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Inland Transport Committee

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Item 10 (d) of the provisional agenda
Strategic questions of a horizontal and cross-sectoral policy or regulatory nature: Information and computerization technologies, and Intelligent Transport Systems

Status of the Implementation of the Road Map on Intelligent Transport Systems

Revision

Note by the secretariat*

Summary

This document provides an overview of activities in 2023 performed by the Inland Transport Committee (ITC) and its Working Parties on promoting innovative technologies that impact the implementation of the road map 2021-2025 on Intelligent Transport Systems (ITS), that was launched at the seventy-fourth session of ITC.

The Committee is invited to **encourage** the ITC Working Parties to pursue their efforts in implementing the revised ECE Road Map on Intelligent Transport Systems and **encourage** continuation of the work of:

- Working Party on Road Transport (SC.1) on smart roads;

- Working Party on Inland Water Transport (SC.3) on smart shipping, River Information Services, and innovative technologies in the European Code for Signs and Signals on Inland Waterways (SIGNI);

- Global Forum on Road Traffic Safety (WP.1) on the conditions of use of automated vehicles in traffic;

- Working Party on the Transport of Dangerous Goods (WP.15) on telematics for the transport of dangerous goods;

- World Forum for Harmonization of Vehicle Regulations (WP.29) on the implementation of the framework document on the safety of automated vehicles;

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* The present report was submitted to the conference services for processing after the deadline so as to include the most recent information.

- Working Party on Automated/Autonomous and Connected Vehicles (WP.29/GRVA) on regulating autonomous/automated and connected vehicles (incl. Artificial Intelligence);

as fostering regulatory and other activities in these areas would ensure the benefits that ITS could provide in terms of safety, environmental protection, energy efficiency and traffic management.

I. Background

1.   This note presents activities and initiatives that promote innovative technologies to implement the ECE Road Map on ITS. The annex summarizes the 18 actions of the Road Map.

II. Activities in 2023

A. Inland Transport Committee: Intelligent Transport Systems - related conclusions of the Committee's eighty-fifth session

2.   The Committee **took note** of the status of implementation by the Committee and its subsidiary bodies of the revised Intelligent Transport Systems (ITS) Road Map that was adopted at its eighty-third session and **encouraged:**

- The Global Forum for Road Traffic Safety to continue its considerations and exchange of views on automated vehicles in traffic.

- The World Forum for Harmonization of Vehicle Regulations and its subsidiary bodies to continue their activities on automated and connected vehicles.

- The RID/ADR/ADN Joint Meeting (WP.15/AC.1) to continue its activities on telematics.

- The Working Party on Intermodal Transport and Logistics to address Action 12 of the ECE Road Map on ITS.

3.   More specifically, ITC received a working document from the Working Party on Trends and Economics (ECE/TRANS/2023/23) entitled "Taking stock of new trends towards electric vehicle charging infrastructure", prepared by the Sustainable Transport Division in close consultation with the Sustainable Energy Division as requested at the Committee's eighty-fourth session. ITC endorsed the preliminary ideas formulated in the document for a stronger role by ITC and its relevant Working Parties and in this regard:

- Took note of the consideration given by WP.5, WP.24 and WP.6 to this document and its recommendations and welcomed the proposed actions.

- Requested SC.1 to consider and make proposals on road transport developments in view of the electrification of Light-duty Vehicles (LDVs) and Heavy-duty Vehicles (HDVs) and how to best arrange the development of charging infrastructure. Further invited SC.1 to closely collaborate with WP.24 to find solutions serving best the transport haulage in general as well as the last mile deliveries.

- Requested WP.29 to make proposals on possible future activities on regulatory tools for harmonized communication between vehicles and Electrical Vehicle Supply Equipment (EVSE), taking into consideration already existing related standards and/ or protocols.

- Given that addressing the various aspects of electrical mobility requires close cooperation among several of its subsidiary bodies, requested WP.5 to continue playing a coordinating role and report back to ITC at its next session.

