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Item 10 (k) of the provisional agenda

**Strategic questions of a horizontal and cross-sectoral policy or regulatory nature:
Harmonization of vehicle regulations**

Latest developments in Vehicle Regulations

Note by the secretariat

Summary

The work in the World Forum for Harmonization of Vehicle Regulations (WP.29 or the World Forum) continued to strengthen vehicle safety and environmental protection, resulting in numerous new and amended vehicle regulations and rules under the 1958, 1997 and the 1998 Agreements.

Important topics in 2023 were the entry into force of a set of United Nations Regulations (UN Regulations) for better protection of vulnerable road users, in particular the establishment of new:

- (a) UN Regulation on global Real Driving Emissions,
- (b) UN Regulation on Event Data Recorder for heavy Duty Vehicles, and
- (c) UN Regulation for Restraint systems for Safer Transport of Children in buses,

attached to the 1958 Agreement, implementation and further development of the 1998 Agreement and Periodic Technical Inspections (PTI) under the 1997 Agreement with the drafting of a holistic framework on vehicle whole-life compliance.

The Inland Transport Committee (ITC) **is invited to:**

- **Endorse** the activities listed in this document;
- **Welcome** the work and achievements by the World Forum for Harmonization of Vehicle Regulations, WP.29, such as:
 - (a) the new UN Regulation on Restraint systems for Safer Transport of Children in buses,
 - (b) the development of Guidelines for Regulatory Requirements and Verifiable Criteria for Automated Driving System Safety Validation and New Assessment/ Test Method for Automated Driving (NATM) and Guidelines for Validating Automated Driving System (ADS), and

(c) the establishment of one new UN Global Technical Regulation (GTR) (No. 24 on laboratory Measurements of Brake Emissions for Light-Duty Vehicles) and a new UN Regulation on global Real Driving Emissions;

- **Note** the desire of the Working Party on Automated/Autonomous and Connected Vehicles, GRVA, to hold one of its annual sessions outside of Geneva in 2025;
- **Thank** Germany for the interim hosting of the Database for the Exchange of Type Approval documentation (DETA).

I. General Consideration

1. The work of the World Forum and its six subsidiary Working Parties, so called GRs, as reflected in ECE/TRANS/WP.29/2023/1/Rev.1, provides a detailed overview of the distribution of the areas of work among the different groups as a result of the processes of work prioritisation, setting of timelines and delivery targets, and of the alignment with the ITC Strategy.

2. More than forty Informal Working Groups (IWG) worked during 2023 in parallel to the World Forum and to its subsidiary bodies to assist them in developing new vehicle regulations and updating the 165 existing UN Regulations annexed to the 1958 Agreement, twenty-four United Nations Global Technical Regulations (UN GTRs) under the 1998 Agreement and four UN Rules annexed to the 1997 Agreement with 115 amendments in total, and it established three new UN Regulations and one new UN GTR.

II. Vehicle Automation

3. Following the restructuring of WP.29 in June 2018 to implement ITC Decision No. 19 of 2018 and the establishment of the Working Party on Automated/Autonomous and Connected Vehicles (GRVA), WP.29 and its subsidiary bodies worked according to the Framework Document on Automated/Autonomous Vehicles (ECE/TRANS/WP.29/2019/34/Rev.2), endorsed by ITC at its eighty-second session, which guided the work on automated vehicles. This work, led by Co-Chairs from America, Asia and Europe, is performed in line with the safety vision, key safety elements, and guidance provided by the framework document to the Working Parties of WP.29 and in line with the programme of activities included in its annex, which is aimed to be suitable for the countries under the regime of type approval and the countries under the regime of self-certification. These activities form a novel initiative aimed at harmonizing globally automated vehicles regulations and creating a more productive environment for innovation. In 2023, the highlights produced under the Framework Document include a further update of the New Assessment/Test Method for Automated Driving (NATM) – Master Document, the work of a common final document representing the work of the IWGs on Functional Requirements for Automated and Autonomous Vehicles (FRAV) and on Validation Methods for Automated Driving (VMAD), which is considered as a basis for new regulations for Automated Driving Systems under both the 1958 and 1998 Agreements as well as the draft recommendations for automotive cyber security and software update.

