# COURSE MANUAL

## CARGO HANDLING, STOWAGE AND PASSENGER TRANSPORT

*OPERATIONAL LEVEL*

**PROJECT:** COMPETING
**PROJECT NO:** 601165-EPP-1-2018-1-NL-EPPKA2-SSA
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# PREFACE

To assist education and training entities to meet the requirements of the Standards of competence for inland navigation personnel, required by Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation, and Delegated Directive (EU) 2020/12 supplementing Directive (EU) 2017/2397 as regards the standards of competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness, the transnational Course Manual on Cargo handling for Operational Level Personnel was developed.

This Course Manual will be a useful transnational training tool for conducting the 'Train the Trainer' session and is intended to assist education and training providers and their teaching staff in organising and introducing new education & training programmes, or in enhancing, updating and supplementing existing didactical materials with the ultimate end results of raising quality and effectiveness of the education & training programmes.

Since education & training systems as well as the cultural background of inland navigation topics differ considerably from one country to another, the Course Manual on Cargo handling has been designed so as to support the preparation, organisation and planning of effective teaching and training and to be used as a part of the quality assurance of the education and training institutes.

Technical content and levels of knowledge and abilities are in line with the applicable Delegated Directive (EU) 2020/12 supplementing Directive (EU) 2017/2397 as regards the standards of competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness, being an essential tool for crew members at Operational Level, to be able to assist the management of the craft in the preparation, stowage and monitoring of cargo during loading and unloading operations.

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# 1. GENERAL INFORMATION

| | | |
|---|---|---|
| 1 | **Aim** | Provide training to assist in the implementation of Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation and ES-QIN - Standards of competence – Cargo handling, stowage and passenger transport at the OL. |
| 2 | **Objective** | Provide training and practical guidance for trainees in order to be able to assist the management of the craft in the preparation, stowage and monitoring of cargo during loading and unloading operations. |
| 3 | **Entry standards** | See Directive (EU) 2017/2397 - Annex 1. |
| 4 | **Course certificate** | On successful completion of the course, a document may be issued, stating that the holder graduated this learning module. |
| 5 | **Course intake limitation** | Admittance is only limited by the size of the classroom. This should normally be around max. 30 trainees per trainer. |
| 6 | **Staff requirements** | The trainer should meet the requirements of Directive(EU) 2017/2397, Art. 18. |
| 7 | **Training facilities, equipment and teaching aids** | For the theoretical part of the course a classroom is required with video presentation equipment, teaching aids, etc. For the practical part of the course usage of stowage planning software is mandatory. |
| 8 | **Learning outcomes** | The boatman shall be able to assist the management of the craft in the preparation, stowage and monitoring of cargo during loading and unloading operations.<br><br>At the end of the course the trainee shall be able to:<br>• Read stowage and stability plans;<br>• Monitor the stowage and securing of cargo;<br>• Distinguish various types of cargo and their qualities;<br>• Properly use the ballast system;<br>• Check the amount of cargo;<br>• Work according to regulations and safe working rules;<br>• Respect regulations and conventions regarding passenger transport;<br>• Assist in safe movement of passengers when embarking and disembarking;<br>• Assist in supervising passengers during emergency situations;<br>• Communicate effectively with passengers. |
| 9 | **Assessment & evaluation** | Minimum requirements for assessment & evaluation of the trainees for graduating from the learning module (i.e. minimum score for theoretical evaluation, for practical evaluation, etc.) I.e. Online training record book as a pathway for the course. |

# 2. INSTRUCTOR MANUAL

This instructor manual provides guidance on the material that is to be presented during the Navigation course OL level, and has been arranged under the eleven Learning Outcomes (competences) identified in the course outline.
The reference material indicated may be supplemented by additional texts or material at the discretion of the instructor.

The course outline and provisional timetable also provide guidance on the time allocation for the course, because the time actually taken for each subject area may vary, especially in respect of time allocated to practical activities. The detailed teaching syllabus must be carefully studied and appropriate lesson plans or lecture notes compiled. A template of a lesson plan is presented under 2.1.

Each lesson should commence with a statement of the learning outcomes it is intended to achieve. At the end of each lesson, the participants should be told which associated portions of the reference material they should read and any activity they should undertake. Questions arising from such readings and activities must be given priority at an appropriate time.

The presentation of the various subject areas should be done in such a way that those taking part in the course are involved in interactive participation during the lessons and learning process. Questions from the course participants should be encouraged, as should answers to such questions from other course participants.

The lessons should aim at conveying as much practical instruction and practice as possible to the participants, in order to develop their knowledge of and their skills in the tasks they will be expected to carry out.
Course materials for additional study must be prepared and distributed online or offline if required.

