



# ADS-IWG In-Service Monitoring and Reporting Phase 1

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# Summary on ISMR section

- **Transposition of Integration document (GRVA-19-15r1e ) into regulatory text:**
  - Removed text not suitable for regulation
  - Rephrasing to match the “who shall do what” format
- **Restructuring of the document to match regulation’s structure:**
  - **General Requirements:** general obligation for the manufacturer to ensure safety over ADS lifetime. General requirements for Monitoring and Reporting
  - **Requirements/Specification:** lists requirements for Monitoring and reporting
- **Requirements targeting the Authority are moved in the assessment section:**

# Summary on ISMR section

- **General requirements and Specifications**

- General agreements on:

- the majority of requirements (marked in green)
- moving ISMR process requirements to the SMS section

- Some requirements do not achieve the unanimous consensus

- *ISMR outcome to support scenario development*
- *Data collection from other sources*
- *Notification of the occurrence (24/48)*
- *Applicability of ISMR after the deactivation of the ADS (30s)*

- *Discussion not finalized yet (discussion to be finalized in the ISMR work stream)*

- *Occurrence definition*
- *FR proposal (Obligation for sharing info to fleet operators )*
- *UK proposal (Recognition of other reporting obligation according to national law)*



To be discussed in ADS IWG in London

# 4.5.1.1: Objective of the monitoring

The Manufacturer shall put in place a fleet monitoring mechanism to collect information from the ADS vehicle in accordance with the requirement listed in the 5.7.2:

- a)
- b)
- c) to enable the identification of unanticipated situations, hazards, and risks that lead to unexpected behavior of the ADS.

This information shall be assessed and where appropriate used to develop new or revise existing scenarios derived from ISMR activities.

The red text clarifies the relationship between ISMR and scenario development. This is one of the goal of the ISMR. However, some participants suggest to delete this text for the following reasons:

- 1) The technicalities about how ISMR outcome will support the scenarios development are not clear yet.
- 2) The second sentence does fit with the general requirements while it is more appropriate for the requirement/specification. [OPI note: in the specification/requirement section, it s already specified that one of the objective of ISMR is ***“Enabling the development of new or the revision existing scenarios derived from ISMR activities”***]

**OPI proposal:** the text in red shall remain but the following open item shall be created: ***“ISMR scenarios library and how to use such scenarios”***

# 4.5.1.1: Objective of the monitoring

The manufacturer shall collect and analyze vehicle data, and data from other sources to achieve the ISMR objectives.

This requirement intend to ensure that the data collection will not be limited to vehicle data collection. [*Note: the data from other sources was already recommended in the Integration document (GRVA-19-15r1e ) with the use of “May”*]

The large majority of the participants is in favour of this requirement.

The Industry is not in favour of mandating such mechanism because:

- 1) Manufacturer cannot be made responsible for data from other sources due to privacy (eg GDPR) and other regulations preventing such data to be collected and mapped.
- 2) Such data that is not available to the OEMs cannot be guaranteed to be reliable, in-time and hence this requirement should be sourced by the relevant directly from the other sources

**OPI proposal:** the text shall remain as it is. We must differentiate between:

- 1) mechanism for voluntary reporting by other sources and
- 2) Data to be collected by the manufacture from other sources for reporting template (open item from Integration document)

## 5.7.1.3: Data from other sources

The manufacturer shall also have a mechanisms for receiving and analyzing safety relevant feedback and reports from other sources, in accordance with the requirement listed in the 5.7.2, to complement the data collected from ADS vehicles

This requirement require the manufacture to have a mechanisms in place for receiving feedback/reports from other sources. Such feedback can be used to complement vehicle data collection. [this requirement is a new requirement, but it is linked to the previous one]

The large majority of the participants is in favour of this requirement.

The Industry is not in favour of mandating such mechanism because such data that is not available to the OEMs cannot be guaranteed to be reliable, in-time and hence this requirement should be sourced by the relevant directly from the other sources.