- Decided to strengthen its cross-sectoral links, given the cross-sectoral nature of the topic at hand, when and as appropriate, including by creating synergies and engaging

more closely with relevant sister sectoral Committees, such as the ECE Committee on Sustainable Energy on these matters.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *all*

B. Working Parties

1. Global Forum for Road Traffic Safety

4. The Global Forum for Road Traffic Safety (WP.1) remains the only permanent body in the United Nations system that focuses on improving road safety. Its primary function is to serve as guardian of the United Nations legal instruments aimed at harmonizing traffic rules. The Conventions on Road Traffic and on Roads Signs and Signals of 1968, and other ECE legal instruments that address the main factors of road accidents are tangible contributors to improved road safety. Consequently, many countries across the world have become contracting parties to these legal instruments and thus benefit from their implementation. These contracting parties are also the key driving forces keeping these international road safety conventions up to date by participating in WP.1 sessions. Given this background, the Global Forum has continued playing an important role in facilitating and forging international cooperation to improve road safety.

5. In September 2023, WP.1 discussed Informal document No. 7 (submitted by Finland, Germany, and the United Kingdom) describing safety considerations for remote management of automated vehicles which do not require a human driver inside the vehicle. The document was presented and some preliminary comments were provided. WP.1 delegates were invited to send written comments to the authors. The Chair and the secretariat were requested to explore the possibility of holding a special WP.1 session dedicated to the topic on the basis of Informal document No. 7. This special session, if it occurs, is to be combined with agenda item 4 (b) i.e. ECE/TRANS/WP.1/2023/1. In addition, a remote management discussion panel was held. The invited speakers included representatives from the British Standards Institute, Würzburger Institut für Verkehrswissenschaften (Germany), University of Nottingham, University of Newcastle, and Remoted (Finland). WP.1 thanked the speakers for their valuable contributions and Finland, Germany and the United Kingdom for organizing the panel.

6. WP.1 continued working in the framework of Informal document No. 11 (September 2021), aiming to develop key principles on automated vehicle safety and human centered needs. At this session, Informal document No. 9 (submitted by Canada) was introduced. WP.1 welcomed the suggestion made by Finland to further discuss Informal doc No. 9 through a virtual meeting in advance of the next session. WP.1 thanked the authors of Informal document No. 9. The WP.1 Chair invited participants to attend the virtual meeting and to provide written comments ahead of the next session.

7. In addition, WP.1 continued to discuss the topic of optical and/or audible signals in DAS and ADS vehicles and included a new topic of "road traffic of the future: urban challenges and perspectives" on its agenda. The WP.1 informal group of experts on automated driving has been working on remote driving, human factors and driver education.

8. Finally, WP.1 will continue to collaborate with WP.29 on topics of mutual interest and explore the possibility of the organization of a joint event in a flexible and agile format to facilitate participation by interested participants.

9. The WP.1 Group of Experts (GoE) on the drafting of a new Legal Instrument on the use of Automated Vehicles in traffic (LIAV) worked in 2023 according to the request of ITC when extending the group's mandate and the guidance of WP.1 to revise the agenda to explicitly include the mandate extension as reflected in para. 30 of the session report ECE/TRANS/328. During its sixth session, the Group structured its work to undertake the collective assessment of any gaps in the conventions and resolutions under the auspices of WP.1 and identify the issues to be addressed. To support this work, the Group of experts decided to create two different groups: (a) One group to work on gaps related to safe deployment and use of automated vehicles in road traffic as well as gaps related to entities responsible for automated driving; (b) A second group to work on gaps related to automated

vehicles with a driver in the vehicle, as well as gaps related to automated vehicles without a driver. To support and guide these groups, the Group of Experts decided to have an informal GE.3 session within a month to prepare a template to ensure consistency in the activities of the two groups. At its seventh session on 30 November – 1 December 2023, the Group received a report on the activities performed during the informal GE.3 meeting held on 13 June 2023, which produced a template for the purpose of the two subgroups. The Group received presentations from the outcomes of the two subgroups. The Group decided on the way forward, building on the outcome of the two subgroups and input received during the session, focusing its activities on the assessment of the gaps in the conventions and resolutions under the auspices of WP.1, that would be guided by a list of three questions agreed during the session. The Group also performed the activity requested by WP.1 and merged informal documents No. 5 and 11 (of the eighty seventh session of WP.1)

