D1.4. – On The Wave methodology strategy

ATI1: At distance/blended learning
methodologies for the maritime sector

o n t h e w a v e - p r o j e c t . e u

ON THE
VVAVE

Innovating in the maritime sector through upskilling and reskilling

Working together for a green and competitive Europe

CONTENTS

ON THE WAVE

FIGURES

TABLES

1. Abstract

This document presents the methodology defined by the *On The Wave* consortium, comprising recommendations and guidelines to support the partners' organizations in the development of the projects' main results, particularly the:

- Competences framework
- Short-duration training units
- Model for online STCW Training courses
- Online STCW training courses

The methodology was defined based upon the results and inputs from the previous activities involving experts and professionals of both countries, as described also in this document.

The recommendations are presented in 5 clusters – **quality requirements, team, online format, use of simulators and capacity building** – to facilitate its understanding and integration of the different resources/products. As a complement, the document provides a table with the global recommendations, as well.

These recommendations will be the starting point for the discussion on what partners should consider while drafting the resources, to be established and maintained with the different stakeholders and beneficiaries of the project. As such, the recommendations are not mandatory or exclusive, being possible the integration of complementary or different aspects in the resources as a result of the process of co-design with the involvement of stakeholders.

2. Context and process

The **On The Wave Strategy** (D1.4) consists of a roadmap with suggestions, ideas and recommendations appropriate to be followed by the consortium while drafting the four deliverables of the project (Figure 1.):

COMPETENCES FRAMEWORK   **SHORT-DURATION TRAINING UNITS**   **MODEL FOR ONLINE STCW TRAINING COURSES**   **ONLINE STCW TRAINING COURSES**
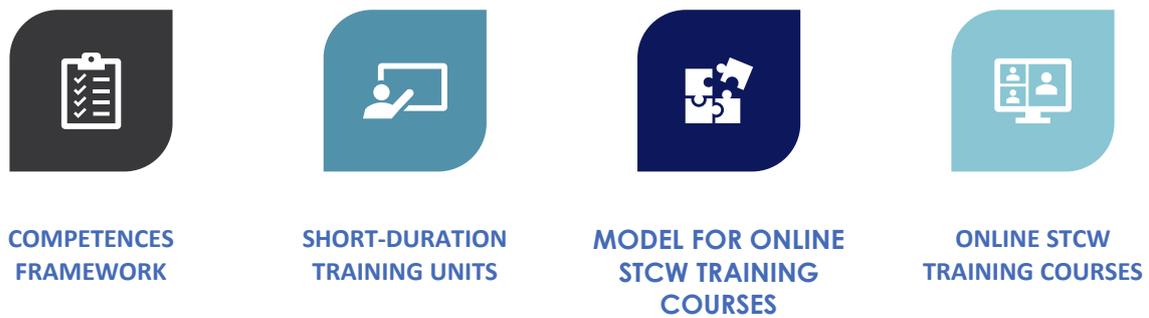
Figure 1 – Four main products of the project that will be drafted based on the methodology defined in this document.

The methodology results from the findings and conclusions that arose from the five activities implemented in the scope of the project in the 1st semester of 2022 (Figure 2.):

National mind-mapping events
- 2 sessions (PT & NO)
- March/2022
- 30 external professionals

Joint mind-mapping session
- 1 session
- April/2022
- 24 external professionals

Study visit to Norway
- 3 days
- May/2022
- 11 participants

Brainstorming session
- 1 session
- May/2022
- 7 participants

Briefings of the national mind-mapping sessions

Mind-mapping matrix

Good practices showcase

Figure 2 – The activities promoted in the first stage of the project that were strategic for the definition of the methodology.

Furthermore, this methodology will assure that the activities and products foreseen to be developed in the upcoming months (Figure 1.) are aligned with the needs, expectations and resources available in the organizations of the consortium.

