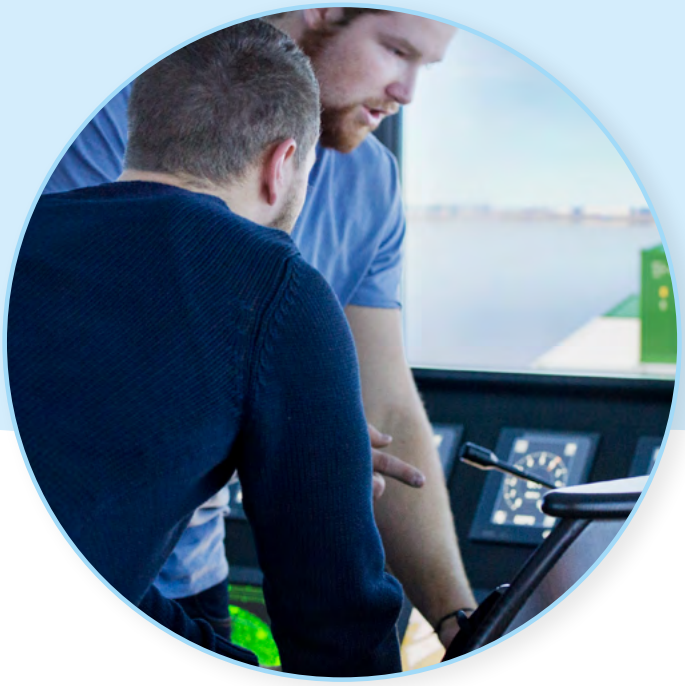
COURSE MANUAL

COMMUNICATION

MANAGEMENT LEVEL



PROJECT: COMPETING
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FOREWORD

To assist education and training entities to meet the requirements of the Standards for competences 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 for competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness, the transnational Course Manual on COMMUNICATION for Management 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 COMMUNICATION – Management level** 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 for competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness, being an essential tool for Boatmasters, to be able to perform human resource management, be socially responsible, and take care of organisation of workflow and training on board the craft.

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1. GENERAL INFORMATION

1.1 Course curriculum - general requirements

1.	**Aim**	Provide training to meet the requirements of Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation and ES-QIN-Standards for competences – COMMUNICATION for crew members at the Management level.
2.	**Objective**	Provide training and practical guidance for trainees in order to be able to perform human resource management, be socially responsible, and take care of organisation of workflow and training on board the craft.
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 may be limited by the capacity of the educational infrastructure used for this learning module.
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 a communication laboratory equipped with communication devices is necessary.
8.	**Learning objectives**	*The Boatmaster shall be able to perform human resource management, be socially responsible, and take care of organisation of workflow and training on board the craft.* At the end of the course the trainee shall be able to: • organise and stimulate team building and coach the crew members regarding shipboard duties and, if necessary, take disciplinary measures; • instruct crew on information and communication systems; • collect, save and manage data with regard to data protection laws; • describe circumstances by using relevant and nautical terminology; • retrieve, evaluate and use information with relevance to safety on board as well as nautical-technical issues; • ensure a good social working environment; • apply national, European and international social legislation; • follow strict alcohol and drug prohibition and react appropriately in cases of infringement, take responsibility and explain consequences of misbehaviour; • organise provisioning and preparation of meals on board.
9.	**Assessment & evaluation**	Minimum requirements for assessment & evaluation of the trainees for graduation, 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

2.1 Introduction

This instructor manual provides guidance on the material that is to be presented during the training course for COMMUNICATION - ML, and has been arranged under the nine 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 teacher/trainer.

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 point 2.2 of this Chapter.

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 what activity, if any, 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 if required.

2.2 Lesson plan

This lesson plan is just a template to give the teachers/ trainers 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.

Competence 6.1.1 Organise and stimulate team building and coach the crew members regarding shipboard duties and, if necessary, take disciplinary measures;			
Learning objective			
Learning outcomes			
Required equipment			
Lesson structure			
Learning activity	Didactical method (ABC method)	Materials	Time

2.3 Background materials

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

2.4 Practical training

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 team work 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 provides a number of exercises, case studies, practical scenarios and role play which are useful for practical training and practical examination of crew members at the management level.

2.5 Class room facilities and educational tools

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 a communication laboratory equipped with communication devices is necessary.

2.6 Examination & assessment

According to Article 17 - Assessment of competence of Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation, Member States shall ensure that persons who apply for the Boatmaster certificate demonstrate that they meet the standards for competences 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 competence requirements set out in Annex II of Directive (EU) 2017/2397 for Communication - Management Level are:
The Boatmaster shall be able to:

- Perform human resource management, be socially responsible, and take care of organisation of workflow and training on board the craft;
- Ensure good communication at all times, which includes the use of standardised communication phrases in situations with communication problems;
- Foster a well-balanced and sociable working environment on board.

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 on the recognition of professional qualifications in inland navigation:

- 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);
- In Annex I of Directive (EU) 2017/2397 the minimum requirements for certification as a Boatmaster are:

  Every applicant for a Union certificate of qualification shall:

  (a)
  - Be at least 18 years of age;
  - Have completed an approved training programme as referred in Article 19, which was of a duration of at least three years and which covered the standards of competence for the management level set out in Annex II;
  - Have accumulated navigation time of at least 360 days as part of this approved training programme or after completion thereof;
  - Hold a radio operator's certificate.

  or

  (b)
  - Be at least 18 years of age;
  - Hold a Union certificate of qualification as a helmsman or a certificate recognised in accordance with Article 10(2) or 10(3);
  - Have accumulated navigation time of at least 180 days;
  - 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 management level set out in Annex II are met;
  - Hold a radio operator's certificate.

  or

  (c)
  - Be at least 18 years of age;
  - Have accumulated navigation time of at least 540 days, or have accumulated navigation time of at least 180 days, if the applicant can also provide proof of work experience of at least 500 days that the applicant acquired on a sea-going ship as a member of the deck crew;
  - 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 management level set out in Annex II are met;
  - Hold a radio operator's certificate.

  or

  (d)
  - 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 referred to in Article 19, which was of a duration of at least one and a half years, and which covered the standards of competence for the management level set out in Annex II;
  - Hold a radio operator's certificate.

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/) until the end of the project.

Thematic content of the Course Manual for COMMUNICATION - ML is presented below.

The numbering of the chapters is in accordance with the Standards for competences for the management level - 6. COMMUNICATION.

COMPETENCE 6

6.1 Human resource management

Competences

The Boatmaster shall be able to:

1. Organise and stimulate team building and coach the crew members regarding shipboard duties and, if necessary, take disciplinary measures;
2. Instruct crew on information and communication systems;
3. Collect, save and manage data with regard to data protection laws.

6.1.1 Organise and stimulate team building and coach the crew members regarding shipboard duties and, if necessary, take disciplinary measures

Knowledge and skills

6.1.1.1 Knowledge of human resource management

Principles of shipboard human resource management

Shipboard human resource management means the use and co-ordination of all the skills, knowledge, experience and resources available to the team to achieve the established goals of safety and efficiency of a voyage or any other safety critical task.
The principles of Human Resource Management are summarised as follow:

Comprehensiveness – involves the proper management of all aspects of the people you are working with, bearing in mind that human resources are the most valuable resource of the company. This means that the financial, health, transportation, tools and anything employees need to work should be well taken care of. The company and Boatmaster are responsible for proper health surveillance of all crew members.
The vessel staff at managerial level should ensure that crew members are provided with necessary resources for carrying out their day to day duties.

Cost-effectiveness – companies should ensure that they remunerate their employees in accordance with the applicable legislation. The employee reward system should be able to sustain the organisation. Vessel staff at managerial level can set up reward systems on board to incentivise crew members. Rewards can be monetary or empowerment.

Control – Companies should be able to take charge of their employees and ensure that productivity and quality are achieved and maintained. Control should be exercised carefully so that it does not seem like tyranny.

Coherence – all the steps taken by a company in the management of human resources must be in line with the mission and vision of the company. Human resource managers should direct their focus on what the company needs and on employees' abilities. Managers should ensure that all crew members are following the health, safety and environmental protection policies or any other policies they might have in place. Companies have a vision of zero accidents and managers should assist and encourage the crew members to share this vision.

Communication – is very important in every organisation. Through communication, a company can ensure the flow of information that is necessary for efficiency. Human communication is the process of influencing a human receiver to create thought and action that is consistent with, and responsive to, the sender's purpose.

Creativity – is key for a company to be efficient in human resource management. Many good companies come up with various creative ideas to retain staff (i.e. awards for safety, bonuses on passing exams, etc.).

Competence – it is an organisation's responsibility to ensure that their employees have the requisite skills to perform their duties. Because the competence of a company depends on that of its employees, companies should do everything to increase employee capabilities for example, by training them.

Credibility – companies must ensure that they remain the best brand to most of their clients by maintaining their credibility. They should put in place strategies that ensure all employees have a clear sense of direction toward a common goal.

Change – is inevitable for any business - the faster a business embraces change in the management of their human resources the better it is placed to produce better results.

Commitment – every company has objectives which they intend to meet both for themselves and for their clients. To meet these goals, companies need committed staff. Therefore it is the responsibility of the company to keep their employees motivated so as to ensure they are committed to the company's course.

6.1.1.2 Ability to give instructions to the crew in an appropriate and professional manner

Giving clear understandable instructions is one of those things that sounds easy to do but in real life can actually be more complex, especially in the vessel environment or within a business. Mixed messages, assumptions and multiple options mean that the message received might differ from what we actually meant.

Effective bridge communication

The purpose of communication is to convey your thoughts to another person, and get them to carry out the actions you want them to take. It is important to encourage them to speak their mind too, so that you are sure that your message has been clearly understood. If the communication fails in getting the listener to carry out the desired action correctly, it could lead to an accident.

Considering the multinational environment in the inland navigation world, it is essential that when you speak, you do so clearly and slowly. Use simple words and short sentences and ensure that you are loud enough to be heard above the general sound level in the surroundings.

You can use: Standardised UNECE Vocabulary for Radio-Connections in Inland Navigation, RIVERSPEAK or any other applicable standardised vocabulary for inland navigation.

After speaking, wait to be sure if the instructions are understood by the listener. As a general rule, the policy on board should require the listener to repeat what they have heard and for the speaker to acknowledge that what the listener has just repeated was correct. This is generally referred to as "Closed Loop Communication".

The speaker's duty does not end once the listener has repeated the communication. To avoid accidents, the speaker must observe and verify that the correct action has been carried out.

However, there are several other important aspects of communication that are not taught quite so often. For example, it is important to note your own tone and body language, as this can affect the listener's response to the communication.

An angry or irritable tone discourages the listener from sharing his or her thoughts in the future. He or she will be reluctant to convey their doubts about the navigational situation and thereby reduce the overall effectiveness of the bridge team. Imagine if, due to being afraid of angering a senior person, the operational person from the crew members fails to report that the vessel is setting off towards the wrong side of the channel.

An encouraging tone gives bridge team members the confidence to share their thoughts and concerns. A smile or convivial pat on the shoulder while talking to someone, or even a simple encouraging nod to acknowledge the contribution of a team member, can go a long way in establishing a stronger rapport and sense of team spirit on the bridge.

The following words are often heard "planning" and "risk assessment" on board vessels. While I'm certainly not advocating carrying out a risk assessment every time you speak, it is nevertheless important to consider "planning" your more important communication, especially if you are not very comfortable in the language being spoken.

It is a good idea to prepare your questions and perhaps even keep notes ready, in order to ensure that you achieve the required goals through the conversation. If you are concerned about the clarity of your speech, or your accent, try to practise as often as you can.

Watching movies in that language is also an effective learning tool. Thanks to shorter stays in ports, and difficulties arising from security concerns, it may no longer be possible to make friends ashore to practise your language skills.

6.1.1.3 Ability to explain given instructions to the crew

The main important **points** to consider when giving instructions to the crew on board a vessel are:

1. **Sharing**
   Communication is about sharing or exchanging information by any means. Two of the most important means of communication are by talking (verbal) or by electronic exchange.
2. **On target**
   Good communication and good information exchange are absolutely essential to good navigation. Crew members need to be sure that the information they communicate is both sent and received accurately.
3. **Talking of disaster**
   Miscommunication or the use of poor information is the main cause of accidents and costs us all clearly in terms of reputation, money and environmental impact.
4. **Body talk**
   Bridge team communication can include body language, tone and verbal communication. All of these are essential for good bridge team management.
5. **Plan to succeed**
   The awareness and the safe management of risk are far more effective when shared amongst all professionals on the bridge, including navigators, engineers and pilots, where appropriate.
6. **Listen and look**
   Encourage all participants to "speak their minds" to ensure that your message has been clearly understood. The speaker's duty does not end once the listener has repeated the message. To avoid accidents, the speaker must then observe and verify the action.
7. **Overload**
   If too much data is displayed or is presented in an inappropriate way, crew members can be distracted, focus on the wrong things or waste valuable time.

6.1.1.4 Ability to give feedback to the crew about professional and social behaviour on board

Professional behaviour on board

In terms of inland navigation crew members, the quality of the end product depends not only on the standard of education and training provided, but also on how well basic human needs of ***the mind, the body and the spirit*** are met.

The Mind

Competence

The level of competence depends on good education and effective training based on realistic objectives, a personal ability to absorb knowledge and to understand the subject, and individual skills and proficiency.

Attitude

Attitudes to education and training are driven by mental ability, intelligence, personality, character and sensitivity, through self-awareness and self-evaluation.

Motivation

Fair terms of employment and reward structures, good communication, direction, clear responsibilities, teamwork, empowerment and character-building lead to motivation and a sense of leadership, interoperability and adaptability.

The Body

Happy and healthy lifestyle

Encouraging a balanced diet, good hygiene, exercise, rest and recreation, together with acceptable standards of habitability and regular medical screening ensures that the person has sufficient energy, physical fitness, physical strength, stamina and well-being to enable him or her to do the job.

Safe and secure working environment

Good ergonomics, safe working practices, and the provision of protective equipment, together with proper physical security, will lead to an improved safety culture and greater security awareness.

The Spirit

Self-actualisation

Personal ethics, conscience, cultural integration and leadership, together with proper supervision and adequate remuneration, generate a sense of pride and purpose, identity, loyalty, fellowship and personal job security.

Moral values

Decency, honesty and integrity, together with an appreciation and tolerance of the beliefs of others, are the key moral values to be displayed. Personal faith and self-discipline are drivers towards cultural awareness.

Some of these attributes can be taught, some are developed through self-education, while others fall to the ship owner or ship manager to develop and encourage. The ship owner or ship manager has a duty to employ qualified personnel and provide them with a safe and secure working environment, together with decent working and living conditions and fair terms of employment.

Social behaviour on board

Humans are not simply an element like the weather. They are at the very centre of shipping companies. 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 the vessel's ratings, to the policy decisions of the international regulatory body.

Fortunately, there is a lot that is known about human nature, and a lot of practical things that can be done to ensure people play to their strengths while avoiding the pitfalls.

The eight basic aspects of human nature are:

People actively make sense of things

What is obvious to you may be far from apparent to somebody else. Explaining 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 may share with your colleagues.

People take risks

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

People make decisions

Explain the difference between how people think they make decisions and how they actually do it, and how experts' decision making is quite different from their decision making when they were learning. 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.

People make mistakes

The fundamental human strength depends directly on the ability to make, and then recover from, mistakes. Without error there can be no learning or development. Without learning and development, organisations cannot achieve their goals. The main problem here 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. Explain how this depends as much on organisational culture as on individual competence.

People get tired and stressed

Explain causes and consequences of fatigue and stress, and explain what crew members can do to avoid them or lessen their impact. Also explain why workload turns out to be as much to do with their own experience, as the actual demands placed on them by the job.

People learn and develop

People learn all the time. They can't stop themselves. The main problem is in ensuring that you 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.

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. Either way, the key problem is in ensuring that every crew member has effective "people skills", as well as technical skills. Explain what these other skills are, why they are important and what can go wrong when they are absent.

People communicate with each other

Successful communication involves the clear transmission of a message. Actually, this is only a part of the story. Explain what has to happen for communication to be successful. Explain the responsibilities of both listener and messenger, and how apparently successful communication can continue for long periods until disaster suddenly strikes, all because both parties were inhabiting completely different worlds of their own construction with disastrous consequences either way. We explain the enormous power that effective, well–timed training can give to an organisation.

6.1.1.5 Ability to apply task and workload management, including: planning and coordination, personnel assignment, time and resource constraints, prioritisation

Shipboard workload management

Effective vessel board workload management is more than workload allocation. It also includes the optimal use and regular review of human resources in order to identify ways in which to improve overall performance while enabling the crew members to take responsibility for the effective planning and delivery of their work tasks.