## 2.1 Lesson plan

This lesson plan is just a template to give the teachers a general idea on how to create their lessons for the various competences. This template can be used for every competence and adjusted as suitable for the institute to use. Example: Cargo handling:

**Template lesson plan:**

| **Competence Chapter 1 Assist the management of the craft in the preparation, stowage and monitoring of cargo during loading and unloading operations** | | | |
|---|---|---|---|
| Learning objective | • Knowledge and skills on how to use stowage and stability plans<br>• Knowledge on how to read labels of dangerous goods<br>• Knowledge and ability to identify different types of vessels and their cargo<br><br>• Stowage and secure cargo, how does it work?<br>• Knowledge of different types of cargo<br>• Ballast systems, why and how?<br>• Calculate the amount of cargo<br>• Safety during loading and discharging operations<br>• Communication with shore workers and crane operators | | |
| Learning outcomes | After this course the student is able to handle all cargo operations on different types of vessels. Practical skills can be learned on board of the vessel on which he or she is working, but the theoretical knowledge for all types of vessels is learned through study. | | |
| Required equipment | Classroom<br>Presentation options<br>Internet options | | |
| Practical tool | ERTB OL Cargo handling and Stowage | | |
| Chapter 2 assists the management of the craft in providing services to passengers and providing direct assistance to disabled persons and persons with reduced mobility in accordance with the training requirements and instructions of Annex IV of Regulation [ ] | | | |
| | • Knowledge and skills in how to work with passengers | | |
| Learning objective | • Knowledge and skills on how to assist during an emergency<br>• Knowledge on how to serve the passenger<br>• Knowledge of the German language, which is necessary<br>• How to behave yourself while on duty | | |
| Learning outcomes | The student is able to work on a passenger vessel and can apply the learning objectives during the job. If an emergency situation arises, the student is able to assist the crew and work safely, even during crisis situations. | | |
| Required equipment | Classroom<br>Presentation options<br>Internet options | | |
| Practical tool | ERTB OL Assist the management of the craft in providing services to passengers | | |
| **Lesson structure** | | | |
| Learning activity | Didactical method (ABC method) | Materials | Time |
| | | | |
| | | | |

## 2.2 Background materials

Bibliographical materials, reference documents, and other didactical materials are presented in Annex 1 of this Course Manual.

## 2.3 Practical activities

This practical training links the theoretical content of the lessons to their practical use

**Case studies**
Theoretical subjects are elaborated by the candidates autonomously in case studies. The candidate should deepen his or her knowledge in defined theoretical subjects by elaborating on a variety of facts and figures about this topic and present them in front of his or her classmates afterwards.

**Discussions and reflection, interactive learning**
Possible solutions to theoretical and practical subjects can be discussed within (parts of) the learning group. Different views and opinions on a defined subject are exchanged and discussed by the participants in order to broaden the view of the individual on this problem and show different possible solutions and their respective advantages and disadvantages. A discussion should be monitored and steered (stimulated or consolidated) if necessary, in order to secure that every participant actively participates.

**Team work**
Assignments can be individual as well as group assignments, depending on the objective. An individual assignment should stimulate and show the competences of the individual. In teamwork assignments the participants will have exposure to a wide range of experiences, from quick problem-solving involving synergy to experiences which may relate to such items as interpersonal difficulties in a group setting. Depending on the purpose of the assignment the team should be defined in advance and the assignment and the rules of the working process, if there are any, should be communicated to the group in a very clear and formal manner.

Annex 2 of this Course Manual presents a few exercises, case studies and practical scenarios which are useful for practical training and examination of the trainees.

The ETRB is the tool on which the students can be tested.

## 2.4 Classroom facilities and educational tools

The theoretical part of the course requires a classroom with video presentation equipment, teaching aids, etc. Use of the ILIAS platform is required because this Course Manual is based on the lesson materials which have been produced for this course.

## 2.5 Examination & assessment

According to Directive (EU) 2017/2397, Article 17, assessment of competences:

The Commission shall adopt delegated acts in accordance with Article 31 to supplement this Directive by laying down the standards for competences and corresponding knowledge and skills in compliance with the essential requirements set out in Annex II.2. Member States shall ensure that persons who apply for the documents referred to in Articles 4, 5 and 6 demonstrate, where applicable, that they meet the standards of competence referred to in paragraph 1 of this Article by passing an examination that was organised:
(a) under the responsibility of an administrative authority in accordance with Article 18 or;
(b) as part of a training programme approved in accordance with Article 19.

The essential requirements set out in Annex II of Directive (EU) 2017/2397 for Cargo handling, stowage and passenger transport at Operational Level are:

The boatman shall be able to assist the management of the craft in the preparation, stowage and monitoring of cargo during loading and unloading operations. The boatman shall be able to assist the management of the craft in providing services to passengers and providing direct assistance to disabled persons and persons with reduced mobility in accordance with the training requirements and instructions of Annex IV of Regulation [ ].

To assess the progress and level of understanding of the students it is necessary to test the students in a formative way. The main goal of these tests is to give feedback to the student.

A standard for practical examination for Boatman is developed in CESNI QP.

The Illias platform provides examples of assessments for the separated competences for 'Cargo handling' at Operational Level.

# 3. REGULATION AND CERTIFICATION

According to Chapter 2, Union Certificates of Qualification, Article 4, Obligation to carry a Union certificate of qualification as a deck crew member of Directive (EU) 2017/2397:

1. Member States shall ensure that deck crew members who navigate on Union inland waterways carry either a Union certificate of qualification as a deck crew member issued in accordance with Article 11 or a certificate recognised in accordance with Article 10(2) or (3).

2. For deck crew members other than boatmasters, the Union certificate of qualification and the service record book as referred to in Article 22 shall be presented in a single document.

3. By way of derogation from paragraph 1 of this Article, certificates held by persons involved in the operation of a craft, other than boatmasters, issued or recognised in accordance with Directive 2008/106/EC, and therefore in accordance with the STCW Convention, shall be valid on sea-going ships operating on inland waterways.

