

Consolidated working draft text for the ADS GTR and UN Regulation

The following table provides:

- In the first column, the reference used to draft the proposed text;
- In the second column, the proposed regulatory text in which the track changes outline the modification compared to the GRVA-19-15r1e (Guidelines and recommendations for ADS safety requirements, assessments and test methods to inform regulatory development);
- In the third column, proposals for revision and comments.

Reference (GRVA-19-15r1e)	Proposed text (X)	Proposals and comments
	Definitions	
	General Requirements	
	Requirements/Specifications	
	Assessment and Test Method	
Pre-Deployment – Assessment of ISMR (included in the Safety case)		<p>OPI:</p> <ul style="list-style-type: none"> • UNR Assessor= Technical Service Competent authority relevant authority = Type Approval Authority granting • GTR Assessor=? National Authorities for Road Safety? <p>OPI: this evaluation will be part of the safety case assessment</p>

New	<p>UNR 6.1 The Type Approval Authority or the Assessor in its behalf shall review the manufacture’s documentation to ensure the suitability of ISMR practices for the ADS under evaluation</p> <p>GTR 6.1 The Assessor shall review the manufacture’s documentation to ensure the suitability of ISMR practices for the ADS under evaluation</p>	
New	<p>UNR/GTR 6.1.1 The documentation review shall provide evidence that:</p> <ol style="list-style-type: none"> 1) the processes for ISMR are suitable for the ADS 2) the tools used for ISMR are suitable for the ADS 3) the personnel for ISMR has an adequate level of competence 	<p>OPI: The intention of this point is to assess that the ISMR processes, tools and personnel already evaluated in the frame of the SMS are also suitable for the ADS to be approved/deployed</p>
New	<p>UNR 6.2 The Type Approval Authority or the Assessor in its behalf shall evaluate the manufacturer’s capability to monitor the ADS under evaluation as per the requirement listed in the X [Monitoring section]</p> <p>GTR 6.2 The Assessor shall evaluate the manufacturer’s capability to monitor the ADS under evaluation as per the requirement listed in the X [Monitoring section]</p>	<p>OPI: The intention of this point is to assess how the manufacturer monitor the ADS to be deployed</p>
New	<p>UNR 6.2.1 The Type Approval Authority or the Assessor in its behalf shall evaluate the manufacturer’s approach/methods:</p>	<p>OPI: The intention of this point is to assess how the monitoring is performed and how the risk are controlled. This point includes the evaluation of the suitability</p>

	<ul style="list-style-type: none"> to verify the safety performance of the ADS [documented in its Safety case] during the operation and to ensure the effectiveness of their safety risk controls. <p>GTR</p> <p>GTR</p> <p>6.2.1 The Assessor shall evaluate the manufacturer’s approach/methods:</p> <ul style="list-style-type: none"> to verify the safety performance of the ADS [documented in its Safety case] during the operation and to ensure the effectiveness of their safety risk controls 	<p>of metrics and safety performance indicators to monitor the ADS safety</p>
<p>New</p>	<p>UNR</p> <p>6.2.2 The Type Approval Authority or the Assessor in its behalf shall verify and evaluate that the Manufacturer has a mechanism in place:</p> <ul style="list-style-type: none"> to collect data from the vehicle and other sources to utilize all relevant data feeding sources, <p>in order to assess the ADS Safety risks, evaluate its safety performance; and, in time take appropriate actions and check their effectiveness.</p> <p>GTR</p> <p>6.2.2 The Assessor shall verify and evaluate that the Manufacturer has a mechanism in place:</p> <ul style="list-style-type: none"> to collect data from the vehicle and other sources to utilize all relevant data feeding sources, <p>in order to assess the ADS Safety risks, evaluate its safety performance; and, in time take appropriate actions and check their effectiveness.</p>	<p>OPI: The intention of this point verify the monitoring mechanism for collecting and using the information coming from the operation</p> <p>CANADA: do we also want to require that there be a public-facing system for reports/complaints from the public (ie. I saw vehicle model ABC do something odd/dangerous and want to report it or, I own vehicle model ABC and want to report something about it)</p>
<p>New</p>	<p>UNR/GTR</p> <p>6.2.3 The documentation review shall provide evidence that, at least:</p> <ul style="list-style-type: none"> Responsibilities and timelines are defined to ensure that the monitoring is applied and effective 	<p>OPI: The intention of this point is to provide an indication on the assessment areas</p>

