

**ECONOMIC COMMISSION FOR EUROPE**

**INLAND TRANSPORT COMMITTEE**

**Working Party on Inland Water Transport**

**Enhancing international cooperation  
to support the development of  
automation in inland navigation**

**Resolution No. 95**



**UNITED NATIONS**  
**Geneva, 2020**

## Introduction

Promotion of new technologies and innovations is one of the key elements of the activities of the Inland Transport Committee (ITC) and its subsidiary bodies, aimed at the promotion of sustainable transport which is safe, clean and competitive. According to the new ITC strategy until 2030, adopted at its eighty-first session, promoting new technologies and assisting in enhancing connectivity is one of the tools for the ITC contribution to sustainable inland transport and mobility for achieving the sustainable development goals in the ECE and UN Member States.

The Ministerial resolution on “Enhancing cooperation, harmonization and integration in the era of transport digitalization and automation”, endorsed by ITC at its eighty-first session, reaffirmed the commitment to support the development, use and safe integration in transport systems of digital and other relevant technologies and innovations in all transport modes of transport data and documents, automated/autonomous and connected vehicles, e-navigation, River Information Services (RIS) and Intelligent Transport Systems (ITS), including smart infrastructure and smart mobility.

Automation in inland navigation has been included in the work programme of the European Committee for drawing up Standards in the field of Inland Navigation (CESNI), the Central Commission for the Navigation of the Rhine (CCNR), the World Association for Waterborne Transport Infrastructure (PIANC) and other international organizations. Since 2018, automated shipping has been also introduced in the agenda of the Working Party on Inland Water Transport (SC.3) and the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (SC.3/WP.3). Resolution No. 95 and the road map contained in the annex are aimed to strengthen international cooperation towards harmonizing approaches and policies and creating a framework for the deployment of automation in inland navigation at the pan-European level as a part of the activities of ITC as the UN Platform for supporting new technologies and innovations in inland transport, the coordination of work and reaching synergy with other ITC working parties.

As SC.3 has not yet finalized the work on the harmonized terms and definitions related to automation, the terms used in the present resolution and in the road map may be subject to necessary adjustments in the future.

## Enhancing international cooperation to support the development of automation in inland navigation

### Resolution No. 95

(adopted by the Working Party on Inland Water Transport on 8 November 2019)

*The Working Party on Inland Water Transport,*

*Affirming its commitment* to implement the Ministerial resolution on “Enhancing cooperation, harmonization and integration in the era of transport digitalization and automation”, endorsed at the eighty-first session of the Inland Transport Committee,

*Recalling* the Ministerial declaration “Inland Navigation in a Global Setting” adopted at the International Conference on Inland Water Transport in Wrocław, Poland, on 18 April 2018, which calls upon all countries with a vested interest in inland navigation to encourage measures aimed at promoting modern technologies, automation and innovations in the inland shipping sector,

*Fully aware* of the advantages that automation may bring to inland navigation to contribute to the sustainability, competitiveness and increasing the modal share of inland water transport,

*Aware* of the progress in automated transportation reached in other transport modes, including the maritime sector, road and rail transport,

*Responding* to resolution No. 265 “Facilitating the Development of Inland Water Transport” adopted by the Inland Transport Committee on 22 February 2019,

*Recognizing* the role of international cooperation for developing the international regulatory framework for automation in inland navigation,

*Welcoming* efforts of Governments aimed to support automation and digitalization in inland water transport,

*Noting with satisfaction* the ongoing work of the European Commission, the Central Commission for the Navigation of the Rhine (CCNR), the European Committee for drawing up Standards in the field of Inland Navigation (CESNI), the World Association for Waterborne Transport Infrastructure (PIANC) and other international organizations on the development of automation, digitalization and other innovative technologies in inland navigation,

*Taking into account* the reports of the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation of its fifty-second, fifty-fourth and fifty-fifth sessions (ECE/TRANS/SC.3/WP.3/104, paras. 25–30, ECE/TRANS/SC.3/WP.3/108, paras. 70–72, and ECE/TRANS/SC.3/WP.3/110, paras. 30 and 70–72),

1. *Endorses* the road map for the international cooperation aimed at the promotion and development of automation in inland navigation;

2. *Invites* Governments, intergovernmental organizations, regional economic integration organizations, river commissions and other stakeholders to actively participate in the UNECE work aimed to activities towards a harmonized pan-European legislative framework for automation in inland navigation;

3. *Encourages* Governments to include automation and digitalization on inland water transport in national development strategies and action plans;

4. *Invites* Governments, river commissions, non-governmental organizations, academia and other stakeholders to keep the secretariat informed of the measures taken towards the implementation of automation in inland navigation.