*In Directive (EU) 2017/2397 in Annex I (3.1) the minimum requirements for certification as a boatman are as follows:*

Every applicant for a Union certificate of qualification shall:

(a)
- Be at least 17 years of age;
- Have completed an approved training programme, as referred to in Article 19, which was of a duration of at least two years, and which covered the standards of competence for the operational level set out in Annex II;
- Have accumulated navigation time of at least 90 days as part of this approved training programme;

**or**

(b)
- Be at least 18 years of age;
- Have passed an assessment of competence by an administrative authority as referred to in Article 18, to verify that the standards of competence for the operational level set out in Annex II are met;
- Have accumulated navigation time of at least 360 days, or have accumulated navigation time of at least 180 days if the applicant can also provide proof of work experience of at least 250 days that the applicant acquired on a sea-going ship as a member of the deck crew;

**or**

(c)
- Have a minimum of five years' work experience prior to the enrolment in an approved training programme, or have at least 500 days' work experience on a sea-going ship as a member of the deck crew prior to the enrolment in an approved training programme, or have completed any vocational training programme of at least three years' duration prior to the enrolment in an approved training programme;
- Have completed an approved training programme as referred to in Article 19, which was of a duration of at least nine months, and which covered the standards of competence for the operational level set out in Annex II;
- Have accumulated navigation time of at least 90 days as part of that approved training programme.

# 4. LESSON MATERIALS

The lesson materials referred to in this course manual are for inspiration and are free to use for the teachers of the educational institutes. The lesson materials will be available on the Edinna website (https://www.edinna.eu/).

As already mentioned in Chapter 2, background materials and practical activities can be found in Annex 1 and Annex 2 of this Course Manual respectively. The background materials referenced can be used as additional documentation for the teachers to create their lessons and/or add more details. Annex 2 consists of suggestions and examples of exercises, case studies and/or practical scenarios.

Thematic content of the Course Manual for CARGO HANDLING STOWAGE AND PASSENGER TRANSPORT - OL is presented in Annex 4 of this document if necessary, which is linked to the European Standard for Qualifications in Inland Navigation (ES-QIN), Part I, Chapter 1, Point 3 Cargo handling, stowage and passenger transport .

*The numbering of the chapters is in accordance with the Standards for competences for the Operational Level - 3. CARGO HANDLING, STOWAGE AND PASSENGER TRANSPORT*

**OL 3 Cargo handling, stowage and passenger transport**

## 4.1 The boatman shall be able to assist the management of the craft in the preparation, stowage and monitoring of cargo during loading and unloading operations.

| Competence | Knowledge and skills |
|---|---|
| **1. Read stowage and stability plans.** | 1. Knowledge of the impact of types of cargo on stowage and stability plan.<br>2. Knowledge of stowage and stability plans.<br>3. Ability to understand stowage plans.<br>4. Knowledge of numbering and divisions of the holds of dry cargo vessels and of the tanks of tanker vessels (N, C or G), and knowledge of stowing the various types of cargo.<br>5. Ability to identify labelling of dangerous goods according to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN). |
| **2. Monitor the stowage and securing of cargo.** | 1. Knowledge of the methods of stowing the craft with various cargoes in order to ensure safe and efficient transport.<br>2. Knowledge of procedures to prepare the craft for loading and unloading operations.<br>3. Ability to safely apply loading and unloading procedures, i.e. by opening or closing the holds, perform watch-keeping on deck during loading and unloading operations.<br>4. Ability to establish and maintain effective communications during loading and unloading.<br>5. Knowledge of the effect of cargo on the stability of the craft.<br>6. Ability to monitor and report damage of cargo. |
| **3. Distinguish various types of cargo and their qualities.** | 1. Knowledge of various types of cargo, for example, break bulk cargo, liquid bulk cargo and heavy goods.<br>2. Knowledge of the logistic chain and multimodal transport.<br>3. Ability to prepare craft operation connected to loading and unloading procedures, e.g. communicate with land side and prepare hold. |
| **4. Use of ballast system.** | 1. Knowledge of the function and use of the ballast system.<br>2. Ability to use the ballast system, for example, by filling or emptying the ballast tanks. |
| **5. Check the amount of cargo.** | 1. Knowledge of manual and technical methods of determination of the cargo weight on various types of craft.<br>2. Knowledge of methods to determine the amount of cargo loaded or unloaded.<br>3. Knowledge of the calculation of the amount of liquid cargo using the soundings and/or tank tables. |
| **6. Work according to regulations and safe working rules.** | 1. Knowledge of safe working rules and procedures applicable during preparation, loading and discharging phase of craft with various types of cargoes.<br>2. Ability to comply with safe working rules and procedures applicable during loading and unloading and to use personal protective and rescue equipment.<br>3. Ability to establish and maintain effective verbal and non-verbal communications with all partners involved with loading and unloading procedures.<br>4. Knowledge about technical means for handling cargoes in/from craft and ports, and labour safety measures during their use. |

## 4.2 The boatman shall be able to assist the management of the craft in providing services to passengers and providing direct assistance to disabled persons and persons with reduced mobility in accordance with the training requirements and instructions of Annex IV of Regulation [ ].

