

Funded by:

Iceland  
Liechtenstein  
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## D1.2. – Mind-mapping matrix

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

Blue Growth Programme Operator:



ON THE  
WAVE



# Innovating in the maritime sector through upskilling and reskilling

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

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# 1. Introduction

The **Mind-mapping matrix (D1.2)** is a document bringing together information related to the peer mind-mapping sessions promoted in the scope of the project **On The Wave**, funded by Iceland, Liechtenstein and Norway through the EEA Grants.

Altogether, the consortium promoted 3 mind-mapping sessions, two nationals (Portugal and Norway) and one joint session gathering participants from the two countries that are focused on this document. As such, the matrix starts with an overview of the sessions, in terms of structure, participants and format, proceeding with a brief presentation of the results obtained in each one of these sessions. Following the summary of the sessions, the document closes with a matrix combining and matching the results from the national and joint sessions in a table, identifying attributes, recommendations and practices on which the consortium will basis the methodology strategy, that will guide the structure and development of the upcoming resources foreseen to be conceived in the project.

## 2. Mind-mapping sessions

### 2.1 Overview of the sessions

**Two national mind-mapping sessions** were promoted to build the ground for the definition of the methodology and roadmap for the development of the main results of the project.

**One** of the sessions was promoted in **Portugal**, on the **24<sup>th</sup> of March 2022** in an online format, gathering **21 professionals** among trainers, experts and professionals from the maritime sector. The session aimed to map the challenges and needs of the Portuguese training providers related to the establishment and implementation of distance and blended learning in the training programmes and offers for the maritime sector and focused on three main topics:

1. Main difficulties and obstacles faced to promote distance/b-learning STCW courses
2. Learning offer needs of STCW courses in Portugal
3. Solutions to overcome difficulties and obstacles – challenges in STCW training courses

Principais dificuldades e obstáculos na promoção da formação STCW a distância e em b-learning

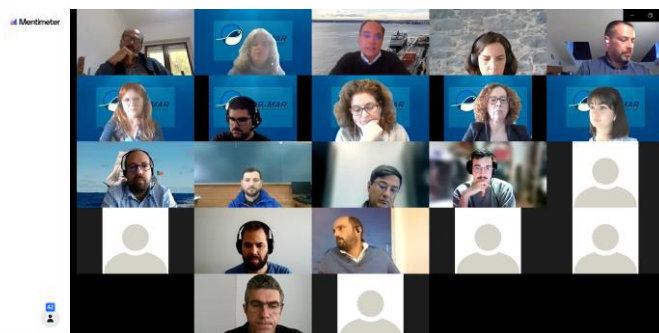


Figure 1 Screenshots from the peer mind-mapping session promoted in Portugal.

The **second** session was promoted in **Norway**, also on the **24<sup>th</sup> of March 2022**, but face to face. The aim was to spot the strategy, pre-conditions and steps adopted by the Norway training provider to successfully design and deliver distance blended learning

solutions for the companies and/or professionals of the maritime sector. A total of **9 participants** attended the session focused on the:

1. Preconditions and resources needed to successfully adopt and incorporate distance and blended learning for the maritime sector
2. Knowledge, skills and attitudes to be adopted by training professionals to assure distance and blended learning with high-quality
3. Good practices of distance and blended learning existing in Norway may be used as 'inspiration' to the Portuguese organisations and professionals

Following these two sessions and to start to promote the exchange of perspectives, experiences and expertise between the Portuguese and Norwegian teams concerning the capacity building and training of professionals from the maritime sector, a **joint mind-mapping session** was done. This session was made online as previewed, on the **28<sup>th</sup> of April 2022** and counted with the participation of **24 professionals and experts**, 20 from Portugal and 4 from Norway and focused on:

1. knowing the main results from the national mind-mapping sessions
2. discussing strategies to overcome the constraints and challenges identified
3. identifying opportunities and synergies to overcome the challenges
4. Exchanging ideas and practices