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Actions 2, 3, **8**.*

2. World Forum for Harmonization of Vehicle Regulations and its Informal Working Group on Intelligent Transports Systems / Automated Driving

(a) Coordination activities of the World Forum

10. The World Forum for Harmonization of Vehicle Regulations implemented the ITC decision No. 55 requesting WP.29 to make proposals on possible future activities on regulatory tools for harmonized communication between vehicles and Electrical Vehicle Supply Equipment (EVSE), taking into consideration already existing related standards and/ or protocols. The World Forum tasked the IWG on ITS to address the ITC request on communication protocols between Electric Vehicles (EVs) and recharging infrastructure, in a similar way as done for the request to address V2V communication.

11. The World Forum for Harmonization of Vehicle Regulations managed the activities of its subsidiary bodies on Automated Driving Systems using the Framework Document on Automated Vehicles (FDAV), a programme management tool to coordinate activities.

12. The World Forum adopted deliverables from the subsidiary bodies and noted the progress made on the development of a unified document prepared by the Informal Working Groups under the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) containing guidelines with performance requirements as well as the evaluation method foe Automated Driving Systems. The World Forum discussed the time after mid-2024, when the pre-regulatory workstream would be completed and agreed on a structure that will draft a global regulation for ADS.

13. The World Forum relied in the IWG on ITS, the only working group of ECE fully dedicated to ITS, to monitor external developments and activities regarding traffic laws, intelligent and connected transportation systems (including intermodal transport), telecommunications, infrastructure planning, Mobility as a Service (MaaS) and similar fields adjacent to the deployment of vehicles equipped with Automated Driving Systems. The IWG on ITS met twice in 2023.

(b) Activities of the Informal Working Group on Intelligent Transport System

14. The IWG on ITS met in June 2023. It discussed the best ways to address the ITC decision No. 55 mentioned above and assigned this task to the Task Force on Vehicular Communications.

15. The leadership of the Group supported the organization (together with the International Telecommunication Union) of the annual symposium on the Future Networked Car (FNC) in March 2023. The group noted that the FNC took place online, in March 2023, with one session per day, the second session discussed the current performance of Advanced Driver Assistance Systems (ADAS), the third session focused on commercial opportunities related to Automated Driving Systems (ADS) and the fourth session focused on wireless communications applied to vehicle safety, services and transport management. The symposium gathered between 140 and 160 participants each day. The Future Networked Car symposium, originally organized during the Geneva International Motor Shows organized a

spin off session in October 2023 in Doha (Qatar), where the 2023 session of the Geneva International Motor Show took place.

16.	The IWG on ITS held a second session in 2023, on 7 November 2023, in conjunction of the TF on VC session. The group noted the comments received from the stakeholders on the draft publication on ITS, drafted by the secretariat. The Group received a presentation from Japan on initiatives relating to ITS taken by Road Bureau of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). The group welcomed the presentation by ITU on Traffic Rules for ADS and noted the suggestion of one of the Co-Chair to address the topic at the IWG on ITS.

*(c)	Activities of the Task Force on Vehicular Communications*

17.	The Task Force on Vehicle Communications has been established in March 2023 by WP.29 to provide guidance to WP.29 on the possible ways to address vehicular communications within the WP.29 framework. Since its inception the task force had four sessions. The first session was dedicated to discussing on the purpose of the task force and its objectives. It also exchanged information on the national and regional activities as well as the standardization activities in that field. During the second session, the task force pursued exchange of views and discussed the task assigned by WP.29 and the IWG on ITS regarding Electric Vehicle Charging and decided to organize a workshop.

18.	This workshop took place on 30 August 2023. It addressed Vehicle to X communication and the issue of bi-directional charging and its associated standards. Some stakeholders mentioned the ongoing regulatory activities in different regions of the world, as well as the ongoing ISO standards being developed, especially for bi-directional charging. There were discussions on the need for harmonized regulation by contracting parties and NGOs. The group agreed to host further workshops, as necessary.