| Competence | Knowledge and skills |
|---|---|
| **1. Respect regulations and conventions regarding passenger transport.** | 1. Knowledge of the applicable regulations and conventions regarding passenger transport.<br><br>2. Ability to provide direct assistance to disabled persons and persons with reduced mobility in accordance with the training requirements and instructions of Annex IV of Regulation [ ]. |
| **2. Assist in safe movement of passengers when embarking and disembarking.** | 1. Knowledge of procedures applying before and during embarkation and disembarkation of passengers.<br><br>2. Ability to position and place the embarkation and disembarkation equipment and to apply safety measures. |
| **3. Assist in supervising passengers during emergency situations.** | 1. Knowledge of existing life-saving equipment for emergency situations, of procedures to follow in case of leakage, fire, person over board, evacuation including crisis and crowd management and of medical first aid on board vessel.<br><br>2. Ability to assist in the case of leakage, fire, man over board, collision and evacuation including crisis and crowd management, to use life-saving equipment in emergency situations and to perform medical first aid on board vessel. |
| **4. Communicate effectively with passengers.** | 1. Knowledge of standardised communication phrases for evacuation of passengers in the case of emergency.<br><br>2. Ability to use service-oriented behaviour and language. |

# 5. EFFECT ON THE HUMAN ELEMENT ON SUSTAINABLE SHIPPING

The human activities of deck crews on board of ships have a direct relationship with sustainability in Inland Shipping. Due to the uniformisation of training and conformity with Directive (EU) 2017/2397, there will be an increase of safety in cargo handling operations and passenger transport.

Different factors affect the development of sustainability in shipping, from regulatory to socio-economic factors, market related aspects and human factors, which all together contribute in different ways to the development of these three pillars. Since many different stakeholders are involved in the process, it follows that one of the main factors in supporting Sustainable Shipping is the understanding of all parties' concerns, needs and expectations.

The shipping industry is run by people, for people. People design ships, build them, own them, crew them, maintain them, repair them and salvage them. People regulate them, survey them, underwrite them and investigate them when things go wrong. While these people vary in all sorts of ways, they are all, nevertheless, people – with the same basic set of capabilities and vulnerabilities.

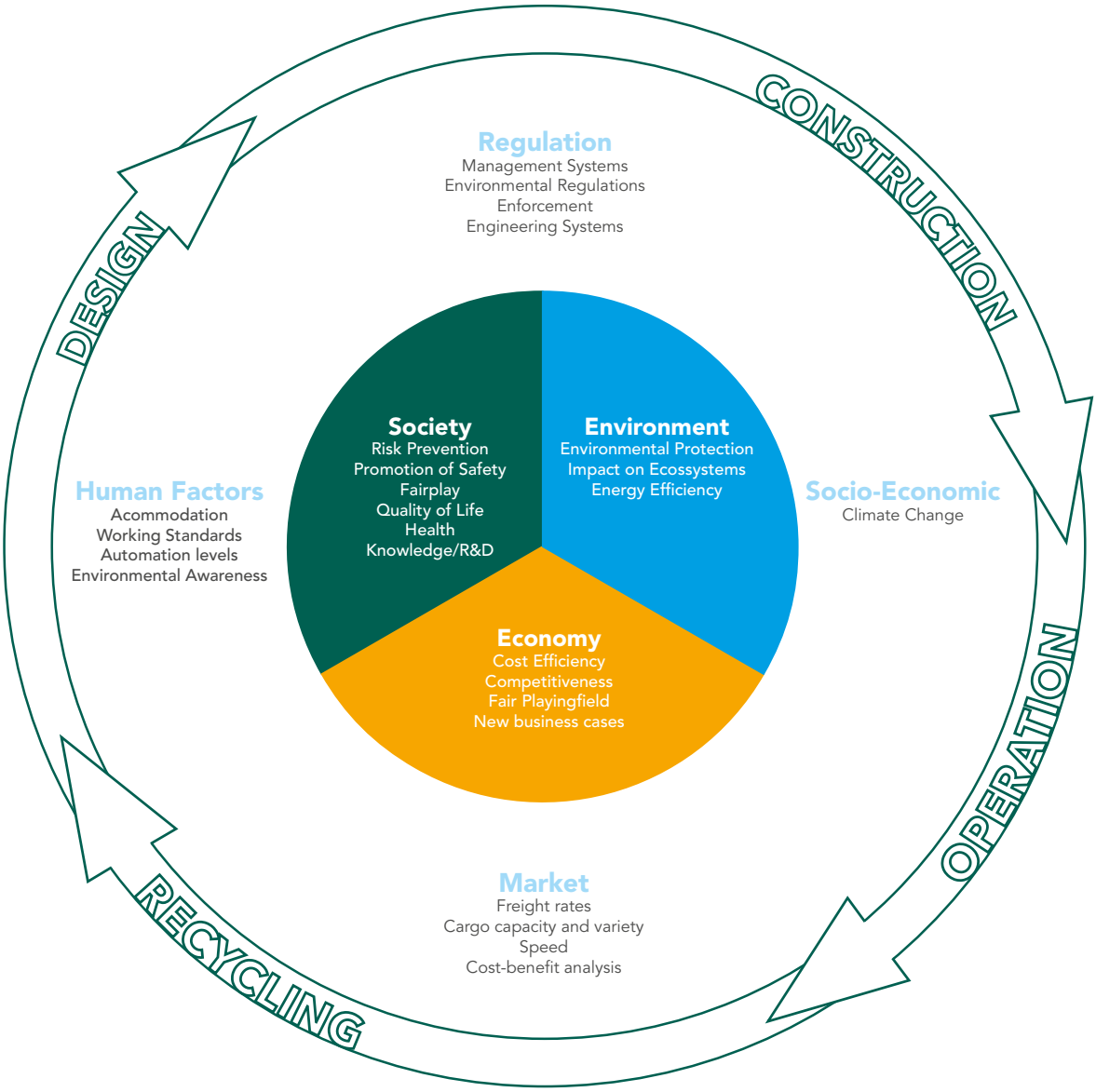


**Figure 1** https://www.emsa.europa.eu/implementation-tasks/environment/sustainable-toolbox.html?start=10

Humans are not simply an element like the weather. They are at the very centre of the shipping enterprise. They are the secret of its successes and the victims of its failures. It is human nature that drives what happens every day at work – from the routine tasks of a ship's rating, right through to policy decisions.