	<ul style="list-style-type: none"> • Methods for data collection and analysis are adequate to ensure monitoring objectives are fulfilled • ADS safety performance will be verified in reference to the safety performance indicators and safety performance targets as indicated in the Safety Case. • Evidence that the risk assessment, including residual risks, will be evaluated regularly through the information coming from the monitoring activities. • Evidence that the monitoring takes into account feedback and report from other sources than the ADS vehicle data • Evidence that the effectiveness of the monitoring activity will be regularly reviewed. 	
<p>New</p>	<p>UNR 6.3 The Type Approval Authority or the Assessor in its behalf shall evaluate the manufacturer’s capability to report the occurrences and the safety relevant events during the ADS operation as per the requirement listed in the X [Reporting section]</p> <p>GTR 6.3 The Assessor in its behalf shall evaluate the manufacturer’s capability to report the occurrences and the safety relevant events during the ADS operation as per the requirement listed in the X [Reporting section]</p>	<p>OPI: The intention of this point is to assess how the manufacturer reporting practises are applied for the ADS to be deployed</p>
<p>New</p>	<p>UNR 6.3.1 The Type Approval Authority or the Assessor in its behalf shall evaluate the manufacturer approach/methods for reporting the occurrences and the safety relevant events experienced by the ADS during the operation and for assessing the cause of such events.</p>	<p>OPI: The intention of this point is to assess how the reporting is performed.</p>

	<p>GTR 6.3.1 The assessor shall evaluate the manufacturer approach/methods for reporting the occurrences and the safety relevant events experienced by the ADS during the operation and for assessing the cause of such events.</p>	
<p>New</p>	<p>UNR 6.3.2 The Type Approval Authority or the Assessor shall verify that the manufacturer utilizes the templates in the Annex X. (Note: Not all the data elements included in the template are mandatory. However, the assessor shall evaluate the rationale provided by the manufacturer when: 1) not mandatory data are not included, 2) not mandatory data will be included, but in a later stage</p> <p>GTR 6.3.2 The Assessor shall verify that the manufacturer utilizes the templates in the Annex X. (Note: Not all the data elements included in the template are mandatory. However, the assessor shall evaluate the rationale provided by the manufacturer when: 1) not mandatory data are not included, not mandatory data will be included, but in a later stage</p>	<p>OPI: The intention of this point is to verify the use of the reporting.</p> <p>CANADA: do we specify which data elements are mandatory?</p> <p>OPI: the templates differentiate between mandatory and not mandatory information</p>
<p>New</p>	<p>UNR 6.3.2.1 The Type Approval Authority or the Assessor shall evaluate the adequacy of the information that the manufacturer intend to use for the characterization of the occurrences and the safety relevant events(e.g. data elements and metrics)</p> <p>GTR 6.3.2.1 The Assessor shall evaluate the adequacy of the information that the manufacturer intend to use for the</p>	<p>OPI: The intention of this point is to verify the adequacy of the data reported by the manufacturer</p>