19.	At its November 2023 session WP.29 received information from the Secretary to WP.5 on activities undertaken on EV charging. He explained that WP.5, at its last session in September 2023, agreed to create an informal task force focusing on coordinating efforts related to EV developments and their charging infrastructure both within ECE (across its different sub-programmes) and in collaboration with other institutions should be established. He added that the WP.5 secretariat together with the WP.5 Chair was tasked to develop draft terms of reference for such a task force in close consultation with other relevant Working Parties such as WP.29 and relevant intergovernmental groups in the ECE Sustainable Energy Division and submit this to ITC for discussion and possible adoption at its next annual session. WP.29 reflected on the fact that the topic was broader and different from what the IWG on ITS was working on. WP.29 agreed to re-think the organizational framework between Working Parties on this topic, requiring the support of the IWG on ITS, when needed.

20.	Given the tight timeline envisaged, WP.29 agreed to create a distribution list (emails) to allow WP.29 experts to exchange o4 that topic. WP.29 agreed with the proposal of the representative of the United States of America to create a special interest group and invited all interested parties to contact the secretariat to provide comments and inputs to the draft terms of references of the WP.5 informal task force on electric vehicles and its infrastructure.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Actions 1, 2, 3, 4, **5, 6, 7, 8**, 12, 14, 16, **17, 18***.

**3.	Working Party on Automated/Autonomous and Connected Vehicles**

21.	The Working Party on Automated/Autonomous and Connected Vehicles continued its activities on vehicles safety, ADAS, ADS and connected vehicles at a pace that required an additional session in May 2023.

22.	GRVA continued its activities under the guidance provided by the Framework Document on Automated Vehicles (FDAV). In 2023, GRVA adopted the Guidelines for Regulatory Requirements and Verifiable Criteria for Automated Driving System Safety Validation and transmitted them for endorsement by WP.29 in November 2023.

23.   GRVA continued to host informal workshops with the representatives of contracting parties, their authorities and technical service to support the uniform implementation of UN Regulation No. 155 (Cyber Security and Cyber Security Management System).

24.   GRVA worked on the coordination with other Working Parties dealing directly or indirectly with Automated Driving. GRVA provided advice to WP.29 related to the coordination on the Working Party on lighting and Light-Signalling (GRE) on provisions for light-signal indicating the status of vehicles equipped with ADS. GRVA is expected to collaborate with GRSG to consider the development of a new vehicle category (and/or subcategories) related to ADS. GRVA worked with the WP.29 subsidiary bodies to uniformly review and perform the screening of UN Global Technical Regulations annexed to the 1998 Agreement and UN Regulations annexed to the 1958 Agreement to evaluate their fitness in the context of Automated Driving Systems. GRVA reported informally to WP.1 on the advancement of their activities. WP.1 reiterated its invitation to work together on the organization of a joint internal event to exchange between WP.1 and WP.29 on the developments on ADS at ECE.

25.   A process is being implemented in order to guide the collaboration of WP.1 and WP.29.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Actions 1, 2, 3, 4, **5**, **6**, 7, **8**, 12, 14, 16, **17**, **18***.

4.   Working Party on Lighting and Light-Signalling

26.   Pending final guidance of GRVA and WP.29 on a possible light status indicator of ADS vehicles, the Working Party on Lighting and Light-Signalling (GRE) established a dedicated task force on the issue and started high-level discussions. Considering various positions of contracting parties on the ADS status indicator, GRE considered that the indicator should be optional, thus giving each contracting party the possibility to prohibit its use on their roads, for example by mandatory deactivation. However, if fitted, the ADS status indicator should follow uniform provisions. Without prejudice to future decisions on legal provisions and technical solutions, Germany and OICA organized a demonstration of a test vehicle equipped with integrated automated ADS marker lamps which followed the basic concepts from both the SAE International Recommended Practice J3134 and the Chinese draft standard for light-signalling devices including the blue-green (turquoise) colour for such lamps.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Actions 1, 2, **8**, **18***.

5.   Working Party on Inland Water Transport

(a)   River Information Services

27.   In 2023, the Working Party on Inland Water Transport (SC.3) finalized and adopted the second revision of the *Guidelines and Criteria for Vessel Traffic Services on Inland Waterways* (annex to resolution No. 58) as resolution No. 107. The revised Guidelines build on Guideline G1166 "Vessel Traffic Services (VTS) in Inland Waters" of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), developed with the participation of SC.3 experts from member States and the secretariat, they establish a concept of Inland VTS, considers the existing practice on European inland waterways and contains definitions from the European Code for Inland Waterways and other SC.3 resolutions.