Workload management underpins the following principles:

- Managing workloads and the change that occurs on board vessels on a daily basis is the responsibility of managers and forms part of routine operations and project planning processes;
- Is driven by the vessel Safety Management System and aligned with the Company Strategy, focusing on what is to be achieved and how;
- Results in equitable, fair and safe workloads for crew members;

- Is developed and implemented with crew members in mind and is transparent;
- Offers comparability across the fleet, while ensuring sufficient flexibility to address individual vessels;
- Focuses on vessel on board duties or tasks for which procedures and range of industry norms are set, but acknowledge other activities;
- Takes into consideration the level of complexity of the duty/task and the level of experience of the crew member;
- Covers all the domains of activity such as navigation, engine maintenance, cargo operations, stability, dealing with passengers, etc. but recognises that the crew member will contribute in different ways as appropriate;
- Reviews the workload management annually but allows for review throughout the year to accommodate changing circumstances;
- The maintenance of safe work environments and safe work practices, and adherence to vessel's health and safety policy are a priority objective of workload management;
- Workload management processes must comply with inland water transport legislation, awards and agreements including hours of work and remuneration in accordance with statutory provisions;
- Workload management and associated workload allocation supports the pursuit of strategic priorities, and is to be linked to vessel operational and workforce planning processes in addition to individual crew member's performance management processes;
- Workload management decisions should take account of the work-life balance of crew members;
- Crew members and managers understand and accept that there can be natural peaks and troughs in terms of workload that are associated with service delivery requirements in each workplace;
- Crew members should not be required to undertake work that significantly and regularly exceeds ordinary working hours unless exceptional circumstances exist such as an emergency;
- Workload management is to be informed by effective identification and analysis of data/ information and accurate and consistent performance reporting within the context of business function;
- The processes undertaken and the information collected as part of workload management must take into account the privacy and confidentiality of issues raised by individual crew members;
- Workload management should include issue escalation processes and dispute resolution mechanisms.

Task management

Task management is the process of managing tasks through their life cycle. It involves **planning, testing, tracking and reporting**. Task management can help either individuals achieve goals, or groups of individuals collaborate and share knowledge for the accomplishment of collective goals. Tasks are differentiated by complexity, from low to high. Effective task management requires managing all aspects of a task, including its status, priority, time, human and financial resources assignments, reoccurrence, notification and so on. These can be lumped together broadly into the basic activities of task management.

Managing multiple individual or team tasks may require specialised task management software. Many people believe that task management should serve as a foundation for project management activities. Task management may form part of project management and process management and can serve as the foundation for efficient work flow in an organisation.

6.1.1.6 Ability to recognise and prevent fatigue

Fatigue

Fatigue can be defined in many ways. However, it is generally described as a state of feeling tired, weary, or sleepy that results from prolonged mental or physical work, extended period of anxiety, exposure to harsh environments or loss of sleep.

The effects of fatigue are particularly dangerous in the shipping industry. The technical and specialised nature of this industry requires constant alertness and intense concentration from its workers. Fatigue is also dangerous because it affects everyone regardless of skills, knowledge and training.

It must be recognised that the navigation personnel are captives of their work environment:

- Firstly, the average navigation personnel spend a long time working and living away from home, on a moving vessel that is subject to unpredictable environmental factors;
- Secondly, while serving on board the vessel, there is no clear separation between work and recreation;
- Thirdly, today's crew is composed of people from various nationalities and backgrounds who are expected to work and live together for a long period of time.

The most common causes of fatigue known to navigation personnel are lack of sleep, poor quality of rest, stress and excessive workload. There are many other contributors as well, and each may vary depending on the circumstances (i.e. operational, environmental).

Factors of fatigue

There are many ways to categorise the causes of fatigue. To ensure thoroughness and to provide good coverage of most causes, they have been divided into 4 general categories:

- Crew specific factors;
- Management factors;
- Vessel specific factors;
- Environmental factors.

Crew-specific factors

The **crew-specific factors** are related to lifestyle behaviour, personal habits and individual attributes. However, fatigue varies from one person to another and its effects are often dependent on the particular activity being performed.

The crew-specific factors include the following:

- **Sleep and rest:** quality, quantity and duration of sleep; sleep disorders/disturbances; rest breaks;
- **Biological clock/circadian rhythms;**
- **Psychological and emotional factors, including stress:** fear; monotony and boredom;
- **Health:** diet, illness;
- **Stress:** skill, knowledge and training as it relates to the job; personal problems; interpersonal relationships;
- **Ingested chemicals:** alcohol; drugs (prescription and non-prescription); caffeine;
- **Age;**
- **Shift work and work schedules;**
- **Workload (mental/physical);**
- **Jet lag.**

Management factors

The management factors relate to how vessels are managed and operated. These factors can potentially cause stress and an increased workload, ultimately resulting in fatigue. These factors include:

- Organisational factors:
  - Staffing policies and retention;
  - Role of riders and shore personnel;
  - Paperwork requirements;
  - Economics;
  - Schedules - shift, overtime, breaks;
  - Company culture and management style;
  - Rules and regulations;
  - Resources;
  - Upkeep of vessel;
  - Training and selection of crew.
- Voyage and scheduling factors:
  - Frequency of port calls;
  - Time between ports;
  - Routing;
  - Weather and water condition on route;
  - Nature of duties/workload while in port.

Vessel specific factors

These factors include vessel design features that can affect/cause fatigue. Some vessel design features affect workload (i.e. automation, equipment reliability), some affect the crew's ability to sleep, and others affect the level of physical stress on the crew (i.e. noise, vibration, accommodation spaces, etc.).

These factors include:

- Vessel design;
- Level of automation;
- Level of redundancy;
- Equipment reliability;
- Inspection and maintenance;
- Age of vessel;
- Physical comfort in work spaces;
- Vessel motion;
- Physical comfort of accommodation spaces.

Environment-specific factors

Exposure to excessive levels of environmental factors, e.g. temperature, humidity, excessive noise levels, can cause or affect fatigue. Long-term exposure may even cause harm to a person's health. Furthermore, considering that the environmental factors may produce physical discomfort, they can also cause or contribute to the disruption of sleep.

Vessel motion is also considered an environmental factor. Motion affects a person's ability to maintain physical balance. This is due to the extra energy expended to maintain balance while moving, especially during harsh water conditions. There is a direct relationship between a vessel's motion and a person's ability to work. Excessive vessel movement can also cause nausea and motion sickness.

Environmental factors can also be divided into factors external to the vessel and those internal to the vessel. Within the vessel, the crew is faced with elements such as noise, vibration and temperature (heat, cold and humidity). External factors include port and weather conditions and vessel traffic.

There are a number of things that can be done to address these causes. Some contributing factors are more manageable than others. Opportunities for implementing countermeasures vary from one factor to another (noise can be better addressed during the vessel design stage, breaks can be addressed by the individual crew member, training and selection of the crew can be addressed during the hiring process, etc.).

Prevention and mitigation of fatigue

There are a number of steps that can be taken to prevent fatigue. Many of the measures that reduce fatigue are unfortunately beyond a single person's control, such as voyage scheduling, ship design, and work scheduling.

Steps such as the following are important in the prevention of fatigue on board vessel, and are within the Boatmaster's ability to influence and implement:

- Ensure compliance with applicable legislation (minimum hours of rest and/or maximum hours of work);
- Take strategic naps;
- Develop and maintain good sleep habits, such as pre-sleep routine;
- Eat regular, well-balanced meals (including fruits and vegetables, as well as meat and starches);
- Exercise regularly;
- Drink sufficient amounts of water;
- Use rested personnel to cover for those travelling long hours to join the vessel and who are expected to go on watch as soon as they arrive on board;
- Create an open communication environment (e.g. by making it clear to crew members that it is important to inform supervisors when fatigue is impairing their performance and that there will be no recriminations for such reports);
- Schedule drills in a manner that minimises the disturbance of rest/sleep period;
- Assign work by mixing up tasks to break up monotony and combining work that requires high physical or mental demand with low-demand tasks (job rotation);
- Schedule potentially hazardous tasks for daytime hours;
- Emphasise the relationship between work and rest periods to ensure that adequate rest is received;
- Re-appraise traditional work patterns and areas of responsibility on board to establish the most efficient utilisation of resources;
- Ensure that vessel board conditions, within the crew's ability to influence, are well maintained;
- Establish vessel board practices for dealing with fatigue incidents and learning from the past;
- Increase awareness of long-term health benefits of appropriate lifestyle behaviour.

6.1.2 Instruct Crew On Information And Communication Systems

Knowledge and skills

6.1.2.1 Knowledge of information and communication systems available on board

Information and communication systems available on board

Communication and navigation are intrinsically linked. Right from the start of voyage planning, the navigators need up-to-date information that will affect the passage of the vessel, such as chart corrections, information for safety of navigation, weather reports, etc. This information needs to be communicated to the vessel and presented in a format that aids decision-making.

During the voyage, communication is essential not only among the bridge team on board, but also with shore authorities such as VTS and with the other vessels.

A **radio-telephone** is a sender and receiver for inland navigation communication. Via the radio-telephone you can make contact with other vessels and with VTS stations on the shore, such as locks, traffic supervisors.

All inland navigation vessels, with some exceptions, are required to have a radio-telephone installation on board. It is advisable to use this equipment on inland waterways in order to enhance safety of navigation. The use of radio-telephone installation is mandatory according to applicable legislation in this field, legislation which also establishes applicable regulations for equipment and for users of this equipment, such as radio-telephone operators.

If you have a radio-telephone on board, you are required to use it and to listen to it. On the inland waterways the radio-telephone has to be set to the channel mentioned in the applicable legislation as the channel for navigation communication.
A radio-telephone is a sender-receiver for short distances that operates on VHF (Very High Frequency). A radio-telephone is essential for communication in navigation.

The main four important reasons to use the radio-telephone are:

- By listening to the radio-telephone, the crew member knows what is happening in his/her surroundings, which vessels are in the area and what manoeuvres they are making; using this information helps him/her to choose a safe course;
- Contacting traffic supervisors, bridge men and locks operators;
- Emergency calls sent via radio-telephone are heard by everyone listening in the area around the vessel;

- To receive simple safety messages on board such as weather forecasts, storm warnings and shipping news.

Other media systems

Automated digital communication will become increasingly important, with **AIS - Automatic Identification System -** being a crucial example. AIS is an identification system that automatically transmits information about the name, position, speed and course of a vessel. If a vessel is equipped with AIS, data is automatically sent to shore-based installations called AIS base stations. Through AIS you can even automatically exchange data with other vessels in the vicinity. AIS has been in use for a long time in maritime shipping. To better respond to the specific needs of inland shipping, an Inland AIS has been developed. AIS supports and facilitates navigation and increases safety. Thanks to AIS, the infrastructure can be put to better use, traffic stations can be operated more efficiently and shippers and terminals can improve their logistics planning. In this way, AIS strengthens the competitive position of inland navigation.

AIS is an electronic device that broadcasts its identity and position at regular times to other vessels as well as other information with respect to ship and cargo. The AIS is also able to receive the same sort of information from other vessels.

Inland ECDIS is a system for the display of electronic inland navigation charts and additional information. Its purpose is to contribute to the safety and efficiency of inland navigation and thus also to the protection of the environment. Inland ECDIS is used simultaneously to reduce the workload when navigating the vessel as compared to traditional navigation, and for information methods.

Inland ECDIS also provides the basis for other River Information Services (RIS), e.g. Inland AIS. The electronic chart developed according to the ECDIS standard differs fundamentally from a paper chart. Its presentation on a screen has some advantages over a paper chart.

The electronic display of the chart is only one aspect of ECDIS. Inland ECDIS is also an information system, which enables its users to recall other information about the displayed objects besides their graphics presentation.

6.1.2.2 Ability to instruct the crew on the use of the craft's communication, media and IT systems

Using the radio-telephone

If there is a radio-telephone on board, crew members are required to use it and to listen to it. On the inland waterways the radio-telephone has to be set to the channel mentioned in the applicable legislation as the channel for navigation communication.
A radio-telephone is a sender-receiver for short distances that operates on VHF (Very High Frequency). A radio-telephone is essential for communication in navigation.

Using AIS

AIS was in the first place a vessel-to-vessel communication device to display position course over land and its use was initially for collision avoidance. The structure of the messages and the way it was broadcast gave rise to the use of an AIS device on shore where an observer could monitor the movements of the vessels in range. This use was taken over by authorities to observe vessel traffic. Special devices were developed that could not only observe the traffic but also affect the traffic or relate to one vessel in the traffic. This device developed into the so-called base station. In order to obtain a surveillance of stretches of water larger than the range of one base station, these were developed into networks. Apart from the normal messages that are sent at (different) time periods, special messages were developed, the so-called binary messages.

Using ECDIS

Information mode

Information mode must be used for information only and not for navigation. In information mode all kinds of chart orientation, rotation, zooming and planning are allowed. However, it is recommended to use the same fixed ranges as in navigation mode and the chart orientation, whether such is:

- To north, or
- To the fairway axis at the actual position, or
- To the actual vessel's heading.

It should be possible to scroll the chart manually on the screen with the fairway axis in line with the vertical screen axis.

Inland ECDIS may be connected to a positioning sensor to scroll the chart picture automatically and to display the section of chart matching the actual surroundings, namely in the operator-selected range.

Navigation mode

In navigation mode, the Inland ECDIS display is integrated with the own vessel's radar information. The radar information is clearly distinguishable from the SENC information.

The Integrated Display will be in accordance with the requirements for radar on inland waterways as specified in Section 4, Chapter 4.14 of these technical specifications.

The Integrated Display will only be presented in the head-up orientation. Other orientations are permitted in systems with an additional maritime ECDIS type approval. If such a system is used in true motion and/or north-up mode on European inland waterways, it is considered to be working in information mode. It will be possible to temporarily remove either the ECDIS or the radar information by a single operator action.

The vessel's position will be derived from a continuous positioning system, the accuracy of which is consistent with the requirements of safe navigation.

Navigation mode will provide an indication when the input from the position-fixing system is lost. Navigation mode will also repeat, but only as an indication, any alarm or indication passed to it from a position fixing system.

6.1.3 Collect, save and manage data with regard to data protection laws

Knowledge and skills

6.1.3.1 Knowledge of the use of all the craft's computer systems

Information computer systems

Within the DINA - Digital Inland Navigation Area - framework there are four key integrations to be considered:

- Vertical integration between barge operators and customers;
- Horizontal integration between barge operators and port/terminal operators;
- Operational integration between barge operators and fairway authorities;
- Administrative integration between barge operators and other authorities (law enforcement, tax, statistics, etc.).

To support these integrations one architecture needs to consist of:

- Platforms providing functionality that should implement open standards for the services they provide;
- Extended River Information Services, including shared databases on a European level for vessels, infrastructure elements and crew;
- Data registries to register locations where real-time data can be found on registered entities (vessels, infrastructure – e.g. traffic, crew);
- A new on-board digital environment – e-IWT tools – to support new digital apps and services for barges, extending the current AIS/ECDIS set-up;
- A platform for barge operators to manage data on their vessel, voyages and crew. This data environment should provide interfaces to selected stakeholders to share data in a controlled way with third parties, including authorities and ports/ terminals.

6.1.3.2 Ability to collect and store data in accordance with applicable legislation

Data and information

Data is "raw", non -interpreted information. Information can, conversely, be described as "interpreted data". For data to become information, they must be meaningful to a human operator, in terms of both the task at hand and the overall context. For example, the computer message "error 468" is data, while "error GPS 1 is off line" is information that a human user can understand and act upon. To achieve meaningful communications, it could be argued that we need to deal with information, not just data. Unless we understand the meaning of the message, there is little point in having communication (at least where humans are involved).

Personal data protection

The regulations relating to the protection of natural persons with regard to the processing of personal data and the free movement of such data, are documented in EU Regulation 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data.

The protection of natural persons in relation to the processing of personal data is a fundamental right. This Regulation is intended to contribute to the accomplishment of the area of freedoms, security and justice and of an economic union, to economic and social progress, to the strengthening and the convergence of the economics within the internal market, and to the well-being of natural persons.

Rapid technological developments and globalisation have brought new challenges for the protection of personal data. The scale of the collection and sharing of personal data has increased significantly. Technology allows both private companies and public authorities to make use of personal data on an unprecedented scale in order to pursue their activities. Natural persons increasingly make personal information available publicly and globally. Technology has transformed both the economy and social life, and can further facilitate the free flow of personal data within the Union and the transfer to third countries and international organisations, while ensuring a high level of the protection of personal data. The principles of data protection apply to any information concerning an identified or identifiable natural person.

The principles relating to processing of personal data included in the EU Regulation are:
Personal data shall be:

- Processed lawfully, fairly and in a transparent manner in relation to the data subject;
- Collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes;
- Adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
- Accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay;
- Kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed;
- Processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures.

Cyber security

Cyber security is the practice of protecting systems, networks, and programs from digital attacks. These cyber attacks are usually aimed at accessing, changing, or destroying sensitive information; extorting money from users or interrupting normal business processes. Implementing effective cyber security measures is particularly challenging today because there are more devices than people, and attackers are becoming more innovative.

The rapid evolution in the use of, and reliance upon, digital and communication technologies, as well as the advances in automation and the potential for integration of multiple electronic systems supporting management functions and business applications, increases the importance of addressing inherent vulnerabilities. It is therefore vital that vessel owners, operators and masters understand and implement appropriate and proportionate measures to address the resilience and cyber security issues that arise. Only by doing so can they fully meet their responsibilities for the secure and safe operation of their vessel.