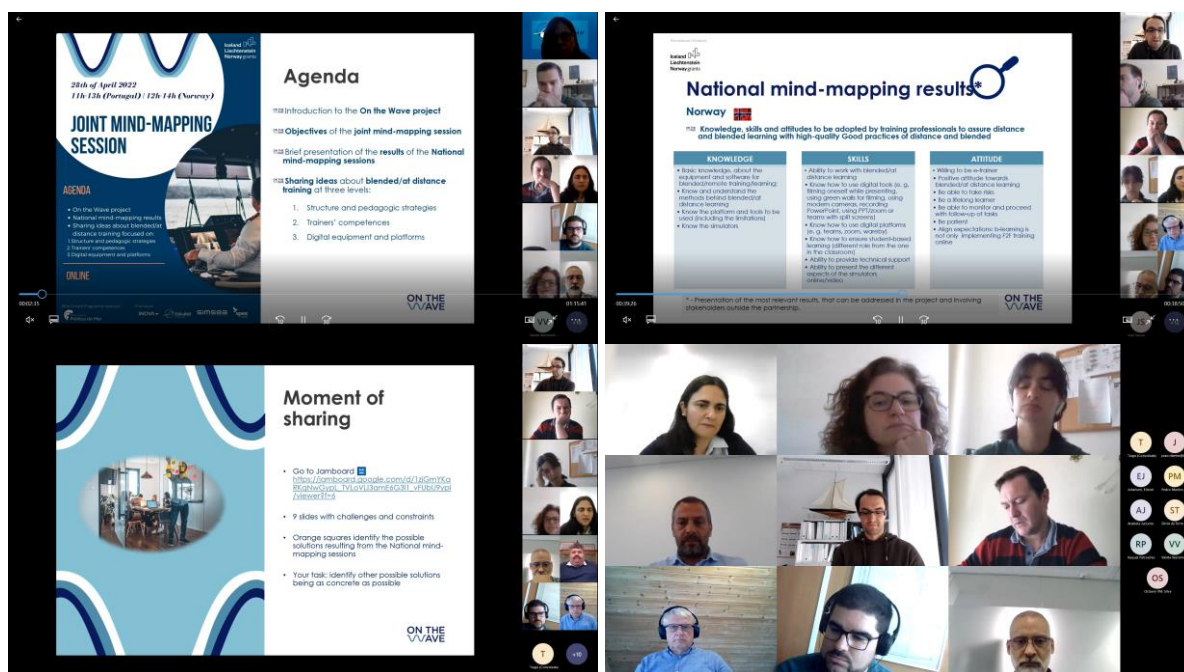


Figure 2. Screenshots of the joint mind-mapping session

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## Portugal



- 24<sup>th</sup> of March 2022 - 2h – online
- 21 participants: training, professionals from maritime sector
- Focus:
  1. Main difficulties and obstacles faced to promote distance/b-learning STCW courses
  2. Learning offer needs of STCW courses in Portugal
  3. Solutions to overcome difficulties and obstacles – challenges in STCW training courses
  4. Discussion and debate

## Norway



- 24th of March – 1h – face-to-face
- 9 participants: training, professionals from maritime sector
- Focus:
  1. Preconditions and resources needed to successfully adopt and incorporate distance and blended learning for the maritime sector
  2. Knowledge, skills and attitudes to be adopted by training professionals to assure distance and blended learning with high-quality
  3. Good practices of distance and blended learning existing in Norway that may be used as 'inspiration' to the Portuguese organisations and professionals

## Joint



- 28<sup>th</sup> of April 2022 - 2h – online
- 24 participants: training, professionals from maritime sector
- Focus:
  1. How to proceed with learning monitoring/follow up and learning outcomes evaluation and validation?
  2. How to proceed with the simulations in b-learning/at distance learning?
  3. How to overcome the lack of digital literacy among trainees?
  4. How to prepare and apply practical exercises in b-learning/at distance learning?
  5. How to overcome the constraint of lack of digital training equipment/quality of the equipment and lack of resources to acquire it?
  6. How to overcome the constraint of having limited internet access onboard?
  7. Tips to assure the functionality of the blended/at distance learning course
  8. Which profile should e-trainers have?
  9. In the case, you consider it possible to establish synergies in this session to overcome some of these challenges please share your ideas with us.