4. Furthermore, GRVA embarked in the process of drafting a UN Regulation for Driver Control Assistance Systems (DCAS). With this new provisions, currently available and already widely spread technologies still under Level 2 of automation, will be clearly distinguished from those providing for full automated driving and thus allowing drivers to engage in other tasks than driving (see also Global Forum for Road Traffic Safety (WP.1) Resolution on safety considerations for activities other than driving undertaken by drivers when automated driving systems issuing transition demands exercise dynamic control) still requesting drivers to stay in control.

III. 1958 Agreement

5. WP.29 completed its work on the protection of vulnerable road users with the entry into force of the three new UN Regulations (UN Regulation No. 165 on Reverse Warning, UN Regulation No. 166 on Vulnerable Road Users in Front and Side Close Proximity and UN Regulation No. 167 on Vulnerable Road Users Direct Vision) in June and October 2023 respectively.
6. A new UN Regulation No. [168] on global Real Driving Emissions will contribute to the protection of the environment and provide realistic information on emission of CO₂ of new vehicles. With the new UN Regulation No. [169] on Event Data Recorder for heavy Duty Vehicles, traffic crash investigations involving these vehicles will benefit from access to information captured immediately before and during the crash. The new UN Regulation No. [170] for Restraint systems for Safer Transport of Children in buses will largely contribute to increased safety for the most vulnerable group, children, during crashes when transported in buses.
7. Existing UN Regulations and related Resolutions were updated by 114 amendments, which adapt the regulations to the most recent technological innovations and introduce more stringent limits aimed at increasing both the safety and environmental performance of vehicles.
8. As funding for the hosting of DETA at the Economic Commission for Europe (ECE) could not be secured so far both under the regular budget or extra budgetary resources. WP.29 was grateful to Germany who is currently hosting the system on an interim basis. WP.29 would continue to look into possibilities for sustained solutions for the funding of the hosting of DETA.
9. As regards the development of additional functionalities/modules of DETA, the International Motor Vehicle Inspection Committee reconfirmed its readiness to finance the development of the module for Declaration of Conformity (DoC). The further development of the module for the Unique Identifier (UI), which was paused as an assessment of its general applicability for all of the UN Regulations, is ongoing. A potential optional approach is subject to ongoing discussions among contracting parties.

IV. 1997 Agreement

10. At its 191st session, WP.29 adopted the draft framework document on vehicle whole-life compliance, which provides for a compliance regime for vehicles from type-approval via periodic technical inspections, roadside technical inspections until its end-of-life and scrapping by applying a holistic approach.
11. WP.29 also adopted an amendment to Resolution R.E.6 (test equipment, skills and training of inspectors and supervision) introducing requirements for test equipment for particulate number counting. It established an amendment to UN Rule No. 1 (Protection of the Environment) introducing the particulate counting test as an alternative for diesel powered vehicles of emission levels 5/V and 6/VI. This new diesel emission test during periodic technical inspections would contribute to further protection of the environment.

V. 1998 Agreement

12. In 2023, WP.29 concluded several years of work on a new UN Global Technical Regulations (UN GTR) and established UN GTR No. 24 on laboratory Measurements of Brake Emissions for Light-Duty Vehicles.
13. WP.29 established an amendment to UN GTR No. 13 (Hydrogen and Fuel Cell vehicles) and one amendment to Mutual Resolution No. 1 (M.R.1) on the description and performance of test tools and devices necessary for the assessment of compliance of wheeled vehicles, equipment and parts according to the technical prescriptions specified in UN Regulations and UN GTRs. This will adapt the UN GTRs to the most recent technological

innovations and introduce more stringent requirements aimed at increasing both the safety and environmental performance of vehicles.

VI. Link with the 2030 Agenda for Sustainable Development

14. Accession to UN vehicle agreements and adherence to annexed UN Regulations, Rules and UN GTRs can contribute to progress in achieving targets 3.6, 3.9, 7.3, 9.1, 11.2 and 13.2 of the Sustainable Development Goals.