Cyber security is not just about preventing hackers gaining access to systems and information, potentially resulting in loss of confidentiality and/or control. It also addresses the maintaining of confidentiality, integrity and availability of information and systems, ensuring business continuity and the continuing utility of digital assets and systems.

To achieve this, consideration needs to be given to not only protecting vessel systems from physical attack, force majeure events, etc., but also to ensuring that the design of the systems and supporting processes is resilient and that appropriate reversionary modes are available in the event of compromise. Personal security aspects are also important. The inside threat from shore-based or shipboard individuals who decide to behave in a malicious manner, or the untrained user who makes errors cannot be ignored. Vessel owners and operators need to understand cyber security and promote awareness of this subject to their stakeholders, including their crew members.
In the maritime sector there are a lot of policies, regulations, guidelines, etc. regarding cyber security risk management, but for inland navigation it is essential to put in place common and standardised solutions that are the fruit of exchanges between the different stakeholders at the international level, the public and private sector, and on the level of manufacturers and operators. In this regard, inland navigation would be able to rely particularly on the experience and good practices of the maritime and rail sector. The achievements of ENISA (European Union Agency on Cyber security) in supporting the implementation of the NIS Directive (Directive (EU) 2016/1148 concerning measures for a high common level of security of network and information systems across the Union), will also be valuable in the development of a concept for cyber security for inland navigation.

6.2 Effective communication

Competences

The Boatmaster shall be able to:

I. Describe circumstances by using relevant technical and nautical terminology.
II. Retrieve, evaluate and use information with relevance to safety on board as well as nautical-technical issues.

6.2.1 Describe circumstances by using relevant technical and nautical terminology

Knowledge and skills

6.2.1.1 Knowledge of the correct use of relevant technical and nautical terms

Using technical and nautical terms

Communication is an essential part of human interaction. The benefits of effective communication are many and obvious as they enhance all aspects of our personal and professional lives. Ineffective and misunderstood communications in our personal lives may give rise to problems or embarrassment but in our professional lives the results of misunderstandings may have much more serious consequences. In the world of international shipping, with crew members from many countries sailing on vessels trading to all parts of the world, effective communication between those on board and between ship and shore is vitally important.

Many accidents are found to be due mainly to operational issues of improper procedures, maintenance and design, rather than to improper implementation of regulations; ineffectiveness of bridge resource management and particularly an ineffective relationship between Boatmaster and crew members are recurrent. Communication difficulties often occur in these areas due in part to cultural differences but also to language "barriers".

It is a self-evident fact that people speaking different languages can generally not converse at all and even people speaking their own language can misinterpret spoken messages. Many will recall playing games where a message passed through a series of people can become quite unrecognisable from the original message after being re-worded or abbreviated by individuals passing a message one to the other.

For effective communications, when the sender of a message communicates with the intended recipient, there has to be a correlation between what the sender is thinking about. Text or words must therefore be used in a consistent way, and the first requirement for communication is a set of messages that are used consistently.

If it is known why people sometimes fail to send the intended communications, a start can be made on addressing the problem. The most obvious solution to the problem of failure of communications through different languages is, of course, to use the same language.

The language usually used on board of the vessel is the national language of the crew. However, in these days of multinational crews, a variety of languages may be used or alternatively one working language may be adopted. Whichever is used, vessels trading internationally must conduct vessel to shore communications in a language that can be understood. Navigational and safety communications must be precise and unambiguous to avoid confusion and error.

6.2.1.2 Ability to master communication

Mastering communication

In psychology it is accepted to call the person transmitting the information a **communicator** and the person who receives the information a **recipient**. For example, the Boatmaster is the communicator and the crew members are the recipients. The communication in navigation is information interaction which is maintained by crew members during performance of their functional duties. The communication may be internal and external.

There may be two types of professional communication on board the vessel (internal communication): the so-called descending communications - the communications of the Boatmaster with the subordinated staff. In addition to this communication, the external communication with the other vessels and shore stations plays a big role.

6.2.2 Retrieve, evaluate and use information with relevance to safety on board as well as nautical-technical issues

Knowledge and skills

6.2.2.1 Knowledge of procedures to follow in all distress, emergency and safety communication

Distress, emergency and communication procedures

In the shipping industry, the so-called **controlled communication** prevails. Controlled communication is the information interaction of crew members which is fixed in the duty rules and mandatory procedures determined by national and international regulations. Controlled communication procedures may be appreciable, calculable and planned beforehand. Standard vocabulary for navigation and VHF communication procedures may be an example. Nevertheless, in emergency situations there may be an **uncontrolled communication** that cannot be planned beforehand.

The formal criteria of completeness of the communicative act is the fact of an observable reply to the communicator regarding his/her message from the recipient, i.e. presence of an authentic feedback from the recipient about physical receipt of the message. For example, the helmsman should repeat the Boatmaster's command prior to realising it.
The basic steps of a communication process which determine the efficiency of communicative influences on the person can be designated as follows:

- Comprehension of the idea of the message by the communicator;
- Non-verbal behaviour of the communicator (non-verbal coding of information: gesture, a pose, a mimicry, etc.);
- Verbalisation of messages by the communicator;
- Perception of non-verbal behaviour by the recipient which may be influenced by various types of hindering;
- Perception of the verbal message that may be received in noise conditions;
- Realisation of action incorporated in the message.

The communication is considered as effective to the process when the communicator has received the confirmation of acceptance of his/her message by the recipient.

The communication is considered incomplete if there is no feedback confirming the reception by the recipient.

The communication is considered as effective to the result when during the dialogue the communicator has reached the goal by means of communication. In most cases people communicate by means of dialogue. Dialogue is a method or tool to solve problems by means of communication.

The most complicated task in communication is to formulate the idea of a message so that the interlocutor has no strain after its acceptance, internal translation and understanding.

6.2.2.2 Ability to use the standard communication phrases

Using standard communication phrases

It is recommended to use:

- Standard navigational vocabulary such as, Standardised UNECE Vocabulary for Radio-Connections in Inland Navigation;
- RIVERSPEAK - EDINNA Standard Inland Navigation Communication Phrases.

These Standards are not mandatory but rather, through constant repetition on board of vessels and in training institutes, the phrases and terms are expected to become normally accepted and used amongst crew members in preference to words of similar meanings.

Effective communications are an essential ingredient to safe and efficient vessel operations. Communication can be achieved in many ways but the prime method for operational communications is through speech. When in an operational situation such as berthing a vessel or fighting a fire, it is vitally important that those involved can communicate effectively.

The Standardised UNECE Vocabulary for Radio-Connections has been prepared with a view to:

- Improving the safety of navigation and piloting of vessels;
- Standardising the vocabulary used for communications in inland navigation.

General instructions have to be followed in order to use the phrases and expressions contained in this Vocabulary.
The general instructions include:

- Procedure/description of the message;
- Distress/emergency/safety messages.

The RIVERSPEAK Standard Communication Phrases for Inland Navigation have been developed to:

- Enhance the safety in inland navigation through standardisation of communication in the English language;
- Support the training institutions and their students in achieving the above objective.

The main focus of the RIVERSPEAK standard communication phrases lies on the communication between vessels and with land stations on inland waterways, lakes and in coastal areas, and vessel board-communication on board of inland barges. Distress, Urgency and Safety communication forms an important part of the phrases.

RIVERSPEAK is available as APPS, with images and sound. It is free of charge and can be played on any device.

It will form an excellent tool for lecturers and students to teach and learn the practical way of communication and language used in inland navigation.

The RIVERSPEAK programme consists of ten bi-lingual versions (EN, DE, NL, FR, PL, RO, HR, BG, RU, IT) i.e. ten different languages that are now commonly used to communicate on the inland waterways, combined with the English standard of communication.

6.3 Well-balanced and social working environment on board

Competences

The Boatmaster shall be able to:

I. Ensure a good social working environment;
II. Apply national, European and international social legislation;
III. Follow strict alcohol and drug prohibition and react appropriately in cases of infringement, take responsibility and explain consequences of misbehaviour;
IV. Organise provisioning and preparation of meals on board.

6.3.1 Ensure a good social working environment

Knowledge and skills

6.3.1.1 Ability to take the lead in organising team meetings to keep the social atmosphere on board well balanced

Leadership

Leadership effectiveness

Leadership effectiveness indicates that the most important behaviours of leaders are those that facilitate the team's self-management through self-observation, self-evaluation and self-reinforcement. The Leader is interpreted as someone who sets direction in an effort and influences people to follow that direction. Leadership involves creating a compelling vision of the future, communicating that vision, and helping people understand and commit to it.

Importance of delegation

The top priority for team leaders is delegation. No matter how skilled you are, there's only so much that you can achieve working on your own. With a team behind you, you can achieve so much more and that's why it's so important that you delegate effectively. Successful delegation starts with matching people and tasks, so you first need to explain what your team's role and goals are. A good way of doing this is to put together a team charter, which sets out the purpose of the team and how it will work. Not only does this help you to get your team off to a great start, it can also be useful for bringing the team back on track if it's veering off course. Only then will you be in a position to think about the skills, experience and competencies within your team, and start matching people to tasks.

Motivating your team Another key duty you have as a leader is to motivate team members. Whatever approach you prefer to adopt, you also need to bear in mind that different people have different needs when it comes to motivation. Some individuals are highly self-motivated, while others will under-perform without managerial input.

Developing your team

Teams are made up of individuals who have different outlooks and abilities, and are at different stages of their careers. Some may find that tasks you have allocated to them are challenging, and they may need support. Others may be "old hands" at what they are doing, and may be looking for opportunities to stretch their skills. Either way, it's your responsibility to help all of your people develop.

The most effective way of helping your people to develop is to ensure that you give regular feedback to members of your team. Many of us are nervous about giving feedback, especially when it has to be negative. However, if you give and receive feedback regularly, everyone's performance will improve.

Communicating and working with your team

Communication skills are essential for success in almost any role, but there are particular skills and techniques that you will use more as a leader than you did as a regular worker. These fall under two headings: **communication with team members and communicating with people outside your team.**

Communicating with people in your team

As a team leader, you are likely to be chairing regular sessions as well as one-off meetings. Meetings of all kinds, and regular ones in particular, are notorious for wasting people's time, so it's well worth mastering the skill of running effective meetings. Many meetings include brainstorming sessions. As a team leader, you will often have to facilitate these, so you will need to be comfortable with doing this. There is more to this than simply coming up with creative ideas, as you do when you are just a regular participant in such a session. Active listening is another important skill for leaders. When you are in charge, it can be easy to think that you know what others are going to say, or that listening is less important, because you have thought of a solution anyway. Don't fall into this trap. Most good leaders are active listeners, this helps them detect problems early, avoid costly misunderstandings, and build trust within their teams.

Communicating with people outside your team

Your boss is probably the most important person you need to communicate with. Take time to understand fully what your boss wants from you and your team. Don't be afraid to ask your boss to coach and mentor

you. You can usually learn a lot from him/her, but he/she may not be proactive about offering guidance. Also, as a leader, part of your job is to look after your team and protect it from unreasonable pressure. Learn skills like assertiveness and win-win negotiation, so that you can either turn work away, or negotiate additional resources.

Another part of your job is to manage the way your team interacts with other teams. Use stakeholders' analysis to identify the teams that you need to deal with. Then talk with these people to find out what they want from you, and what they can do to help you.

Managing discipline

Discipline may be subtly different from basic feedback, because it doesn't always relate specifically to the employee's work. You can give feedback on their phone manner, for example, but handling problems with timekeeping or personal grooming may need a different approach. Obvious breaches of the law or of company policy are easy to identify and deal with.
On the one hand you will not want to seem petty.
On the other hand, you can't let things go that need to be dealt with. Use these rules of thumb to decide whether you need to take action. If the answer to any is yes, then you need to arrange a time to speak to the employee in private.

Traps to avoid

There are a number of common mistakes that new leaders tend to make. These are:

- **Thinking** that you can rely on your existing job knowledge and technical skills to succeed as a manager. It is essential that you take time to develop good management and people skills as well - these can be more important than your technical skills;
- **Failing, to consult regularly with your boss**, in a misguided attempt to show that you can cope on your own;
- **Approaching your boss** without having thought a problem through, and without having considered how the problem could be solved;
- **Embarrassing your boss**, or letting him/her get a nasty surprise. Follow the "no surprises" rule;
- **Doing anything that requires your boss to defend you to others**. This can cause your boss to "lose face" with his/her peers and superiors, and it makes it look as if his/her team is out of control;
- **Failing to talk to your customers** about what they want from yourself and your team;
- **Using your authority inappropriately -** make sure that everything you ask people to do is in the interests of the organisation.

Many of these points sound obvious, however it's incredibly easy to make these mistakes in the rush of everyday managerial life.

Considering team experience

The success of the team depends on the experience of the team and its size. The first step toward building a high performing team involves transitioning through the stages of forming and performing as quickly as possible. Collaborating as a team in brainstorming, planning, and engaging in team-building activities will help achieve the good relationships and mutual trust required, where people begin to see themselves as members of a team.

Provide mentoring and guidance for less experienced team members to assist them in quickly becoming productive contributors. Also consider development needs for the team as a whole, and focus on any training or skills building that will help you cover your responsibilities and benefit from your project.
Engage the most experienced members of your team in this mentoring and training, emphasising your appreciation for their expertise and value to the team.
Set up rewards for creativity and problem solving.
When dealing with members of your team who have a long history of project successes, focus discussions on what the project needs to accomplish, leave the details of how to do the work mostly up to them. Ownership and responsibility for key parts of the project are key motivating factors. Encourage self-management, and trust people with experience to do what they have committed to do, at least until you have reason to believe otherwise.

Consider team size – for small teams and even to some extent large ones, team building activities and rewards for creativity can be quite effective.
When the team becomes large, the primary responsibility for encouraging innovation and maintaining relationships and trust needs to be delegated to the leaders of each small team.

Recognise team potential and limitations

In the workplace, it is common to encounter a mix of different personalities, viewpoints, past experience, expectations, communication issues and conflicts. It is ambitious to get such different people to work as an effective team. Work on their communication, resolve and prevent conflicts and make employees succeed in today's fast-paced environment effectively. SWOT analysis (strength, weakness, opportunity, threat) can be helpful in recognising the limitation of a particular aspect and can be used to work on improvement in that particular area. By definition, Strengths and Weaknesses are considered to be internal factors over which you have some measure of control. Also, by definition Opportunities and Threats are considered to be external factors over which you have essentially no control. It can also be done through the Jung Typology Test. The test was specifically created to address the needs of the workplace and is aimed at organisations and businesses. Assessing employees' potential and

optimising their job responsibilities accordingly, moreover assessing the propensity for, and developing and optimising the use of, leadership skills of your staff can lead to improved results. Furthermore, Conflict Management, improving supervisor, subordinate and peer–to-peer work relationships, improves teamwork as well as evaluates candidates for promotion.

Optimising the skills and ability of the team

The characteristics of a good team are that it has a common purpose, complementary skills, interaction shared resources, consensus decision making on major issues and synergy.

Stages of team development

Building a team requires a period of goal-setting and strategy development for completing goals. Once a team has been established and roles are clarified, the team usually progresses through a series of development stages.

Forming - this stage includes building a common purpose, understanding personal expectations and interests, clarifying accountability, recognition and rewards.

Storming - the storming stage gets the team focussed on goals, managing processes, conflict-resolution procedures, integrating everyone into the team and building good relationships between team members. Norming– at this stage, team members begin to work towards consensus on issues and develop the processes for information sharing and feedback. Team members are given more opportunities to lead. Performing team members seek to improve tasks and relationships, test for better methods and approaches, and celebrate success.

6.3.1.2 Knowledge and awareness of gender-related and cultural differences

Leading multicultural teams

The company does business internationally. You are probably leading teams with members from diverse cultural backgrounds. Those differences can present serious obstacles. Barriers to a multicultural team's ultimate success are direct versus indirect communication. Troubles with accent and fluency, differing attitudes toward hierarchy and authority, and conflicting norms for decision making are the most important aspects. To get the team moving again, avoid intervening directly. Instead, choose one of three indirect interventions. When possible, encourage team members to adapt by acknowledging cultural gaps and working around them. If your team is not able to be open about their differences, consider structural intervention (e.g. reassigning members to reduce interpersonal friction). As a last resort, use an exit strategy (e.g. removing a member from the team).

The most successful teams use the following strategies for dealing with problems:
Adaptation– acknowledge cultural gaps openly and work around them;
Structural intervention – change the shape of the team;
Managerial intervention – set standards early or bring in a higher-level manager;
Exit – remove the team member when other options have failed.

Adaptation is the ideal strategy because the team works effectively to solve its own problem with minimal input from management and, most importantly, learns from the experience.

Motivating the team

Motivating your employees is a delicate and purposeful challenge. Just like getting in shape or learning a new language, bolstering the motivation and performance levels of your employees won't happen overnight. There are ways you can improve performance and motivation in your workplace.
It can be done by **making expectations clear**.
Crew members without goals will be naturally aimless. Provide them with clear achievable goals and make sure there are measurable standards in place to evaluate their performance. They must know what action they are expected to take and that it will yield the desired performance. Your employees should understand what they are expected to do, how they are expected to do it, and how they will be judged on it.