	characterization of the occurrences and the safety relevant events(e.g. data elements and metrics)	
Post-Deployment – Assessment of ISMR		
8.1.8. ISMR is a mechanism to provide safety authorities with information about a manufacturer’s ADS that complements information that may be gathered from other sources.	<p>UNR: 6.4 The Type Approval Authority or the Assessor in its behalf shall receive confirmatory evidence that the information provided by the manufacturer during the ADS operations (e.g. Notification, short term and periodic reports) is in compliance with the 6.3* [Pre deployment assessment].</p> <p>GTR: 6.4 The Assessor shall receive confirmatory evidence that the information provided by the manufacturer during the ADS operations (e.g. Notification, short term and periodic reports) is in compliance with the 6.3 [Pre deployment assessment].</p> <p><i>*Note: Not all the data elements included in the template are mandatory. However, the assessor shall evaluate the rationale provided by the manufacturer when:</i></p> <ol style="list-style-type: none"> 1) <i>not mandatory data are not included,</i> 2) <i>not mandatory data will be included, but in a later stage</i> 	<p>OPI:</p> <ul style="list-style-type: none"> • UNR Assessor= Technical Service Competent authority relevant authority = Type Approval Authority granting • GTR Assessor=? National Authorities for Road Safety?
8.1.3. In practice, the application of the other pillars of the NATM guidelines will assess whether the ADS is safe, according to the existing criteria, for market introduction; <i>whereas the in-service monitoring and reporting will gather additional evidence from its in-service operation to demonstrate that the ADS</i>	<p>UNR: 6.5 The Type Approval Authority or the Assessor in its behalf shall review the information provided by the manufacturer on the ADS operations (e.g. Notification, short term and periodic reports):</p>	<p>OPI: Implicit requirement for the assessor/relevant authority to verify that the ADS does not present an unreasonable safety risk.</p>

<p>continues to be safe after market introduction, i.e., that use of the ADS does not present an unreasonable safety risk.</p> <p>8.2.3. <i>The actual level of safety will only be confirmed once there are enough ADS vehicles in-service that have encountered a sufficient range of traffic and environmental conditions. It is therefore essential that a feedback loop, facilitated by ISMR, is in place.</i></p> <p>8.2.4. <i>This data will be used to assess and review the ADS manufacturer's safety case and to validate the information that was used to enable market introduction.</i></p> <p>8.1.5. <i>It relies on the collection of fleet data in the field to assess whether the ADS continues to be safe when operated on the road. This data collection can also provide information to help develop new scenarios or variations of existing scenarios for the scenarios catalogue allowing the whole ADS community to learn from major ADS accidents/incidents.</i></p> <p>8.1.4. <i>This pillar describes how to monitor the dynamic nature of the in-service operational use and then to provide feedback to ensure that there is continuous improvement of the safety of the ADS.</i></p>	<ol style="list-style-type: none"> 1) to receive confirmatory evidence on the ADS manufacturer's safety case and on the Safety Management System, 2) to receive information on the ADS safety level and assess whether the ADS continues to be safe when operated on the road, 3) If applicable, to verify that this information, is used to develop new scenarios or variations of existing scenarios included in the Safety case' evidence. 4) to ensure the effectiveness of the implemented corrective actions <p>GTR: 6.5 The Assessor shall review the information provided by the manufacturer on the ADS operations (e.g. Notification, short term and periodic reports):</p> <ol style="list-style-type: none"> 1) to receive confirmatory evidence on the ADS manufacturer's safety case and on the Safety Management System, 2) to receive information on the ADS safety level and assess whether the ADS continues to be safe when operated on the road, 3) If applicable, to verify that this information, is used to develop new scenarios or variations of existing scenarios included in the Safety case' evidence. 4) to ensure the effectiveness of the implemented corrective actions 	<p>26/11/2024: Check in SMS if point 4) does not introduce a requirement Follow up: we have changed to be more consistent with ISMR text</p> <ul style="list-style-type: none"> • UNR Assessor= Technical Service Competent authority relevant authority = Type Approval Authority granting • GTR Assessor=? National Authorities for Road Safety?
<p>8.5.2.2.7. <i>During the investigation, the authority should be informed about the data processing (for example: filtering and conditioning)</i></p>	<p>UNR: 6.6 The Type Approval Authority or the Assessor in its behalf shall review the manufacturer's data processing (for example: filtering</p>	<p>OPI:</p> <ul style="list-style-type: none"> • UNR Assessor= Technical Service

