The Vehicle Suppliers Association

Comments of

MEMA, The Vehicle Suppliers Association

to the

National Highway Traffic Safety Administration (NHTSA)

on the

Notice and Request for Comment; Proposal for a New United Nations Global Technical Regulation on Automated Driving Systems (ADS)

Docket No. NHTSA-2026-0034

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I. Introduction

MEMA, The Vehicle Suppliers Association (MEMA), appreciates the opportunity to comment on the National Highway Traffic Safety Administration's (NHTSA) Notice and Request for Comment regarding the proposed United Nations Global Technical Regulation (GTR) on Automated Driving Systems (ADS). MEMA is the leading trade association in the United States for vehicle suppliers, parts manufacturers, and remanufacturers who design and manufacture the hardware, software, and integrated systems that enable automated driving technologies across passenger vehicles and commercial vehicles.

MEMA is an industry participant in the UNECE World Forum for the Harmonization of Vehicle Regulations (WP.29) at United Nations Economic Commission for Europe (UNECE) and appreciates NHTSA's willingness to engage with stakeholders for this rulemaking and to provide this opportunity for input.

MEMA supports the objective of developing a globally harmonized, performance-based regulatory framework for ADS, which enhances safety while preserving innovation. Vehicle suppliers operate in a global market and benefit from regulatory alignment that reduces fragmentation and promotes deployment at scale. The draft ADS GTR contains several positive elements, including its technology-neutral structure,[1] reliance on established international standards,[2] and use of a multi-pillar approach to safety validation.[3] MEMA appreciates NHTSA's active participation in the development of the ADS GTR draft and its

[1] *See* U.N. Econ. Comm'n for Eur. [UNECE], World Forum for Harmonization of Vehicle Regulations, *Proposal for a New United Nations Global Technical Regulation on Automated Driving Systems*, ¶¶ 4, 44, U.N. Doc. ECE/TRANS/WP.29/GRVA/2026/2 (Nov. 10, 2025) (UNECE ADS GTR Proposal).

[2] *See id.* at ¶¶ 80-81 (referencing ISO, SAE, and other international standards incorporated into the ADS GTR framework).

[3] *See id*. at ¶¶ 34-39 (describing simulation, track testing, real-world testing, and audit-based validation pillars).

work to ensure that U.S. interests were taken into consideration throughout the drafting process. Recognizing NHTSA's long-standing active involvement with WP.29 and the regulatory harmonization benefits that a UN GTR on ADS could offer, MEMA encourages NHTSA to support the passage of the GTR draft at the United Nations level, in the GRVA and WP.29.

MEMA recognizes that after anticipated approval of the GTR by the UN, a new U.S. Federal Motor Vehicle Safety Standard (FMVSS) would need to be created for the UN GTR, in whole or in part, to be incorporated into U.S law. As this anticipated, eventual process of creating a new U.S. FMVSS begins, MEMA urges NHTSA to carefully consider how elements of the draft GTR would interplay with the unique features and structure of the U.S. motor vehicle safety framework, including self-certification under FMVSS, supplier-manufacturer responsibility allocation, and the absence of a comprehensive ADS-specific domestic regulatory framework. We understand that these aspects, specifically the first three, are ones that NHTSA has been taking into consideration through its proposal to incorporate another UN GTR into U.S. law, UN GTR 20, which establishes globally harmonized performance requirements addressing electrical safety of electric vehicles.[4] NHTSA has initiated a domestic rulemaking to incorporate elements of UN GTR 20 into the FMVSS framework while preserving the U.S. self-certification system.[5]

MEMA's comments focus on the four areas highlighted by NHTSA: (1) the technical merit of the draft GTR; (2) compatibility with existing U.S. safety standards; (3) impacts on innovation and the vehicle supply chain; and (4) data and research considerations. MEMA offers these comments in support of the UN GTR draft and to help inform the U.S. government's work of developing a new FMVSS to incorporate the GTR into U.S. law, if the GTR is approved by the United Nations.[6]

II. Technical Merit of the Draft ADS GTR

Whether the proposed performance requirements and test procedures are technologically feasible and provide safety or other benefits