## 2.2 Synthesis of the results of the sessions

The most relevant results from the **peer mind-mapping session held in Portugal** were compiled in two clusters: one related to **challenges and constraints** to promote distance/b-learning STCW courses and the other one related to **possible solutions** (Figure 4.):

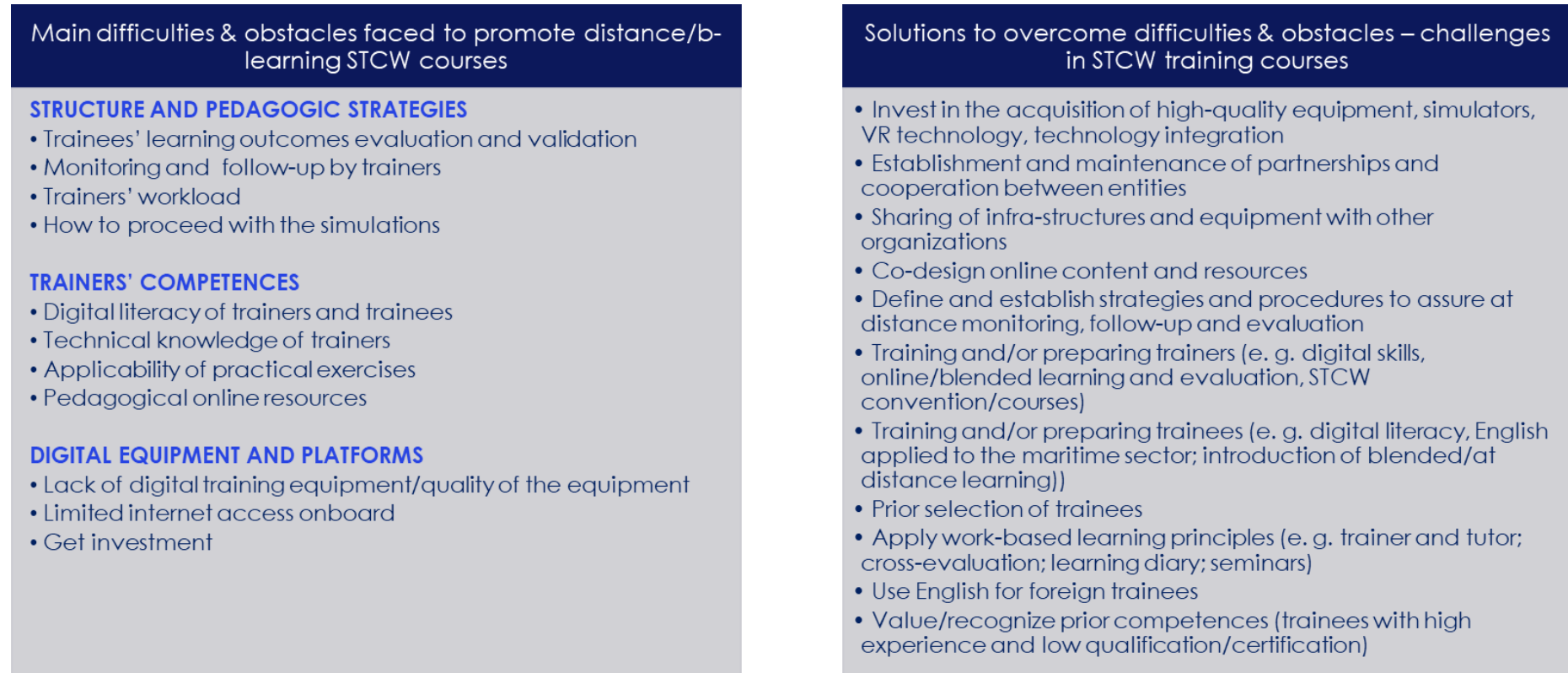


Figure 4. Most relevant results obtained from the mind-mapping session in Portugal.