The eight aspects of human nature are:

1. **People actively make sense of things** What's obvious to you may be far from apparent to somebody else. We explain how it is that most of what you see and understand is down to you and your expectations, rather than a response to 'what's out there'. The key problem is ensuring that the sense you make of things is enough for you to deal effectively with the reality of a continuously unfolding situation – a situation that you must also share with your colleagues.

2. **People take risks**
   Everybody takes risks all the time. In a world that is essentially uncertain, this is not only normal but inescapable. We explain how the human perception of risk is quite different from the probability with which events actually occur. The key problem is in ensuring that your own perception of risk maps well onto the world with which you are interacting.

3. **People make decisions**
   We explain the difference between how people think they make decisions and how they actually do it – and how the decision making of experts is quite different from the way they did it when they were learning. We also explain why experience does not always lead to expertise, but that expertise always requires experience – and lots of it. The key problem is to understand what the components of a good decision are, and how to recognise when you are about to make a bad one.

4. **People make mistakes**
   A fundamental human strength depends directly on the ability to make, and then recover from, mistakes. Without error there can be no learning or development. And without these, organisations cannot achieve their goals. The important aspect is in ensuring that potentially harmful or expensive mistakes are prevented, caught or minimised before they have a chance to get far enough to matter. We explain how this depends as much on organisational culture as on individual competence.

5. **People get tired and stressed**
   We explain the causes and consequences of fatigue and stress, and explain what you can do to avoid them or lessen their impact. We also explain why workload turns out to be as much to do with your own experience, as the actual demands placed on you by the job.

6. **People learn and develop**
   People learn all the time. They can't help themselves. The main problem is in ensuring that they learn the right things at the right time. People also have aspirations which can be managed by an organisation to further its own safety and profitability. However, in the absence of good management, people's aspirations will either be ignored or permitted to dominate – with potentially disastrous consequences either way. We explain the enormous power that effective, well-timed training can give to an organisation.

7. **People work with each other**
   Working with each other sometimes requires us to work as individuals in pursuit of our own goals, and at other times as members of a team with a common purpose. The key problem is in ensuring that we have effective 'people' skills, as well as technical task skills. We explain what these other skills are, why they are important and what can go wrong when they are absent.

8. **People communicate with each other**
   Successful communication involves the clear transmission of a message. We explain what has to happen for communication to be successful. We explain the responsibilities of both listener and messenger.

These are eight things we do that help to make us human. They are inescapable and will not go away. Understanding a little more about their nature, and how you can deal with them more effectively, will change your behaviour – and, maybe, that of those around you.

# 6. REFERENCE TO NQF, EQF, ECTS

Nowadays, the European Union (EU) consists of 27 member states, and each state has a different education system. The European Commission (EC) therefore prepared the European Qualifications Framework (EQF) because it wanted to:

- Make national qualifications more readable across Europe;
- Harmonise national qualification systems of different countries in a common European reference framework;
- Promote workers' and learners' mobility between the countries of the EU and to facilitate their lifelong learning.

The EQF system has got eight reference levels (figure 1), each level describes what a learner has to know, understand and be able to do.[1]