3. On The Wave methodology
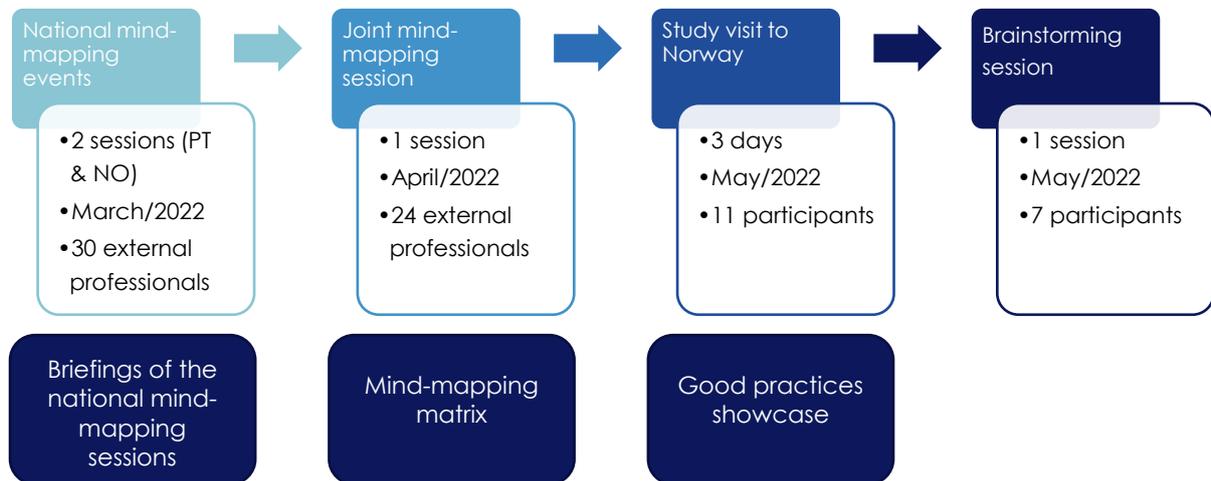
Different categories of recommendations were identified during the discussions and meetings with stakeholders. In this section we grouped the recommendations into clusters, facilitating their analysis and future implementation.

The consortium identified five clusters that should be taken into consideration while structuring models, courses and materials for blended/at distance learning and STCW offer (Figure 3.):

- Critical aspects to guarantee the quality of the training offer

QUALITY REQUIREMENTS

- Professionals to involve and their desirable profile

TEAM

- Characteristics, technical solutions, planning and preparation of the courses/training

ONLINE FORMAT

- What needs to be considered while planning to use simulators

USE OF SIMULATORS

- Preparing the setting and the team to be involved

CAPACITY BUILDING

Figure 3 – The five clusters defined to organize the recommendations to support the development of the project's products

The following sub-sections focus on these five clusters, presenting the recommendations to be considered in each cluster and identifying its benefits and relevance.

3.1. Quality requirements

Some aspects were identified as being strategic to assure the quality of the courses/training offered by the partners. Even if these aspects are not mandatory, nevertheless, they are crucial to the success of the course/training and the adequate engagement and motivation of trainees (Table 1.):

Criteria	Recommendation	Benefits
Preparation	Establishment and maintenance of partnerships and cooperation	- sharing infrastructures & equipment - jointly planning & promoting training - jointly host & train trainees
Preparation	Evaluation/identification of needs	- match market and trainees' needs - generate interest from the market - motivate and engage trainees
Preparation	Pre-test or implementation in a small group	- testing the functionality of the software - testing the need of improving/add additional guidelines - verification of the quality or the resources
Trainees	Adjust the number of trainees to the b-learning/at distance context	- guarantee equal and strong involvement of trainees - better conditions for tailored training - assure proper monitoring of the learning and progress
Trainees	Prior selection or preparation of trainees (e.g. digital skills, English)	- selection of trainees with basic digital and/or English skills - add short-duration modules in courses to develop digital and/or English skills - incorporate modules related to digital and/or English skills in the courses/training to be structured
Assessment & evaluation	Recognize prior competences	- match trainees needs - engagement of trainees in all phases of the training - promotion of trainees' motivation
Assessment & evaluation	Gather evaluation feedback from employers, trainers and trainees	- verification of the adequacy and quality of the course/training - adjust the course/training to the market and trainees' needs - invest in further course development

Table 1 – Recommendations related to the quality requirements to take into consideration in the development of the resources.

