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units

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Innovating in the maritime sector through upskilling and reskilling

**Working together for a green and competitive
Europe**

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1 Identification and description of competences by area

By promoting 3 meetings with professionals from the sector to determine trends and needs in this area, the participants highlighted concepts that gave rise to the following competences.

1.1 Environment and Sustainability

The participants in the working groups highlighted the following competences in environment and sustainability.

Table 1 - Identification of the environmental and sustainability competences mentioned by the working groups

Environmental and Sustainability Skills
Recognize basic concepts of environmental awareness
Identify marine ecology concepts
Manage waste on board and identify current plans and legislation on this subject
Identify national marine protected areas
Identify sensitive species of national importance and recognize their ecology
Interact empathically and consciously with sensitive species
Apply correct techniques to remove bycatch species from fishing gear
Recognize and apply bycatch mitigation devices
Motivate and communicate sustainable behaviour and the feeling of "reward"
Recognize and apply the code of conduct when whale-watching
Recognize legislation and recommendations applied to navigation in protected areas
Identify cetaceans through direct observation
Managing waste and recycling on board
Debrief after trips on environmentally relevant issues
Operate boats in an environmentally friendly manner when managing fuel

1.2 Digital Skills

From the initial list, we chose to select skills related to software or applications developed and available for use today, excluding those that do not yet exist and/or are in the development phase, such as the Onboard Auction, the Digital Scale, the new version of BMar and systems not yet implemented at national level, such as autonomous navigation systems.

Table 2 - Identification of the language and communication skills mentioned by the working groups.

Digital skills
Operating the electronic fishing logbook
Operating the BMar Portal
Operating the GPS
Operating the fish finder
Operating radar
Operating the Online Captaincy
Operating Digital Electronic Charts
Operating cell phones
Operating CCTV
Operating AIS
Operating NAVTEX
Operating an IMMARSAT

Digital skills
Using QGIS geographic information software
Operating a VHF radio
Apply basic digital skills
Making online tourist activity reports
Operating booking platforms

1.3 Language and Communication

Table 3 - Identification of the language and communication skills mentioned by the working groups.

Language and Communication Skills
Carrying out emergency communications
Providing information and assistance to scientific personnel on board
Carrying out VHF radio communications
Providing information on maritime tourism trips to clients
Making and interpreting communications with technical terms in English about work on board
Communicating and interacting in a professional context

2 Competences considered for the creation of training units

From these competences, we selected the following to create the training units to be implemented:

2.1 Whale Watching by Maritime Tour Operators

The aim of this training unit is for trainees to be able to plan and carry out a whale-watching trip in accordance with the whale-watching code of conduct and to motivate environmentally conscious attitudes through communication.

Table 4 - Identification of the competencies considered for the creation of the Cetacean Watching training unit for Maritime Tour Operators.

Environment and sustainability	Language and communication
Managing waste on board and identifying plans and current regulations on this subject	Provide information to clients about maritime tourism trips
Interact empathically and consciously with sensitive species	
Recognize and apply the code of conduct when observing cetaceans	
Identify cetaceans through direct observation	
Debrief after trips on environmentally relevant issues	

For this training unit, in addition to environmental and sustainability skills, we considered language and communication skills.

2.2 Ocean Conservation and the Sustainable Use of Marine Resources

The aim of this training unit is for trainees to be able to recognize and describe basic concepts about the importance of the ocean, identify the main threats to this ecosystem and come up with protection measures and good practices.

Table 5 - Identification of the competencies considered for the creation of the Ocean Conservation and Sustainable Use of Marine Resources training unit.

Environment and Sustainability
Recognize basic concepts of environmental awareness
Identify marine ecology concepts
Identify national marine protected areas
Identify sensitive species of national importance and recognize their ecology
Apply correct bycatch techniques to remove species from fishing gear
Recognize and apply bycatch mitigation devices
Recognize legislation and recommendations applied to navigation in protected areas

To create this training unit, we exclusively selected environmental and sustainability skills.

2.3 Operating Electronic Charts

In this training unit, the aim is for trainees to be able to operate electronic charts by identifying the symbology and creating and monitoring routes.

