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**Economic Commission for Europe****Inland Transport Committee****Eighty-fifth session**

Geneva, 21–24 February 2023

Item 7 (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****Information and computerization technologies****Note by the secretariat***Summary*

Following Committee's decision during its last session (ECE/TRANS/316, paragraph 47) this document provides an overview of activities in 2022 in the field of information and computerization technologies carried out by Working Parties of ITC and link it, where appropriate, with the seventieth Economic Commission for Europe (ECE) central theme in 2023 which will be on "Digital and green transformations for sustainable development in the UNECE region".

The Committee is invited to encourage the continuation:

- of the work of working party on road transport (SC.1) on the operationalization of eCMR ensuring inclusion of all stakeholders and regions.
- of working party on customs questions affecting transport (WP.30) and of the TIR administrative committee (AC.2) on the eTIR international system and interconnection with national customs systems.
- of WP.30 on digitalizing the 1954 (private) and 1956 (commercial) temporary importation conventions and the Carnet de Passage en Douane (eCPD);
- of TIR Executive Board (TIREXB)/WP.30 on the International TIR Data Bank (ITDB), the eTIR (web) portal for holders and its mobile applications for customs officers and TIR Carnet holders.
- of WP.30 on the observatory on border crossing status due to COVID-19.
- of working party on transport trends and economics (WP.5) on the international transport infrastructure observatory developed on a Geographical Information System (GIS) platform,
- of WP.5 work and data / GIS tool on climate changes impact and adaptation on transport networks.
- of WP.5 on the Sustainable Inland Transport Connectivity Indicators (SITCIN) tool

as concrete applications and tools based on information and computerization technologies that ensure the implementation of the Inland Transport Committee (ITC) strategy until 2030 and specifically its second pillar on new technologies and innovations.




## I. Background and Mandate




1. This document has been prepared in accordance with the 2022 programme of work of ITC (ECE/TRANS/316, paragraph 33 and ECE/TRANS/2022/8). It is aligned with the ITC strategy 2030 and summarizes those activities on information technology and computerization that implement the second pillar of its mission which is ITC to become the United Nations platform for supporting new technologies and innovations in inland transport.

## II. Description of the Information Technology and Computerization Initiatives


### A. eTIR International System (TIR Convention) – WP.30

<i>Overview</i>	
<b>Tool name:</b>	eTIR International System (application)
<b>Tool type:</b>	Online Platform – Application.
<b>Tool description:</b>  	<p>The eTIR international system aims to ensure the secure exchange of data between national Customs systems related to the international transit of goods, vehicles or containers according to the provisions of the TIR Convention and to allow Customs to manage the data on guarantees, issued by guarantee chain to holders authorized to use the TIR system.</p> <p>On 5 February 2020, countries adopted provisions providing the legal basis for the paperless operation of the United Nations TIR Convention (the so-called eTIR) – the only global customs transit system, facilitating trade and the seamless and secure movement of goods across borders.</p> <p>In May 2021, annex 11 to the TIR Convention came into force.</p> <p>The first session of the Technical Implementation Body (TIB) (18–21 January 2020) adopted version 4.3 of the eTIR technical specifications and AC.2 (February 2022) adopted the eTIR concepts and the eTIR functional specifications providing therefore a complete legal and technical basis for those countries that are willing to implement the eTIR procedure, to do so.</p> <p>The TIR secretariat developed the system and established interconnection with the national customs systems of Azerbaijan, Georgia, Pakistan, Tunisia, Türkiye and Uzbekistan. A proof of concept for interconnection of the system with the New Computerized Transit System (NCTS) of the European Union (EU) was prepared with the Commission.</p>
<b>URL:</b>	<a href="https://etir.org">https://etir.org</a>  Simple schematic: <a href="https://etir.org/how-does-etir-work">https://etir.org/how-does-etir-work</a>
<b>Tool launch date:</b>	The actual eTIR operations started in December 2022 between Azerbaijan and Georgia.
<b>Tool developed by:</b>	TIR secretariat
<b>Link with the seventieth ECE central theme</b> <b>"Digital and green transformations for sustainable development in the UNECE region".</b>	
The eTIR International System contributes to the facilitation of border crossing operations by eliminating the use of paper, time and cost spent at the borders. Practically, when fully implemented, waiting and queuing times of trucks at the borders will be dramatically reduced while contactless and paperless inspection methods will be used.	