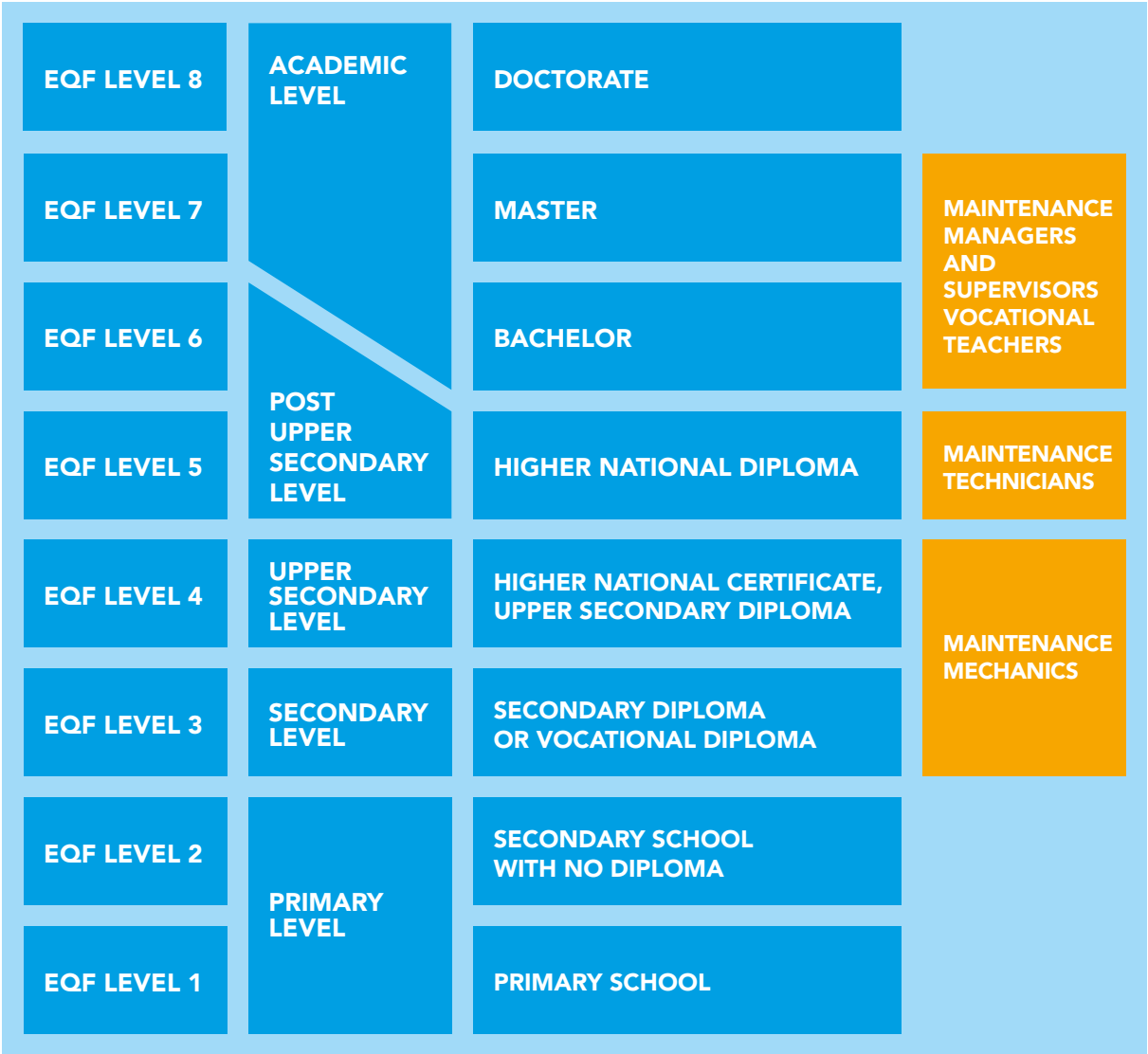


**Figure 1** EQF levels compared with achieved education and maintenance personnel positions

1 http://www.maintworld.com/R-D/Application-of-European-Qualification-Framework-EQF-in-Maintenance, 1 December 2016

| | | |
|---|---|---|
| Germany | DQR Deutscher Qualifikationsrahmen für lebenslanges Lernen | www.dqr.de |
| The Netherlands | NLQF Nationaal Coördinatiepunt | www.nlqf.nl |
| Romania | anc Autoritatea Națională pentru Calificări | www.anc.edu.ro |
| Slovakia | TREXIMA PEOPLE . PROFESSION . PROSPERITY | www.trexima.sk/new |

**Table 1** Overview of national organisations in the EQF context

Inland waterway transport (IWT) plays a relevant role in the EU in cargo exchange. Especially in the international scale on the network of the European waterways. On the one hand, the transport is still more economical than any other mode of transport for many types of cargo, particularly such as bulk, general, liquid cargo and containers. On the other hand, it is the friendliest mode to the environment.

The field of IWT includes various job positions that are related to its segments such as vessels, ports and waterways. Project IWTCOMP focused on EQF and the job qualifications in IWT in 4 countries (Germany, the Netherlands, Romania and Slovakia) because each country uses a different education system. In all the countries involved in the project there are websites and organisations dedicated to the use of EQF in the national context. Below you will find an overview of these organisations.

The IWTCOMP project outlined the fact that regarding international sectoral qualifications there is (still) not an agreement on the approach and international process of comparing the EQF levels via the National QFs (NQFs). Some member states do not want to adjust their procedures and this means all member states all still have their own NQF procedure.

Slovakia used to have two vocational schools which prepared students for jobs in IWT but they were closed because of low interest of young people to work in this field. Nowadays, the Transport Authority examines the candidates for lower job positions in IWT such as skipper, captains, boatmen (EQF 2 and 4). Before the exams it organises the courses for applicants. The exam has oral and written forms and consists of various areas in IWT. The Department of Water Transport at the University of Zilina educates students for higher job positions (EQF 6, 7, 8) in IWT. The curricula are approved by the Ministry of Education, Science, Research and Sport of the Slovak Republic and its control body (Accreditation Commission). They are prepared according to the requirements of practice and standards of higher education in Slovakia.

In Germany there is a combined system of education at school and in a shipping company ending in centralised exams held by the chamber of commerce. Both schools and companies have to follow the curricula, but they are not responsible for the exams. The exams consist of two parts, one focussing on knowledge and one focussing on skills. Therefore both school and shipping company contribute to the education of the students enabling them to pass the centralised exams.

In Romania there are dedicated programmes for IWT boatman (EQF 2). There are vocational schools for boatmen in Galati and Orsova, offering courses for boatmen qualification.

In the Netherlands there are qualifications set for the different levels of education within the IWT sector. For each educational level there is a set of qualifications given by the national contact point in cooperation with the work field and educational institutes. The Dutch government decided to place the Captain/Manager IWT qualification in NQF level 5 (EQF5), but at a later stage it was withdrawn and placed in NQF level 4 (EQF4).