## Annex

### **Road map for 2020–2024 “Forging international cooperation towards an international legislative basis for automation in inland navigation”**

#### **Action 1: Introduce harmonized definitions of autonomy levels into UNECE documents**

A lack of the international legislative framework is one of the major obstacles for enabling testing and use of automated vessels. However, this work cannot be started without harmonized definitions of autonomy levels in inland navigation. A significant step forward is the adoption of the definitions of automation levels by CCNR in 2018,<sup>1</sup> which is already applied by some member States. Based on the outcome of the ongoing work by CCNR on updating and finalizing the definitions and with due regard of the comments of governments, the definitions should be introduced in the ECE documents.

#### **Action 2: Review ECE resolutions, international conventions and agreements**

ECE resolutions should be reviewed for identifying provisions which apply to automated vessels and prevent their operation, or do not prevent their operations but may need to be amended or clarified. The next step will be determining the most appropriate way of addressing the operation of automated vessels, which may include temporary derogations, interpretations or amendments to the existing documents or developing new documents. Furthermore, provisions for testing of automated vessels and their commercial use may be treated in a different way and may include the transition period needed for the sector.

International conventions and agreements should be reviewed for identifying provisions which apply to automated vessels and prevent their operation, or do not prevent their operations but may need to be amended or clarified, and the most appropriate way of addressing the operation of automated vessels should be determined.

#### **Action 3: Harmonize approaches for creating a basis for the deployment of automated shipping**

This action includes exchanging the experience and best practice and is aimed to collect and accumulate the experience gained in tests of various types of automated vessels and navigation conditions of testing zones in terms of the waterway parameters, specific infrastructure requirements including traffic signals, weather restrictions, measures to be undertaken to minimize potential risks.

---

<sup>1</sup> [www.ccr-zkr.org/files/documents/AutomatisationNav/NoteAutomatisation\\_en.pdf](http://www.ccr-zkr.org/files/documents/AutomatisationNav/NoteAutomatisation_en.pdf).

**Action 4: Digitalization**

This action includes harmonizing approaches and exchanging best practice in digitization of documents and certificates required on board a vessel by ECE resolutions and international conventions. ECE resolutions should be reviewed for identifying provisions which prevent the use of digitized documents or may be affected and therefore may need amendments or clarifications.

The action also includes cooperation on exchanging best practices in the assessment of the impact of automation on River Information Services (RIS) with the purpose of possible adaptation of ECE resolutions related to RIS.

**Action 5: Ensure data protection, cybersecurity, address the liability concerns and other relevant issues**

This action includes exchanging best practice in the work of governments and international organizations in introducing data protection and cybersecurity measures to be undertaken for automated shipping.

The action also includes exchanging views and experience in the work of governments, international organizations and other stakeholders on determining the liability in automated shipping, insurance and related issues.

**Action 6: Evaluate the social impact of automation, harmonize manning requirements, education and training**

This action includes exchanging the experience of social impact of automation on the sector and views on how to prevent or minimize implications and risks. The conclusions should be reflected in ECE documents.

Special attention should be paid to new approaches, training and retraining programmes and courses developed and implemented by member States.

**Action 7: Assist governments, contribute to capacity-building and awareness-raising, organize workshops and round tables on automation in inland navigation and taking part in the United Nations Round Tables on Intelligent Transport Systems and automation of transport**

Implementation of automated shipping and preparations for its deployment should be included in the national capacity building support provided by the ECE secretariat to assist member States. Dissemination of information and awareness raising on automation in inland navigation can be realized by (a) organizing workshops and round tables on automation in inland navigation in the UNECE framework with the engagement of the key stakeholders and (b) through the participation and contributions of governments, river commissions, international organizations and other stakeholders to the United Nations round table discussions convened under the aegis of UNECE on issues related to ITS and automation issues held regularly.

---