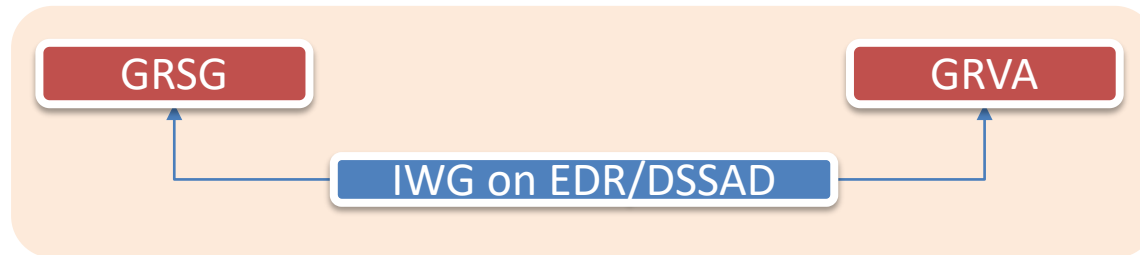
# **IWG on EDR/DSSAD**

## **Status Report**

**October 2022**

# Background IWG on EDR/DSSAD

In accordance with the 'Framework Document on automated/ autonomous Vehicles' adopted by WP.29-178, June 2019:



Participation by more than 50 delegates (representing contracting parties to the 1958 and 1998 Agreements, automotive industry, accident reconstruction, etc.)

# Activities

EDR	DSSAD
<b><u>Completed:</u></b>	
<ul style="list-style-type: none"> <li>EDR Performance Elements appropriate for Adoption in 1958 and 1998 Agreement Resolutions or Regulations. → UN Regulation 160.00/.01 on EDR</li> </ul>	<ul style="list-style-type: none"> <li>DSSAD requirements within UNR157 on ALKS</li> </ul>
<ul style="list-style-type: none"> <li>Supplement 1 to UN R160.00/.01</li> </ul>	<ul style="list-style-type: none"> <li>DSSAD Objectives/Functions</li> </ul>
<b><u>Current:</u></b>	
<ul style="list-style-type: none"> <li>Review of national activities</li> </ul>	<ul style="list-style-type: none"> <li>Review of national activities</li> </ul>
<ul style="list-style-type: none"> <li>EDR for Heavy Duty Vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Review of DSSAD requirements for the extension of the lane change function in UNR157 on ALKS</li> </ul>
<ul style="list-style-type: none"> <li>Improvements as regards accelerometer accuracy</li> </ul>	
<b><u>Future:</u></b>	
<ul style="list-style-type: none"> <li>EDR performance elements for ADS</li> </ul>	<ul style="list-style-type: none"> <li>DSSAD performance elements for ADS</li> </ul>
<ul style="list-style-type: none"> <li>EDR Step 2, future and advanced requirements</li> </ul>	

# Sessions since GRSG-123

April – October 2022:

IWG on EDR/DSSAD, 11 (virtual) sessions, incl.:

- Sub Groups on DSSAD,
- Sub Groups on EDR.

+ 2 expert groups on 'accelerometer accuracy'.

# State of play - DSSAD and EDR for ADS

Related to DSSAD the IWG:

- agreed that the primary objective of a DSSAD system is: “Data recorded to evaluate/monitor overall safety performance and identify when ADS is in control of vehicles”.
- was/is involved in amendments to UNR157 on ALKS.
- performance elements for ADS focusses first on data elements, then continue with hardware requirements.

Related to EDR for ADS:

- Discussions within SG-DSSAD on data collection for ADS in a broader perspective. Later judge what particular elements are to be included in the DSSAD or in the EDR.

# State of play - EDR for Heavy Duty Vehicles

The IWG develops a 'Common technical elements document for creation of a UN regulation on EDR for HDV (trucks and busses)'.

Technical discussions first on:

- scope
- triggering methods
- data elements and format
- other (definitions, general requirements, etc.)

Working document: worksheet doc. SG-EDR-29-02

# EDR for HDV – challenges with triggering

How to trigger a crash event?:

SAE J2728 triggers, combination of:

- **acceleration trigger**  
but: usually low delta-v (due to large weight disparity between HDV and LDV/VRU).
- **safety system trigger**  
but: HDVs often not equipped with airbags, SRS, etc.
- **last stop trigger**  
(capture an event when the vehicle has come to a complete stop for a period of time)  
but: data is collected of many non-crash related events.

# EDR for HDV – challenges with data elements

Data elements related to location and data/time may be essential to tie captured data to the actual event (especially when captured after a the last stop trigger)

but: have privacy implications.

Alternatives like relative times, engine hours, odometer, etc., under consideration.



# IWG on EDR/DDSAD deliverables/timelines

GRSG Programme of Work (ECE/TRANS/WP.29/2022/1/Rev.1), on EDR:

**Table 6 Subjects under consideration by the Working Party on General Safety Provisions (GRSG)**

Title	Tasks / Deliverables	References	Timeline (GRSG adoption)	Timeline (WP.29 adoption)	
EDR	<del>Complete EDR Common Performance Elements for 1958/1998 Contracting Parties</del>	<del>ECE/TRANS/WP.29/2019/34/Rev1.</del>	<del>Oct 2022</del>	<del>Mar 2023</del>	<del>delete - completed</del>
	-	-	-	-	
	Corrections/ amendments to existing EDR R160.00 and R160.01	ECE/TRANS/WP.29/2022/25/Rev.1 and /26	Oct 2021	Mar 2022	delete – completed (Supplement 1)
EDR	EDR performance elements for ADS		Oct 2023	June 2024	(aligned with DSSAD deliverable for GRVA)
EDR	Common technical elements document for creation of a UN regulation on EDR for heavy duty vehicles (trucks and busses)		<del>Oct 2022</del> <u>Mar 2023</u> <u>Oct 2023</u>	<del>Mar 2023</del> <u>Nov 2023</u> <u>Mar 2024</u>	<b>GRSG is requested to advise on an appropriate deadline</b>
EDR	EDR Step#2 - consideration of additional technical provisions		Oct 2023	Mar 2024	

# Miscellaneous

Issues with interpretation and compliance to the +/- 10% tolerance on acceleration measurements (as included in UNR160 Annex on data elements and format) were identified.

An experts group was convened and reached agreement on the interpretation of the 10% tolerance as well as verification test procedures. Group is currently drafting a R160 revision proposal for concurrence by the EDR/DSSAD IWG

An official document amending UNR160 will be submitted to the next session of GRSG.

**Thank you for your attention!**