<p><i>procedure and agree on the steps undertaken to deliver the data supporting the report.</i></p>	<p>and conditioning) procedure during occurrence investigation, and agree on the steps undertaken to deliver the data supporting the report.</p> <p>GTR: 6.6 The Assessor shall review the manufacturer’s data processing (for example: filtering and conditioning) procedure during occurrence investigation, and agree on the steps undertaken to deliver the data supporting the report.</p>	<p>Competent authority relevant authority = Type Approval Authority granting</p> <ul style="list-style-type: none"> • GTR Assessor=? National Authorities for Road Safety?
<p>8.5.2.5.6. <i>It shall also be noticed that information reported in the short term template will remain confidential.</i></p>	<p>UNR: 6.7 The Type Approval Authority or the Assessor in its behalf shall ensure the confidentiality of IP-sensitive reported information in the short term template.</p> <p>GTR: 6.7 The Assessor ensure the confidentiality of IP-sensitive reported information in the short term template.</p>	<p>OPI:</p> <ul style="list-style-type: none"> • UNR Assessor= Technical Service Competent authority relevant authority = Type Approval Authority granting • GTR Assessor=? National Authorities for Road Safety?
<p>8.5.2.2.9. The authority, where necessary, may verify the information provided and, if needed, may make recommendations to the enforcement authority and/or to the ADS manufacturer to remedy any detected conditions constituting an unreasonable risk to safety.</p>	<p>UNR: 6.8 The Type Approval Authority or the Assessor in its behalf, where necessary, may verify the information provided and, if needed, the Type Approval Authority or the Assessor in its behalf may require further investigations and evidence, including test, before closing the occurrence-</p> <p>GTR: 6.8 The Assessor, where necessary, may verify the information provided and, if needed, the assessor may require further investigations and evidence, including test, before closing the occurrence.</p>	<p>OPI: explicit requirement for the relevant authority to release recommendations</p> <p>OPI:</p> <ul style="list-style-type: none"> • UNR Assessor= Technical Service Competent authority relevant authority = Type Approval Authority granting • GTR Assessor=? National Authorities for Road Safety?

		<p>CANADA; It is unlikely that we would want to make recommendations as this may create liability issues. Keeping in line with our current recalls regime perhaps the approach could be that a safety defect would be flagged (either by the authority, or by the manufacturer) the manufacturer would propose a solution, which could be accepted by the authority. In this way, the manufacturer is the one that is responsible for finding a solution to the problem and implementing it without imposing liability issues. (Our regulations on Safety Defects are here: https://laws-lois.justice.gc.ca/eng/regulations/C.R.C.%2C_c._1038/page-5.html#h-478981 and our Act - https://laws-lois.justice.gc.ca/eng/acts/m-10.01/FullText.html#h-353445)</p>
<p>8.5.2.2.10. If a serious safety risk is identified, the safety authority may recommend temporary safety measures, including immediately restricting or suspending the relevant operations, and require actions to restore an acceptable level of safety.</p>	<p>UNR 6.9 If a serious safety risk is identified, the Type Approval Authority may recommend temporary safety measures, including immediately restricting or suspending the relevant operations via remote termination, and require actions to restore an acceptable level of safety as per the applicable laws.</p> <p>6.9 If a serious safety risk is identified, the Competent Authority may recommend temporary safety measures, including immediately restricting or suspending the relevant operations via remote termination, and require actions to restore an acceptable level of safety as per the applicable laws.</p>	<p>OPI: explicit possibility for the authority to take precautionary measures</p> <ul style="list-style-type: none"> • UNR Competent authority relevant authority = Type Approval Authority granting • GTR Competent authority=? National Authorities for Road Safety?