A. General Assessment of Technical Merit

[4] *See* Global Technical Regulation No. 20, *Electric Vehicle Safety (EVS)*, established under the Agreement Concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts Which Can be Fitted and/or Be Used on Wheeled Vehicles, Nov. 15, 2018, U.N. Doc. ECE/TRANS/WP.29/2018/81.
[5] *See* Federal Motor Vehicle Safety Standards; FMVSS No. 305a, *Electric-Powered Vehicles: Electric Powertrain Integrity; Global Technical Regulation No. 20 Incorporation by Reference*, 89 Fed. Reg. 104,318 (Dec. 20, 2024) (to be codified at 49 C.F.R. pts 561 & 571) (final rule incorporating performance concepts from UN GTR 20 while maintaining the U.S. self-certification framework).
[6] *See* Notice and Request for Comment; Proposal for A New United Nations Global Technical regulation on Automated Driving Systems, 91 Fed. Reg. 2994, 2995 (Jan. 23, 2026).

MEMA believes that the draft GTR ADS represents a meaningful step toward establishing a globally harmonized, performance-based framework for the safe deployment of automated driving technologies. The draft GTR appropriately recognizes that ADS performance cannot be validated through any single test methodology and instead adopts a multi-pillar approach that includes simulation, track testing, real-world testing, and audit-based assessments.[7] This approach reflects the current state of art in ADS development and validation and aligns with established engineering best practices used by vehicle suppliers.

Importantly, the draft GTR avoids prescriptive design mandates and instead focuses on high-level safety objectives and outcomes.[8] This technology-neutral structure allows vehicle manufacturers and suppliers to continue advancing ADS technologies using diverse technical solutions while working toward a common safety goal. MEMA believes this approach is essential to accommodate the rapid evolution of hardware, software, sensing, and computer architectures used in ADS. Moreover, the technical concepts underlying the draft GTR, including Operational Design Domain (ODD) definition, Object and Event Detection and Response (OEDR), fallback strategies, and scenario-based validation,[9] are broadly consistent with internationally recognized standards and guidance documents, including ISO, SAE, and UN WP.29 framework documents.

B. Feasibility of Performance Requirements

From a supplier perspective, the performance requirements set forth in the draft GTR are generally feasible when implemented at the vehicle-system level, provided that sufficient flexibility is preserved in how compliance is demonstrated. Vehicle suppliers design components and subsystems such as sensors, platforms, braking systems, steering, and software, that are integrated into ADS by vehicle manufacturers. The draft GTR appropriately recognizes that ADS safety emerges from the interaction of these components at the system level, rather than from the performance of any single part in isolation.[10]

However, MEMA emphasizes that the feasibility of the GTR's requirements depends on several factors, namely: (1) clear recognition that ADS compliance determinations occur at the vehicle level; (2) an approach which does not pursue implied or stated obligations for individual suppliers to independently demonstrate compliance with ADS-level performance outcomes; and (3) flexibility in how manufacturers assemble and document evidence across the supply chain. As the anticipated development of a new FMVSS begins, MEMA encourages NHTSA to clarify these aspects within the FMVSS to help ensure that ADS-level

[7] *See* UNECE ADS GTR Proposal at ¶¶ 34-39.
[8] *See* UNECE ADS GTR Proposal at ¶ 4, 44-45 (stating performance-based and technology-neutral regulatory principles).
[9] *See id.* at ¶¶ 20-33, 51-54; *see also* ISO 21448:2022, *Road Vehicles – Safety of the Intended Functionality (SOTIF)*.
[10] *See id*. at ¶¶ 21-27.

performance requirements are not interpreted in ways that impose impractical or duplicative obligations on suppliers who do not control the full system architecture or operational context.

C. Validation and Test Procedures

MEMA supports the draft GTR's use of a multi-pillar validation framework, including simulation/virtual testing, track testing, real-world testing, and audit-based review of safety management systems.[11] This framework reflects the reality that ADS validation requires coverage of an extremely large and diverse scenario space that cannot be addressed through physical testing alone.