Table 6 - Identification of the competences considered for the creation of the Electronic License Operation training unit.

Digital Competences
Operating Digital Electronic Cards

To create this training unit, we focused on a specific skill: the most mentioned by participants related to equipment that requires the use of digital skills.

2.4 Basic Digital Skills for Seafarers

In this training unit, the aim is for trainees to be able to use everyday maritime IT tools and everyday maritime web applications.

Table 7 - Identification of the competencies considered for the creation of the Basic Digital Skills for Seafarers training unit.

Digital Competences
Operating BMar Portal
Operating Online Captaincy
Apply basic digital skills

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2.5 English Language – Onboard Communication

In this training unit, the aim is for trainees to be able to apply vocabulary specific to the maritime sector, using the English language through basic phrases from the Standard Marine Communication Phrases (SMCP).

Table 8 - Identification of the competences considered for the creation of the English Language - Communication on Board training unit.

Language and Communication Skills
Execute emergency communications
Carry out VHF radio communications
Make and interpret work communications with technical terms in English on board
Communicate and interact in a professional context

In this selection, we also focus on the skills most mentioned by the participants when asked about the main situations that require the use of effective communication on board and the main difficulties associated with this communication.

2.6 Marine Animal Catcher

In this training unit, the aim is for trainees to be able to catch marine animals using the correct equipment safely and consider concepts of marine resource management and sustainability during this activity.

Table 9 - Identification of the competencies considered for the creation of the Marine Animal Catcher training unit.

Environment and Sustainability
Operating the BMar Portal
Identify national marine protected areas
Identify marine ecology concepts
Identify sensitive species of national importance and recognize their ecology

The creation of this training unit arose from the simultaneous need to create training in the context of the publication of decree no. 229/2003 of July 24th, which establishes the legal regime for catching marine animals and licensing set fishing, in ocean waters and inland maritime and non-maritime waters of the continent, for commercial purposes.

3 Summary table of the competences selected for the training units

By compiling all competences for each area in the same table, it's possible to see which areas have the highest and lowest number of competences considered for the creation of training units.

Table 10 - Summary table of the competences considered for the creation of training units, by area of competence.

Environment and Sustainability		Digital Competences		Language and Communication	
Recognize basic concepts of environmental awareness	✓	Operating the Electronic Fishing Diary		Carrying out emergency communications	✓
Identify marine ecology concepts	✓	Operating the BMar Portal	✓	Providing information and assistance to scientific personnel on board	
Manage waste on board and identify current plans and legislation on this subject	✓	Operating the GPS		Carry out VHF radio communications	✓
Identify national marine protected areas	✓	Operating the fish finder		Providing information on maritime tourism trips to clients	✓
Identify sensitive species of national importance and recognize their ecology	✓	Operating the radar		Making and interpreting work communications with technical terms in English on board	✓
Interact empathically and consciously with sensitive species	✓	Operating the Online Captaincy	✓	Communicating and interacting in a professional context	✓
Apply techniques for removing by-catch species from fishing gear	✓	Operating Digital Electronic Charts	✓		
Recognize and apply bycatch mitigation devices	✓	Operating cell phones			
Motivate and communicate sustainable behaviour and the feeling of "reward"		Operating CCTV			
Recognize and apply the code of conduct when whale-watching	✓	Operating AIS			
Recognize legislation and recommendations applied to navigation in protected areas	✓	Operating NAVTEX			
Identify cetaceans through direct observation	✓	Operating an IMMARSAT			
Manage waste and recycling on board		Using QGIS geographic information software			
Debrief after trips on environmentally relevant issues	✓	Operating a VHF radio			
Operate boats in an environmentally friendly way when it comes to fuel management		Apply basic digital skills	✓		
		Making online tourist activity reports			
		Operating booking platforms			

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4 Final considerations

From the observations made by the participants in the working groups, adapted to skills in this document, the areas with the highest number of skills selected for the creation of training units were environment and sustainability and language and communication.

With regards to the area of digital competences, the selection was smaller because gaps were mentioned in training on equipment for which training already exists or is already available. Some of the equipment mentioned is also not available either because it has not yet been developed or because it has not yet been implemented. The latter were not considered for this document.



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