Provide continuous feedback

Immediate, continuous feedback lets an employee know that their actions affect the company. It's hard for you, and the employee, to remember specific incidents when employee performance review time rolls around. Goal-setting theory predicts that employees are motivated by settings goals and by receiving continuous feedback on where they stand relative to those goals.

Correct privately

Most people are not motivated by negative feedback, especially if they feel it's embarrassing. The only acceptable place to discuss an on-going, performance related issue or correct a recent, specific error is in the employee's office or your own, with the door closed.

Believe in your employees

Present weakness or errors in the context of, "I know you can do better. You are smart and capable… and that's why I expect more from you". The perception of leaders' trust is a key component of transformational leadership.

Praise publicly

Feeling under-appreciated encourages complacency - there's a reason so many companies celebrate an employee of the month. People love praise and they thrive on it. Some research even suggested we are willing to sacrifice incentive bonuses for public recognition. Make it a standard practice.

Make rewards achievable

Individuals must also see the desired performance and linked reward as possible. Set up a series of smaller rewards throughout the year to motivate on-going performance excellence. For example, instead of an annual trip, award several three-day gateways for each quarter. Vary the basis of the awards. Recognise the several types of excellence to motivate your employees to focus on additional areas of their performance.

Setting clear and achievable goals

You must set clear achievable goals. You must set them for your team as a whole and you must set them for the individuals within your team. They must be unambiguous and they must be mutually attainable. That is to say, no one individual's goal should in any way conflict with that of another individual. In fact, you want it to be in everybody's interest that each individual achieves his/her own goal. Design the goals, accordingly. You must try to build a team that works together with common aims, all working towards the same final goal. When writing goals, it's helpful to keep the following tips in mind:

- Goals must align with the organisation's mission and strategy;
- They must be clear and easy to understand;
- They must be accepted and recognised as important by everyone who will have to implement them;
- Progress towards goals must be measurable;
- Goals must be framed in time, with clear beginning and end points;
- They should be supported by rewards;
- They should be challenging, but achievable.

Using authority and influence effectively

Influencing the making of commitments to the goals of the organisation depends on how leaders define and use power, influence, and authority. Deciding what type of authority system to create is part of the managerial responsibility of organising. For example, compare two leaders. One accepts or rejects all ideas generated at lower levels. The other gives the authority for making some decisions to employees at the level where these decisions will most likely affect those employees. How leaders use their power, influence, and authority can determine their effectiveness in meeting the goals of the organisation. Leaders must somehow use influence to encourage workers to action. If they are to succeed, leaders must possess the ability to influence organisation members. Influence is the ability to bring about change and produce results.

Setting and maintaining high standards

Exceptional leaders set high performance standards to achieve results for their organisations. Leadership is more than being a leader. It is about delivering the results the organisation needs to fulfil its mission. This means that as a leader, you must set high standards and stick to them. Constantly evaluate the quality of work done on board. No matter how well things are going, realise that improvements are always possible.

Avoiding a blame culture and promoting a just culture

Blame culture is neither feasible nor desirable, as some unsafe acts are egregious and warrant sanctions. In a just culture the culpability line is drawn clearly. A just culture is closely linked to a reporting culture, i.e. an organisational climate in which people are prepared to report their errors and near misses. A reporting culture supports an informed culture in which the leaders and operators have good knowledge of all factors that determine the level of safety.

We can define a just culture as "an atmosphere of trust in which people are encouraged, even rewarded, for providing essential safety related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour".
A just culture is founded on two principles, which apply simultaneously to everyone in the organisation:

- Human error is inevitable and the organisation's policies, processes and interfaces must be continually monitored and improved to accommodate those errors;
- Individuals should be accountable for their actions if they knowingly violate safety procedures or policies.

Gender equality

Transport is one of the most segregated industrial sectors, with only 22% of the EU workforce represented by women. The ETF - European Transport Workers Federation - believes that the challenges for transport unions reside in addressing the feminisation of the workforce in transport, by unionising women in the emerging sectors and companies, by developing strategies to tackle low quality employment, by mainstreaming the gender dimension in trade union policies and collective bargaining, by dealing with segregation and by improving working conditions and tackling pay gaps, by achieving gender balance representation in union structures and negotiation bodies, by improving participation of women in all aspects of trade union life and by disseminating information on ETF gender action amongst trade unionists.

The transport sector remains male dominated and unattractive for women who are still over-represented in occupations that are poorly paid and are predominant in flexible types of employment, such as part-time working, fixed-term contracts.

Flexible jobs come with a high risk of job insecurity, poor working conditions, limited access to social security and benefits, training and career development. A gender-segregated industry will always create and perpetuate discrimination. For example, the fact that jobs can be perceived as 'feminine' or 'masculine' influences hiring and firing decisions.

One of the main goals of ETF is to unify existing trade union training on gender equality and set up a common agenda, goals, standards, objectives and principles according to the programme adopted by all its affiliates at the last congress. The uneven playing field across Europe in gender equality training in the workplace is a great challenge. At the same time, this new initiative should not be in conflict with or undermine the training systems and traditions in every country and union, aiming instead to complete and build on them, rather than to replace them. Bringing together existing materials on gender equality in the transport workplace was necessary to reach the goals set by the ETF's programme and also to support transport sectoral social dialogue at European level.

The **ETF Inland Waterways section members** debated on **gender aspects in inland navigation;** the section members expressed the following concerns with regard to the situation of women in this sector:

- Nowadays the hotel vessels / passenger liners employ a growing number of female workers while working conditions and pay on board vessel are unacceptably low. This sub-sector is poorly unionised due to the limited capacity of trade unions to deal with the extremely mobile and seasonal workforce. Hence the risk of greater flexibility, less protection, further decline of the quality of jobs. Section members pointed out that the status of workers employed on this type of crafts is more akin to that catering personnel and thus social standards negotiated by unions for crews do not apply to this particular segment of workforce;
- The case of women working on family-owned crafts as self-employed is alarming: their work is considered a contribution to the family business, and thus generally speaking is unpaid. Their situation is even more vulnerable as they may be denied access to social security systems and benefits;
- Apart from the leisure boats, participation of women in the sector is extremely low. This is due to the hostile working conditions and lack of accommodation conditions for mixed crew on board vessel in the freight transport;
- The lack of the possibility to strike the right balance between work and family life is one of the key reasons preventing large scale women's participation in the sector.

The Section concluded the gender equality debate by agreeing that the following type of action may be taken in order to improve the situation of women workers in the sector:

- Being aware and mainstreaming the gender dimension in section activities – the ETF may ask the European Commission to reflect this dimension in the Commission official documents relevant to the sector (the upcoming Commission Communication may include specifications on attracting women to the profession, training, work-life balance; the ETF should make sure that social dialogue outcome (e.g. agreements) cover the female dominated occupations with the aim to improve the quality of their work;
- With regard to addressing work flexibility and precarious jobs – the case of hotel vessels – the section members suggested a campaign to raise general awareness on the right to decent working conditions on board vessel.

6.3.1.3 Knowledge of relevant rules applying to the training and education of students, apprentices and trainees

Training

Training has been defined as learning and development undertaken for the purposes of supporting development and maintenance of operational capability in employment: skills for work and in work, on job or off job to enable effective performance in a job or role.Training takes place whenever a new technology has been introduced to the shipping industry to assist navigation personnel in the performance of their duties.

The training regimens accompanying these technological advances have had a common purpose: first, to teach the general operational theory of the equipment, second, to demonstrate the operational use of the equipment and third, to explain how to interpret the display of the equipment output.
Not one of these training regimes has taught the Boatmaster how to incorporate the technology in question into the bridge team, or for that matter, how to use its associated equipment efficiently as an integral component of bridge resource management. This continues to be a significant weakness.
Students today are very comfortable with changing technologies. They have grown up with computer hardware and software that undergo rapid, constant development: they are familiar with cell phones and text messaging as their primary methods of communication. Video games and virtual simulation programs are common sources of entertainment. Accessing the Internet for all sorts of information is as commonplace as watching the nightly news on TV was 30 years ago. Unfortunately, this familiarity with changing technologies, and students' obvious level of comfort in relying on technology, creates one notable

concern; most of the students are more comfortable with virtual reality rather than actual reality. They may be more prone to believe in the veracity of their electronics display outputs than to trust what they see with their own eyes out of the bridge windows.

On board training

Most shipping companies favour the responsibility being placed upon the ship's senior staff to give overall supervision, with a designated crew member as shipboard trainer. This places an extra burden on already busy people, so some companies have taken the other approach to delivering training, which is to use travelling trainers who move from vessel to vessel.

Advantages of travelling trainers are the following:

- They are selected for their skills as trainers;
- Can be briefed ashore on the latest company edicts and priorities;
- Can carry with them selected training and assessment material;
- May carry out safety audits prior to carrying out training and concentrate on the weaknesses they discover;
- Can transfer the lessons learned across the fleet;
- They report back directly to managers and keep fleet records;

The disadvantages for travelling trainers are the following:

- They have only a limited time on board;
- Teach trainees who may be busy or tired;
- Can only carry a limited amount of training material;
- Above all, a travelling trainer does not have time to offer his or her services as a mentor, developing the skills of junior crew members over a prolonged period.

On board trainer

The best on board trainer is someone who is well trained as a trainer and interested in training and can motivate other people to play their part. On board trainers should be given clear instructions, provided with proper facilities and training aids and above all, enough time to take on responsibilities additional to their normal work.

Advantages of designated shipboard trainers are:

- Familiarity with the vessel, its equipment, procedures, manuals, etc. allowing lesson learned to be applied directly in the workplace;
- Knowledge of crew members;
- The opportunity to initiate and encourage long-term mentoring programmes to develop the skills of junior staff under experienced seniors;
- The ability to schedule the work over weeks or months and take advantage of learning opportunities (loading, unloading, bunkering, dry docking, etc.);
- Training your own junior staff can give you a much better understanding of their strengths and weaknesses.

Possible disadvantages include:

- Lack of interest in training or motivation;
- Lack of skills as a trainer;
- Lack of time;
- Lack of facilities/space for training;
- Lack of training and assessment materials;

The ideal combination is if a company that has a comprehensive training policy can send the travelling trainers to carry out audits, make reports and initiate training programmes. The designated shipboard trainer can then continue once the other person has left, creating an optimum and continuing training environment.

We are often told "leaders are born and not made" - the same could be said about good teachers and trainers. We have all come across people whose natural ability made them approachable, whose teaching was a pleasure for us and easy for them. Most teachers are not perfect, but do a reasonable job. With a trainer training they could be much better.

6.3.1.4 Ability to guide students, apprentices and trainees on various levels

Mentoring

Mentoring can be defined as "a learning and development relationship between two people". It depends on essential human qualities such as commitment, authenticity, trust, integrity and honesty. It involves the skills of listening, questioning, challenge and support.

Mentoring is one of the most effective ways of transferring this knowledge from one generation of navigation personnel to the next. In addition, the inland water transport sector is in desperate need of attracting new, bright young people.

Mentoring is not training. Training and mentoring have different goals, teach different knowledge, and require different techniques and tools.

Mentoring is a confidential, trust-based, voluntary relationship between a mentor (someone with significant experience in some area) and a protégé (someone who either wishes to work in that area, or is working their way through the ranks). The mentor is able to provide guidance based on his/her experience to help the protégé make a more informed professional choice. The most important characteristics of a good mentor, other than expertise and experience, include a genuine desire to be helpful, good communication skills and patience.

Good mentoring relationships and interactions have a number of characteristics:

- **Long-lived –** the mentor has much more intimate knowledge of the personality, goals and context of their protégé. It is this intimate knowledge that enables the mentor to provide appropriate guidance;
- **Personal –** the implication of the mentor's guidance to the life of the protégé is significant, and the personal connection creates a responsibility to the protégé to respect this significance. Likewise, protégés need to feel as though they can trust their mentor, and this trust only comes from respect and, for lack of a better word, intimacy;
- **Unconflicted –** mentors should never be in a position of conflict or influence with respect to their protégé. While it is true that many successful mentoring relationships do not obey this rule, such relationships can never reach their full potential due to the constraints placed on open discussion;
- **Mutual benefit -** mentoring benefits for the protégé are generally well understood. But interestingly, mentors also invariably feel these to be highly satisfying and rewarding experiences. Being a mentor challenges you, keeps you sharp, and keeps you connected with, and informed about the needs and issues of youngsters.

Mentoring is a timely and valuable activity in the shipping industry, yet it is underutilised due to the operational constraints.

6.3.1.5 Ability to apply basic team working principles and practice including conflict management

Team working principles and practice

The first rule of team building is an obvious one: to lead a team effectively, you must first establish your leadership with each team member. The most effective team leaders build their relationships based on trust and loyalty, rather than on fear or the power of their positions.

The main important team building techniques are:

- **Consider each employee's ideas as valuable**. Remember that there is no such thing as a stupid idea;
- **Be aware of employees' unspoken feelings**. Set an example to team members by being open with employees and sensitive to their moods and feelings;
- **Act as a harmonising influence**. Look for chances to mediate and resolve minor disputes; point continually to the team's higher goals;
- **Be clear when communicating. Be careful to clarify directives;**
- **Encourage trust and cooperation among employees on your team**. Remember that the relationships team members establish among themselves are every bit as important as those you establish with them. As the team begins to take shape, pay close attention to the ways in which team members work together and take steps to improve communication, cooperation, trust, and respect in those relationships;
- **Encourage team members to share information**. Emphasise the importance of each team member's contribution and demonstrate how all of their jobs operate together to move the entire team closer to its goal;
- **Delegate problem-solving tasks to the team**. Let the team work on creative solutions together;
- **Facilitate communication**. Remember that communication is the single most important factor in successful teamwork. Facilitating communication does not mean holding meetings all the time. Instead it means setting an example by remaining open to suggestions and concerns, by asking questions and offering help, and by doing everything you can to avoid confusion in your own communication;
- **Establish team values and goals**; evaluate team performance. Be sure to talk with members about the progress they are making toward established goals so that employees get a sense both of their success and of the challenges that lie ahead. Address teamwork in performance standards;
- **Make sure that you have a clear idea of what you need to accomplish**; that you know what your standards for success are going to be; that you have established clear time frames; and that team members understand their responsibilities;
- **Use consensus. Set objectives, solve problems, and plan for action**. While it takes much longer to establish consensus, this method ultimately provides better decisions and greater productivity because it secures every employee's commitment to all phases of the work;
- **Set ground rules for the team**. These are the norms that you and the team establish to ensure efficiency and success. They can be simple directives or general guidelines, but you should make sure that the team creates these ground rules by consensus and commits to them, both as a group and as individuals;
- **Establish a method for arriving at a consensus**. You may want to conduct open debate about the pros and cons of proposals, or establish research committees to investigate issues and deliver reports;
- **Encourage listening and brainstorming**. As supervisor, your first priority in creating consensus is to stimulate debate. Remember that employees are often afraid to disagree with one another and that this fear can lead your team to make mediocre decisions. When you encourage debates you inspire creativity and that's how you'll spur your team on to better results;

- **Establish the parameters of consensus-building sessions**. Be sensitive to the frustration that can mount when the team is not achieving consensus. At the outset of your meeting, establish time limits, and work with the team to achieve consensus within those parameters. Watch out for false consensus; if an agreement is struck too quickly, be careful to probe individual team members to discover their real feelings about the proposed solution.

Considering team experience

Success of the team depends on the experience of the team and its size. The first step of building a high performing team involves transitioning through the stages of forming and performing as quickly as possible. Collaborating as a team in brainstorming, planning, and engaging in team-building activities will help achieve the good relationships and mutual trust required, where people begin to see themselves as members of a team.

- Provide mentoring and guidance for less experienced team members to assist them in quickly becoming productive contributors. Also consider development needs for the team as a whole, and focus on any training or skills building that will help you cover your responsibilities and benefit your project;
- Engage the most experienced members of your team in this mentoring and training, emphasising your appreciation for their expertise and value to the team. Set up rewards for creativity and problem solving;
- When dealing with members of your team who have a long history of project successes, focus discussions on what the project needs to accomplish, leave the details of how to do the work mostly up to them;
- Ownership and responsibility for key parts of the project are key motivating factors. Encourage self-management, and trust people with experience to do what they have committed to do, at least until you have reason to believe otherwise.

Consider team size – for small teams and even to some extent large ones, team building activities and rewards for creativity can be quite effective. When the team becomes large, the primary responsibility for encouraging innovation and maintaining relationship and trust needs to be delegated to the leaders of each small team.

Recognise team potential and limitations

In the workplace, it is common to encounter a mix of different personalities, viewpoints, past experience, expectations, communication issues and conflicts. It is ambitious to get such different people to work as an effective team. Work on their communication, resolve and prevent conflicts and make employees succeed in today's fast-paced environment effectively.