In conclusion, although the EQF system in the field of inland water transport has been accepted in all EU countries, this EQF system is not used by all countries. This is due to the fact that some institutes have to focus on the professional competences based on national and international legislation. The curricula at schools, universities and training centres are prepared according to the international or national standards in cooperation with the international or national authorities (the Rhine Commission, the Danube Commission, the Ministries of Education), shipping companies and other authorities that work in the field of IWT in the Rhine or Danube Regions. It depends on the level of general education (higher or lower) per country.

# ANNEX 1

## Bibliographical materials, reference documents, didactical materials

**Cargo handling and stowage**

- Chapter 1 of the integrated report Cargo handling and stowage
- PowerPoint presentations, ILIAS platform
- Question pool OL, ILIAS platform
- Film material, ILIAS platform
- ERTB OL: Cargo handling and stowage
- CESNI (21) 25
- CESNI/QP (21) 20 rev. 23 September 2021
- INeS: www.ines-danube.info / www.ines.info

**Passenger transport**

- Chapter 2 of the report Cargo handling and stowage
- PowerPoint presentations, ILIAS platform
- Question pool OL, ILIAS platform
- Film material, ILIAS platform
- ERTB OL: Assist the management of the craft in providing services to passengers

# ANNEX 2

## Practical scenarios

### Scenario 1

**1.1.1.2 During loading or unloading operations of the ship, you have to take care that this operation is done in a safe way and that the ship is stable and safe.**

The Practical Assignment assesses all the necessary knowledge and skills of the competence to take care of the operation process of loading or unloading:

Practical assessment on taking care of the process of loading an inland dry cargo vessel with a bulk cargo (coals or ore)

| What are the things that will need your attention during the process |
|---|
| Check that the loading-master is loading according to the loading plan. |
| Check the mooring lines. |
| Check if the cargo is not damaged or wet. |
| Check the stability and stresses of the ship |
| Check that the cargo hold stays dry |
| Do not walk under the crane or crane loads |

### Scenario 2

**1.1.1.2 During loading or unloading operations of the ship, you have to take care that this operation is done in a safe way and that the ship is stable and safe.**

The Practical Assignment assesses all the necessary knowledge and skills of the competence to take care of the operation process of loading or unloading:

Practical assessment on taking care of the process of unloading an inland container vessel with a containers with dangerous goods.

| What are the things that will need your attention during the process |
|---|
| Check that the containers are discharged in the right order. |
| Check the mooring lines and if necessary, loosen the lines. |
| Check if the containers are not damaged or leaking. |
| If you smell anything, sound the alarm. |
| Check the stability and stresses of the ship. |
| Check that the cargo floor is dry. |
| Do not walk underneath the container crane or containers. |

### Scenario 3

**1.1.1.2 During loading or unloading operations of the ship, you have to take care that this operation will be done in a safe way and that the ship is stable and safe.**

The Practical Assignment assesses all the necessary knowledge and skills of the competence to take care of the operation process of loading or unloading:

Practical assessment on taking care of the process of loading an inland tanker vessel with gas oil.

| What are the things that will need your attention during the process |
|---|
| Check that the tanks are filled in the correct order in connection with loading plan. |
| Check the mooring lines and if necessary, loosen or unloosen the lines. |
| Check if the pipelines and manifold are not leaking. |
| Check the height of the cargo in the tanks. |
| Check the stability and stresses of the ship. |
| Check the pressure and the temperature |
| Check that the surrounding ships stay away from your ship. |
| Keep/stay in contact with the loading master at the jetty |

## Scenario 4

### 1.1.1.2 Before loading the ship, you have to take care that this next cargo can be placed in the cargo hold and that your cargo hold is ready for this "new" product.

The Practical Assignment assesses all the necessary knowledge and skills of the competence to take care of preparation for the next freight:

Practical assessment on taking care of the process of preparing the cargo hold.

| What are the things that you will need to do to take in the new cargo |
|---|
| Check if the hold has been swept thoroughly after discharging the last cargo. |
| Check if it is possible to load the next cargo without cleaning. |
| Check if the pump puts are empty from the last load. |
| Check if the cargo hold is dry and free of odours. |
| Check the bulb and hatches for contamination. |
| Clean the bulb and hatches if necessary. |
| If necessary, clean the hold (by washing with water and soap). |
| After cleaning, sweep and dry the hold. |
| After drying, close the hatches. |

## Scenario 5

### 1.1.1.2 During loading and unloading the ship, you have to take care that the containers can be loaded or unloaded and that the containers are freely reachable for the crane.

The Practical Assignment assesses all the necessary knowledge and skills of the competence to take care of the process of loading/unloading the containers:

Practical assessment on taking care of the process of loading/unloading the container.

| What are the things that you will need to do while loading/unloading containers. |
|---|
| Remove the stackers or twistlocks from the corner castings after removing the container on top to give access for the (crane) spreader. |
| Check mooring lines during the process of loading/ unloading. |
| Place the stackers or twistlocks for the containers to be loaded. |
| Check if the containers are not damaged, leaking or polluted when they are loaded/unloaded on board. |
| Check if the right container is removed or loaded according to the plans and the place in the cargo hold. |
| Pass the identification numbers of the containers on to the skipper so he/she can enter the numbers in the computer. |
| Check the stability and the stresses of the ship during the process of loading and unloading. |
| Check that during this process the ship will not be damaged by bumping containers against the cargo hold, cargo floor, hatches or the bulb. |
| Keep in mind to work safely. |

## Scenario 6

### 1.1.1.2 During loading or unloading operations of the ship, you have to take care that this operation is done in a safe way and that the ship is stable and safe.

