1System 4 IWT learning: upskilling pathways

- Skills gaps research and gaps in legislation implementation -

Methodology
for future repetition of IWT environment' assessment on EU legislation implementation regarding permanent adaptation of professional competencies of personnel from IWT sector in the Rhine and Danube riparian countries

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LIST OF ABBREVIATIONS

AF	Application Form
CCNR	Central Commission for the Navigation on the Rhine
CEN	European Committee for Standardization
CESNI	European Committee for drawing up standards in the field of inland navigation
CESNI/QP	European Committee for drawing up standards in the field of inland navigation/Professional Qualification
CESNI/PT	European Committee for drawing up standards in the field of inland navigation/Technical Provisions
CESNI/TI	European Committee for drawing up standards in the field of inland navigation/Information Technology
DC	Danube Commission
DG- MOVE	Department for Mobility and Transport
EBU	European Barge Union
EC	European Commission
EDINNA	Education in Inland Navigation
ES-QIN	European Standards- Qualification in Inland Navigation
ES-RIS	European Standard for River Information Services
ES-TRIN	European standard establishing the technical requirements for inland navigation vessels
EU	European Union
E & T	Education & Training
FP 7	Framework Programme for Research
IMO	International Maritime Organization
ISO	International Organization for Standardization
IWT	Inland Water Transport
LNG	Liquefied Natural Gas
OL	Operational level
ML	Management level
MoU	Memorandum of Understanding
PLATINA	Platform for the implementation of a future inland navigation action programme
PP	Project Partner
VET	Vocational Education and Training

EXECUTIVE SUMMARY

The ERASMUS+ project **"1System 4 IWT learning: upskilling pathways"**- 1S4IWT, aims to build a learning system that will act as a solution for ensuring and enduring continuity of education & training for IWT students and workers and generate a „personalized learning experience". Furthermore, the project will focus on developing commons resources that meet the needs of nowadays trends and challenges for (incoming) staff in the IWT sector.

WP 2 - Skills gaps research and gaps in legislation implementation, deals with the creation of a resilient, easily accessible, and future-proof education & training system for the IWT sector.
This methodology for future repetition of assessment is developed as a tool for each country to be able to evaluate their state of play periodically or when obvious/significant changes are considered to be brought to the IWT environment, especially regarding the permanent adaptation of professional competencies of personnel from IWT sector.

This deliverable builds upon latest information received from EDDINA and stakeholders' interviews as well as the outcomes of the CESNI.

1. INTRODUCTION

Currently there is no formal structure and or culture in the IWT sector for upskilling. It is the only subsector in the transport industry in Europe without compulsory courses or refreshers. (AF)

In 2021 European Barge Union (EBU), European IWT Platform and IVR (the united insurers) have committed Intergo for an in-depth study of the human factors in inland shipping accidents. Data show that human factors, including various human errors, are the primary cause of a large number of accidents in inland navigation. The numbers do not lie: human factor plays a decisive role in approximately 70-80% of all accidents occurring in inland shipping. The Intergo study report (Feb. 2022) strongly recommends to start building a culture of upskilling in this sector.

The present Methodology aims to present the increased adaptability of IWT sector to new EU and national legislation/ better adapted IWT and VET organizations to EU and national legislation, considering the following aspects as they were included in the AF: *"The Commission is in the process of assessing several pieces of legislation on the access and functioning of the inland waterways transport market. Within this activity an analysis will be conducted at European level on implementation and continuing revision of EU legislation regarding permanent adaptation of professional competencies of personnel from IWT sector according to the implementation of innovative technologies and digitalization".*

2. INITIATIVES ON ASSESSING THE LEGISLATION ON THE ACCESS AND FUNCTIONING OF THE INLAND WATERWAYS TRANSPORT MARKET AT EU LEVEL

2.1 Commission's activity

The legislative framework for the EU inland waterway transport (IWT) includes legislation covering various objectives which together aim at liberalising the IWT transport market by:

- ensuring that IWT operators have free access to all European inland waterways;
- abolishing discriminatory and unfair market practices, in particular regarding rates and tariffs; and
- creating fair conditions of competition through common rules including admission to the occupation of IWT carrier.

In 2020, DG MOVE ordered a study on the evaluation of existing market access legislation, which

needs to be reviewed and updated to current market requirements, the following legislative documents being proposed for review:

- REGULATION No 11 concerning the abolition of discrimination in transport rates and conditions, in implementation of Article 79 (3) of the Treaty establishing the European Economic Community;
- COUNCIL REGULATION (EEC) No 2919/85 of 17 October 1985 laying down the conditions tor access to the arrangements under the Revised Convention for the navigation of the Rhine relating to vessels belonging to the Rhine Navigation;
- Council Directive 87/540/EEC of 9 November 1987 on access to the occupation of carrier of goods by waterway in national and international transport and on the mutual recognition of diplomas, certificates and other evidence of formal qualifications for this occupation;
- COUNCIL REGULATION (EEC) No 3921 / 91 of 16 December 1991 laying down the conditions under which non-resident carriers may transport goods or passengers by inland waterway within a Member State;
- COUNCIL REGULATION (EC) No 1356/96 of 8 July 1996 on common rules applicable to the transport of goods or passengers by inland waterway between Member States with a view to establishing freedom to provide such transport services;
- COUNCIL DIRECTIVE 96/50/EC of 23 July 1996 on the harmonization of the conditions for obtaining national boatmasters' certificates for the carriage of goods and passengers by inland waterway in the Community;
- COUNCIL DIRECTIVE 96/75/EC of 19 November 1996 on the systems of chartering and pricing in national and international inland waterway transport in the Community;
- COUNCIL REGULATION (EC) No 718/1999 of 29 March 1999 on a Community-fleet capacity policy to promote inland waterway transport;
- Derogation of Agreement on determination of legislation applicable to Rhine boatmen concluded on the basis of Article 16(1) of Regulation EC 883/2004 on the coordination of social security systems;
- DIRECTIVE 2005/44/EC of the European Parliament and of the Council of 7 September 2005 on harmonised river information services (RIS) on inland waterways in the Community.
- DIRECTIVE 2006/87/EC of the European Parliament and of the Council of 12 December 2006 laying down technical requirements for inland waterway vessels and repealing Council Directive 82/714/EEC. This Directive is intended to promote European river transport by improving the technical harmonisation of vessels. It is designed to lay down a high level of safety equivalent to that for shipping on the Rhine.
- DIRECTIVE 2009/100/EC of the European Parliament and of the Council of 16 September 2009 on reciprocal recognition of navigability licences for inland waterway vessels.
- Application of posting of workers Directive 96/71/EC and the enforcement Directive 2014/67/UE in inland waterways transport.

The above-mentioned Regulations and Directives cover the main technical, economic and legal issues of inland navigation: access to the market, pricing, technical prescriptions applicable to inland vessels, the boatmasters' certificates. What needs to be emphasized is that they apply only to EU member states and one should not forget that, because of Europe's geography, transport from one Member State to another frequently involves transit through non-EU countries. Further, a 'regulation' is a binding legislative act and must be applied in its entirety across the European Union.

2.2 Review of CESNI work on standards for professional competences

CESNI

During its plenary session in June 2015, the Central Commission for the Navigation of the Rhine (CCNR – www.ccr-zkr.org) created, through the adoption of a resolution, a European Committee for the development of standards in the field of inland navigation ("CESNI"). This resolution makes it possible to accelerate the development of harmonized, modern and clear requirements for waterway users.

The creation of this new working body is part of the CCNR's desire, shared with the European Union, to strengthen governance at European level, particularly in the regulatory field of inland navigation.
This Committee is intended to bring together experts from member states of the European Union and the CCNR, as well as representatives of international organizations concerned with inland navigation. An important place is also reserved for representatives of the different navigation players and professions in Europe. By creating this Committee**, the** European Commission and the CCNR wish to simplify decision-making procedures in the field of inland navigation regulation, so that all institutional partners and stakeholders involved can benefit from the CCNR's experience.

Mission

The European Committee for the development of standards in the field of inland navigation- CESNI- has the mission, in particular:

- to adopt technical standards in different areas, in particular with regard to buildings, information technologies and crews, to which the respective regulations at European and international level, in particular those of the European Union and the CCNR, refer to for their application;
- to deliberate on the uniform interpretation and application of the said standards, on the modalities of application and implementation of the related procedures, on the procedures for exchanging information as well as on the control mechanisms between the Member States;
- to deliberate on derogations and equivalences to the technical requirements for a specific building;
- to deliberate on priority themes concerning navigation safety, environmental protection and other areas of inland navigation.

Activities

The activities of the European Committee for drawing up standards in the field of inland navigation (CESNI) relate, to technical requirements applicable to vessels (CESNI/PT) , professional qualifications for seagoing personnel (CESNI/QP) and technologies of information (CESNI/TI).

Work programme

On October 28, 2021, CESNI adopted its work program for the next three years. The various themes relating to technical requirements, professional qualifications, and information technologies, which are the three main lines of work of CESNI, have been the subject of conscientious discussions to lead to an ambitious multi-annual work program (2022-2024).

With this steering instrument, CESNI undertakes to regularly review existing standards and adopt new standards in order to maintain and guarantee the high level of safety of European inland navigation, in particular regarding the applicable technical requirements. to buildings and professional qualifications. Through this instrument, the committee also undertakes to ensure careful monitoring of technical developments and to encourage innovation, particularly in the field of alternative fuels, automation and modern tools for training and examinations, and to encourage dematerialization in the inland navigation sector. The CESNI also plans several actions aimed at ensuring the proper implementation of the standards, in particular consultations on the uniform interpretation of the standards and the publication of explanatory documents. Finally, CESNI aims to provide advice and analysis on essential themes for safe and sustainable inland navigation with a view to future regulatory developments.

Based on the strategic lines developed by DG MOVE and the CCNR Secretariat, this work program is the result of discussions between all CESNI participants representing inland navigation: CCNR Member States and the European Union, observer states, the European Commission, international organizations including river commissions, as well as representative non-governmental organizations.

CESNI Work Program for 2022-2024 can be found following this link
https://www.cesni.eu/presentation-des-documents/programme-de-travail/

List of Standards adopted by CESNI, standards in progress and standards under continuing revision

1. *European standard establishing the technical requirements for inland navigation vessels (ES-TRIN)*

This standard lays down the uniform technical requirements necessary to ensure the safety of inland navigation vessels. It contains provisions on inland navigation vessel construction and equipment, special provisions for certain categories of vessels such as passenger and container vessels, provisions on the model of inland navigation vessel certificate as well as instructions on how to apply the technical standard. It is available in four languages (German, English, French, Dutch). The ES-TRIN 2015 brought together in a standardised way the requirements previously contained in directive 2006/87/EC and in the Rhine vessel inspection regulations. Subsequent editions of the ES-TRIN have enabled this standard to develop to take account of technical developments and feedback on its application.