28.   SC.3 and its subsidiary body, the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (SC.3/WP.3) continued discussion on harmonizing resolutions of relevance to River Information Services (RIS) with the European Standard for River Information Services (ES-RIS) and decided to keep in the agenda (a) harmonizing resolutions Nos. 48, 63, 79 and 80 with the European Standard on River Information Services (ES-RIS) of the European Committee for Drawing up Standards in the Field of Inland Navigation (CESNI) and (b) aligning the European Code for Signs and Signals on Inland Waterways (resolution No. 90) with the revised RIS resolutions.

(b) *Automation and smart shipping*

29. At its sixty-seventh session, SC.3 discussed progress in implementation of the road map of the 2020–2024 "Forging international cooperation towards an international legislative basis for automation in inland navigation" (annex to resolution No. 95) and decided to prepare a road map for 2025–2028, based on the outcome of the discussion. The secretariat was asked to prepare the draft for its sixty-eighth session.

30. SC.3 and SC.3/WP.3 continued discussion on the definitions for automation and smart shipping based on the definition of automation levels in inland navigation edition 2022 adopted by the Central Commission for the Navigation of the Rhine (CCNR) (ECE/TRANS/SC.3/WP.3/2023/15). SC.3 at its sixty-seventh session considered it desirable to prepare a resolution on this issue to ensure consistency of the terminology at the pan-European level. The secretariat was asked to consult CCNR on this issue with a view to prepare a proposal for its sixty-eighth session.

31. In 2023, both Working Parties continued discussion on harmonizing the ECE legal framework and policy areas for fostering innovations in inland navigation, in particular, policy areas and proposals for evaluation of international conventions and ECE resolutions to identify gaps, challenges and bottlenecks that hamper the development of automated navigation (ECE/TRANS/SC.3/WP.3/2023/20). This includes, first of, all, the European Code for Inland Waterways, the core rules applicable to the traffic on inland waterways in the ECE region. SC.3 asked SC.3/WP.3 and the secretariat to continue this work in 2024.

(c) *Other activities*

32. At the sixty-second session of SC.3/WP.3, the workshop "Information and Computerization Technologies and Intelligent Transport Systems in the Inland Water Transport Sector" was held on 15 February 2023. The workshop focused on (a) best practices in applying information technology (IT) and ITS on inland waterways, (b) advantages of IT and ITS for the inland water transport sector, (c) key ICT and ITS strategies and technologies relevant to inland water transport and (d) further steps and other relevant issues. The key speakers highlighted developments in automated navigation and digitalization by member States, initiatives of the European Commission related to digitalization of the sector, aimed to meet the objectives of the European Green Deal and the Sustainable and Smart Mobility Strategy, potential of RIS for improving the efficiency of urban and interurban freight transport, achievements and perspectives of digitalization for ports and the ongoing work and recent developments of ECE in the field of ITS.

33. The participants took part in the round table discussions on the various aspects of ICT and ITS. SC.3 was of the opinion that, in addition to RIS and automated navigation, the key ICT and ITS strategies and technologies were relevant to inland water transport: (a) "smart" waterway signs and marking, (b) Automated Identification Service (AIS), (c) "smart" infrastructure, (d) VTS and (e) satellite positioning systems. Delegations discussed the domains that needed an introduction and a development of ITS, main advantages and barriers for the deployment of ITS and ICT on inland waterways. SC.3 stressed the importance of harmonizing policies and international cooperation among the key stakeholders for ensuring efficient, tangible and competitive results in inland navigation in Europe.

*Road Map Actions addressed: 1, 2, 3, 4, 5, **11**, 12, 14, 17, 18.*

6. Working Party on the Transport of Dangerous Goods

34. In the context of the European Union Regulation 2020/1056 of the European Parliament and of the Council of 15 July 2020 on the use of the data model in the context of the electronic freight transport information (eFTI) regulation, the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods was informed at its September 2022 session on the progress of work and potential issues related to some developments of the current data model that do not take account of the specificities for the transports of dangerous goods in RID/ADR/ADN. It noted the updated status of guidelines, data model and exchange mechanism developed by the informal working group on telematics and the differences in the architecture principles of the eFTI proposal and that for the transport of dangerous goods.