3.2. Team

Many recommendations made by the experts from both countries are related to the composition, profile and mobilization of professionals to prepare, develop and promote blended/at distance learning (Table 2.):

Criteria	Recommendation	Benefits
Composition of the team	Invest in a multidisciplinary team, including course developers, instructors, trainers, IT developers and administrative	- a combination of talents to maximize the quality - clear definition of competences and roles - better prepared to overcome challenges or proceed with adjustments
	A person responsible for the photographic reviews and videos during the exercises	- assure the quality of the resources - potentiate the opportunities of training offline - motivate trainees with high-quality resources
Identification and preparation	Careful identification and selection of trainers in terms of motivation, skills and experience	- identification and mobilization of trainers with real interest and skills required for the task - reduce the resistance related to the upgrade/change on the course/training provision - raise the potential of success of the course/training
	Training of trainers and/or instructors	- development of trainers/instructors' competences to prepare and monitor blended/at distance learning - development of trainers/instructors' competences to prepare and monitor STCW courses - create opportunities for trainers/instructors to test the courses/simulators - Assure the adequacy and quality of the courses/training
	Involve the multidisciplinary team in the co-design of courses, content & resources	- a combination of talents to maximize the quality - monetization of resources for the development of supports - adjust the resources to the reality of the market

Table 2 - Recommendations related to the team, that should be considered in the development of the resources.

3.3. Online format

The core of inputs provided by experts and professionals from Portugal and Norway are related to the characteristics, planning and preparation of courses/training in an online format (Table 2.). It was suggested to combine different formats and methods to take the most advantage of the blended/at distance learning, including:

- **E-learning** by structuring quality courses adjusted to the online setting
- **Remote learning** to assure closer monitoring and evaluation
- **Use of simulators**, creating the opportunity of training in real-based possible scenarios using virtual supports

Some recommendations to draft online and remote learning are presented in the table below:

Criteria	Recommendation	Benefits
General characteristics	Assure the existence of a team trainer-tutor to guide and monitor trainees leaning	- Clear guidance and training provided by trainers at distance and in loco - Regular monitoring and evaluation of the learning
	Combine distance learning with synchronous follow-up and/or on-the-site monitoring, where trainers/instructors can support trainees	- Clear guidance and training provided by trainers at distance and in loco - Regular monitoring and evaluation of the learning - Combine theory/training in class with training at the workplace
Planning and designing of training/courses	Include multiple types of assignments and exercises to assure continuous and accurate evaluation of the progress and learning of trainees, including frequent quizzes; final exams/tests; high standards of evaluation; practical tests associated with mandatory activities	- Regular monitoring and evaluation of the learning - Potentiate the motivation and engagement of trainees - Track the autonomous work and collect evidence for evaluation
	Establish a clear plan for practical training onboard and means to track the learning process, enabling trainees to plan the asynchronous work while onboard	- Track the autonomous work and collect evidence for evaluation - Provide proper guidance to trainees, giving them the responsibility for their learning process
	Provide offline didactic resources, activities, tasks, and challenge-based exercises, including reflexive exercises based on case studies or a learning diary	- Increased opportunities of keeping learning while offline - Potentiate the motivation and engagement of trainees
	Establish open badges for trainees	- Potentiate the motivation and engagement of trainees - Track the autonomous work and collect evidence for evaluation
	Develop courses for mobiles	- Possibility of accessing the course/training at any place and time - Potentiate the motivation and engagement of trainees

ON THE WAVE

Criteria	Recommendation	Benefits
Resources	Establish clear procedures, defining the roles and responsibilities of the multidisciplinary team	- Generate commitment and engagement among the team - Define moments and activities for the team's organization and cooperation - Make the process of learning clear to the team (and trainees)
Resources	Prepare and distribute a robust set of documents that may include course factsheet, instructor manual, e-learning document, online lectures/exercises, assignments/tests, step by step path for trainees	- Assure the coherence between different courses/training and team members - Track the progress of implementation of the course/training - Monitor the team's work and evolution
Resources	Use a video-modelling approach, based on good practices and develop high-quality materials (e.g. clear video content, recorded PowerPoint)	- Increased opportunities for learning while offline - Provide examples of good practices to shape trainees' behaviours and attitudes - Display resources to complement reading supports - Potentiate the motivation and engagement of trainees
Software solutions	Use user-friendly platforms, using LMS software/follow-up software to track the progress, learning and evaluation of trainees (e. g. Moodle)	- Potentiate the motivation and engagement of trainees - Track the autonomous work and collect evidence for evaluation
Software solutions	System provider with software for blended/at distance learning and/or virtual classroom to combine e-learning with remote learning	- Clear guidance and training provided by trainers at distance and in loco - Regular monitoring and evaluation of the learning - Track the autonomous work and collect evidence for evaluation
Software solutions	Provide offline platforms & software, allowing download and upload of documents and the provision of training without synchronized sessions	- Increased opportunities of keeping learning while offline - Track the autonomous work and collect evidence for evaluation - Possibility of choosing the periods of the day to be online and offline