References to ES-TRIN are now included in the legal frameworks of the EU and the CCNR (respectively directive (EU) 2016/1629 and Rhine vessel inspection regulations). The Danube Commission also decided in 2017 to recommend the standard in its international instruments. In 2023, all the riparian states of the Danube should have implemented the ES-TRIN in their national law. Moreover, the International Sava River Basin Commission intends to create a reference to the standard in its legal framework. In other words, ES-TRIN has been established, with great effort, as

the centrepiece and baseline for the technical requirements for inland navigation vessels in Europe and has contributed to the reinforcement of governance and harmonisation at the European level.

2. *European Standard for Inland Navigation Qualifications (ES-QIN)*

Since 2015, the CESNI Committee approves standards related to professional qualifications in inland navigation. The standards lay down details of a new competence-based approach for deck crew members. Navigational safety owes much to competent, well-trained personnel, with interesting career opportunities and job mobility within Europe.

The main objectives of the standards are to:

- foster labour mobility
- make the profession more attractive,
- ensure safe navigation by means of ambitious requirements in terms of knowledge, skills and fitness, and
- enable companies and crews to adapt to technical and logistic innovation.

3. *European Standard for River Information Services (ES-RIS)*

River Information Services (RIS) is the concept whereby information services in inland navigation support traffic and transport management in inland navigation, including interfaces with other modes of transport. Directive 2005/44/EC on harmonised river information services on the EU's inland waterways (the RIS Directive) requires Member States to implement RIS according to certain standards. The RIS are expected to improve safety, efficiency and the environmental friendliness of inland navigation.

Other standards adopted by CESNI:

- *Standards for standardized communication sentences in four languages (German, English, Dutch and French);*
- *Standards for basic safety training for deckhands*
- *Standards for the practical examination for obtaining a certificate of qualification for the operational level (OL);*
- *Model examination at the OL (boatman);*
- *Model examination at the ML (boatmaster);*
- *Guidelines for environmentally friendly and efficient vessel operation (eco-navigation).*
- *Standards for sailing with radar*
- *Model examination for sailing with the use of radar*
- *LNG bunkering standards*

Tasks of the CESNI Work Programme 2022- 2024 in the field of professional qualifications:

- *Update of ES-QIN with a view to regular revisions of ES-TRIN, ES-RIS and other regulations (e.g. in the field of cyber security, regulations from EU, IMO etc., technical standards from ISO, CEN);*
- *Draft standards for competence of entrepreneurs in inland navigation including green and digital skills as input for update of Directive 87/5401 after fitness check and evaluation, based on the competence-based approach developed by CESNI/QP;*
- *Draft competence standards for new and innovative technologies including the use of relevant alternative fuels, batteries and electric propulsion systems;*
- *Evaluation of research results for practical examination, if need be, for new and innovative technologies including the use of relevant alternative fuels, batteries and electric propulsion systems;*
- *New standards on simulators for new competences related to alternative energies (including LNG);*
- *Update of competence standards and draft standards for (practical) examination for operators, OL and ML;*
- *Draft standards for simulator approval for automated vessel operation (including e.g. remote vessel operation);*
- *Update of competence standards, draft standards for (practical) examination and draft standards on simulators for the use of the track guidance assistant for inland navigation (TGAIN);*
- *Provide input for standards for eco-efficient navigation;*
- *Development of definition of workload and development of methodology of task allocation on the basis of defined workload, e.g. workload estimation and task allocation;*
- *Development of an approach to flexibility in manning requirements;*
- *Draft standard for minimum requirements/tables (based on the task allocation);*
- *Draft standards for functional specifications of electronic tools for recording and exchanging information on crew;*
- *Draft standards for technical specifications of electronic tools for recording and exchanging information on crew;*
- *Conformance manual for testing the applications / system towards functional and technical specifications with specific consideration for data protection;*
- *Conformance tests of developed application/Standards for type approval.*

3. METHODOLOGICAL APPROACH FOR DATA COLLECTION AND ANALYTICAL FRAMEWORK

3.1 Introduction/General principles

The identification of gaps and challenging requirements in the existing regulatory framework for the EU legislation implementation regarding permanent adaptation of professional competencies of personnel from IWT sector in the Rhine and Danube riparian countries will be carried out according to the methodological approach based on the results highlighted in the Report developed in this project as a Deliverable D 2.1 1.

A *mixed-methods approach* was adopted, combining quantitative surveys (questionnaire and existing database) with qualitative interviews conducted with 10 participants representing inland navigation manning agencies, to provide a comprehensive understanding of the adaptability of IWT sector to new EU and national legislation/ better adapted IWT and VET organizations to EU and national legislation, as well as to analyse the implementation and continuing revision of EU legislation regarding permanent adaptation of professional competencies of personnel from IWT sector according to the implementation of innovative technologies and digitalization.

The main important steps for data collection and analytical framework were jointly established with the project partners in order to know who are the responsible bodies for the continuing adaptation of the legislation regarding the professional competences of crew members on board inland vessels and as well as for to know which are the latest development for continuing adaptation – upskilling- of this personnel, based on CESNI work on standards, development of the IWT sector and the requirements of the labour market.