**OPI proposal:** the text shall remain as it is. This is an important requirement to ensure the objectives of the ISMR are fulfilled. This requirement aims only to ensure that other sources will be enabled to report feedback to the manufacturer

Note: there are other sub-requirements marked in yellow which depend on the decision on this requirement

## 5.7.3.6: Notification of occurrences

The manufacturer shall notify the relevant Authority of a critical occurrence without unreasonable delay **but no later than [24/48] hours** after becoming aware of it.

This requirement require the notification for critical occurrences. Due to the safety consequences associated to the critical occurrences and to give more clarity on the concept of “*unreasonable delay*”, UK has proposed to add maximum time for notification.

Some parties are in favour of such proposal because it gives certainty, while others are not in favour because cannot guaranteed the notification within 24/48 for all critical occurrences. [UN 171, DCAS regulation has a similar requirement without prescribing the maximum time]

**OPI proposal:** the text in red should be deleted for the time being. The intention is understood and supported. However, the current definition of critical occurrence include also other vehicles, road users and stationary object which can make difficult the fulfillment of the requirement.

## 5.7.3.2.2: ISMR applicability

The manufacturer shall report on occurrences/[safety-relevant] events when, at least, one of the following is fulfilled:

- the ADS was active when the ADS vehicle was involved in the occurrence/[safety-relevant events]
- **The ADS was active up to 30 seconds prior to the ADS vehicle experiencing the occurrence/[safety-relevant events].**

This requirement clarify the ISMR requirements applies from the activation of the system until 30 second after the deactivation. The additional 30 seconds from the deactivation are intended to cover events which occur immediately after the ADS is deactivated and which could be linked to the transfer of control process

The large majority of the participants is in favour of this additional 30 seconds (note: they were already included in the Integration document). Some participant (ITU) consider 30 seconds too low for situational awareness assessment. The industry is not in favor of this additional 30 seconds because:

- 1) The transition process is already evaluated in the pre-deployment validation
- 2) No rational for this 30 seconds
- 3) Data recoding stops with ADS deactivation

**OPI proposal:** the text shall remain as it is. The 30 seconds are retrieved from NHTSA Standing General Order.



# 5.7.3.14: Occurrence list

The following occurrences did not achieve consensus. The intention is to further continue the discussion in the IWG workstream

<i>Occurrence [Events]</i>	<i>Short term reporting [30 days]</i>	<i>Periodic Reporting [1 Year]</i>
<ul style="list-style-type: none"> <li>[1<sup>st</sup> proposal] Occurrences related to ADS functional/subsystem-level failure(s)</li> <li>[2<sup>nd</sup> alternative] Occurrences related to failure scenarios</li> </ul>		X
<ul style="list-style-type: none"> <li>Maintenance and repair problems to ADS and its components</li> </ul>		X
<ul style="list-style-type: none"> <li>Occurrences related to the identification of new safety-relevant scenarios</li> </ul>		X
<ul style="list-style-type: none"> <li>Fallback user unavailability (where applicable)<sup>3</sup></li> </ul>		X
<ul style="list-style-type: none"> <li>Prevention of takeover under unsafe conditions (where applicable)<sup>4</sup></li> </ul>		X

<sup>3</sup>At aggregate level, this information can provide useful information on the validity of the HMI concept and on the need to provide more effective procedures for keeping the fall-back user available.

<sup>4</sup>It is acknowledged that there is no obligation to implement such design solution. However, such information can provide useful information to

## OPI proposal:

- 1<sup>st</sup> occurrence:** there is preference for the 1st proposal, because the manufacturer's claims about the reliability of the different ADS functions/sub-functions. These claims must be confirmed during the operation. This confirmation must be provided regardless of whether failure affects the DDT performance. However a discussion is needed to understand until at which level such reporting is needed)
- All the other occurrences:** OPI supports to keep sure to the relevance for ISMR.