While the draft GTR appropriately acknowledges the importance of simulation fidelity and validation, it does not yet establish sufficiently clear harmonized criteria for determining when simulation results are acceptable for regulatory purposes.[12] From a supplier standpoint, simulation tools continue to evolve, different ADS functionality and subsystems rely on different levels of abstract modeling, and overly rigid or premature simulation requirements could constrain innovation or favor specific technologies or approaches.

Therefore, MEMA recommends that NHTSA support the UN's continued development of non-binding guidance in this area and not incorporate more restrictive measures in an eventual FMVSS, such as prescriptive regulatory thresholds for simulation credibility and validation methods.

D. Safety Benefits

MEMA agrees that the draft ADS GTR has the potential to deliver meaningful safety benefits through promoting systematic hazard identification and risk mitigation, encouraging consistent documentation of ADS design intent and limitations, and supporting post deployment monitoring and continuous improvement.

However, MEMA emphasizes that ADS technologies remain in a developmental and learning phase, and regulatory frameworks should preserve the ability to reassess based on real world experiences. MEMA appreciates the draft GTR's recognition that ADS is an evolving technology area and that regulatory adaptations may be necessary as advancements are made. MEMA encourages NHTSA to reflect this sentiment in an eventual FMVSS as well.

III. Compatibility with U.S. Safety Standards (FMVSS)

Any potential conflicts between the draft GTR and existing U.S. FMVSS.

A. Fundamental Differences Between U.S. and WP.29 Frameworks.

[11] *See id*. at ¶¶ 34-39, 63-66.
[12] *See id*. at ¶¶ 65-66.

The U.S. motor vehicle safety framework differs fundamentally from the regulatory systems assumed by many Contracting Parties to the UNECE Agreements. Under U.S. law and regulations, manufacturers self-certify compliance with applicable FMVSS, and NHTSA enforces compliance through post-market oversight.[13] By contrast, the draft ADS GTR is structured in a manner that contemplates implementation by Contracting Parties that utilize approval authorities and pre-market review, including acceptance of a comprehensive safety case by an approval authority.[14] Although GTRs adopted under the 1998 Agreement are not self-executing and do not require type approval, and while MEMA recognizes that the GTR is not directly binding in the U.S., its structure and terminology could create ambiguity if incorporated into U.S. policy without some adaptation.

B. Gaps Between FMVSS and ADS Concepts

Most existing FMVSS were developed for human-driven vehicles and focus on discrete vehicle systems or components.[15] Concepts central to the ADS GTR, such as ODD compliance, scenario-based behavioral competencies, and ADS fall back strategies, are not directly addressed in current FMVSS. As a result:

- ADS compliance cannot be demonstrated solely through FMVSS testing.
- ADS requirements could be considered creating new safety obligations outside the FMVSS framework.
- Suppliers may face uncertainty related to how ADS-related requirements interact with FMVSS compliance responsibilities.

MEMA recommends that NHTSA clearly articulate that any future domestic consideration of ADS regulations preserve the FMVSS self-certification structure, similar to how NHTSA is working to preserve the FMVSS self-certification structure in its proposal to incorporate UN GTR 20 into U.S. law.[16]

C. Supplier Responsibility Allocation

Vehicle suppliers typically do not control vehicle-level ADS architecture; ODD definition or modifications; and/or deployment strategies or operational restrictions. Accordingly, MEMA urges NHTSA to ensure that U.S. interpretations of the ADS GTR within an eventual FMVSS do not blur the distinction between vehicle level certification responsibilities and supplier design

[13] *See* 49 U.S.C. § 30115; *see also* 49 C.F.R §567.4 (manufacturer certification requirements).
[14] *See* UNECE ADS GTR Proposal at ¶¶ 67-71.
[15] *See, e.g.,* 49 C.F.R. pts. 571-595 (Federal Motor Vehicle Safety Standards developed primarily for human-operated vehicles).
[16] *See* Federal Motor Vehicle Safety Standards; FMVSS No. 305a, *Electric-Powered Vehicles: Electric Powertrain Integrity; Global Technical Regulation No. 20 Incorporation by Reference*, 89 Fed. Reg. 104,318 (Dec. 20, 2024) (to be codified at 49 C.F.R. pts 561 & 571) (final rule incorporating performance concepts from UN GTR 20 while maintaining the U.S. self-certification framework).

obligations. Clear responsibility allocation is essential to maintain efficient supply chain relationships and avoid regulatory uncertainty.