The steps are the following, but they are not limitative and can be supplements with others, if it will be necessary:

Step 1. Identification of relevant regulatory bodies in project partners' countries
Step 2. Overview of EU legislation implementation in IWT sector of the project partners' countries about recognition of professional qualification of crew members onboard inland vessels
Step 3. Status quo of professional competences included in curricula developed based on CESNI standards, in partner countries
Step 4. Permanent adaptation of professional competences based on the work of CESNI to update ES-QIN and to adopt other relevant standards;

3.2 Step 1- Identification of relevant regulatory bodies in Danube and Rhine riparian countries

PP country	Regulatory bodies
The Netherlands	Ministry of Infrastructure and Waterways
Austria	The Austrian Federal Economic Chamber (Wirtschaftskammer)– regulatory body awarding the diploma/certificates Federal Advisory Board on Vocational Education and Training (WKÖ), Ministry of Education, Federal Ministry for Digitisation and Economic Location
Germany	Chamber of Industry and Commerce Magdeburg (Industrie- und Handelskammer Magdeburg) Lower Rhine Chamber of Industry and Commerce DuisburgWesel-Kleve at Duisburg (Niederrheinische Industrie- und Handelskammer Duisburg-Wesel-Kleve zu Duisburg) Directorate-General for Waterways and Shipping (Generaldirektion Wasserstrassen und Schifffahrt) GDWS Bonn
Slovakia/ Slovak Republic	The Ministry of Transport and Construction of the Slovak Republic The Transport Authority, Division of Inland Navigation.
Romania	Ministry of Transport and Infrastructure Romanian Naval Authority
Other EU Danube and Rhine riparian countries	
Belgium	De Vlaamse Waterweg, SPW for Walloon Region
Hungary	Ministry for Innovation and Technology
Croatia	Ministry of the Sea, Transport and Infrastructure
Bulgaria	Ministry of Transport, Information Technology and Communications
France	

3.3 Step 2- Overview of EU legislation implementation in EU Danube and Rhine riparian countries, about recognition of professional qualification of crew members on board inland vessels

The most relevant EU legislation for IWT sector regarding the recognition of professional qualification of crew members onboard inland vessels is presented on the top of the table below. In the same table are included the national legal acts transposing the EU legislation on the recognition of professional qualification of crew members on board inland vessels, in project partners countries and EU Danube and Rhine riparian countries.

EU legislation

Directive (EU) 2017/2397 *of the European Parliament and the Council of 12 December 2018 on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC (OJEU 2017,*

Commission Delegated Directive (EU) 2020/12 *of 2 August 2019 supplementing Directive (EU) 2017/2397 of the European Parliament and of the Council as regards standards of professional competence and corresponding knowledge and skills, standards for practical tests, for the approval of simulators and for medical capacity*

Commission Implementing Regulation (EU) 2020/182 of 14 January 2020 *on models in the field of professional qualifications in inland navigation*

Commission Delegated Regulation (EU) 2020/473 of 20 January 2020 *supplementing Directive (EU) 2017/2397 of the European Parliament and of the Council with regard to the standards for databases for the Union certificates of qualification, service record books and logbooks*

Commission Delegated Regulation (EU) 2020/474 of 20 January 2020 *on the European Hull Data Base*

Directive (EU) 2021/1233 *of the European Parliament and of the Council of 14 July 2021 amending Directive (EU) 2017/2397 as regards the transitional measures for the recognition of third-country certificates*

PP country	National acts transposing the EU legislation
The Netherlands	**Regulation of the Minister for Infrastructure and Water Management of 15 February 2022**, No IENW/BSK-2022/31845, amending the Inland Waterway Transport Scheme and the 2005 Shipping Fees Regulation partially implementing Directive (EU) 2017/2397 of the European Parliament and of the Council of 12 December 2018 on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC (OJ L 2017, 345) (Regulation on partial implementation of the Professional Qualifications Directive on inland navigation) **Decree of the Minister for Infrastructure and Water Management, of 15 February 2022**, No IENW/BSK-2022/31844, amending the Decree on the CBR 2019 mandate partially implementing Directive (EU) 2017/2397 of the European Parliament and of the Council of 12 December 2018 on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC (OJ L 2017, 345) **Regulation of the Minister for Infrastructure and Water Management of 17 April 2023,** N° IENW/BSK-2023/96863, amending the Inland Waterway Transport Regulation implementation of CCNR Decision 2022-II-9 establishing a new Regulations relating to Rhine Navigation Personnel **Order of the Minister for Infrastructure and Water Management of 30 October 2023**, No IENW/BSK-2023/292060, amending the Decision on the CBR mandate 2019 implementing CCR Decision 2022-II-9 establishing a new Regulations on Rhine Navigation Personnel

