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Working Party on Inland Water Transport

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Item 8 of the provisional agenda

Workshop “Digitalization in inland water transport”

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Note by the secretariat

I. Mandate

1. This document is submitted in line with cluster 5: Inland Waterway Transport, paragraph (a) 5.2 of the Transport subprogramme of work 2018-2019 (ECE/TRANS/2018/21/Add.1) adopted by the Inland Transport Committee at its eightieth session (23 February 2018).
2. At its fifty-third session, the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (SC.3/WP.3) decided to hold a workshop on digitalization in inland water transport at the sixty-second session of SC.3.
3. The Working Party on Inland Water Transport is invited to take part in the workshop dedicated to different aspects of digitalization in the sector, that will be held on 4 October and will consist of several panel discussions and a round table. During the round table, the participants may wish to discuss further steps and follow-up actions for SC.3.

II. Background

4. Digitalization in combination with the evolution and advancement of existing tools give impetus for the shipping industry and related transport and supply chain infrastructure and create opportunity for development and innovation. The development of River Information Services (RIS), intelligent transport systems, implementation of digital services and modern technologies, computerization of transport documents and other aspects can significantly contribute to fostering the role of inland water transport and its integration in intermodal logistics chains. However, the rapid growth of digitalization can be challenging for traditional ship operating practices.

5. The strategy of the Working Party on Inland Water Transport (SC.3) for 2016-2021, adopted by SC.3 on 4 November 2016, focuses on consolidating efforts and involving all UNECE member States when addressing modern challenges, facilitating the development of synergic capabilities with maritime and land transport, fostering RIS and other information and communication technologies in inland navigation.

6. The role of digital technologies and data exchange, RIS, Vessel Traffic Services and the traffic management on inland waterways, the digitalization and other opportunities given by new technologies as a significant step forward to a sustainable and efficient transport mode has been recognized in the ministerial declaration “Inland Navigation in a Global Setting” adopted at the International conference in Wroclaw, Poland, held on 18 April 2018.

7. Experience of digitalization in other inland transport modes covers mostly the computerization of transport documents in road and rail transport, including the electronic road consignment notes (e-CMR), CIM, SGMS, CIM/SGMS consignment notes for railway transport, the digital permit system and digital customs documents (TIR carnets). In general, it is reckoned that electronic versions of transport documents would facilitate trade, nationally and internationally. Electronic transport documents are advantageous in terms of costs and time, better data flow with secure document exchange, data accuracy, safety and security and provide a possibility for integration with other services. At the same time, there are a number of issues that hamper the development of e-transport documents, in particular, legal or technical concerns about authenticity and integrity and therefore protection from fraud, perception of higher reliability of paper documents, obstacles in the national legislation, presence of several standards and concerns about their interoperability and others.¹

8. In the maritime sector, the basis for digitalization has been laid down by IMO, the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the Guidelines and Recommendations for River Information Services developed by Permanent Working Group 125 of the World Association for Waterborne Transport Infrastructure (PIANC), the e-Maritime initiative of the European Commission and other key stakeholders. E-navigation is an IMO initiative aimed at harmonizing and enhancing navigation systems, which is expected to have a significant impact on the future of marine navigation. In November 2014, the Maritime Safety Committee (MSC) at its ninety-fourth session approved the e-navigation Strategy Implementation Plan (SIP) for 2015-2019, which provides a framework for five prioritized e-navigation solutions.²

9. The IMO Facilitation Committee (FAL) at its forty-second session held on 5-8 June 2018, approved a revised structure for its Compendium on Facilitation and Electronic Business, including a new standard IMO reference data set, which will be used as basis for automated and digital systems for exchange of information when ships arrive at and depart from ports. The information data set supports mandatory reporting formalities for ships, cargo and persons on board and can also be extended to support commercial businesses in international shipping.³

¹ Railways role in intermodality and the digitalization of transport documents (ECE/TRANS/262), www.unece.org/fileadmin/DAM/trans/main/wp24/ECE_TRANS_262_E_Web_Optimized.pdf.

² Report of the Sub-committee on Navigation, Communications and Search and Rescue (NCSR 1/28), www.imo.org/en/ourwork/safety/navigation/documents/enavigation/sip.pdf.

³ www.imo.org/en/MediaCentre/MeetingSummaries/FAL/Pages/FAL-42nd-Session.aspx.

10. EfficienSea2, a European Union-funded project under “Horizon 2020”, is aimed at enhancing safety of navigation and increasing the efficiency at sea by developing e-navigation services, the Maritime Cloud and communications, in particular the VHF⁴ Data Exchange System (VDES). Based on input from EfficienSea2, the IALA Council at its sixty-fifth session held on 12-15 December 2017, adopted a new specification guideline for digital services in the maritime domain.

11. Digitalization is an integral part of smart and autonomous shipping and includes cyber security; the workshop on autonomous shipping and cyber security-related issues was held jointly by De Vlaamse Waterweg NV and the UNECE secretariat at the fifty-second session of SC.3/WP.3. A brief overview of the autonomous shipping concept is available in ECE/TRANS/SC.3/WP.3/2018/1,⁵ and the outcome of the workshop is presented in the session report (ECE/TRANS/SC.3/104, paras. 9-30).⁶

12. In inland navigation, digitalization covers a wide range of issues. Some examples are:

- Activities of PIANC Permanent Working Group 125 and Working Group 156 “e-Navigation for Inland Waterways”;
- Initiatives by the European Commission aimed at creating a single digital market for inland navigation, such as the Digital Inland Waterways Activity (DINA) and the Digital Multimodal Nodes (DMN);
- RIS COMEX (River Information Services Corridor Management Execution) project;
- Activities of the International RIS Expert Groups;
- Activities of the European Federation of Inland Ports (EFIP) aimed at the implementation of new technologies and digitalization and further integration of existing IT systems in order to increase efficiency of logistics and manage flows of goods in the port, and others.

III. Purpose of workshop

13. The purpose of this workshop is to demonstrate how can inland shipping benefit from digitalization and what can be an added value at the pan-European level and encourage member States to facilitate the implementation of digital tools and computerization on their inland waterways. The main objectives are:

- Presenting the existing approaches, experience and best practices and vision of the future;
- Identifying challenges and impacts on different aspects of the inland water transport sector, including the legislative framework, safety and cyber security, liability, social impact and education;
- Identifying issues to be addressed at the pan-European level.

14. Topics proposed for discussion are:

- Policy initiatives in the field of digital transport and logistics and digital tools for inland water transport in the European Union and beyond;

⁴ Very high frequency.

⁵ www.unece.org/trans/main/sc3/wp3/wp3doc_2018.html.

⁶ www.unece.org/trans/main/sc3/wp3/wp3rep.html.

- Ongoing international projects and national strategies for inland waterways and river-sea shipping;
- Optimization of cargo flows through better use and exchange of data;
- Digitalization as a facilitator of integration of inland water transport in intermodal transport chains, the role of inland ports as digital hubs;
- Experience of other transport modes and possibilities for the synergy;
- Expansion of RIS for inland navigation;
- Computerization of transport documents, streamlining document procedures and data harmonization;
- Cyber resilience and managing risk;
- Social aspects of digitalization, education and training standards in inland navigation.

15. The workshop sessions will be followed by a round table discussion on advantages and opportunities offered by digitalization, challenges and risks, obstacles, possible solutions and lessons learned.

16. The desired outcome of the workshop would be a selection of items to be addressed at the pan-European level and issues for further consideration by SC.3.