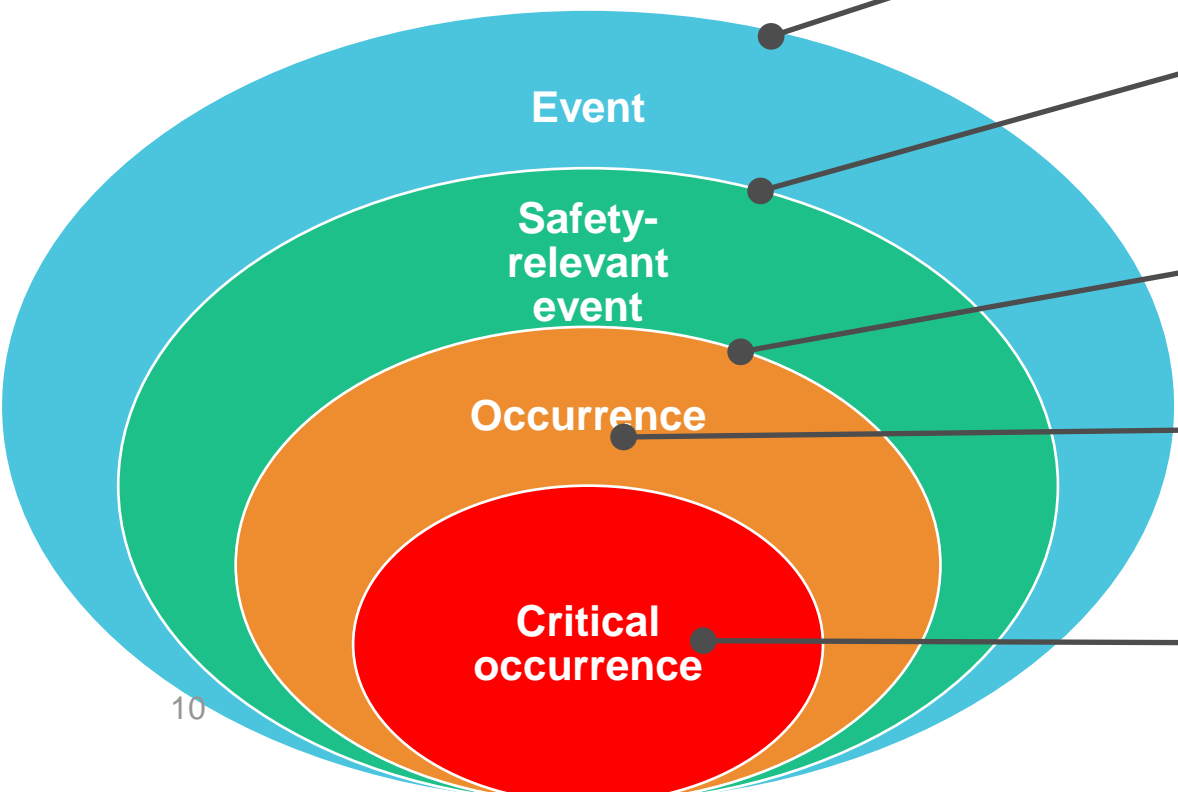
# Events and occurrences

We propose new definitions to:

- I. Clarify the hierarchy between events and occurrences
- II. Distinguish between events with and without safety consequences
- III. Ensure that critical occurrences + non critical occurrences = Occurrences