## B. ITDB/ TIRExB –WP.30

<i>Overview</i>		
<b>Tool name:</b>	International TIR Data Bank	
<b>Tool type:</b>	Data bank / Mobile Applications / Portal	
<b>Tool description:</b>	<p>ITDB was introduced by the ECE TIR secretariat in 1999, in accordance with the Terms of Reference of the TIR Executive Board (TIRExB) established by the TIR Administrative Committee. ITDB is a web platform offering both secured web application and web services serving as an international TIR data repository for customs authorities and national road transport associations using the TIR procedure. ITDB contains :</p> <ul style="list-style-type: none"> <li>• 1,160 web application users</li> <li>• 29,528 authorized TIR Carnet holders (transporter companies)</li> <li>• 272 customs stamps and sealings records</li> <li>• 2,801 customs offices enabled to use TIR procedures</li> </ul> <p>Since 2022, ITDB included a notification feature allowing key stakeholders to be notified immediately upon change of status of the TIR Carnet holder (withdrawal, end of activity) or in case of exclusion in one of the TIR Convention contracting parties/countries.</p> <p>At the end of 2022, the ECE TIR secretariat will release another web platform call eTIR Portal intended for the TIR Carnet Holder in order to complement the ITDB.</p> <p>Early in 2023, the ECE TIR secretariat will release two mobile applications called eTIR Customs and eTIR Holder which are intended for customs officers at the borders on one hand and for truck drivers using the TIR Procedure on the other.</p>	
<b>URL:</b>	<a href="https://itdb.unece.org">https://itdb.unece.org</a>	
<b>Tool launch date:</b>	1999	
<b>Tool developed by:</b>	TIR secretariat	
		
<p><b>Link with the seventieth ECE central theme</b>  <b>"Digital and green transformations for sustainable development in the UNECE region".</b></p>		
<p>ITDB constitutes the mechanism of authenticating the users of the TIR system. The whole process is electronic. The national associations submit the application of a new transporter online with all the relevant information and customs approve the new user online. The application eliminated the trips and papers used in order for such authentication to take place. It also contributes to the operations of the eTIR system, contributing to the reduction of waiting and queuing times of trucks at the borders.</p>		

### C. eCPD –WP.30


<i>Overview</i>	
<b>Tool name:</b>	Digitalization of Carnet de Passage en Douane (eCPD)
<b>Tool type:</b>	Online Platform – Application
<b>Tool description:</b>	<p>The “Carnet de Passages en Douane” – or “CPD” system – facilitates the temporary importation of private and commercial vehicles.</p>  <p>The CPD system is based on two international conventions (the 1954 Customs Convention on the Temporary Importation of Private Road Vehicles, and the 1956 Customs Convention on the Temporary Importation of Commercial Road Vehicles). Hosted by ECE, the conventions combined have 96 contracting parties, where the system is implemented and managed by the Fédération Internationale de l’Automobile (FIA) on behalf of the AIT/FIA CPD network and their affiliated members.</p> <p>On 20 October 2021, the (FIA) and ECE signed a Memorandum of Understanding (MoU) to formalise their cooperation on the digitalization of the CPD Distribution System.</p> <p>The work on the digitalization of CPD is in progress and the two secretariats are working together to define the high-level architecture of the future eCPD system including the conceptual specifications.</p>
<b>URL:</b>	<a href="https://carnetdepassage.org/">https://carnetdepassage.org/</a>
<b>Tool launch date:</b>	2024
<b>Tool developed by:</b>	FIA – Sustainable Transport Division
<b>Link with the seventieth ECE central theme</b> <b>"Digital and green transformations for sustainable development in the UNECE region".</b>	
<p>The digitalization of the CPD Distribution System is expected to speed up the border crossing for millions of automobilists around the globe by reducing significantly their administrative burden. Additionally, the exchange of customs information in a secure environment will prevent false submission of customs declarations. The application will reduce the waiting and queuing times of private and commercial vehicles at the borders.</p>	