	Act of 7 June 2023 amending the Inland Navigation Act in connection with the implementation of Directive (EU) 2017/2397 of the European Parliament and of the Council on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC
Austria	**Federal Act** amending the Shipping Act, 2021 **Regulation** of the Federal Minister for Climate Action, Environment, Energy, Mobility, Innovation and Technology on the operation of vessels on inland waterways (SchBV), 2022
Germany	**Fourth Act** amending the Inland Waterways Tasks Act, 2021 **Regulation** on new legislation on skills in inland waterway transport, 2021 **Corrigendum to the new regulation** legislation on skills in inland waterway transport, 2021 **Amendment Regulation** to the Land Waterways Ordinance, 2022
Slovak Republic	**Decree of the Ministry of Transport and Construction of the Slovak Republic No 381/2021** Coll. laying down the details of qualifications of a crew member operating on an inland waterway connected to the navigable waterway network of another Member State **Decree of the Ministry of Transport and Construction of the Slovak Republic No 135/2022** amending Decree of the Ministry of Transport and Construction of the Slovak Republic No 381/2021 laying down details of the qualification requirements of a crew member of a vessel operating on an inland waterway linked to the navigable waterway network of another Member State
Romania	**Order no. 209/2022 of 23 February 2022** of the Deputy Prime Minister, Minister for Transport and Infrastructure for the approval of training standards, confirmation of competence and issuing of certification of professional qualifications of Romanian crew members on board inland waterway vessels **Annexes No 1-6 to Order No 209/2022** of the Deputy Prime Minister, Minister for Transport and Infrastructure for the approval of training standards, confirmation of competence and issuing of certification of professional qualifications of Romanian crew members on board inland waterway vessels **Order no. 1207/2022 of 30 June 2022** for amending and supplementing the Order of the Deputy Prime Minister, Minister for Transport and Infrastructure no. 209/2022 for the approval of training *standards, confirmation of competence and issuing of certification of professional qualifications of Romanian crew members on board inland waterway vessels*.
Other EU Danube riparian countries	**National acts transposing the EU legislation**
Bulgaria	**Regulation No 6 of 17 June 2021** on the competence of seafarers in the Republic of Bulgaria **Supplement to Regulation No 6 of 17 June 2021** on the competence of

	seafarers in the Republic of Bulgaria
Croatia	**Inland Water Navigation and Ports Act, 2021** **Rules** on the crew of inland waterway vessels and floating structures, 2022
Hungary	**Decree No 14, 2022** of the Minister for Innovation and Technology on professional boating qualifications **Decree No 14, 2022** of the Minister for Innovation and Technology amending, for the purposes of legal harmonisation, certain ministerial decrees in the field of transport relating to professional boating qualifications
Other EU Rhine riparian countries	**National acts transposing the EU legislation**
Belgium	**6 May 2022 – Decision of the Flemish Government** on professional competences for inland waterway transport personnel. **PUBLIC SERVICE IN WALLONIA – 25 AUGUST 2022** — Walloon Government Decree on the acquisition and recognition of professional qualifications in inland navigation and amending and repealing various provisions in this field **Brussels-Capital Region: 1 June 2023. — Ordinance** on the recognition of professional qualifications in inland navigation **13 JULY 2023. — Decree of the Government of the Brussels-Capital Region** on the recognition of professional qualifications in inland navigation
France	**Decree No 2022-156 of 9 February 2022** on professional qualifications in inland navigation (NOR: TRAT2127224D) JORF No 0034 of 10 February 2022 **Order of 27 April 2022** on the qualifications of crews and the conduct of commercial vessels in inland navigation (NOR: TRAT2203053A) JORF No 0112 of 14 May 2022

This information is available by accessing the following link: https://eur-lex.europa.eu/legal-content/EN/NIM/?uri=CELEX:32017L2397

3.4. Step 3- Status quo of professional competences included in training programmes established based on CESNI standards, in partner countries

Transposition of EU legislation about recognition of professional qualification of crew members on board inland vessels was done in 2022, as it appears on this link: https://eur-lex.europa.eu/legal-content/EN/NIM/?uri=CELEX:32017L2397 .

The most important step after the transposition is the implementation into the E&T system of these new provisions transposed into the national legislation of Danube and Rhine riparian countries, implementation involving among others the development and approval of new training programmes for crew members, according to the **Directive EU 2017/2397, art. 19- Approval of training programmes**.

According to this provision, one of Member States obligation is: to notify to the Commission the **list of the approved training programmes**, as well as any training programmes whose approval has been revoked or suspended. The Commission shall make this information publicly available. The list shall indicate the name of the training programme, the titles of diplomas or certificates awarded, the body awarding the diploma or certificates, the year of entry into force of the approval, as well as the relevant qualification and any specific authorisations to which the diploma or certificate gives access.

List of the approved training programmes is available on this link: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://transport.ec.europa.eu/system/files/2023-09/List_of_approved_training_programmes-2023-09-21.pdf
As can be seen in the above list the new E&T system started in EU countries, crew members on board inland vessels are trained based on new training programmes in order to acquire new professional competences to obtain Union Certificate of Qualification.

To a brief analysis of the list of courses, results:

- in most countries a limited number of training programmes have been developed
- most of the programmes are established as vocational courses
- training programmes for specific authorisations and for specific operations are not established as separate programmes
- basic safety training programme is not included in the list of most countries

The reason of these problems can be the lack of resources or the lack of interest of younger for IWT sector, but the real problems are known by each country.

In this respect in this step, each PP was invited to briefly comment on the list of courses sent to the European Commission.