SWOT analysis (strength, weakness, opportunity, threat) can be helpful in recognising the limitation of a particular aspect and can be used to work on improvement in that particular area. By definition, Strengths and Weaknesses are considered to be internal factors over which you have some measure of control. Also, by definition Opportunities and Threats are considered to be external factors over which you have essentially no control. It can also be done through the Jung Typology Test. This test was specifically created to address the needs of the workplace and is aimed at organisations and businesses. Assessing employees' potential and optimising their job responsibilities accordingly, moreover assessing the propensity for, and developing and optimising the use of, leadership skills of your staff can lead to improved results. Furthermore, Conflict Management, improving supervisor, subordinate and peer–to-peer work relationships, improves teamwork as well as evaluates candidates for promotion.

Optimising the skills and ability of the team

The characteristics of a good team are that it has a common purpose, complementary skills, interaction shared resources, consensus decision making on major issues and synergy.

Stages of team development

Building a team requires a period of goal-setting and strategy development for completing goals. Once a team has been established and roles are clarified, the team usually progresses through a series of development stages.

Forming - this stage includes building a common purpose, understanding personal expectations and interests, clarifying accountability, recognition and rewards.

Storming - the storming stage gets the team focussed on goals, managing processes, conflict-resolution procedures, integrating everyone into the team and building good relationships between team members. Norming – at this stage, team members begin to work towards consensus on issues and develop the processes for information sharing and feedback. Team members are given more opportunities to lead. Performing- team members seek to improve tasks and relationships, test for better methods and approaches, and celebrate successes.

Conflict Management

Conflicts are inevitable when a number of people will be working together. Conflict is defined as a "difference in opinion or some kind of disagreement between two or more parties". Conflicts need to be resolved effectively. It is not only important to resolve the conflict, but it is equally important to ensure that the parties involved in conflict do not unnecessarily

end up being in any kind of emotional stress during the resolution process of the conflict. Striking a balance between resolving the conflict to find the decision and maintaining the emotional well-being of people involved will be critical to successful conflict management.

Hence it is important to understand clearly what is a conflict, why conflict occurs, challenges in resolving conflicts and various methods for resolving conflicts. There are two views on conflicts or the so-called differences in opinion between people. The traditional view says "conflicts are bad and should be totally discouraged", and the new modern view says " conflicts can be constructive and good and different ways of thinking should be encouraged to get multiple ideas and solutions to problems in hand". Some of the sources of conflict include disagreements on schedules, costs, priorities, technical opinions, resources, administrative procedures and personality. Personality-related conflicts should be completely discouraged.

Some conflict resolution techniques:

Problem Solving / Collaboration / Confronting

In this technique, people involved in the conflict or having a difference of opinion come forward to discuss the problem at hand with a very open mind. They focus on resolving the conflict and finding the best alternative/solution for the team. They discuss by rising above personal emotions with the sole intention of finding what is best for the team. This leads to a win-win kind of an outcome. Here everyone collaborates.

Compromising/Reconciling

Sometimes for certain conflicts there will be a need for the parties involved to think of a middle path wherein both parties decide to give up something and identify a resolution. This kind of solution will be temporary for that moment and is not a long-lasting solution. This leads to lose-lose kind of an outcome as both parties may feel they have lost something.

Withdrawing/Avoiding

In some situations one of the parties in the conflict may decide to withdraw from the discussion and go along with the other person's opinion. Or in some situations, one of the parties may decide to completely avoid the conflict by remaining silent. This works well in a situation where one of the parties in the conflict is emotionally charged or is angry. Avoiding any conflict resolution provides a "cooling off" period to the people involved so that they can revisit the matter later for meaningful resolution.

Forcing/Competing

In some situations, a person with authority and power can force his/her opinion and resolve the conflict without giving any chance to the other party/person. This leads to a win-lose kind of an outcome. Someone may end up feeling like a loser while the other person with authority may feel like a winner. This technique can be used if we see the conflicts are unnecessary and mostly destructive for the team.

Smoothing/Accommodating

This is a technique which is used when the atmosphere seems to be filled with apprehension/distrust among the parties involved, and no one wants to come forward to resolve the conflict. In these kinds of scenarios, one of the parties can take charge and try to smooth things out by using nice words and by emphasising the points of agreements and playing down the points of disagreements. This can work as a catalyst to break the discomfort between the parties involved by creating a feeling of trust and encouraging them to come forward and resolve the conflict.

6.3.2 Apply national, european and international social legislation

Knowledge and skills

6.3.2.1 Knowledge of the various national, European and international social laws

International social legislation

Standards for competences for professional qualifications in inland navigation

The safety and security of life during navigation activities and protection of the environment depends mainly on the professionalism and competence of navigation personnel.

Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC, is the European framework addressing the issue of minimum standards for competences of personnel involved in inland navigation activities on board of vessels.

The main objectives of the newly adopted EU Directive are: to facilitate mobility, to ensure safety of navigation and to ensure the protection of human life and the environment.

All these aspects are essential for deck crew members, and especially for persons in charge of emergency situations on board the vessels. Those considerations also apply to young persons, for whom it is important that their safety and health at work is protected in accordance with Council Directive 94/33/EC on the protection of young people at work.

The harmonisation of legislation in the field of professional qualifications in inland navigation in Europe is facilitated by the close cooperation between

the Union and the CCNR (Central Commission for the Navigation on the Rhine) and by development of CESNI Standards. CESNI (European Committee for drawing up Standards in Inland Navigation), draws up standards in the field of inland navigation including standards for professional qualifications, standards which will be adopted by implementing and delegated acts.
Directive (EU) 2017/2397 lays down the conditions and procedures for the certification of the qualifications of persons involved in the operation of a craft navigating on Union inland waterways, as well as for the recognition of such qualifications in the Member States. The essential competence requirements at operational and management level are set out in Annex II of this EU Directive.

Health and Safety at work

Communication (2014) 332 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the regions on an EU Strategic Framework on Health and Safety at Work 2014-2020

EU actions on occupational safety and health (OSH) have been pursued over the years within a strategic policy framework that includes two key components:

- A comprehensive body of EU legislation covering the most significant occupational risks and providing common definitions, structures and rules that are adapted by Member States to their different national circumstances; and
- A series of multiannual action programmes between 1978 and 2002, followed by European strategies (covering 2002-2006 and 2007-2012), to identify priorities and common objectives, provide a framework for coordinating national policies and promote a holistic culture of prevention. As a result of the 2007-2012 strategy, 27 Member States have put in place national strategies.

Risk prevention and the promotion of safer and healthier conditions in the workplace are key, not just to improve job quality and working conditions, but also to promoting competitiveness. Keeping workers healthy has a direct and measurable positive impact on productivity, and contributes to improving the sustainability of social security systems.
Investment in OSH contributes to the well-being of workers and is cost-effective.

The results of the evaluation of the 2007-2012 OSH strategy confirm the value of an EU strategic framework for policy action in the field of OSH and show strong stakeholder support for a continuing EU-level strategic approach. The evaluation highlights the need to review objectives, priorities and working methods to adapt the EU policy framework to changing patterns of work, and new emerging risks.
In proposing a strategic framework on health and safety at work for 2014-2020, the Commission took due account of several contributions, all in favour of launching a strategic policy initiative, in particular those received from the European Parliament, the Advisory Committee on Safety and Health (ACHS) and the Senior Labour Inspectorate Committee (SLIC).

This communication sets out key strategic objectives and a range of actions for promoting workers' health and safety, based on an identification of the outstanding problems and major challenges.
Communication COM (2004) 62 final from the Commission to the European Parliament, the Council, the European Economic and Social Committee and Committee of Regions on the practical implementation of the provisions of the Health and Safety at Work Directives 89/931(Framework), 89/654 (Workplaces), 89/655 (Work Equipment), 89/656 (Personal Protective Equipment), 90/269 (Manual Handling of Loads) and 90/270 (Display Screen Equipment).

Prevention is the guiding principle for occupational health and safety legislation in the European Union. In order to prevent accidents from happening and occupational diseases from occurring, EU wide minimum requirements for health and safety protection at the workplace have been adopted.
The aforementioned EU Directives were already transposed and implemented into the national laws of EU Member States, and this report examines how these Directives have been transposed and applied within the Member States.

The 1989 Directive lays down the principles for the introduction of measures to encourage improvements in the safety and health of workers and provides a framework for specific workplace environments, developed in individual directives. The goal of instilling a culture of prevention rests on the double foundation that the minimum requirements provide a level playing field for businesses operating within the large European domestic market and provide a high degree of protection to workers, avoiding pain and suffering and minimising the income foregone for enterprises as a result of preventing occupational accidents and diseases.

The EU legislation reportedly has had a positive influence on the national standards for occupational health and safety. At the same time, the health and safety measures at the workplace are reported to have widely contributed towards improved working conditions, boosting productivity, competitiveness and employment.

A high level of protection of the safety and health of workers which is the overriding objective of the Framework Directive 89/391 and its five first individual directives, can only be achieved if all actors concerned, employers, workers, workers' representatives, national enforcement authorities, make the efforts necessary for an effective and correct application and engage in a co-operative interaction.

The reinforced commitment to address the miscellaneous flaws identified in this report will bring about the changes that will improve the implementation and application levels of the Health and Safety Directives and make the health and safety protection a tangible reality for all workers, contributing in this way to the improvement of productivity and quality of work.

The Commission will continue its work towards a simplification and rationalisation of the Community legal framework by making the necessary legislative proposal for, on one hand, the consolidation of existing directives to make them more comprehensible and, on the other, for the simplification of the provisions of the various Directives related to the implementation reports in view to foresee a single report on their implementation.

Working time

Council Directive 2014/112/EU implementing the European Agreement concerning certain aspects of the organisation of working time in inland waterway transport, concluded by the European Barge Union (EBU), the European Skipper Organisation (ESO) and the European Transport Worker's Federation (ETF)
This agreement shall apply to mobile workers employed as members of the navigation personnel (crew members) or in another function on board a craft operated within the territory of a Member State in the commercial inland waterways transport sector. Directive 2003/88/EC concerning certain aspects of the organisation of working time lays down general minimum standards which, with the exception of the areas set out in Article 20(1) (daily rest, breaks, weekly rest, duration of night work), also relate to the organisation of working time in inland waterway transport. However, as these regulations do not take the specific working and living conditions in the inland waterway sector sufficiently into account, more specific rules are necessary.

These more specific rules should safeguard a high level of health and safety for workers in the inland waterway sector.

Inland waterway transport is an international form of transport characterised first and foremost by cross-border activities on the European inland waterways transport network. The European inland waterway transport sector should therefore work towards creating homogenous framework conditions for the labour market in this sector and preventing unfair competition based on differences between statutory working time structures.

The organisation of work varies within the sector. The number of workers and their working time on board varies depending on the way in which the work is organised, the undertaking concerned, the geographical area of operation, the voyage duration and the size of the craft. Some vessels sail continuously, i.e. 24 hours a day, with the crew working in shifts. By contrast, medium-sized undertakings in particular tend to operate their vessels 14 hours a day for five or six days per week. In the inland waterway transport sector, the working time of a worker on board is not the same as the operating time of a craft.

One of the special features of the inland waterway transport sector is that it is possible for workers to have not only their place of work but also their accommodation or living quarters on board the vessel. It is therefore usual for workers to spend rest periods on board. Many workers in the inland waterway transport sector, especially those who are a long way from home, work several consecutive days on board in order to save on travelling time and then be able to spend several days at home or another place of their own choosing. With a 1:1 pattern, for example, a worker has the same number of rest days and working days. For this reason, the number of consecutive working days on board and the number of rest days can be correspondingly higher than is the case in land-based employment.

Average working time in the inland waterway transport sector usually includes a significant amount of on-call time (for example as a result of unplanned waiting time at locks or during the loading and unloading of the craft), which may also occur during the night. The maximum daily and weekly working times which are laid down may therefore be longer than those stipulated in Directive 2003/88/EC.

At the same time, it must be recognised that the workload in inland waterway transport sector is influenced by several factors, such as noise, vibration and the organisation of working time. Without prejudice to the provisions of Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work, provision is made for annual health checks to protect workers, taking into account the specific working conditions in this sector.

Account should be taken of the additional demands made on crew members during night work by limiting the maximum permissible number of night-time hours and by organising work appropriately.

The working and living conditions on passenger vessels differ from those in other forms of inland waterway transport and thus special provisions are warranted. The different social environment, different work activities and seasonal nature of this sub-sector of the European inland waterway transport sector are reflected in differences in the way in which work is organised.

6.3.2.2 Ability to instruct crew members in using relevant parts of applicable social legislation

Leadership on the safety of operations

There is well established research both in the inland navigation and other hazardous industries that confirms the huge impact of leadership on the safety of operations. Whilst the international applicable social legislation has been a major step forward in improving safety standards, effectiveness of these standards depends heavily on how leaders approach their implementation, and this in turn depends heavily on the skills and qualities of leaders - both on board of the vessels, at the vessel-shore interface, and on-shore. Virtually all navigation leaders want to do their best regarding safety, but sometimes real life makes things difficult - time pressure, economic constraints and every day circumstances sometimes seem to conspire against good safety leadership.

While improving your leadership skills you could also ask a colleague or one of your subordinates to give you feedback on how well you are doing and how you could improve. What really counts is how leaders behave in everyday situations. Your crews will draw inferences about your safety leadership based on what they see you do and what they hear you say, far more than what you might state in a speech or a written communication.

6.3.3 Follow strict alcohol and drug prohibition and react appropriately in cases of infringement, take responsibility and explain consequences of misbehaviour

Knowledge and skills

6.3.3.1 Knowledge of applicable rules on alcohol and drugs

Applicable rules on alcohol and drugs

An ILO (International Labour Office) Code of practice - Management of alcohol and drug related issues in the workplace

Problems relating to alcohol and drugs may arise as a consequence of personal, family or social factors, or from certain work situations, or from a combination of these elements. Such problems not only have an adverse effect on the health and well-being of workers, but may also cause many work related problems including the deterioration in job performance. Given that there are multiple causes of alcohol and drug related problems, there are consequently multiple approaches to prevention, assistance, treatment and rehabilitation.

While the elimination of substance abuse is a highly desirable goal, experience has shown the difficulty of achieving this. However, workplace policies to assist individuals with alcohol and drug related problems, including the use of illegal drugs, would seem to yield the most constructive results for workers and employers alike.

It was for this reason that the Governing Body of the ILO decided at its 259th Session in March 1994 to convene a meeting of experts in Geneva in January 1995, to consider a draft code of practice on the management of alcohol and drug related problems at the workplace.

The practical recommendations of this code of practice are intended to provide guidance to all those who have the responsibility for addressing alcohol and drug related problems at the workplace. This code is not intended to replace international standards, national laws, regulations or other accepted standards. Alcohol an–d drug policies and programmes should apply to all staff, managers and employees and should not discriminate on grounds of race, colour, sex, religion, political opinion, national extraction or social origin.

6.3.3.2 Ability to communicate and ensure compliance with applicable legislation and awareness of company rules concerning alcohol and drugs

Prevention, reduction and management of alcohol and drug related problems in the workplace

The following constitute the key points in the implementation of applicable rules on alcohol and drugs in the workplace:

- Alcohol and drug policies and programmes should promote the prevention, reduction and management of alcohol and drug related problems in the workplace;
- Alcohol and drug related problems should be considered as health problems, and therefore should be dealt with;
- Employers and workers and their representatives should jointly assess the effects of alcohol and drug use in the workplace, and should cooperate in developing a written policy for organisation;
- The same restrictions or prohibitions with respect to alcohol should apply to both management personnel and workers;

- Information, education and training programmes concerning alcohol and drugs should be undertaken to promote safety and health in the workplace and should be integrated where feasible into broad-based programmes;
- Employers should establish a system to ensure the confidentiality of all information communicated to them concerning alcohol and drug related problems;
- Testing of bodily samples for alcohol and drugs in the context of employment involves moral, ethical and legal issues of fundamental importance, requiring determination of when it is fair and appropriate to conduct such testing;
- Workers who seek treatment and rehabilitation for alcohol or drug related problems should not be discriminated against by the employer and should enjoy normal job security and the same opportunities;
- It should be recognised that the employer has authority to discipline workers for employment related misconduct associated with alcohol and drugs. However, counselling, treatment and rehabilitation should be preferred to disciplinary action.

6.3.3.3 Ability to react appropriately upon violation of legislation or company rules

Alcohol and drug related problems versus safety of navigation

Drug and alcohol abuse and its adverse effects on safety is one of the most significant social problems of our time. It is, appropriately, receiving attention both in the public eye and in government legislation.

Poor judgement in a high-stakes situation could result in substantial damage to property and the environment, loss of vessels, injury to personnel and even death. When proper judgement is impaired by substance abuse and key decisions must be made, the risks increase dramatically.

Vessel owners/operators and managers cannot therefore afford to ignore any issues that affect productivity.

In any alcohol and drug prevention programme, responsibility for the various tasks and duties needs to be identified. Administrations, international organisations (IGO's), nongovernmental organisations (NGO's), training institutes, shipping communities and organisations, vessel owners/operators, trade unions, managers, manning agencies, masters and crew members all have a role to play and a responsibility to fulfil. All inland waterway transport companies and organisations are to be encouraged to develop and institute drug and alcohol abuse prevention programmes as failure to do so could adversely affect the interdependency and relationship that binds such companies and organisations.