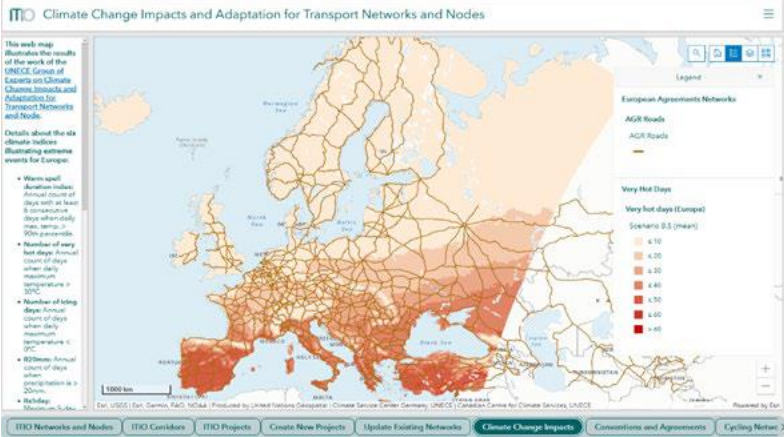
### D. The international transport infrastructure observatory –WP.5

<i>Overview</i>	
<b>Tool name:</b>	<b>International Transport Infrastructure Observatory (ITIO)</b>
<b>Tool type:</b>	Geographical information system (GIS)
<b>Tool description:</b>	 <p>The International Transport Infrastructure Observatory is an initiative of ECE Sustainable Transport and the Islamic Development Bank. It is a multi-stakeholder, web-based GIS platform which hosts data on a large variety of transport infrastructure networks and nodes across different modes including road, rail, inland waterways, ports, airports, intermodal terminals, logistics centres and border crossing points.</p> <p>Three types of services:</p> <p>(a) Offering an electronic repository of ECE inland transport conventions, project outputs, and deliverables of designated Groups of Experts:</p>

	<p>(i) More specifically, the observatory provides an electronic platform that will be catalytical for the ongoing digitalization of different United Nations inland transport agreements and conventions, especially those covering infrastructure (AGR, AGC, AGTC and AGN) but also border crossing facilitation instruments such as TIR /eTIR (customs systems location).</p> <p>(ii) Furthermore, it offers a digital environment that helps visualize specific outputs and deliverables, such as the work done in the framework of the Trans-European Motorways (TEM), Trans-European Railways (TER) and Euro Asian Transport Links (EATL) projects but also the tangible outputs produced by the Group of Experts on Assessment of Climate Change Impacts and Adaptation for Inland (GE.3) and the Group of Experts on Benchmarking Transport Infrastructure Construction Costs (GE.4).</p> <p>(b) Promoting sustainable regional and interregional connectivity: the observatory provides the possibility to all regional and interregional organizations to create their own maps illustrating their transport infrastructure initiatives, corridors, projects, reports and studies and anything else they consider useful for the purpose of further enhancing regional connectivity.</p> <p>(c) Financing transport infrastructure: the observatory operates as a marketplace for financing transport infrastructure by providing an electronic interface between Multilateral Development Banks (MDBs) and Governments. Governments can upload their transport infrastructure projects in need of funding as well as select which MDBs they wish to reach out to.</p>
<b>URL:</b>	<a href="http://itio-gis.org">itio-gis.org</a>
<b>Tool launch date:</b>	2022
<b>Tool developed by:</b>	Sustainable Transport Division / external consultants
<p><b>Link with the seventieth 70<sup>th</sup> ECE central theme</b>  <b>"Digital and green transformations for sustainable development in the UNECE region".</b></p>	
<p>The observatory provides to its users a holistic overview of transport infrastructure considering different factors such as international connectivity, climate impacts, construction costs etc. It therefore assists decision makers to conclude on more sustainable solutions concerning transport infrastructure development.</p>	

## E. Climate Change Impacts and Adaptation to Transport Networks and Nodes tool – WP.5


<i>Overview</i>	
<b>Tool name:</b>	Climate Change Impacts and Adaptation to Transport Networks and Nodes tool
<b>Tool type:</b>	Geographical information system (GIS)
<b>Tool description:</b> 	<p>This tool assists analysis of possible future impacts of climate change on transport networks. By using the tool, experts can identify sections of networks projected to be exposed to the effects of changing climate and whose service delivery may be reduced in the future if they were not adapted to those effects.</p> <p>By using the tool in its GIS environment users are able to match a map that provides specific transport infrastructure for instance roads with the projects of a specific climatic factor for instance precipitation. The projections have been developed in cooperation with World Meteorological Organization (IMO) and they are for 100 years. By bringing together these two maps the user will be able to identify possible hot spots meaning locations / spots in the</p>