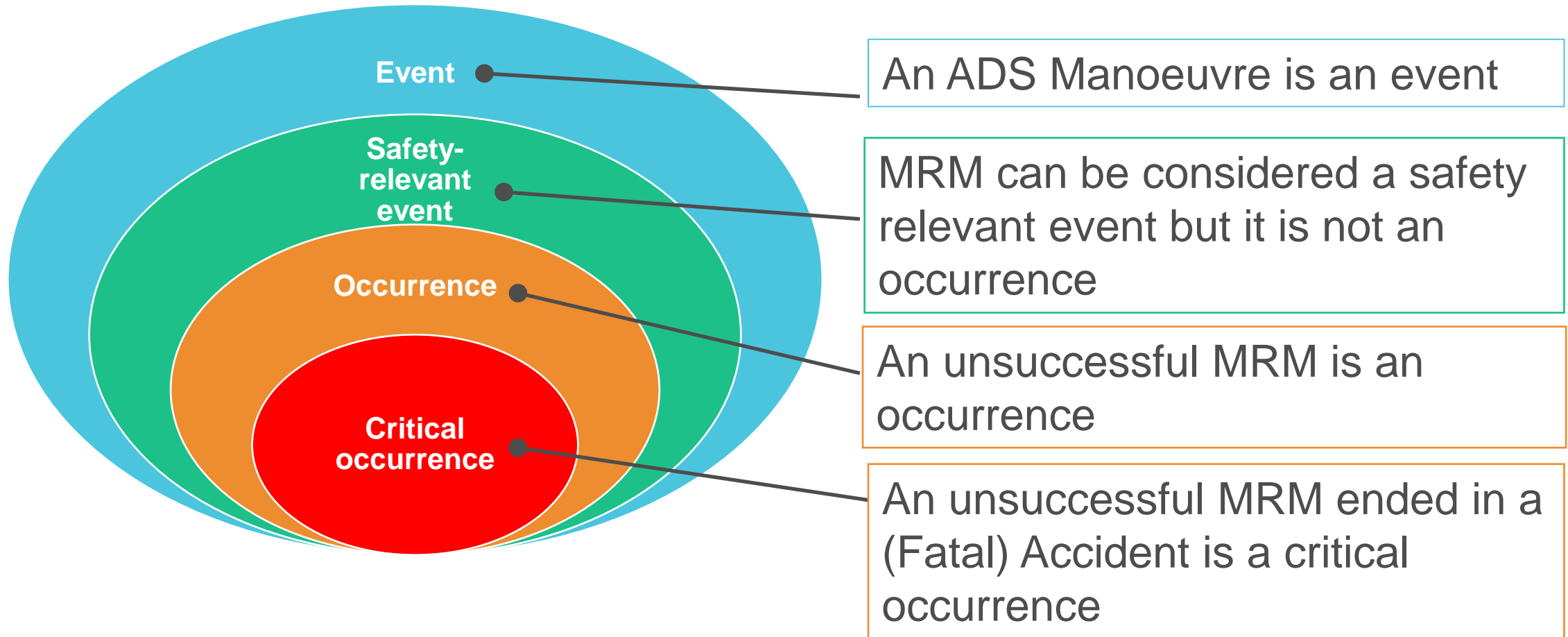
**Legend:**

- "O" relevant events belonging to this category should be reported
- "X" all events belonging to this category should be reported



Definition	Reporting Action	
	Short-term	Periodic
<b>“Event”</b> means any situation happening in a given time and location.	-	-
<b>“Safety-relevant event”</b> means an event which is relevant for the evaluation of the safe operation of the ADS Vehicle. These events also include normal operation which are relevant to argument specific ADS design choices and/or the safety case. (e.g., fallback user unavailability, MRM)	-	O
<b>“Occurrence”</b> means a Safety-relevant event during which at least one of the following criteria is fulfilled: a) Collision involving the ADS vehicle b) ADS vehicle system/component failure c) ADS vehicle produces a noncompliance with respect to the requirements of this regulation		
<b>“Non-critical Occurrence”</b> means occurrences which are not “Critical Occurrences”	O	O
<b>“Critical Occurrence”</b> means an occurrence during which at least one of the following criteria is fulfilled: Injury/fatality... Damage exceeding threshold... Any non reversible restraint system	X	X

# Example



# Remarks

- Some requirements need alignment with DSSAD:
  - *Ex. data protection , data retention, occurrence*
- Some requirements could be reviewed based on the decision on:
  - *Relevant authority*
  - *Templates*
- Consistency check to ensure harmonization with other section:
  - *Ex: safety assessment and SMS*

# Status of the Open Items

- Open Items
  - Near misses (Closed)
  - Data collection from other sources (to be discussed in London ADS IWG)
  - Occurrence list (to be finalised)
  - Relevant Authority (to close by 12/24)
  - France and UK proposal (to close by 12/24)
  - Alignment with SMS (to close by 12/24)
  - ISMR templates (to close by 12/24?)
  - Alignment with EDR/DSSAD (ongoing)
  - ISMR vs behavioral competencies (2025)
  - Scenario characterization from ISMR data and use of such scenarios (2025)

# Thank you



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