The degree of responsibility and involvement of every company and organisation should be determined according to the potential effects of failing to act. From the perspective of an administration, there is a responsibility to provide guidance and support and enabling legislation. At the other end of the spectrum, vessel's crew members have a responsibility to actively participate in any prevention programme that affects the safety of the vessel, their fellow crew members and, of course, themselves.

Responsibilities of government commence with formulation, adoption and promulgation of policies, laws and regulations to protect the health and safety of its citizens and workers, including crew members, even though they may be employed outside the country by foreign concerns. Laws and regulations should not only address restrictions and the imposition of penalties but also provisions for assisting persons deemed to be dependent on drugs and alcohol through prevention and rehabilitation programmes.

Promoting Prevention through:

- **Health checks and medical examinations**: ensuring checks for drug and alcohol abuse are included in the crew members' medical examination both on initial screening and during crew members' periodic medical checks;
- **Training & education:** provide the support, guidance and expertise to assist the development of schemes to prepare trainers, the application of training and the education of crew members and shore workers in the effects, symptoms and results of drug and alcohol abuse;
- **Promoting and raising the profile of prevention:** coordinate accident reports and provide risk assessment data and other information that may be used by the country's naval transport industry to raise the profile of the subject and to promote the dangers posed by drug and alcohol abuse;
- **Setting safety limits:** prescription of a maximum blood alcohol level for crew members as a minimum safety standard and any other prohibitions on the consumption of drugs, including prescribed medications, or alcohol that can impair the ability of crew members or those on board engaged in safety sensitive operations;
- **Provision of rehabilitation services:** provide rehabilitation services for those crew members diagnosed as having or who have acknowledged a drug or alcohol abuse problem;
- **Non-discrimination:** develop and introduce legislation that ensures rehabilitated crew members, following an individual's successful completion of an approved treatment programme, are not discriminated against by employers;

- **Declaring drug and alcohol abuse to be a medical condition:** encourage those with drug and alcohol abuse problems to seek assistance thereby reducing health and safety risks to fellow seafarers on board ships;
- **Focal point:** to act as a focal point for industry and to express and share the national views/experiences gained from prevention programmes at international level.

6.3.4 Organise provisioning and preparation of meals on board

Knowledge and skills

6.3.4.1 Knowledge of principles of healthy nutrition

Diet and nutrition

The ship owner and the Boatmaster of a vessel must ensure that food and drinking water are suitable in respect of quantity, nutritional value, quality and variety.

A good variety of food provides a healthy diet. Meals should provide a balance of carbohydrates, protein, fat, fibre, vitamins and minerals. Food should be prepared and cooked with minimum levels of salt, fat and sugar. As a general guide:

Carbohydrates are high energy food which include: bread, potatoes, rice, pasta and breakfast cereals. Proteins include: fish, meat, poultry, eggs, milk and other dairy products.

Vitamins and minerals are contained in fruits and vegetables, fresh, frozen, dried and canned including fruit juice.

As with food, a balanced intake of drinks is important. Not too much sugar, caffeine and calories. Water, fruit juices and low-fat milk are all good alternatives. Provisions should be made for any special needs because of religion, special dietary requirements, or customary dietary practices where certain rules or requirements in relation to some food or to the way food is prepared must be observed.

Catering staff should be aware of the dangers associated with food allergies. If a person with a food allergy inadvertently eats even a small amount of that food this can make them very ill or in extreme cases cause death. Some problem ingredients are: peanuts, nuts, gluten, fish, soya, celery, mustard, sesame seeds, sulphur dioxide.

This list is illustrative only, as there are likely to be other ingredients that can cause adverse reactions in persons who are sensitive to them.

6.3.4.2 Ability to instruct crew members in planning and preparing meals

Planning and preparing meals

Meal planning is the way to organise to cook a meal, whether that's breakfast, lunch, or dinner. Make the plan before provisioning.

Preparing meals on board

The food must be composed in such a manner that account is taken of the necessary content of proteins, fat and carbohydrates as well as of vitamins, minerals and salts. The food must be as varied as possible and appear appetising. The composition of the food must be adjusted to the climatic conditions. Fresh or deep-frozen raw materials must be used insofar as possible. The food must be cooked and served under appropriate conditions of hygiene. Drinking water must be of sufficient quality and available in ample supplies in relation to the size of the crew on board.

The food must be distributed over three main meals and one or more snacks between meals. The food must be offered in such quantities that everyone on board can get enough to eat. The composition of the food must be adjusted to the crew members' religious beliefs and cultural background.

The food must be free of charge to the crew members during the period of service. However, it can be agreed between the parties that the right to free food can be met through the payment of compensating board-wages when the crew member does not sleep on board.

Crew members involved in the handling of articles of food on board and not having a certificate of competency as cook must be able to document competences within self-monitoring of procedures concerning the treatment of articles of food including critical items to be checked and monitoring procedures, general microbiology, including food-borne disease, and hygienic principles, including cleaning, personal hygiene and the handling and storage of articles of food.

The competences can be acquired either as a part of a training programme or through a certificated training programme in food hygiene, or through training on board the vessel. The Boatmaster is responsible for the persons handling articles of food on board having documentation for the above-mentioned competences.

4.3.4.3 Ability to instruct and supervise crew members regarding hygienic standards

Health and hygiene

Catering staff should be properly trained in food safety and personal hygiene, as they are responsible for ensuring that high standards of personal hygiene and cleanliness are maintained at all times through the galley, pantry and mess rooms. For food preparation the following requirements must be taken into consideration:

- There should be no smoking in galleys, pantries, storerooms or other places where the food is prepared or stored;
- Hands and fingernails should be washed before handling food using a dedicated wash basin, a bacterial liquid soap from a dispenser and disposable towels. It is important to thoroughly wash and dry hands after using the toilet, blowing your nose or handling refuse or contaminated food. An alcohol gel may be used to supplement the use of soap and water;
- All cuts, however small, should be reported immediately and first aid attention provided to prevent infection;
- An open cut, burn or abrasion should be covered with a blue waterproof dressing which must be changed regularly. Anyone with a septic cut or a boil, etc. should stop working with food until it is completely healed. Illness, coughs and colds, rashes or spots, however mild, should be reported immediately when the symptoms appear;
- A person suffering from diarrhoea and/or vomiting, which may be signs of food poisoning or a sickness bug, should not work in food-handling area until medical clearance has been given;
- Catering staff should wear clean protective clothing, including appropriate protective gloves if necessary, when handing and preparing meals;
- Catering staff should not wear jewellery, apart from a plain wedding band;
- The cleanliness of all food, crockery, cutlery, linen, utensils, equipment and storage is vital. Cracked or chipped crockery and glassware should not be used. Foodstuffs that may come into contact with broken glass or broken crockery should be thrown away;
- Fresh fruits and salad should be thoroughly washed in fresh water before being eaten;
- Foodstuffs and drinking water should not be stored where germs can thrive. Frozen food must be defrosted in controlled conditions. Food should be prevented from sitting in the thaw liquid by placing it on grids in a container or on a shelf. Frozen food that has been defrosted is not to be refrozen;
- The risks of cross contamination should be eliminated by thoroughly stripping and cleaning the relevant parts of equipment when successive different foods are to be used (especially raw and cooked foods). It is important to wash hands after handling raw meat, fish, poultry or vegetables;
- Raw food should be kept apart from cooked food or food that requires no further treatment before consumption (e.g. milk). Separate refrigerators are preferred although, if stored in the same unit, the raw food must always be placed at the bottom to avoid drips contaminating ready prepared food. Food should also be covered to prevent drying out, cross contamination and absorption of odour;
- Separate work surfaces, chopping boards and utensils should be set aside for the preparation of raw meat and must be used for the preparation of foods that will be eaten without further cooking. Colour coding is an established way to ensure separation between the two activities;
- Ensure all food is kept at the correct temperature to prevent the multiplication of bacteria;
- Crockery and glassware should not be left submerged in washing up where it may easily be broken and cause injury. Such items should be washed individually as should knives and any utensils or implements with sharp edges. Crockery, glassware and utensils should preferably be washed in a dishwasher, where much higher temperatures can be achieved compared with hand washing.

Some domestic cleaning substances contain bleach (sodium hypochlorite) or caustic soda (sodium hydroxide) whilst some disinfectants contain carbolic acid (phenol). These substances can burn the skin and they are poisonous if swallowed. They should be treated with caution and should not be mixed together or used at more than recommended strength. Inadvertent contact with toxic chemicals or other harmful substances should be reported immediately and the appropriate remedial action taken. Cleaning substances and materials should be stored in a suitable locker/cupboard separate from food-handling areas. Wherever possible, cleaning products that are not injurious to individuals or the environment should be used.

Food waste, empty food containers and other garbage are major sources of pollution and disease and should be placed in proper covered storage facilities safely away from foodstuffs.

Inspection

Accommodation spaces, including the galley, must be kept clean and proper. Cleaning must take place on a daily basis. The accommodation spaces must be used for goods or stores belonging to the one(s) for whom the room is intended.

The Boatmaster, together with one or more crew members, should inspect all accommodation spaces at intervals of no more than one week. The result hereof must be entered in the vessel's logbook.

6.3.4.4 Ability to instruct crew members in planning purchasing possibilities

Provisioning a craft is an important responsibility. Trying to predict where you will be able to restock after leaving a major port can be stressful. Having to plan what you and the crew will eat for days, weeks and months in advance, is a major responsibility. Location, dietary requirements, facilities on board and how you cook all play a part in how you stock on board. And there is no right way to provision or a magic list of "must have" foods.

A good place to start when provisioning is in the pantry. Non-perishable foods like canned goods, dry-stores and general pantry items have a long shelf life and can be bought well in advance of departing port, relieving some of the last-minute anxiety. As I stow and sort, I can see what more I need to buy or if I have forgotten anything.

Preserved foods have always been a necessary evil on a craft. Although quality pre-packaged foods are easy to find these days, shelf stable product can also be crammed with salt and other preservatives. It pays to take a few minutes to read labels and try to make not only convenient but healthy purchases.

Lots of good quality food items can be preserved in glass because of their acidity and shouldn't be overlooked.

Don't forget about the everyday items like oil, vinegar, mustard, ketchup, sugar, butter, tea and coffee. Some of these things can be found in larger cans or bottles and decanted for use in the galley or, if spoilage is a concern, be sure to buy several containers that will easily fit in the fridge.

Buying in bulk is a great way to save money and cut down on packaging. Items like rice, sugar, cornmeal, powered milk, pasta, dried beans, etc. should be stored in airtight containers. Proper storage will prevent spoilage and bugs. This is also a good time to consider what you and your crew like to snack on, as it is easy to snack on board, especially when on passage.

Shopping for meat can sometimes be the hardest and more expensive part of provisioning. Ordering larger cuts of beef, pork or lamb, and breaking them down yourself is a cost-effective way to buy meat. Doing some basic butchering yourself allows you to control portion sizes and reduce waste. The same rule can be applied for fowl.

Fresh fruits and vegetables are the last things to stock up on before leaving port. Markets are also the best place to get fresh eggs, which can keep up to a month unrefrigerated. When we hear the word provisioning, we automatically think of foodstuffs, but there are a host of other consumables that have to be considered; water is very important. Know your tankage and your replenishment methods and before leaving on an extended voyage, pay attention to your weekly food consumption. This will determine if you need to stock extra water on board. It is important to have at least some bottled water for emergencies.

The buying part of provisioning is only half the battle, once back on board you still need to stow all that booty. Make sure you have enough time to unpack and put everything away properly without the pressure of everyday duties.

5. EFFECT OF THE HUMAN ELEMENT ON SUSTAINABLE SHIPPING

The human activities of deck crew members on board of vessels have a direct relationship with sustainability in Inland Shipping. Due to the uniformisation of training and conformity with Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation, there will be an increase in navigational safety.

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.

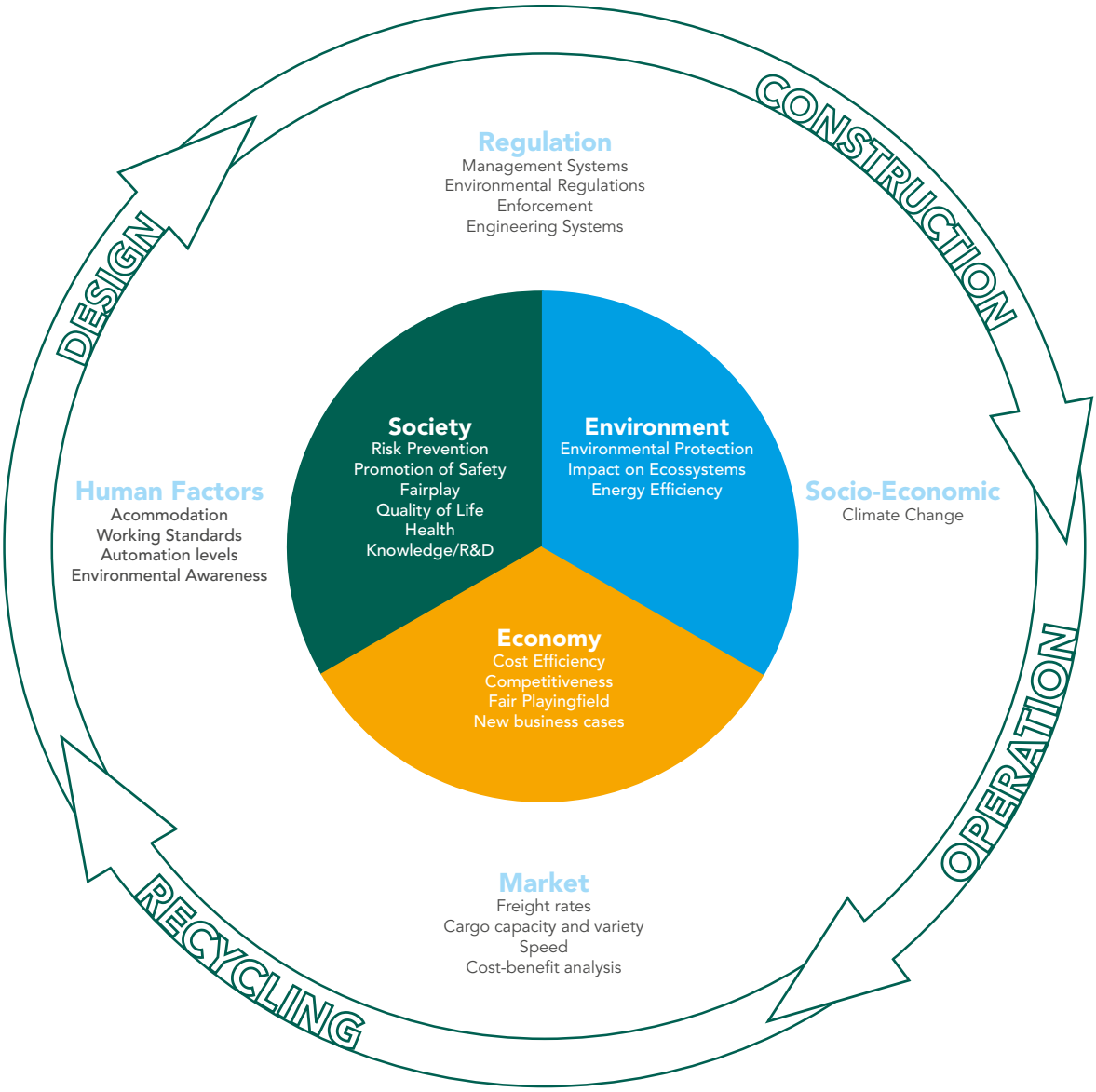


Figure 1 https://www.maintworld.com/R-D/Application-of-European-Qualification-Framework-EQF-in-Maintenance

The shipping industry is run by people, for people. People design vessels, 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.

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.

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) prepared the **European Qualifications Framework (EQF)** because it wanted to:

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

The EQF system has eight reference levels (Figure 1), each level describes what a learner has to know, understand and be able to do1.

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 this mode of transport is still more economical than any other mode of transport for many types of cargo, particularly bulk, general, liquid cargo and containers. On the other hand, it is the most environmentally-friendly mode.