The Practical Assignment assesses all the necessary knowledge and skills of the competence to take care of the operating process of loading or unloading:

Practical assessment on taking care of the process of unloading an inland tanker vessel.

| What are the things that will need your attention during the process |
|---|
| Make a plan for the complete process of unloading and ensure that at all times the process is in compliance with the law, regulations and safety procedures. |
| Instruct and inform the ship's crew about the operation and what task they have in the process. |
| After landing on the jetty, report to the control room and arrange the terms for the unloading process and record it on paper. |
| Check if your pipelines, valves and tanks are connected in the right way to start unloading. And check/monitor the systems which are needed to unload the ship safely. |
| Check if the connection from the jetty to the ship's manifold has been made and that it is safe and sound to start unloading. |
| Check that the ship's crew is outfitted with and using the right personal protective equipment during the whole unloading process. |
| Ensure that at all times there is communication with the unloading master on the jetty and the crew on board. |
| Be in control of the complete process and check that the crew is taking care of their tasks. Check that the stability and stresses to the ship are within the acceptable levels. |
| Make sure that after unloading the tanks are completely empty of cargo. |
| After unloading, take care of the complete administration of the process. |

# ANNEX 3

## Draft Model Examination At Operational Level - Cargo Handling, Stowage And Passenger Transport (Annex To Cesni (21) 25)

The draft standard for the practical examination OL sets the framework for practical examinations at OL. To provide guidance to authorities on how to conduct an exam in this regard, the CESNI/QP working group has decided to develop a model examination in accordance with ES-QIN.

In these draft standard practical examination for OL, knowledge and skills elements that will be tested during the practical examination are specified. Listed are all elements described in the tables of competence standards on OL as "ability". Skills are usually tested during a practical examination. However, some abilities have knowledge elements. In this model examination, the term "examination element" is used to indicate both skills and knowledge.

The model examination is carried out on the assumption that the applicant has passed the knowledge elements (theoretical examination) of the standards for competence at OL as well as the assessment of the skills that for practical reasons were not assessed on board the craft during this practical part prior to the model examination.

For practical reasons, the exam is divided into four parts:

**Part 1: Navigation**
- part 1a Steering the craft (including applicable regulations)
- part 1b Assisting with anchor operations
- part 1c Mooring, unmooring and docking operations for pushed convoys / coupled convoys from deck, including operation and maintenance
- part 1d Loading and unloading

**Part 2: Sailing the craft**
Skills shall be demonstrated on an approved simulator or a craft. Experts recommend the use of a craft of more than 38 meters length.

**Part 3: Security and communication**
- part 3a Safety and environment
- part 3b Communication

**Part 4: Technology and maintenance**
- part 4a Propulsion engine / machines
- part 4b Marine engineering, electricity, electronics, measurement and control technology
- part 4c Maintenance and repair.

For this Course Manual, Parts 1 and 3 must be taken into account.

The examination elements are listed in the table below:

★ All examination elements with a star may be tested prior to or during a practical examination or in a written assignment.

| No. | Competence | Examination elements | Part | Cat. |
|---|---|---|---|---|
| 21 | 3.1.2 (3+4+6) | Monitor the stowage and securing of cargo; | 1d ★ | II |
| 22 | 3.1.3 (3) | Distinguish various types of cargo and their qualities; | 1d ★ | II |
| 26 | 3.2.1 (2) | Respect regulations and conventions regarding passenger transport; | Pass/3a ★ | II |
| 27 | 3.2.2 (2) | Assist in the safe movement of passengers when embarking and disembarking; | Pass/3a ★ | II |
| 28 | 3.2.3 (2) | Assist in supervising passengers during emergency situations; | Pass/3a ★ | I |
| 29 | 3.2.4 (2) | Communicate effectively with passengers; | Pass/3a ★ | II |

Other examination elements that will be tested during a practical exam which do not belong to any of the aforementioned groups:

| No. | Competence | Examination elements | Part | Cat. |
|---|---|---|---|---|
| 20 | 3.1.1 (3+5) | Read stowage and stability plans; | 1d | II |
| 23 | 3.1.4 (2) | Use ballast system; | 1d | I |
| 24 | 3.1.5 (4) | Check amount of cargo; | 1d | I |
| 25 | 3.1.6 (2+3) | Work according to regulations and safe working rules; | 3a | I |

Examination elements tested prior to practical examination during an approved training programme.

| No. | Competence | Examination elements | Part | Cat. |
|---|---|---|---|---|
| 21 | 3.1.2 (3+4+6) | Monitor the stowage and securing of cargo; | 1d ★ | II |
| 22 | 3.1.3 (3) | Distinguish various types of cargo and their qualities | 1d ★ | II |
| 26 | 3.2.1 (2) | Respect regulations and conventions regarding passenger transport; | Pass/3a ★ | II |
| 27 | 3.2.2 (2) | Assist in safe movement of passengers when embarking and disembarking; | Pass/3a ★ | II |
| 28 | 3.2.3 (2) | Assist in supervising passengers during emergency situations; | Pass/3a ★ | I |
| 29 | 3.2.4 (2) | Communicate effectively with passengers; | Pass/3b ★ | II |

# ANNEX 4

## Thematic content of the Course Manual Competences of Cargo handling, stowage and passenger transport – OL

The aim of this annex is to set out the thematic content of the competences of Cargo handling, stowage and passenger transport at Operational Level as indicated in Chapter 4, if necessary.

# COMPETING

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