Country	Professional competences included in training programmes
The Netherlands	The training programmes included in the list sent to DG MOVE, are established based on ES-QIN and on the other CESNI Standards, such as: • *Standards for standardized communication sentences in four languages* (German, English, Dutch and French); • *Standards for basic safety training for deckhands* • *Standards for the practical examination for obtaining a certificate of qualification for the operational level (OL);* • *Model examination at the OL (boatman);* • *Model examination at the ML (boatmaster);* • *Guidelines for environmentally friendly and efficient vessel operation (eco-navigation).* • *Standards for sailing with radar* • *Model examination for sailing with the use of radar*

	• *LNG bunkering standards* The training programmes are in line with the CESNI standards, but the refreshment courses are not introduced in the new legislation. Most of the training programmes include training on simulators, inland ECDIS and practical training that means a divers learning path for the trainees based on the competences. On board training is already in place for the crew members during the practical stage on board inland vessels but during this type of training the learning objectives are included in the number of skill days to be achieved and noted in the service book.
Austria	In Austria, the education, training, and assessment system for crew members on board inland vessels undergoes a continuous process of evolution, aligning with the principles set forth by CESNI (Central Commission for the Navigation of the Rhine) and the European Standard for Qualifications in Inland Navigation (ES-QIN). The "Berufsschule" (Vocational School, Dual System) ensures the permanent adaptation of professional competences on a yearly basis. The focus lies on the ongoing update of standards, technological advancements in the inland waterway transport sector, and the evolving labour market, necessitating innovative competences for crew members. At the moment, there are no refreshment-courses for active inland navigation crew members, because of a lack of resources. However, there is a newly developed *practice oriented education*, allowing individuals to attain formal crew member status in less than two years. This involves practical hours and an examination conducted by the "Berufsschule" (Vocational School, Dual System), the educational institution responsible for the permanent adaptation of professional competences. Despite the absence of refreshment courses due to resource constraints, the emphasis on practical, hands-on learning addresses the demand for skilled workforce in the shipping industry.
Germany	To increase the attractiveness of inland navigation professions, Germany made available a 3-year dual training programme to become an inland waterways boatman/boatwoman as well as a 3.5-year training programme to become an inland waterways boatmaster as of 1 August 2022. The Federal Ministry for Digital and Transport supports both training programmes through its Funding of Initial and Continuing Training in the German Inland Waterway Transport Sector Programme. They will also support the new option of a skills development programme for career changers (e.g. from the maritime shipping sector) with a minimum duration of 9 months by funding the costs for the training provider. So far, the following vocational IWT training courses are delivered in Germany: • *Vocational training for inland skippers* according to the legal act on

	vocational training for inland skippers from 20 January 2005; • *Vocational training for inland boatmasters* according to the legal act on vocational training for captains in inland navigation from 2 March 2022
Slovakia	Under the process of implementation
Romania	Training programmes addressed to crew members on board inland vessels are approved, are permanent monitored, and recertified at each 3 years by Romanian Naval Authority, according to a national legislation: Ministry of Transport Order no. 1354/2007 regarding the minimum criteria needed to be fulfilled by the providers of education, vocational training or professional development training, in order to organize and proceed authorized training classes for obtaining and extending the validity of licenses and certificates of competency for crew members. During the recertified procedure, training programmes are update with the latest news in the field of legislation and standards for competences as well. The training programmes included in the list sent to DG MOVE, are established based on ES-QIN and on the other CESNI Standards, such as: • *Standards for standardized communication sentences in four languages* (German, English, Dutch and French); • *Standards for basic safety training for deckhands* • *Standards for the practical examination for obtaining a certificate of qualification for the operational level (OL);* • *Model examination at the OL (boatman);* • *Model examination at the ML (boatmaster);* • *Guidelines for environmentally friendly and efficient vessel operation (eco-navigation).* • *Standards for sailing with radar* • *Model examination for sailing with the use of radar* • *LNG bunkering standards* So, the training programmes are in line with the CESNI work on standards, but the refreshment courses are not introduced in the new legislation. Most of the training programmes include training on simulators that means digital competences for the trainees. On board training is already in place for the crew members during the practical stage on board inland vessels but this type of training is not yet regulated in detail, although during this practical stage the participating personnel are assigned to a position on board the vessel for which they fulfil all the duties.
Other EU countries	
Hungary	The training programmes included in the list sent to DG MOVE, are established based on ES-QIN and on the other CESNI Standards, such as: • *Standards for basic safety training for deckhands*;

	• *Standards for basic safety training for boatman*; • *Standards for union certificate of qualification for boatmaster;* • *Standards for union certificate of qualification for passenger navigation expert*

3.5 Step 4- Permanent adaptation of professional competences based on the work of CESNI to update ES-QIN and to adopt other relevant standards

As can be seen from step 3, a new education, training and assessment system of crew members on board inland vessels, has started to work in the Danube and Rhine riparian countries, a system recognized at EU level, that means the main aim of the new EU legislation was achieved, through the recognition of professional qualification of crew members at EU level.

So, the system working, but that any system is not perfect but perfectible, which means that it must be permanently adapted to new requirements in the field of professional competences.

This step is focused on the permanent adaptation of professional competences of crew members on board inland vessels as a result of continuing update of standards for competences, technological development of the IWT sector, and the labour market requirement for new and innovative competences for crew members.