Table 3 - Recommendations related to the online format, that should be considered in the development of the resources

3.4. Use simulators

This cluster is mainly applied to the STCW model and training courses, in which the use of simulators is recommended to assure proper learning concerning trainees' behaviours and attitudes in simulated scenarios. This will only be possible when the external simulator has the same set-up as the local one, so it is important to think about the acquisition of this equipment. Some of the recommendations mentioned in the clusters of "team" and "online format" are also related to the STCW model/courses[1]. Table 4 highlights the recommendations that are specific to this cluster/type of courses:

Criteria		Recommendation	Benefits
Maximize the added value of simulators		Prepare the instructors by providing them access to practice how to set-up and use the simulator	- Trainees can benefit from proper and high-quality support - Maximize the quality of the course/training - Increased opportunities for instructors to deal with challenges
		Record a video of the simulation and provide it in the learning platform	- Increased opportunities of keeping learning while offline - Provide examples of good practices to shape trainees' behaviours and attitudes - Associate it with the simulation - Potentiate the motivation and engagement of trainees
		Do simulation in a private mode and individually	- Potentiate the motivation and engagement of trainees - Reduce problems with internet access - Tailor the simulation to a specific trainee
Motivation & mobilization		Make it mandatory for shipowners and/or seafarers	- Increase opportunities for investing in the courses/training - Increase opportunities of engaging workers in the courses/training
		Make it mandatory for maritime personnel (integrating it in the contract)	- Increase opportunities of engaging workers in the courses/training - Potentiate the motivation and engagement of trainees
		Offer a "bonus" upon completion of training	- Increase opportunities of engaging workers in the courses/training - Potentiate the motivation and engagement of trainees

Table 4 - Recommendations related to the use of simulators, that should be considered in the development of the resources.

---

[1] Particularly the ones related to the identification and preparation of the team, clarification of their role and responsibility and engagement in the process of co-design.

3.5. Capacity building

The capacity building of professionals in education and training is one of the most critical aspects to assure the quality, meaning, innovation and impact of the training provided. Some aspects related to the identification and preparation of the team to be involved in the process are identified in the cluster "team", however, three specific recommendations were done concerning the capacity building of the professionals with a critical role in the design, implementation, assessment and review of the courses/training. As such, three training paths were suggested to better prepared Portuguese professionals (Table 5.):

Training	Target group	Possible structure
Specialization in E-Learning for Trainers	Trainers (willing to be e-trainers)	There are already some programmes focusing on this specialization that can inspire the design of this training. A possible structure can be: 1. Profile of the E-Trainer (competences, responsibilities and conduct) 2. Learning in an online environment (types of online learning, platforms and software suitable to be used) 3. Design and development of resources (the co-design process, multimedia contents, standards for development of e-contents, SCORM norms) 4. Learning relationship and evaluation (monitoring and guiding trainees, developing assignments and evaluation activities, tracking and assessing learning)
Raise awareness sessions on the STCW Convention	Team to be involved in the process of development of the STCW courses	Some possible topics to proceed with the raise awareness sessions are: 1. What is STCW? 2. Who needs STCW? 3. What are the main characteristics, challenges and benefits of the STCW training courses? 4. What should be considered when structuring STCW training courses?
Training the simulator trainer and assessor	Instructors using simulators	A similar structure to the IMO model course 6.10 Train the simulator trainer and assessor: 1. Training awareness (identifying training needs; understanding the result, objectives and real-world scenarios) 2. Training skills (psychology of learning and teaching techniques, course and scenario design, assessment) 3. Managerial skills and aptitudes (identifying and providing resources)

Table 5- Identification of 3 possible training/sessions that can be prepared and implemented within the team to be involved in the design of the courses/training.

