

Green and Efficient Danube Fleet- **GRENDEL**

Consolidation of investment needs & training requirements **Education & training requirements**

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Education & Training requirements



Key activities on training requirements

Consolidated human resources and E & T requirements providing an overview of new skills and additional workforce on-board of the vessels as well as of other personnel.

Define curricula for the additional E & T needs required for the implementation of greening technologies in order to ensure efficient investment in E & T systems at all levels

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The document prepared in this project intends to provide:

- a **consolidated input regarding the human resource** involved in the IWT sector and its education and training requirements;
- an **overview of future requirements of competences** of the workforce in the IWT sector due to the technological development in the sector.

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EU LEGAL FRAMEWORK

Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation;

Delegated Directive (EU) 2020/12 on supplementing the Directive (EU) 2017/2397 as regards the standards for competence and corresponding knowledge and skills, for the practical examinations, for the approval of simulator and for medical fitness.

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FUTURE TRENDS IN THE IWT SECTOR

- **EU initiatives and policy framework**, with the main aim to ensure the implementation of the TEN-T inland waterway network and corridors and to promote IWT;
- **Legal framework governing the innovative development of IWT**, focused on:
 - Upgrading the network of TEN-T waterways;
 - Development of harmonized and interoperable RIS across Europe;
 - Interconnect information on infrastructure, people, operations, fleet and cargo in the inland waterway sector and to connect this information with the other modes of transport;
 - Environmental quality through low emissions;
 - Promote entrepreneurship for Danube navigation business among youth and adults.

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CAPITALISATION OF THE RESULTS FOR THE FORMER EU PROJECTS

The **main relevant results** of the former and existing European projects in line with the required competences for IWT personnel were selected in order to have an inventory of competences required by the EU legislation.

The **new and innovative competences** were identified as well.

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FUTURE PERSPECTIVE ON DEVELOPMENT OF IWT SECTOR

- **European Inland Waterway Platform- IWT platform-** established in October 2018 as a joint undertaking by the EBU and ESO in order to strengthen the representation and visibility of the IWT sector at European and international level;
- **Strategic research agenda for the European Waterborne Sector**, January 2019, provides scenarios for the waterborne sector and has developed ambitious visions based on a series of cross-sectoral missions and focused on the transformation of Waterborne transport, blue growth activities and the integration of shipping and inland navigation into seamless port and logistics operations;
- **An IWT Agenda for Europe 2021-2027**, September 2019, provides recommendations for the period 2021-2027, focused on: Creating smart, safe and sustainable mobility in IWT sector and Zero-emission inland navigation.

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REQUIRED COMPETENCES OF HUMAN RESOURCES INVOLVED IN THE IWT SECTOR

New and innovative competences are defined and grouped in the following domains:

- Standardized communication phrases in four languages;
- Smart shipping, including environment-friendly and efficient navigation;
- Entrepreneur carrying goods or passengers by IWT;
- Trans- European transport network multimodal transport;
- Green ports;
- Digitalization and electronic technology for IWT sector.

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REQUIRED COMPETENCES OF HUMAN RESOURCES INVOLVED IN THE IWT SECTOR

Education and training requirements

Existing legal requirements: Directive (EU) 2017/2397, Delegated Directive (EU) 2020/12.

Existing education, training and certification system must be constantly changing and improving due to the technological development and labour market demands.

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REQUIRED COMPETENCES OF HUMAN RESOURCES INVOLVED IN THE IWT SECTOR

Financial estimates

The main issues relevant for the estimation of financial resources were identified taking into account the obligations of the Members States regarding transposition and implementation of the EU Directives into the national education, training and certification system.

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REQUIRED COMPETENCES OF HUMAN RESOURCES INVOLVED IN THE IWT SECTOR

New competency based curricula

In addition of the mandatory education and training programmes, **new programmes needs to be developed** due to the technological development of the sector.

Curricula for:

*Energy efficient operations of the vessel, and
Ports as multimodal hubs*, were developed as relevant examples.

An inventory of **future required additional and innovative competences** for the people involved in the IWT sector was developed.

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REQUIRED COMPETENCES OF HUMAN RESOURCES INVOLVED IN THE IWT SECTOR

Jobs in the IWT sector

I. Existing jobs in IWT sector

On board of the inland vessels- *safe manning personnel*

Additional jobs on board of the inland vessels: Mechanical engineer, Chief Mechanical Engineer, Electrician, and

Auxiliary jobs on board of the inland vessels: personnel serving passengers on board passenger vessels, dredger, cranes for floating crane etc.

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REQUIRED COMPETENCES OF HUMAN RESOURCES INVOLVED IN THE IWT SECTOR

Jobs in the IWT sector

I. Existing jobs in IWT sector

Jobs in inland ports:

Port workers: dock labourer, craner, forklift operator, winch operator, driver, machinist for mobile machines, warehouse operator, storekeeper etc.;

Other jobs in ports: berth operator, port terminal operator, port facility security officer, dispatching operator, logistics providers, port managers, freighter, freight railway agent etc.

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Jobs in the IWT sector

II. Future jobs in IWT sector

- **attract new employees in the sector** equipped with new and innovative competences (knowledge and skills);
- **equip the existing employees** with the new and innovative competences (knowledge and skills).

SKILLFUL project (<http://skillfulproject.eu/>) financed by Horizon 2020 programme provided 28 priority schemes and future scenarios on prioritized skills and competences concerning the professions that are expected to be mostly affected by the present and future changes of the European transportation system.

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CONCLUSIONS

The **transport sector** is of utmost importance for economic growth, innovation and targeted research activities being the key factors for fostering global competitiveness of this sector.

European transport sector faces several challenges for which innovation may play an important role

The future transportation sector will need professionals from every domain, in order to develop a solid multi-disciplinary environment. New and innovative competences for human resources of IWT sector will be required in order to be able to safely work with new and innovative technologies.



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GRENDL “Green and efficient Danube fleet”

Towards modernisation & greening of Danube inland waterborne sector and strengthening its competitiveness

www.interreg-danube.eu/grendel