35.   For the future discussions at the European Union level on the further development of the electronic dangerous goods document, it was recalled that this system could be developed in technically different ways, but that these should nevertheless respect some basic requirements as listed in paragraph 44 of the Joint Meetings report ECE/TRANS/WP.15/AC.1/166.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Actions 1, 2,* **9**

7.   Working Party on Intermodal Transport and Logistics

36.   The Working Party on Intermodal Transport and Logistics (WP.24), further to the tasks assigned to it in the 2021 ITC resolution on strengthening intermodal transport, agreed to serve as a forum for regular exchanges on document and information digitalization for intermodal transport. WP.24 also agreed to work on automation in the sector, to which end, it agreed to elaborate a handbook on automation in freight transport and logistics.

37.   In 2022, WP.24 held workshops on information and document digitalization in transport intermodal sector and on exchanges of good practice and innovative solutions as well as approaches taken to freight transport and logistics automation.

38.   The information and document digitalization workshop stressed the following:

        (a)   Digitalization needs to be strategically planned and actively managed to be successful,

        (b)   Data standardization, consistent data structures, and interoperability are key to digitalization,

        (c)   Common and widely accepted data reference models such as UN/CEFACT or such resulting from negotiations and deliberations of conventions administrative committees or special intergovernmental should be applied,

        (d)   Data protocols or relevant ecosystems are needed so that not all but relevant information is shared with relevant stakeholders,

        (e)   Integrity of the digital systems must not be compromised – no data can be modified without the knowledge and certification/authentication by concerned actors,

        (f)   Legal obligations are necessary for public administration to accept digital documents to incentivize business to invest or speed up digitalization, and

        (g)   Exchange of digitalization projects and their consideration is important to promoting harmonized approaches. WP.24 should play a role in facilitating the exchanges.

39.   The workshop on automation showed the following:

        (a)   Automation requires a business case, proper management approach and stakeholder dialogue including workers and/or unions. For terminals, specific size, cargo volumes/turnover, functionality or capacity gains need to be achieved for investments in automation to pay off.

        (b)   Automation should be tailored-made to the needs. There are various levels at which automation can be introduced, for example: automation of vehicles/equipment at terminals, automated systems for entry and exit from terminals, digital twins, data and information exchange platforms, paperless train management, track and trace, digital seals, etc. Some of the automated solutions can be implemented independently of others. The companies or industry should, however, develop and follow a strategic business plan for automation.

        (c)   Not all automation solutions would lead to productivity gains compared to manual handling processes, for example in considering automated versus manually operated terminals. At the same time, automated processes result in more constant productivity over time. Savings can also be achieved in maintenance, as automated vehicles which operate at more constant speeds can have a longer lifespan.

        (d)   For some automation solutions to be successful, they require the alignment of the entire sector, for example with digital automated coupling, or digital rail platforms for

the exchange of information. Interoperable solutions based on widely accepted industry standards need to be prioritized.

(e)   Automation may bring more safety to the sector if it is appropriately managed. It can replace unsafe or hardship human activities. The interaction between technology and workers, especially at terminals, needs to be defined and controlled to avoid safety incidents. The separation between manual and automated container operation should therefore be applied at terminals.

(f)   As technology is expected to develop and improve, the pace of automation uptake in the sector is expected to increase. Automation would thus become more accessible including for small- and medium-sized enterprises. As its role would increase, workforce and society at large need to be prepared to embrace it effectively.

(g)   Cybersecurity is at the heart of automation. Proper approaches need to be taken towards securing Information Technology (IT) systems. The workforce needs to be trained against cyber-attacks such as phishing.

(h)   Humans should be in control of automation and manage it so that it benefits society at large.