The most important is the permanent update of the training programmes according to the permanent update of ES-QIN, as well as the inclusion in training programmes of the other standards for competences adopted by CESNI and which are not yet included in European Directives, following the work in CESNI/QP focused on the qualifications of the future, in order to help the IWT sector to:

- Adapt to the new digital environment: support personnel who will have to operate in an increasingly digitised environment (and more generally dealing with equipment enabling an increasingly automated navigation);
- Adapt to the energy transition: support personnel in the energy transition – for example, by adopting operating practices that respect the environment or by training sessions in the use of new methods of on-board propulsion;
- Have more flexible crew regulations;
- Support entrepreneurship: provide a definition of entrepreneurial competences in order to become an inland waterway transport entrepreneur.

These are several aspects that have already been identified to enable inland navigation personnel to adapt to societal and technological developments. CESNI experts will follow closely new developments and continue working on the modernisation of crew-related requirements.

Permanent adaptation of the training programmes is not enough, this action having to be corroborated with the periodic participation of the crew members in these training programmes, possibly in the periodic assessment of competences in order to be assured of the fact that their competences are adapted to the latest requirements in the field- upskilling pathways.

This means the introduction of refresher training programmes at regular time intervals, respectively 3 or 5 years, similar with the other modes of transport, namely the maritime sector, where the refreshment training programmes are mandatory at each 5 years.

There is this refreshment available as well in inland navigation sector, namely on board passenger vessels for cruise, where the safety courses are refreshed each year for each crew member on board these vessels.

Starting from the premise that onboard training is more acceptable than the participation of crew members in training courses, onboard training should be instituted, similar to what is already applied in the maritime sector. The first step in this direction was made in COMPETING project where Training Record Books were established, just for this type of training and assessment of crew members.

CESNI work should be introduced in the working plan to establish such standards for onboard training, namely for periodical refreshment of competences of crew members on board inland navigation vessels, taking into account that onboard training should be organized in such way that:

- is an integral part of the overall training plan;
- each crew member is trained individually.

It is important to have a harmonised standard in this field, just to continue in the direction of recognition of professional qualification at EU level.

Until the adoption of such CESNI standard, each country can be introduced in the specific legislation refreshment training course, periodical evaluation of competences and/or on board training, if the designated authority is convinced of the necessity of these courses and at the same time the owners, for the most important reason- Safety of navigation.

Each PP was invited to comment on the national procedure of permanent adaption of training programmes as well as on the necessity of refreshment courses, periodical evaluation of crew members and on onboard training as well.

Country	National procedure of permanent adaption of training programmes
The Netherlands	In the Netherlands, a gap analysis was first used which led to a quick fix that allowed the training programs to comply with laws and regulations. There are different ways of education in the Netherlands. Education for adults and pre vocational and vocational education. Training courses with professional exams are supervised by the Ministry of Infrastructure and Waterways, which has placed this supervision with the CBR. Supervision takes place structurally at least every three years. Following this measure, it was then decided to design the training programs based on the ES-QIN competencies to ensure a seamless program. The follow-up step being worked on now (2023-2025) focuses on revising the curriculum based on the ES-QIN competencies. If the ES-QIN changes in the future, it will be immediately clear where the curriculum needs to be

	adjusted. This leads to sustainable implementation and future-fit education. The pre-vocational and vocational programmes are supervised by the Ministry of Infrastructure and Water Management, which has delegated this supervision to the Ministry of Education, Culture and Science. Supervision takes place structurally at least every four years.
Austria	In Austria, the education, training, and assessment system for crew members on board inland vessels undergoes a continuous process of evolution, aligning with the principles set forth by CESNI (Central Commission for the Navigation of the Rhine) and the European Standard for Qualifications in Inland Navigation (ES-QIN). The cornerstone of this dynamic system is the "Berufsschule" (Vocational School, Dual System), which ensures the permanent adaptation of professional competences on a yearly basis. Unlike traditional curricula, the less formal "Lehrstoffverteilung" (distribution of learning content) allows for the swift inclusion of new and relevant competences, circumventing the time-consuming legislative implementation process. This strategic approach reflects the acknowledgment that any system, despite its functionality, is subject to imperfection and requires perpetual refinement to meet emerging demands in the realm of professional competences. The focus lies on the ongoing update of standards, technological advancements in the inland waterway transport sector, and the evolving labour market, necessitating innovative competences for crew members. This steadfast commitment to adaptation includes addressing the challenges of the digital environment, energy transition, flexibility in crew regulations, and supporting entrepreneurship. However, at the moment, there are no refreshment-courses for active crew members, because of a lack of resources. However, there is a practice oriented education which has been newly developed for the shipping industry: Due to a shortage of qualified personnel, a new model has been introduced, allowing individuals to attain formal crew member status in less than two years. This involves practical hours and an examination conducted by the "Berufsschule" (Vocational School, Dual System), the educational institution responsible for the permanent adaptation of professional competences. Despite the absence of refreshment courses due to resource constraints, the emphasis on practical, hands-on learning addresses the demand for skilled workforce in the shipping industry.
Germany	In Germany, the teaching of basic knowledge for dealing with new technologies or processes was integrated into the curricula from the outset in line with the reorganisation. These are regularly adapted as new technologies or processes are added. In addition to (state) vocational colleges, private providers also have the opportunity to offer qualified training and further education courses. These provide participants with the necessary knowledge and skills within the framework of the free market economy and prepare them for the respective