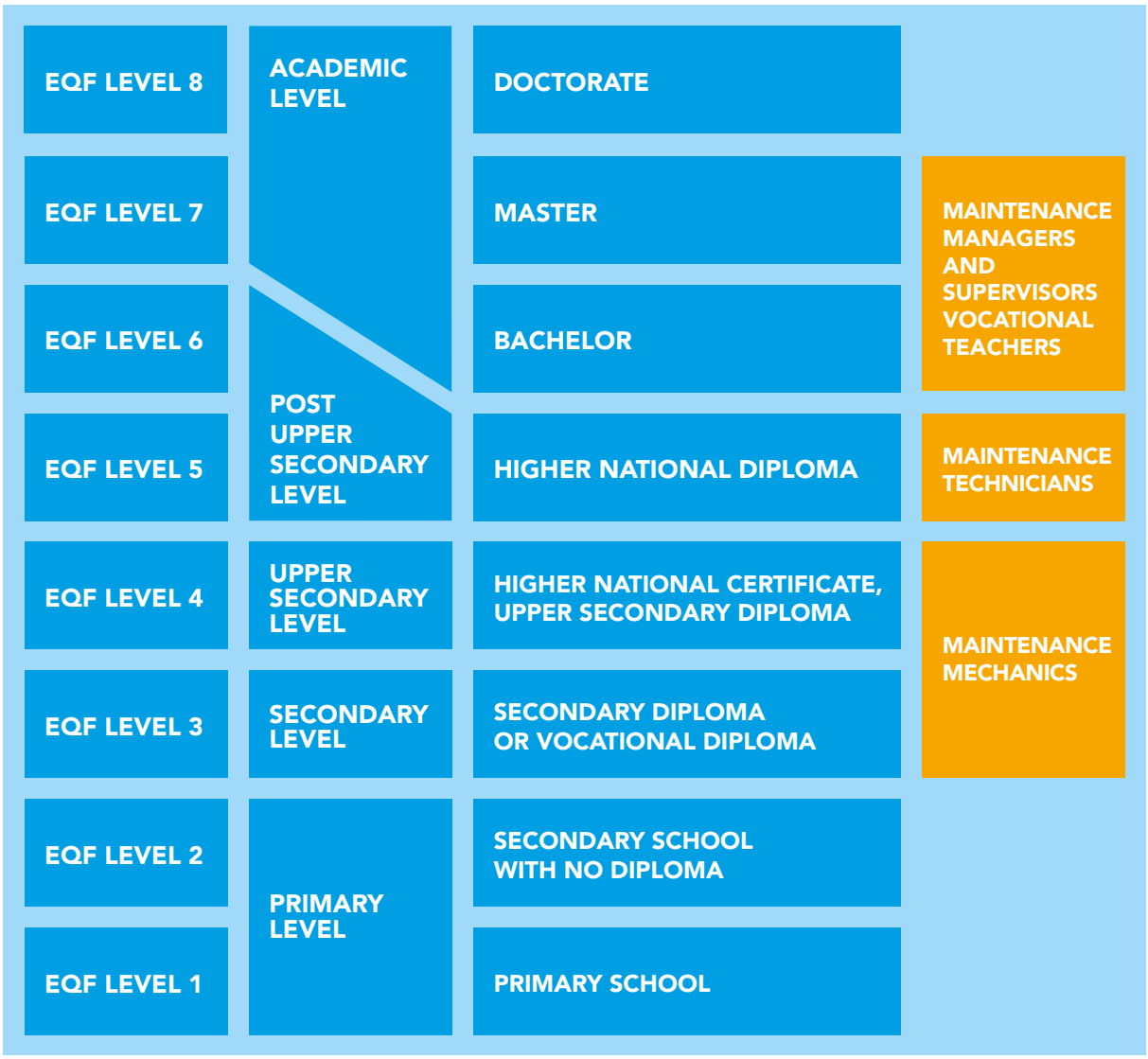


Figure 2 EQF levels compared with achieved education and maintenance personnel positions

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

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 has a different education system.

In all the EU countries involved in the project there are organisations dedicated to the use of EQF in the national context.

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 QF's (NQF's). Some member states do not want to adjust their procedures and this means all member states still have their own NQF procedure.

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 and these curricula are approved (or not) by national designated authorities in each country. The educational programmes developed in the COMPETING project can be considered to be suitable for level 2 for Operational level and level 3 for Management level.

ANNEX 1

Reference documents

- Human Resource Management and Social Responsibility on Board - Management level - Course Compendium – 2018 - Danube SKILLS project;
- Directive (EU) 2017/2397 on the recognition of professional qualifications in inland navigation;
- Delegated Directive (EU) 2020/12 supplementing Directive (EU) 2017/2397 as regards the standards for competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness;
- How to prevent and mitigate fatigue - Booklet SKULD Guide, 2013 - www.skuld.com;
- Standardized UNECE Vocabulary for Radio-Connections in Inland Navigation - UNECE, 2009;
- RIVERSPEAK - EDINNA Standard Inland Navigation Communication Phrases, 2017;
- Digital Inland Waterway Area -Towards a Digital Inland Waterway Area and Digital Multimodal Nodes, European Commission, 2017;
- Inland ECDIS Standard, Danube Commission, 2019;
- International Standard for Tracking and Tracing on Inland Waterways (VTT) - UNECE, 2007;
- https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32017L2397.

ANNEX 2

Exercises, case studies, practical scenarios, role play

I. Exercises

1. Was ES-QIN adopted by one European Directive? If yes, indicate the EU Directive.
ES-QIN was adopted by Delegated Directive (EU) 2020/12 supplementing Directive (EU) 2017/2397 of the European PARLIAMENT AND OF THE Council as regards the standards for competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness.

2. Do standards of competences included in ES-QIN lay down the minimum competence required for the safe operation of the craft only for crew members at management level?
ES-QIN lays down the minimum competence required for the safe operation of the craft for crew members at management level and operational level as well.

3. How many learning modules are established in ES-QIN for each category of crew members?
For each category of crew members there are 7 learning modules.

4. In ES-QIN each learning module is defined with corresponding required competences. How is each required competence defined?
Each required competence is defined with its corresponding knowledge and skills.

5. Shipboard human resource management means the use and co-ordination of all the skills, knowledge, experience and resources available to the team to achieve the established goals of safety and efficiency of a voyage or any other safety critical task. The trainer asks each trainee to give at least one example of another safety critical task on board the vessel.

6. The trainer asks each trainee to give some examples of communication during the voyage or during other activities on board the vessel using Riverspeak, and using the Standardised vocabulary for radio-connection in inland navigation, adopted by UNECE.

7. Regarding the job description
The trainer asks each trainee to refer to the job description for crew members on board inland navigation vessels. The trainee must state whether there are such documents or any other documents and what is included in these documents.

8. Radio-telephone is a sender and receiver for inland navigation communication.
The trainer asks the trainees to list some mandatory requirements for using radio-telephone on board the vessel.

9. Regarding Gender equality
The trainer asks the trainees: How many women work on board of your vessel/company as crew members on board inland navigation vessels? What is the human resource strategy in the company regarding the employment of women on board the vessels?

10. Regarding the Working time
The trainer asks the trainees to give a few examples of working time regulations applied on board the vessel/ in the company. How is safety at work on board the vessel/in the company regulated?

11. Regarding Diet and nutrition
The trainer asks the trainees to list some foods from the category of carbohydrates, from the category of proteins, and some foods that contain vitamins and minerals.

II. Role play

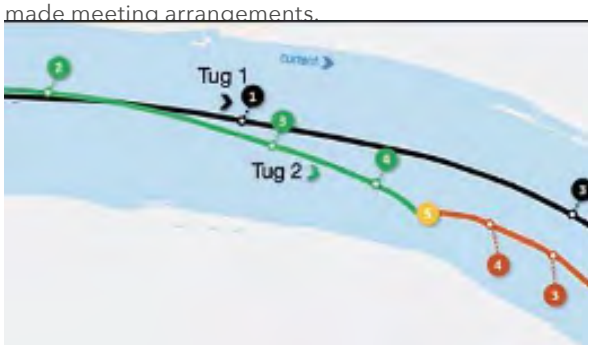
1. Regarding Mentoring, the trainer asks trainees to play this role:
You are the Boatmaster of the vessel and on board there are a few apprentices. How do you manage the training of these apprentices during their practical stage on board?

III. Case studies

1. Real Life Incident: Assumptions and Poor Communication Lead to Collision

In daylight and good weather, a bulk carrier was in ballast and up-bound in a river. A down-bound tow vessel's operator called the pilot of the bulk carrier to arrange a starboard-to-starboard meeting.
This was as per local regulations that require the down-bound vessel, with the current astern and with the right of way, to contact the up-bound vessel and propose the manner of passage.

The vessels agreed on a starboard-to-starboard meeting and met without incident, but another down-bound tug was approaching and had not yet made meeting arrangements.



On the bulk carrier, the pilot assumed the second down-bound tug would require the same meeting as did the first, that is starboard-to-starboard.
However, this was not the intention of the tug operator and he did not call the bulk carrier to make his intentions clear.

For the next 85 seconds, the situation continued to develop in an ambiguous manner until the bulk carrier pilot called the tug to confirm what he thought would be a starboard-to-starboard meeting.

The tug operator was taken by surprise by this suggestion, as he had assumed a port-to-port meeting. In his opinion, the vessels were now too close to execute a starboard-to-starboard meeting safely. He initiated an emergency avoidance manoeuvre to starboard without informing the bulk carrier's pilot. About 30 seconds later the two vessels collided.

Lessons Learned

This is one more example of a vessel operator making an assumption about the intentions of another vessel operator which led to a bad outcome. To reduce risk in this sort of situation, clear and unambiguous communication is essential.

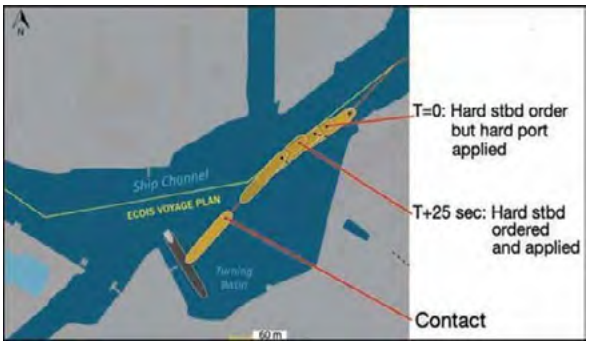
Follow the rules! In this case, the operator of the second tug should have called the up-bound bulk carrier and confirmed the manner of passage. Had he done so in a timely manner the collision would have been avoided.

2. Real Life Incident: Fatigue And Weak Bridge Practices Contribute To Expensive Accident

A partially loaded bulk carrier was inbound in a port channel under pilotage. A rudder angle indicator was lit and because the bridge had been darkened for night vision, it could easily be seen by the bridge team. The pilot conned the vessel from the centreline windows, the helmsman was directly behind him and the OOW was near the engine order telegraph just to the helmsman's left.

Upon reaching a planned course alteration point the pilot gave a port 20-degree command to start the turn. The helmsman answered, 'Port 20,' but instead put the helm 20 degrees to starboard. About 11 seconds later the pilot saw that the wrong helm direction had been applied so he ordered 'midships' then repeated the port-20 order.

Combined with a full-ahead burst of speed the vessel's swing to starboard was arrested about 38 seconds after the original command to port had been given and the vessel regained the required heading.



Following the helmsman's error and recovery, the pilot and OOW had a brief conversation about the mate's duty to watch the helmsman. The second mate agreed to double-check the helmsman with each command.
The Master was not on the bridge at the time.
The OOW offered to call him, but the pilot declined.
Although the OOW did not understand conversational English, he told investigators some 90 minutes later the vessel approached a major turn to starboard.
By now the Master was on the bridge. The pilot planned to turn wide, intending to stay to the south side of the channel to pass a working dredger. The pilot gave a port 20-degree command to bring the ship slightly left, ahead of the turn to starboard, and the helmsman answered accordingly. The pilot's next order to make the turn to the right, 24 seconds later, was 'hard starboard'. The helmsman repeated the pilot's order but instead put the rudder hard to port.

Ten seconds later, the pilot recognised the error and ordered midships while tapping with his fingers on the rudder angle indicator above his head to get the helmsman's attention. It took the steering gear 15 seconds to shift from hard port to midships,

and then the pilot repeated his original hard-starboard order. The rudder reached hard starboard 12 seconds later, although the ship's heading was still falling to port at about 12 degrees per minute. The pilot now realised an emergency manoeuvre was needed.

The pilot ordered 'Stop engines; let go anchor' and seven seconds later, 'full astern'. The vessel's whistle was sounded. At this point the vessel was making about 6 knots and its heading was still falling to port. The pilot estimated that increasing the engine speed to power through the turn, as he had done earlier, would not work so he chose instead to attempt to stop the vessel.

With the port anchor and two shots of chain deployed, the vessel nonetheless collided with the port side of a berthed tank barge while making almost 4 knots. Although there were no fatalities or injuries as a result of this accident, the two vessels and the shore facility suffered damage that amounted to more than $21 million in total.

The investigation found, among other things, that the helmsman had probably been fatigued by carrying out extra duties the day before and that this contributed to the accident.

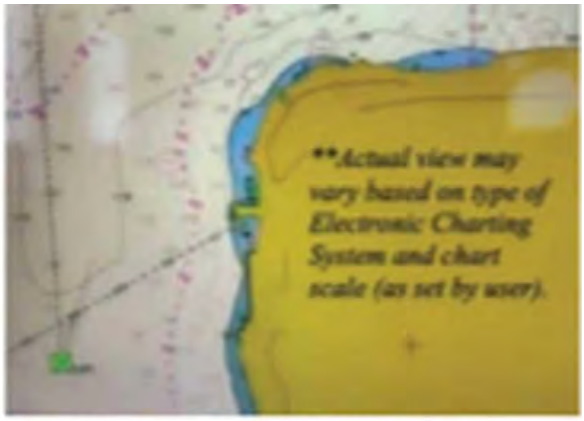
Lessons Learned

- When in restricted waterways the helmsman's actions should always be verified by same-time sighting of the rudder angle indicator. A wrong rudder application may be irrecoverable if left for even 10 seconds.
- The OOW was apparently not sighting the indicator at all and, if he was, he did not indicate the wrong rudder application to the pilot. The pilot was sighting the rudder indicator but only after a 10 or 11 second delay. In the first instance they were able to recover, but not in the second.
- The work-rest log did not indicate the helmsman's extra duties the day before. When collecting data for fatigue, investigators should not restrict themselves to looking at the work-rest logbooks, but should also question each person in detail about their previous 72-hour, or preferably 96-hour, work-rest routine.

3. Incorrect AIS Information Leads To Collision of Vessels And Fatalities

In the early morning, before sunrise, two towing vessels were approaching an almost 90° bend on a river in opposite directions. Neither vessel was broadcasting the correct total length of their vessel and tow to other AIS users. The first vessel's AIS broadcast showed 22 meters, yet the overall length of the vessel and its two-barge tow was 205 meters.

The second vessel's AIS broadcast showed 61 meters, but the overall length of the vessel and its 40-barge tow was 488 meters. As the vessels rounded the bend and completed their turns, they collided, causing the down-bound towing vessel to capsize and sink with several fatalities.



488m tug and tow. Above, incorrect total length. Below, correct total length.

Reference: nautinst.org

The accurate display of a vessel's full length becomes particularly important in situations that prevent vessels from seeing each other until they are in very close proximity.

Lessons learned

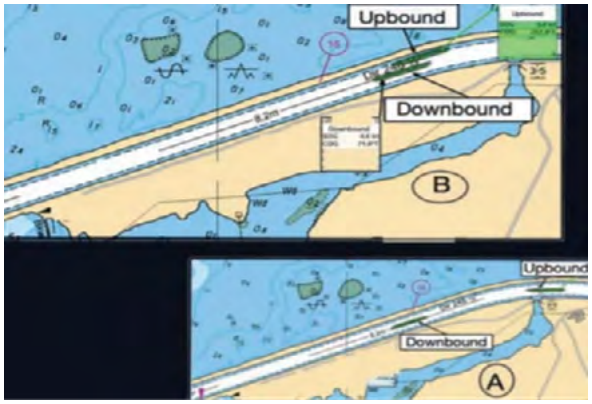
- AIS is a valuable tool that shares critical vessel information with other vessel operators. However, the usefulness of AIS is dependent on accurate vessel data entry.
- While correct overall length is important for all vessels, tug and tow operations are particularly vulnerable to errors due to the changing value of their total length with each job.
- Incorrect AIS information will give a false mental picture to other vessel operators in the vicinity and can contribute to accidents.

4. A Tight Squeeze Goes Wrong

The bridge teams of two vessels, one down-bound and one up-bound in a narrow channel, had agreed to meet just upstream from a curve. Sometime later, while rounding the curve, the up-bound vessel proceeded close to the north bank and then deviated towards the centre of the canal, as in diagram A.

To correct the deviation, the bridge team altered course to starboard. Meanwhile, the down-bound vessel was approaching the curve at a speed of 4.9 knots with the current astern at about 1 knot.

The vessel was positioned close to the centre-line of the channel and the Master made a VHF call to the up-bound vessel requesting more room. The up-bound bridge team did not acknowledge the call.



As the two vessels came abeam each other, as in diagram B, the up-bound vessel was slowly changing course to port, towards the centre of the channel. The down-bound vessel was still positioned close to the channel centre-line and maintaining its course. While manoeuvring, the upbound vessel's starboard quarter came within approximately 7m of the north bank of the channel and made bottom contact.

Lessons learned

- Meeting in very narrow channels takes special procedures whereby each vessel is on a steady course and almost pointed at the other. A successful meeting relies on bow pressure waves and hydrodynamics to keep the vessels apart.
- While it was mutually agreed to meet above the curve, the actual location of the meeting was arguably too close to the curve to give the up-bound vessel enough time to stabilise in a correct meeting posture. Once the stern of a vessel becomes close to a bank, hydrodynamic suction (bank suction) will bring the stern even closer and make bottom contact hard to avoid.