	<p>road networks that might be, for instance, flooded in the future. At this stage the tool provides a good but very high-level identification of those possible hot spot maps.</p> <p>The tool includes six indices related to specific climate-related hazards which are considered of significant importance to transportation. The tool presents changes – mainly increase or decrease – in a number of days of a given hazard (e.g. very hot days; icing days; high-precipitation days, dry days, etc.) in a year between the baseline period and the future period. It presents these results on the GIS maps which show the projections overlayed with the transport networks: E-Roads, E-Railways or E-Waterways. These changes are presented for different climate scenarios.</p>
<p><b>URL:</b></p>	<p><a href="http://itio-gis.org">itio-gis.org</a></p>
<p><b>Tool launch date:</b></p>	<p>2022</p>
<p><b>Tool developed by:</b></p>	<p>Sustainable Transport Division / external consultants</p>
	
<p align="center"><b>Link with the seventieth ECE central theme "Digital and green transformations for sustainable development in the UNECE region".</b></p>	
<p>The impacts of climate to transport infrastructure are already visible. The tool visualizes those impacts assisting decision makers to proceed with more sustainable infrastructure projects and to make existing infrastructure sustainable by adapting it to the impacts of climate change.</p>	

**F. eCMR - Additional Protocol to CMR concerning the Electronic Consignment Note – SC.1**

<i>Overview</i>	
<p><b>Tool name:</b></p>	<p>eCMR</p>
<p><b>Tool type:</b></p>	<p>To be decided</p>
<p><b>Tool description:</b></p>	<p>The eCMR is based on the provisions of the Convention on the Contract for the International Carriage of Goods by Road (CMR) (1956) and especially on the provisions of the Additional Protocol to CMR concerning the electronic consignment note (2008).</p> <p>The Working Party on Road Transport (SC.1) of the Sustainable Transport Division which administers the CMR Convention and has been mandated by the Governments to administer the eCMR protocol decided to establish a formal group of experts on the operationalization of the eCMR procedure for two years (2022 and 2023) to discuss and agree on the requirements of article 5 of the Additional Protocol to CMR including the objective/scope, the high level architecture, and the conceptual specifications for a future environment</p>



	<p>that would support the conclusion and exchange of electronic consignment notes in accordance with the provisions of CMR and its Additional Protocol. Such work should also include an impact assessment of possible implementation scenarios of a future eCMR environment.</p> <p>The Group of Experts should define/describe in particular (non-exhaustive list):</p> <ul style="list-style-type: none"> <li>• Scope / Objectives of a future eCMR environment.</li> <li>• Stakeholders of the eCMR environment.</li> <li>• High level architecture of the eCMR environment.</li> <li>• The method for the issuance and the delivery of the electronic consignment note to the entitled party.</li> <li>• An assurance that the electronic consignment note retains its integrity.</li> <li>• The manner in which the party entitled to the rights arising out of the electronic consignment note is able to demonstrate that entitlement.</li> <li>• The way in which confirmation is given that delivery to the consignee has been effected.</li> <li>• The procedures for supplementing or amending the electronic consignment note.</li> <li>• The procedures for the possible replacement of the electronic consignment note by a consignment note issued by different means.</li> <li>• Conceptual specifications.</li> <li>• Impact assessment.</li> </ul> <p>The 2008 Additional Protocol to the CMR (eCMR) is the legal instrument which seeks to “modernize” the current system of paper consignment notes to electronic format.</p>
<b>URL:</b>	-
<b>Tool launch date:</b>	-
<b>Tool developed by:</b>	-
<p><b>Link with the seventieth 70<sup>th</sup> ECE central theme</b>  <b>"Digital and green transformations for sustainable development in the UNECE region".</b></p>	
<p>CMR consignment note is one of the documents checked by customs officers, police, courts and insurance companies on a daily basis. Hundreds of millions of CMR consignment notes are used every year. By implementing the CMR Convention in an electronic way and making therefore the consignment note electronic, it means that waiting and queuing times at the borders for trucks will be reduced, millions of papers will not be used anymore and any checking will be contactless and paperless.</p>	