Post deployment – Recommendation for authority (to be completed)		OPI: To be considered for the recommendation section of the Regulation
8.2.5. The operational experience feedback from ISMR will allow ex-post evaluation of the regulatory requirements and validation methods, providing an indication of any issues and consequently the need for any modification to the requirements.		OPI: implicit requirement for the assessor/relevant authority to release recommendations
8.2.7. In the early phase of market introduction of ADS vehicles, it is essential that the whole community learns from safety-critical situations involving an ADS. It is important therefore that there is a mechanism that allows information from the ISMR and recommendations from its analysis to be shared with the ADS community. This will allow others to react and should lead to developments that reduce or prevent that situation from occurring in another ADS.		OPI: implicit requirement for the assessor/relevant authority to release recommendations
8.2.8. However, the ISMR has a more extensive application. For example, utilising the information on ADS performance under real-world conditions could help to enhance or modify track tests. Furthermore, ISMR concerning user-interaction metrics could provide information useful for improving an ADS' HMI, its usability, and driver education.		OPI: implicit requirement for the assessor/relevant authority to release recommendations for track testing and HMI improvement
8.2.9. Collection, processing and dissemination of information related to ADS safety performance from the ISMR will also help to evaluate the impact of ADS on the safety of the road network. The information collected		OPI: implicit requirement for the assessor to release recommendations

thanks to the ISMR can also be used to share the safety benefits of ADS.		
8.3.3. It is expected that the ISMR will be complemented by safety investigations of (at least) critical occurrences conducted by an independent body.		OPI: implicit requirement for the assessor to run investigation on critical occurrences
Annex 9		CANADA: Annex 9 may not be appropriate for a regulation although may be good for discussion amongst CPs or as guidance (and also if this is central internationally, to the Authority that approved the vehicle, or where it operates and/or if it applies to “substantially similar vehicles” operated in other jurisdictions). However, if anything in Annex 9 pertains to what the manufacturer should supply to make it possible, it should be added in as a requirement.
Annex 9 - 1. At the national level, Safety Authorities may put in place a system of voluntary reporting to collect and analyse information on observed ADS behaviours which are not required to be reported under the system of occurrences reporting set in this document, but which are perceived by the reporter as an actual or potential hazard.		OPI: explicit possibility for the authority to take put in place voluntary reporting
Annex 9 - 2. It is recommended that a mandatory reporting system is established at national level by means of a national database and at international level by means of a harmonized Common Central Repository.		OPI: explicit requirement to establish reporting system

Annex 9 - 3. Data quality and consistency should be ensured both at national and international level by establishing checking processes.		OPI: explicit requirement to establish consistent procedure
Annex 9 - 4. To implement the ISMR framework, Contracting Parties are recommended to designate one or more competent authorities to put in place a mechanism to collect, evaluate, process and store occurrences reported in accordance with ISMR principles.		OPI: explicit requirement to establish competent authorities
Annex 9 - 5. The safety authority/ies at national level should be responsible for collecting and assessing the data and for deriving and sharing safety recommendations. It (They) should manage the safety-related information stored in the national database and share that information with other competent authorities. These safety authorities are also in charge of issuing an annual report summarizing the level of ADS safety and providing an overall safety assessment and action plan. The annual report should be submitted to WP29.		OPI: explicit requirements on the role of authorities
Annex 9 - 6. Short term and periodic reports should be stored within the common national database. Safety recommendations should also be stored in the common national database and made accessible to the relevant stakeholders.		OPI: explicit requirements on information storage
Annex 9 - 7. Safety authorities should transfer safety recommendations and annual reports to the Common Central Repository.		OPI: explicit requirements on information storage
Annex 9 - 8. WP29 provides a suitable international context for exchanges between Contracting Parties and for defining the guiding principles on the ISMR framework implementation.		OPI: to be checked if it falls within the scope of the current reg