5. Lack of Communication Leads To Close Quarters Situation Between Two Vessels

*By **MARS Reports** | In: **Case Studies** | Last Updated on April 9, 2020*

A ro-ro passenger ferry departed berth and, as usual, made a Securité broadcast on VHF radio. Once underway and in the midst of a turn at about 15 knots, an inbound fishing vessel was observed. The bridge team on the ferry deemed the fishing vessel to be on the wrong side of the fairway.

Hence, the starboard turn was slowed and the ferry continued on the south side of the fairway to give some room for the fishing vessel; ostensibly dictating a green to green passing.

A few minutes before the close quarters situation

The fishing vessel's operator, who had heard the ferry's Securité call, saw the ferry and instinctively turned to starboard, towards the south side of the fairway. The vessels were involved in a very close quarters situation but last-minute manoeuvres avoided a collision.

The investigation found, among others, that the situation was caused by:

- Inadequate positioning of both vessels.
- Lack of communication resulting in misunderstanding of intentions.

Lessons learned

- If you intend a green to green encounter, best communicate with the other vessel to confirm their understanding of the situation.

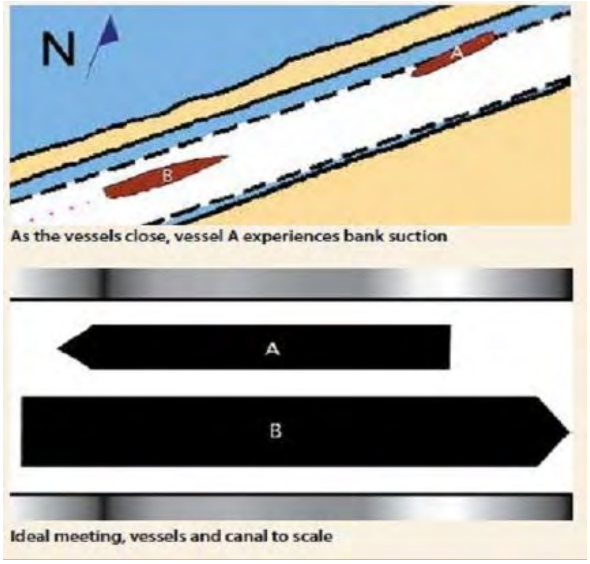
6. Ineffective BRM - Bridge Resource Management and Lack of Communication Results in Collision of Two Vessels

In darkness, two vessels under pilotage were approaching each other in a very restricted canal. Shortly after rounding the bend in the canal, the vessels came into view of one another. It appeared to the pilot of vessel A that vessel B was slightly crowding the north side of the channel. Accordingly, he decided to give a little more room for the meeting to take place by moving closer to the north bank.

The pilot did not communicate his intentions to either the pilot of the other vessel nor to the navigation personnel of his ship. When satisfied with the vessel's position in the channel, he asked the helmsman to steer 248° gyro (G). The helmsman complied but found that the vessel needed regular inputs of 5° to 10° starboard helm in order to maintain the heading. The Officer of Watch was standing by the helmsman, verifying his actions.

For the next few minutes, more than 10° starboard helm was applied to maintain the heading on vessel A. Thereafter, 20° to 30° starboard helm was necessary to steer the desired course and, as the vessel had a flap type rudder, the helmsman was able to keep the required course of 248°. During this time, the pilot reportedly glanced at the rudder angle indicator from time to time, but there was no exchange of information among bridge team members. During this time the pilot gradually reduced the propeller pitch to slow the vessel down before the meeting. Since completing the bend at 7.6 knots, vessel A was now making 5.7 knots.

There is conflicting information with respect to the helm orders given next on vessel A. The navigation personnel maintain that the pilot ordered the helm amidships, whereas the pilot does not recollect this order. The helm was nonetheless put to midships and the vessel immediately started to sheer to port. Full starboard helm was then applied, but the vessel's heading continued to swing to port. The two vessels collided near mid-channel at a combined speed of approximately 6 knots.



As the vessels close, vessel A experiences bank suction

Ideal meeting, vessels and canal to scale

Some of the findings of the report were as follows:

- The bank suction effect on vessel A became progressively more pronounced, requiring increasing starboard helm; placing the helm amidships caused the vessel to sheer to port.
- There was no relevant communication between the pilots of the two vessels throughout the developing situation.
- Ineffective Bridge Resource Management (BRM) aboard vessel A resulted in critical information not being shared with the pilot, thus precluding timely action.

IV. Communication scenarios

1. One vessel over 40m LOA and over 50 gt and 3 tugs engaged in towing, report to the relevant VTS Centre when passing Waypoints as indicated on approved charts.

Inform London VTS before the vessel navigates the Thames and obtain clearance from the relevant VTS Centre to do so.

2. You are the Boatmaster of MV XXX. Advise Cologne VTS which approach channel you intend to use. The draught of the vessel is 5.9 metres (you should use the Barrow Deep or Princes Channel, waiting when necessary for sufficient height of tide to transit these channels).

Call the relevant VTS Centre immediately.

3. Abandoning ship

Action
Broadcast DISTRESS message on authority of the Boatmaster
Instruct crew to don lifejackets and immersion suits as appropriate
Muster crew at lifeboat stations
Prepare LSA for launch
Collect and prepare EPIRB, SART and SOLAS radios
Embark and launch life-saving appliances
Ensure lifeboats and liferafts remain in close proximity to ship and in contact with each other
Activate EPRIB and SART

4. Flooding/hull failure

Action
Call Boatmaster
Sound the general emergency alarm
Close all watertight doors
Muster crew to damage control stations
Conduct damage control procedures*
In case of flood in: • Engine room - Checklist C1 as appropriate • Steering gear compartment - Checklist C2 as appropriate • Generator compartments - Checklist C3 as appropriate
Broadcast URGENCY or DISTRESS message, if appropriate
Inform VTS or port authority, as appropriate
Maintain log/record of events and decisions

5. Fire

Action
Call Boatmaster
Sound general emergency alarm
Shut down ventilation system
Muster crew to fire control stations
Conduct fire control procedures*
Assess proximity of navigational hazards, including traffic, and manoeuvre the ship as appropriate
In case of fire in: • Engine room - Checklist C1 as appropriate • Steering gear compartment - Checklist C2 as appropriate • Generator compartments - Checklist C3 as appropriate
Broadcast URGENCY or DISTRESS message, if appropriate
Inform VTS or port authority, as appropriate
Maintain log/record of events and decisions

6. Man overboard (MOB)

Action
Release lifebuoy with light and smoke signal on side that person has fallen overboard
Assign the look-out to indicate the position of the person in the water
Activate GNSS MOB marker
Mark MOB position on ECDIS
Engage hand steering
Take immediate manoeuvring action to preserve safety of person in water
Sound general emergency alarm; including three prolonged blasts on ship's whistle
Call Boatmaster
Post extra look-outs
Commence recovery manoeuvre
Prepare for recovery of persons from the water*
Broadcast DISTRESS message, if appropriate
Engines on standby
Assume role of On-Scene Co-ordinator
Hoist signal flag OSCAR
Maintain log/record of events and decisions

7. Stranding or grounding

Action
Call Boatmaster
Sound general emergency alarm
Close watertight doors and automatic fire doors
Manoeuvre as appropriate/stop engine(s)
Switch to high cooling water intakes
Consider use of anchor
Exhibit aground lights or shapes and make sound signals, as appropriate
Inform VTS or port authority, as appropriate
Modify AIS status
Muster crew to damage control stations
Conduct damage control procedures*
Assess the nature of the sea bed
Assess tides and currents
Assess weather conditions and forecasts
Sound around ship
Determine location of deep water in relation to the ship
Consider reducing draught
Consider taking on additional ballast to prevent unwanted movement and damage
Plan and prepare to refloat as appropriate
Broadcast URGENCY or DISTRESS message, if appropriate
Preserve VDR records
Preserve ECDIS records
Maintain log/record of events and decisions

8. Collision

Action
Call Boatmaster
Sound general emergency alarm
Manoeuvre as appropriate/stop engine(s)
Close watertight doors and automatic fire doors
Muster crew at damage control stations
Muster any passengers
Conduct damage control procedures*
Broadcast URGENCY or DISTRESS message, if appropriate
Sound all tanks, bilges, void spaces and cofferdams
Check for spills/pollution, internal and over the side
Inform VTS or port authority, as appropriate
Switch on deck lighting
Offer assistance to other vessel
Preserve VDR records
Preserve ECDIS records
Maintain log/record of events and decisions

9. Steering failure

Action
Call Boatmaster
Disengage autopilot
Engage alternate or emergency steering
Manoeuvre as appropriate/stop engine(s)
Inform engine room of steering failure
Take way off ship if safe to do so
Not Under Command (NUC) lights, shapes and sound signals, as appropriate
Check position of vessels in the vicinity
Prepare engine for manoeuvre
Check for navigational hazards
Prepare for anchoring if water depth and conditions are appropriate
Modify AIS status
Inform VT5 or port authority, as appropriate
Broadcast SAFETY or URGENCY message, if appropriate
Maintain log/record of events and decisions

10. Assistance by VTS Radar

I have located you on my radar screen.
I cannot locate you on my radar screen.
Say again your position for identification.
(From vessel):
Is shore based radar assistance available?
Yes, shore based radar assistance is available.
No, shore based radar assistance is not available.
Shore based radar assistance is available from (...) to (...) UTC.
Is your radar in operation?
Yes, my radar is in operation.
No, my radar is not in operation.
What range scale are you using?
I am using (…….. miles) range scale.
Change to a larger / smaller range scale.
You are leaving my radar screen.
I have lost radar contact.
Do you require navigational assistance to reach (Point Name or destination)?
Yes, I require navigational assistance.
No, I do not require navigational assistance.

11. Navigational condition

Are you underway? In case of no longer in port, at anchor, moving, etc.
Yes, I am underway.
No, I am not underway.
I am ready to get underway.
Be ready to get underway.
Get underway.
What is your full speed? My full speed is (.....knots). Your full manoeuvring speed?
My full manoeuvring speed…….

12. Information service, Navigational warnings

Unknown object(s) in position (……..).
Unlit derelict (abandoned) vessel adrift in vicinity (……..) at (…….. date and time).
Dangerous wreck / obstruction located in position (……..) marked by (……..type of buoy).
Hazardous mine (bomb) adrift in vicinity (……...) at (……...date and time).
Uncharted reef / rock / shoal reported in position (……...).
Pipeline is leaking gas / oil in position (……...). Wide berth requested.
Depth of water not sufficient in position (……...).
Navigation closed in area (……...).

13. Meteorological warnings

Gale warning or storm warning was issued at (…..... UTC) starting at (…....UTC).
Gale warning or storm warning. Wind at (……..UTC) in (…....met. area) from (direction ……..cardinal/half.
cardinal points) and force (Beaufort .....) backing or veering to (……..cardinal/half cardinal points).
Storm warning was issued at (…....UTC) starting at (…....UTC).
Storm warning at (……..UTC).
Present movement (…....cardinal points) at (……knots).
Winds of (…..... knots) within radius of (…....nautical miles) of centre.
Water over (…….. metres). Further information on VHF (Channel……..) / (frequency……..) at (……. UTC).

14. Anchoring

You must anchor	
~ at (...) UTC (or local time).	~ Until the pilot arrives.
~ In a different position.	~ Until the tugs arrive.
~ clear of fairway.	~ until sufficient water.
Do not anchor in (position……..).	
Anchoring is prohibited.	
You must heave up anchor.	
You are at anchor in a wrong position.	
Have your crew on standby for heaving up anchor when the pilot embarks.	
You have permission to anchor	
~ in (position……..) UTC (or local time).	
You are obstructing the fairway / other traffic.	
Are you dragging / dredging anchor?	
Yes, I am dragging / dredging anchor.	
No, I am not dragging / dredging anchor.	

15. Arrival, berthing and departure

Your orders are to berth on (…...).	
Your orders are changed to proceed to (…...).	
Proceed to (.....) for orders.	
You have permission to enter / to proceed at (…...) UTC (or Indonesian local time).	
Vessel is turning / manoeuvring in position (...).	
MV (.....)	
~ will turn in position (…...).	
~ will leave (…...) at (…...) UTC (or local time).	
~ is leaving (…...).	~ has left (…...).
~ entered fairway in position (…...)	
Your berth is not clear until (…..... UTC) (or local time).	
Your berth will be clear at (…….. UTC) (or local time).	
You will berth / dock at (……UTC) (or local time).	
Berthing has been delayed by (.....hours).	
Move ahead / astern (……. metres).	
Your vessel is in position - make fast.	

16. Avoiding dangerous situations, providing safe movements

It is dangerous	
~ To anchor in your present position.	
~ To remain in your present position.	
~ To alter course to the (…... cardinal points).	
Large vessel is leaving the fairway	- keep clear of the fairway approach.
Nets with buoys / without buoys in this area	- navigate with caution.
Collision in position (…..).	
MV (…...) is aground / on fire / (…...) in position (…...).	
Stand by for assistance.	
Vessels must	
~ keep clear of this area / area (…..).	
~ avoid this area / area (…....).	
~ navigate with caution.	
Keep clear of (...)	- search and rescue in progress.

Your present course is too close
~ to ingoing / outgoing vessel.
~ to the vessel that you are overtaking.
~ to the ... (cardinal/half cardinal points) limit of the fairway.
Your course is deviating from the radar reference line.
You are running into danger
~ Shallow water to the (……...) (cardinal/half cardinal points) of you.
~ submerged wreck to the (……...) (cardinal/half cardinal points) of you.
~ Fog bank to the (……...) (cardinal/half cardinal points) of you.
~ risk of collision (with vessel bearing (……...) degrees, distance (……...) kilometres / nautical miles).
You are proceeding at a dangerous speed. You must
~ proceed by the fairway / (route……..).
~ keep to the (…, cardinal/half cardinal points) of the fairway line / radar reference line.
~ stay clear of the fairway.
You must wait for (MV……...) to cross ahead of you.
You must wait for MV (……..) to clear (.....) before
~ entering the fairway.
~ getting underway.
~ leaving the berth.
Do not
~ overtake.
~ cross the fairway.
Alter course to the ...(cardinal/half cardinal points) of you.
Pass to the (….., cardinal/half cardinal points) of ~ Ingoing /outgoing / anchored / disabled vessel.
~ of (……) mark / (……).
Stop engines.
MV (……)
~ wishes to overtake to the … (cardinal points) of you.
~ agrees / does not agree to be overtaken.
~ is approaching an obscured area ... - approaching vessels acknowledge.

ANNEX 3

Standards for practical examination for obtaining a certificate of qualification as a boatmaster - module 6 - communication

Standards for practical examination for obtaining a certificate of qualification as a Boatmaster were adopted by Commission Delegated Directive (EU) 2020/12 supplementing Directive (EU) 2017/2397 of the European Parliament and of the Council as regards the standards for competences and corresponding knowledge and skills, for the practical examinations, for the approval of simulators and for medical fitness.
Standards for practical examination for obtaining a certificate of qualification as a Boatmaster are included in **Annex II, Chapter IV** of the aforementioned Delegated Directive, and referred to under:

1. Specific competences and assessment situations

The examination comprises two parts: one on journey planning and a second one on journey execution.

Journey planning

The part of the examination on journey planning comprises the elements listed in the table below, elements related to the Communication module, such as:

No.	Competences	Examination elements	Category I - II
29.	6.3.2	apply national, European and international social legislation;	II
30.	6.3.3	follow strict alcohol and drug prohibition and react appropriately in cases of infringement, take responsibility and explain consequences of misbehaviour;	II
31.	6.3.4	organise provisioning and preparation of meals on board;	II

Elements are grouped in categories I and II according to their importance.

Journey execution

Applicants are required to demonstrate that they are capable of executing a journey.
The individual elements to be tested, elements related to the Communication module, can be found in the table below:

No.	Competences	Examination elements
9.	6.1.1	establish specific communication with crew members (on board communication) concerning various manoeuvres and as part of staff meetings (for example briefings) or with persons with whom cooperation is required (using all radio communication networks);
10.	6.2.2	communicate with persons concerned (on board) and with other players (sector traffic centre, other craft, etc.) during these activities in accordance with the regulations (networks, waterways along the route travelled): use of radio-telephone, telephone;

Annex II, Chapter V of the aforementioned Delegated Directive sets out standards for the additional module on supervision in the context of the practical examination for obtaining a certificate of qualification as a Boatmaster. Candidates who have neither completed an approved training programme based on the standards of competence for the operational level, nor passed an assessment of competence by an administrative authority aimed at verifying that the standards of competence for the operational level are met, have to pass this module.
The requirements below need to be met in addition to those referred to under the standards for the practical examination for obtaining a certificate of qualification as a Boatmaster.

The individual elements to be tested, elements related to the Communication module, can be found in the table below:

No.	Competences	Examination elements	Category I - II
28.	0.6.1	use required technical and nautical terms as well as terms related to social aspects in standardised communication phrases;	I

COMPETING

Co-funded by the Erasmus+ Programme of the European Union