(i)   Automation should be managed hand-in-hand with reskilling, retraining or upskilling the workforce. Job restructuring should be planned and managed to help workers requalify in time for new requirements in a more automated work environment.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Action 12*

8.   Working Party on Rail Transport

40.   The Working Party on Rail Transport (SC.2) continued its work on ITS activities through the regular updating of the rail security observatory and through the creation of a new innovation platform identifying key areas where ITS could increase the competitiveness of the rail sector following the successful workshop on the issue at its seventy-second session. As part of this work, the Working Party also continued its activities related to the digitalization of documents in collaboration with the activities of the Working Party on Intermodal Transport and Logistics as identified above. The Working Party noted the work carried out in the Group of Experts on the Permanent Identification of Railway Rolling Stock which reviewed as part of its activities, solutions on the electronic tagging of wagons. Finally, as part of its activities to modernize and digitalize infrastructure agreements the Working Party noted the finalization of the European Agreement on Main International Railway Lines (AGC)- European Agreement on Important International Combined Transport Lines and Related Installations (AGTC) or AGC-AGTC online tool which introduces a new innovative tool to rail activities, further facilitates the modernization of the AGC and is aimed at assisting operators in identifying optimum routes for rail flows across the region and facilitating shift to rail.

Road Map Actions addressed (areas of primary focus are indicated in **bold**): *Actions* 2, 3, 4, 5, 6, **10, 13, 15,** 16, 17, and 18.

9.   Working Party on Road Transport

41.   Information related to this Working Party is provided in ECE/TRANS/2024/20.

10.   Working Party on Transport Trends and Economics (WP.5)

42.   On 5 September 2023, in conjunction with the thirty-sixth annual session of the Working Party on Transport Trends and Economics (WP.5), a workshop on "Cyber threats to electric vehicles and their charging infrastructure" co-organized by the ECE Sustainable Transport and Sustainable Energy sub-programmes was held in the framework of the annual 2023 ECE Inland Transport Security Forum. The event featured keynote speakers from a variety of stakeholders including the secretary of the ECE Working Party on Automated/ Autonomous and Connected Vehicles (GRVA/WP.29), the secretary of the ECE Group of Experts on Cleaner Electricity Systems, the Institute for Security and Safety GmbH/ Mannheim University for Applied Sciences, the International Organization of Motor Vehicle

Manufacturers (OICA), Continental Automotive Technologies GmbH as well as relevant cyber security authorities from the Netherlands and Türkiye.

43. The workshop provided a platform to:

(a) Raise awareness about the broad variety and complexity of cyber threats posed to electric vehicles (EVs) and their charging infrastructure as well as the systemic implications this may have for the broader electricity grid.

(b) Exchange views, ideas, and national experiences on how to better identify, prevent and manage such threats and vulnerabilities.

(c) Learn from good practices implemented by EV manufacturers, in line with globally harmonized vehicle requirements.

(d) Identify possible next steps and mitigation actions to be taken in this field by member States and other relevant stakeholders, with the support of the ECE sustainable transport and energy sub-programmes.

44. More detailed information available in document ECE/TRANS/2024/20.

11. Working Party on Customs Questions affecting Transport (WP.30)

45. Information related to this Working Party is provided in ECE/TRANS/2023/20.

Annex

The ECE Road Map on Intelligent Transport Systems 2021-2025

Action 1 Reaching a common definition for ITS	**Action 11** Integrating with Inland Water Transport
Action 2 Harmonizing policies	**Action 12** Enhancing the modal integrator's role of ITS
Action 3 Forging International cooperation	**Action 13** Developing cost-benefit assessment methodologies
Action 4 Facilitating interoperability and ITS architecture	**Action 14** Improving the long-term environmental sustainability of transport
Action 5 Ensuring data security	**Action 15** Promoting analytical work amongst Contracting Parties
Action 6 Promoting vehicle-to-infrastructure communication	**Action 16** Contributing to capacity building, education and awareness raising, with special attention to emerging economies
Action 7 Vehicle - to - vehicle communication	**Action 17** Organising the United Nations Annual Round Table on Intelligent Transport Systems
Action 8 Improving road safety	**Action 18** Wheeled vehicle automation and emerging technologies
Action 9 Enabling safer Transport of Dangerous Goods	
Action 10 Integrating with Rail Transport	