IV. Impact on Innovation and ADS Deployment in the USA

How the adoption of this GTR might affect the development and deployment of ADS technologies in the U.S.

A. Innovation Benefits of Harmonization

MEMA supports global regulatory harmonization as a driver of innovation. Vehicle suppliers operate globally and benefit from common technical expectations that reduce duplicate developments and enable deployment at scale across markets. If implemented with flexibility, the ADS GTR has the potential to reduce regulatory fragmentation, enable suppliers to invest in standardized platforms, and accelerate safety improvements through shared learning.

B. Risks to Innovation if Implemented Rigidly

By contrast, rigid or overly detailed implementation of the GTR could lock in early technical assumptions, discourage alternative ADS system architectures, and increase compliance costs for suppliers. MEMA supports the UN GTR's recognition that ADS technologies are continually advancing, and because of this, future regulatory updates may be needed. MEMA encourages NHTSA to reinforce this approach and reflect it in an eventual FMVSS.

C. Software Updates and Lifecycle Management

The draft GTR appropriately recognizes the importance of software updates and post-deployment safety monitoring. When NHTSA develops an eventual FMVSS on ADS, MEMA encourages NHTSA to emphasize regulatory approaches that support timely over-the-air (OTA) updates, cybersecurity best practices, and protection of proprietary software and processes. Innovation depends on the ability to deploy safety improvements rapidly without unnecessary regulatory hurdles.

V. Data and Research Considerations

Any technical, scientific, or economic data that supports or challenges the requirements set forth in the draft GTR

A. Data Availability and Limitations

MEMA notes that ADS deployment remains limited in scope and geography, and available data sets are still developing. While early evidence suggests potential safety benefits, it is premature to draw definitive conclusions across all ADS use cases and

environments. Regulatory expectations should recognize data limitations, avoid rigid quantitative thresholds, and encourage voluntary data sharing and research collaboration.

B. Supplier Data and Confidentiality

Vehicle suppliers generate and process significant technical data during ADS development. MEMA emphasizes the importance of protecting intellectual property and confidential or proprietary technical and business information when considering data reporting or disclosure requirements. Clear safeguards are essential to ensure continued supplier participation in ADS innovation.

C. Need for Continued Research

MEMA supports continued investment in scenario libraries and taxonomies, simulation validation methods, and human-machine interaction research. These efforts should inform future versions of ADS regulation rather than constraining current development.

VI. Conclusion

MEMA appreciates NHTSA's leadership in engaging stakeholders on the proposed GTR on ADS and supports continued U.S. participation in international efforts to advance the safe deployment of ADS technologies. MEMA agrees that global regulatory harmonization, when appropriately structured, can enhance safety outcomes, reduce fragmentation, and support innovation across the vehicle ecosystem. For these reasons, MEMA encourages NHTSA to support passage of the draft GTR at the UN level.

Upon anticipated passage of the GTR and as development of a new FMVSS on ADS begins, MEMA urges NHTSA to carefully consider how elements of the GTR may interact with the unique features of the U.S. motor vehicle safety framework, including self-certification under the FMVSS and the allocation of responsibilities within the vehicle supply chain. Clear recognition of the U.S. approach will be essential to avoiding regulatory uncertainty, preserving innovation, and ensuring that suppliers can continue to contribute effectively to ADS development and deployment. MEMA is hopeful that NHTSA will be able to take these U.S. industry considerations into account, as it is currently doing through its proposal to incorporate UN GTR 20 into U.S. law.

MEMA looks forward to continued collaboration with NHTSA as this proceeding moves forward and as discussions at UNECE WP.29 continue. MEMA stands ready to provide additional technical information or supplier perspectives to assist the Agency in shaping the U.S. position on the proposed ADS GTR and on an anticipated, eventual FMVSS on this topic. Please do not hesitate to contact Jennifer Lewis, MEMA Vice President of Regulatory Affairs, at jlewis@mema.org or Emily Sobel, MEMA Senior Manager of Regulatory Policy at esobel@mema.org with any questions or if the Agency would like additional information on any of the points articulated above.