Annex 9 - 9. It is recommended that WP.29 establishes a proper management system of the Common Central Repository. It should cover accessibility and dissemination of information, data protection where needed, data evaluation and annual reporting. The technical protocols for transferring all safety recommendations to the Common Central Repository should also be established.		OPI: to be checked if it falls within the scope of the current reg
Annex 9 - 10. Clear guidance on the standardized approach to ISMR, including the harmonisation of the data entry process, should be organized by WP.29 at international level by providing guidelines, workshops and appropriate training.		OPI: to be checked if it falls within the scope of the current reg
Annex 9 - 11. It is recommended that each Contracting Party designates at national level one competent body responsible for conducting the investigations of accidents, incidents and any other relevant event in their countries according to its investigation mandate. The body may be an existing transportation safety investigative agency responsible for investigating transportation accidents.		OPI: explicit requirement on authority designation
Annex 9 - 12. It is desirable for this body to be independent in its organisation, legal structure and decision-making from any interested party, including other entitled regulatory body, other national bodies in charge of investigating liability aspects of crashes or in charge of the collection and storage of information reported by manufacturers.		OPI: explicit requirement on authority designation
Annex 9 - 13. In case of accidents/incidents an investigation report should be produced. It		OPI: explicit requirement on authority action following receiving the report(s)

<p>should be produced and made available in the shortest possible time after the date of the occurrence to all parties involved. It should where appropriate, contain safety recommendations.</p>		
<p>Annex 9 - 14. A periodic report should be produced and shared regularly at least every year, or more frequently if relevant. It should provide information about the investigations carried out in the preceding year and the safety recommendations that were issued.</p>		<p>OPI: explicit requirement on authority action following receiving the report(s)</p>
<p>Annex 9 - 15. It is recommended that WP29 promotes and facilitates a broader exchange of information and the dissemination of safety recommendations among the Contracting Parties with the aim of improving safety.</p>		<p>OPI: to be checked if it falls within the scope of the current reg</p>
<p>Annex 9 - 16. Safety Authorities should participate regularly in the exchange and analysis of information contained in the Common Central Repository.</p>		<p>OPI: to be checked if it falls within the scope of the current reg</p>
<p>Annex 9 - 17. It is recommended that Safety Authorities participate in an exchange of information by making all relevant safety-related information available to the other competent authorities.</p>		<p>OPI: explicit requirement on information dissemination</p>
<p>Annex 9 - 18. The exchange of relevant information among involved Contracting Parties / Authorities should be required in case of accidents/incidents investigations.</p>		<p>OPI: explicit requirement on information dissemination</p>
<p>Annex 9 - 19. The dissemination of information should be limited to what is strictly required for the purpose of its users, in order to ensure appropriate confidentiality of that information.</p>		<p>OPI: explicit requirement on information dissemination</p>

<p>Annex 9 - 20. Given the sensitive nature of safety-related information, the protection of its source and the confidence and trust of the reporters should be guaranteed to the extent legally possible. To protect the sensitivity of the information, it is recommended that it is only used for safety related activities and not for any other purpose.</p>		<p>OPI: explicit requirement on secure information retention</p>
<p>Annex 9 - 21. Security measures need to be in place to protect the confidentiality of information that is shared. For example, the security measures and protocols should ensure that no personal details are ever recorded in the databases either at national or international level and that relevant protections for trade secrets and confidential business information be observed.</p>		<p>OPI: explicit requirement on secure information retention</p>
<p>Annex 9 - 22. Without prejudice to the applicable national law, it is recommended that Safety Authorities refrain from instituting proceedings in respect of unpremeditated or inadvertent infringements of the law that come to their attention only because they have been reported under the ISMR occurrence-reporting scheme, except in cases of gross negligence.</p>		<p>OPI: explicit requirement on secure information retention</p>
<p>Annex 9 - 23. In accordance with the procedures defined in their national laws and practices, Safety Authorities should ensure that employees who report incidents of which they may have knowledge are not subjected to any prejudice by their employer.</p>		<p>OPI: explicit requirement on secure information retention</p>