All these recommendations are compiled in a single table, facilitating its overall analysis (Table 6.).

ON THE WAVE

CLUSTER	CRITERIA	RECOMMENDATION
QUALITY REQUIREMENTS	Preparation	Establishment and maintenance of partnerships and cooperation
		Evaluation/identification of needs
	Trainees	Pre-test or implementation in a small group
		Adjust the number of trainees to the b-learning/at distance context
		Prior selection or preparation of trainees (e.g. digital skills, English)
	Assessment & Evaluation	Recognize prior competences
		Gather evaluation feedback from employers, trainers and trainees
TEAM	Composition of the team	Invest in a multidisciplinary team, including course developers, instructors, trainers, IT developers and administrative
		A person responsible for the photographic reviews and videos during the exercises
	Identification and preparation	Careful identification and selection of trainers in terms of motivation, skills and experience
		Training of trainers and/or instructors
		Involve the multidisciplinary team in the co-design of courses, content & resources
ONLINE FORMAT	General characteristics	Assure the existence of a team trainer-tutor to guide and monitor trainees leaning
		Combine distance learning with synchronous follow-up and/or on-the-site monitoring, where trainers/instructors can support trainees
	Planning and designing of training/courses	Include multiple types of assignments and exercises to assure continuous and accurate evaluation of the progress and learning of trainees, including frequent quizzes; final exams/tests; high standards of evaluation; practical tests associated with mandatory activities
		Establish a clear plan for practical training onboard and means to register it, enabling trainees to plan the asynchronous work while onboard
		Provide offline didactic resources, activities, tasks, and challenge-based exercises, including reflexive exercises based on case studies or a learning diary
		Establish open badges for trainees
	Resources	Establish clear procedures, defining the role and responsibilities of the multidisciplinary team
		Prepare and distribute a robust set of documents that may include course factsheet, instructor manual, e-learning document, online lectures/exercises, assignments/tests, step by step path for trainees
		Use a video-modelling approach, based on good practices and develop high-quality materials (e. g. clear video content, recorded PowerPoint)
	Software solutions	Use user-friendly platforms, using LMS software/follow-up software to track the progress, learning and evaluation of trainees (e. g. Moodle)
		System provider with software for blended/at distance learning and/or virtual classroom to combine e-learning with remote learning
		Provide offline platforms & software, allowing download and upload of documents and the provision of training without using synchronized sessions

ON THE WAVE

CLUSTER	CRITERIA	RECOMMENDATION
USE SIMULATORS	Maximize the added value of simulators	Prepare the instructors by providing them access to practice how to set-up and use the simulator
		Record a video of the simulation and provide it in the learning platform
		Do Simulation in a private mode and individually
	Maximize the added value of simulators	Make it mandatory for shipowners and/or seafarers
		Make it mandatory for maritime personnel (integrating it in the contract)
		Offer a "bonus" upon completion of training
CAPACITY BUILDING	Specialization of e-trainers	Specialization in E-Learning for Trainers
	Awareness related to STCW	Raise awareness sessions on the STCW Convention
	Capacitation of instructors	Training the simulator trainer and assessor

Table 6 – Sum up the recommendations to be considered while designing the On The Wave products

4. How to use the methodology

The recommendations outlined in this document aim to guarantee that the resources/products to be designed and provided by the partners within the project comprise a set of characteristics, namely that:

- are aligned with the market, professionals' and workers' needs, expectations and capacities
- meet the quality standards, essential to assure the differentiation of the offer and maximizing its impact on stakeholders
- are suitable to be used by training providers from the two countries of the partnership.

The possibility of considering these recommendations to develop the resources/products will need to be discussed in the working groups to be settled and managed in the upcoming activity, where stakeholders can analyse and discuss the:

- added value of considering the recommendations
- conditions for its integration in terms of resources and investment
- possibility of establishing local, regional, national or international cooperation to assure its integration
- requirements for its sustainability at mid and long-term.

5. Annexes

Mind-Mapping Matrix

ON THE WAVE