	examinations. The examinations are conducted in accordance with state requirements on the basis of defined training and examination regulations. This is done, for example, by examination boards of the Chamber of Industry and Commerce or the Directorate-General for Waterways and Shipping (GDWS). In Germany, the assessment of crew members is generally the responsibility of the employers. Crew members are usually instructed annually in safety-relevant areas. The support of external partners such as the employers' liability insurance associations also plays an important role here. Certification of corresponding training and further education courses is currently neither planned nor envisaged in Germany. It is also not necessary, as the education market guarantees the quality of the courses. In other words, an educational institution that does not offer qualified training and further education to enable participants to pass the relevant examinations will not survive for long.
Slovakia	Under the process of implementation
Romania	The list of approved training programmes in Romania published on the DG-MOVE website is a comprehensive one (22 training programmes) taking into account that most of the provisions adopted by Directive (EU) 2017/2397 were already applicable in Romania, respectively: • approval of training programmes addressed to crew members on board inland vessels and permanent monitoring of these training programmes by Romanian Naval Authority; • theoretical and practical assessment of crew members by Romanian Naval Authority; • carrying out the practical stage on board the vessels by the trainees of the Boatman Qualification Course; • professional training and assessment of crew members for obtaining specific authorizations such as: Radar, VHF, ADN Expert, assessment of competences being done by experts from Romanian Naval Authority. As a result of the transposition and implementation of EU Directives for the recognition of professional qualifications of crew members on board inland vessels, the new elements brought into the Romanian system of education, training, examination and issuing of attestation documents for crew members were: • use of simulators for training and assessment of competences for crew members; • establishing of training programmes based on harmonised standards for competences adopted at European level; • the introduction of a new position as a Deckhand on board inland navigation vessels and a specific training programme for this position, namely Basic Safety Training;

	• issuance of attestation documents according to a unique model adopted at European level- Union Certificate of Qualification; • linking the database regarding the attestation documents of crew members to the electronic hull database at the European level. All the training programmes established by CERONAV, based on the new legal provisions are approved by Romanian Naval Authority in 2022, and monitored each year by the same Authority. In 2025, after three years from approval, each training programme will be recertified by the Romanian Naval Authority, according to a national legal act- Ministry of Transport Order no. 1354/2007 regarding the minimum criteria needed to be fulfilled by the providers of education, vocational training or professional development training, in order to organize and proceed authorized training classes for obtaining and extending the validity of licenses and certificates of competency for crew members. It should be mentioned that in Romania only the training programmes in the continuous training system are approved, the educational programs being included in the new legislation but the educational institutions have not yet requested the approval of the new programs to the Romanian Naval Authority.

4. ANALYSIS OF LEGISLATIVE GAPS SUGGESTIONS/PROPOSALS TO OVERCOME GAPS AND RECOMMENDATIONS FOR BETTER COMPLIANCE WITH EU LEGISLATION IN IWT SECTOR

The transnational gap analysis and impact evaluations regarding EU legislation implementation in IWT sector and the permanent adaptation of professional competencies according to the implementation of innovative technologies and digitalization in IWT sector in the project partners' countries summarizes common and specific national problems obstructing the implementation of the new EU Directive on the recognition of professional qualifications in inland navigation in each project partner country.

Considering that transposition is mandatory, **gaps appeared only during the implementation process**, as it can be seen in the previous chapter of this Methodology.
The problems that appeared during the implementation or that led to the non-implementation of legal provisions are closely related to the **lack of resources** and **lack of interest of young people to work on board inland vessels.**

The **lack of financial resources** conducts to the lack of educational infrastructures (i.e. simulators, school vessels etc.) necessary to be used according to the legal provisions in the field of professional qualification of crew members on board inland vessels.

Another gap is the **lack of legal provisions regarding the permanent adaptation of training**

programmes according to the latest updates of ES-QIN, innovative development of the IWT sector, or the labour market requirements.

The **refresher courses- upskilling- of crew members as well as of side entrants are not legally regulated** and are not applicable because of this gap.

All these gaps can be eliminated if the designated national authority together with the education and training institutions and the other relevant stakeholders will decide to complete/improve the legislation accordingly.
It is not mandatory to have EU legislation to be transposed but there should be a permanent initiative to improve the competences of crew members in order to increase the safety of navigation, but also for these personnel to become competitive at the EU level, as well as the institutions that train/assess them.

5. CONCLUSIONS AND FURTHER GENERAL RECOMMENDATIONS

In order to be competitive on the labour force market, crew members on board inland navigation vessels **should be trained/evaluated periodically** in order to be able to perform a function on board the vessels equipped with innovative technology.

EDINNA association has an important role in this action, and therefore must be constantly informed by its members regarding the improvement of the system of professional qualification of crew members, the latest technological developments of the IWT sector, and as well on the problems the problems they face in relation to this action.

CESNI work on standards it is very important for the improvement of the E&T system in each country and in order to be informed in due time, each country has to have representatives in the CESNI expert groups, or to be informed in due time by EDINNA association.

The relevant EU strategies, initiatives, programmes are most important, as well, for the improvement of the E&T system in each country, because here you can find the directions for the development of the IWT sector and implicitly for the professional qualification of crew members.

For the future development of E&T system the most important is **the adoption of a harmonised standard for on board training of crew members**, because education/training institutions cannot be equipped with all the new technologies that vessels will be equipped with in the future and the most effective training will be on board of these vessels.

Also **development of new standards for side entrants** should be taken into consideration.