## G. Sustainable Inland Transport Connectivity Indicators (SITCIN) tool – WP.5

<i>Overview</i>	
<b>Tool name:</b>	SITCIN tool
<b>Tool type:</b>	Web Application
<b>Tool description:</b> 	<p>The main objective of the SITCIN tool is to enable countries to measure their degree of transport connectivity, both domestically and bilaterally/sub-regionally as well as in terms of soft and hard infrastructure. The connectivity indicators will enable governments to evaluate and assess the following:</p> <ul style="list-style-type: none"> <li>• The progress they are making towards achieving the transport-related sustainable development goals and their commitments under the Vienna Programme of Action for landlocked developing countries (LLDCs) for the decade from 2014 to 2024.</li> <li>• The effectiveness and efficiency of the transport systems and the level of compliance of national administrative and legal frameworks with United Nations legal instruments relating to transport and border-crossing facilitation, providing a domestic and a cross-border perspective and improving competitiveness, safety, energy efficiency and security in the transport sector.</li> <li>• Their efforts in implementing United Nations legal instruments relating to transport and their work towards harmonizing and standardizing rules and documentation, including through implementing international conventions on transport and transit and regional/bilateral agreements.</li> </ul> <p>Two hundred fifteen indicators were prepared, grouped into three inland transport modes, three pillars of sustainability and 39 thematic clusters.</p> <p style="padding-left: 40px;">Road Transport Connectivity Indicators:</p> <ul style="list-style-type: none"> <li>• Economic Sustainability (EC).</li> <li>• Social Sustainability (SO).</li> <li>• Environmental Sustainability (EV).</li> </ul> <p style="padding-left: 40px;">Rail Transport Connectivity Indicators:</p> <ul style="list-style-type: none"> <li>• Economic Sustainability (EC).</li> <li>• Social Sustainability (SO).</li> <li>• Environmental Sustainability (EV).</li> </ul> <p style="padding-left: 40px;">Inland Waterway Transport Connectivity Indicators:</p> <ul style="list-style-type: none"> <li>• Economic Sustainability (EC).</li> <li>• Social Sustainability (SO).</li> <li>• Environmental Sustainability (EV).</li> </ul>
<b>URL:</b>	<a href="http://sitcin.org">sitcin.org</a>
<b>Tool launch date:</b>	2022
<b>Tool developed by:</b>	External consultants / Sustainable Transport Division



<b>Link with the seventieth ECE central theme "Digital and green transformations for sustainable development in the UNECE region".</b>
The SITCIN indicators are benchmarking tools. They are assisting decision makers to benchmark their connectivity efforts with other countries further improving their performance. In that sense they are indicators that benchmark the digital and green transformations efforts of the countries relevant to connectivity.

## H. Observatory on Border Crossing Status due to COVID-19 – Working Party on Customs Questions affecting Transport (WP.30)

<i>Overview</i>	
<b>Tool name:</b>	<b>Observatory on border crossing status due to COVID-19</b>
<b>Tool type:</b>	Web Application
<b>Tool description:</b>	<p>In February 2020, ECE, in partnership with other UN regional commissions and partner organizations, established an Observatory on border crossing status due to COVID-19. This tool collects and illustrates, on a systematic basis, information about the status of inland freight border crossings, including policies and good practices. ECE and its partners informed Customs authorities in almost all United Nations Member States about the tool and began gathering their inputs as well as any official, publicly available information of relevance. The main objective of the Observatory is to be an information-sharing platform in order to support decision-making on appropriate measures taken for the borders and facilitate the movements of goods by inland transport:</p> <p>(a) The transport sector is being informed about measures imposed by different governments adapting their itineraries / transport solutions accordingly.</p> <p>(b) The governments are being informed about good practices implemented by other governments ensuring that borders are open facilitating the flows of goods while preventing the spread of the virus.</p> <p>The Observatory, as of October 2020, is a platform that provides updated information on the current status of 174 United Nations Member States including the national practices and measures implemented in response to the pandemic. The Observatory had 106,000 unique views during the last four months from 207 countries / and all regions of the world.</p>
<b>URL:</b>	<a href="#">Observatory on Border Crossings Status due to COVID-19 Home</a> - <a href="#">Observatory on Border Crossings Status due to COVID-19 - UNECE Wiki</a>
<b>Tool launch date:</b>	2020
<b>Tool developed by:</b>	TIR secretariat
<b>Link with the seventieth ECE central theme "Digital and green transformations for sustainable development in the UNECE region".</b>	
During the pandemic the borders closed. The observatory assisted thousands of users to be informed on the current status of the borders for each United Nations Member State. Also, countries used the observatory to learn from each other and identify good practices implemented.	

## III. Considerations by the Committee

- The Committee may wish to take note of and support the above information technology and computerization activities and initiatives / tools of contracting parties, WP.30, WP.5, SC.1 and the TIR secretariats in the year 2022.