In the case of the results of the **peer mind-mapping session** promoted in **Norway**, they were organized in:

- Preconditions and resources
- Good practices
- Competences to be adopted by training professionals

Preconditions and resources needed to successfully adopt and incorporate distance and blended learning for the maritime sector

### STRUCTURE AND PEDAGOGIC STRATEGIES

- Have supporting documents (e. g. course description/ factsheet, trainer manual, e-learning document, online lectures/ exercises, assignments/tests)
- Accreditation of the blended/at distance training
- Proceed with a pre-test before launching the training course
- Use case studies, examples and testimonies from real life
- Make use of quizzes and multiple-choice questions
- Record video of simulation to include in the e-platform
- Adjust the number of trainees to the b-learning/at distance context

### DIGITAL EQUIPMENT AND PLATFORMS

- System provider with software for blended/at distance learning (e. g. Canvas, Moodle and related sub-platform, office package (PowerPoint) with Zoom)
- Have resources to support the courses (e. g. pre-recorded simulator video demonstrations)
- Reliable internet

### HUMAN RESOURCES

- Course developers (professionals)
- IT supporters (inhouse or externally from the software provider, for example)
- Administrative support

Figure 5. Most relevant results identified by Norwegian experts in the mind mapping session related to the preconditions and resources needed to successfully adopt and incorporate distance and blended learning for the maritime sector

Good practices of distance and blended learning existing in Norway that may be used as 'inspiration' to the Portuguese organisations and professionals

- Get inspired on teaching resources available for simulator-based training existent in the field of health and aviation
- 6 steps of the blended/at distance learning
  1. Theory/introduction to the topic in a synchronous session
  2. Demonstration while using the simulator also in a synchronous session
  3. Practical training in lab using simulators
  4. Debriefing and exchange of experiences
  5. Task/assignment
  6. Debriefing and exchange of experiences
- In alternative is possible to use videos for the theory and demonstration to overcome constraints related to internet. In this case, make sure that some synchronous sessions are being done also.

Figure 6. Most relevant results identified by Norwegian experts in the mind mapping session related to the good practices of distance and blended learning existing in Norway that may be used as 'inspiration' to the Portuguese organisations and professionals.

## KNOWLEDGE

- Basic knowledge, about the equipment and software for blended/remote training/learning;
- Know and understand the methods behind blended/at distance learning
- Know the platform and tools to be used (including the limitations)
- Know the simulators

## SKILLS

- Ability to work with blended/at distance learning
- Know how to use digital tools (e. g. filming oneself while presenting, using green walls for filming, using modern cameras, recording PowerPoint, using PPT/zoom or teams with split screens)
- Know how to use digital platforms (e. g. teams, zoom, wareby)
- Know how to ensure student-based learning (different role from the one in the classroom)
- Ability to provide technical support
- Ability to present the different aspects of the simulators online/video

## ATTITUDE

- Willing to be e-trainer
- Positive attitude towards blended/at distance learning
- Be able to take risks
- Be a lifelong learner
- Be able to monitor and proceed with follow-up of tasks
- Be patient
- Align expectations: b-learning is not only implementing F2F training online

Figure 7. The most relevant results identified by Norwegian experts in the mind mapping session related to the knowledge, skills and attitudes to be adopted by training professionals to assure distance and blended learning with high-quality good practices of distance and blended.

Having as starting point these results which were presented at the beginning of the session, from the **joint mind-mapping session**, the consortium got some relevant information and inputs related to 5 key aspects:



Figure 8. The 5 key aspects are identified as important to analyse and take into consideration while planning and structuring distance/b-learning STCW courses.

For each one of these key aspects, participants shared ideas to overcome some of the constraints and obstacles identified in the national sessions, matching them with some of the practices also identified (Figure 9.):

Key-aspect	Inputs
<b>Materials</b>	Trainer manual Clear video content Plan for the practical training Reflexive exercises Offline didactic resources, activities, tasks, challenge-based exercises Course evaluation and further course development Frequent quizzes Establish procedures Co-design/review/validation Record video of the simulation
<b>Support</b>	Tutors Tandem partner Intermediate evaluations Mandatory requirements of access Prepare trainees Establishment and maintenance of partnerships and cooperation with others Multidisciplinary team
<b>Strategies</b>	Co-design Apply mandatory evaluation assignments Private & individual simulation Video-modelling Students to plan the asynchronous work On-site monitoring and training Test with a representative sample Bonus payments Work-based learning principles Prior competences Training and/or preparing trainers
<b>Digital options</b>	LMS software/follow-up software similar set-up external simulator/local/instructor develop courses for mobiles synergies with other entities invest resources in preparing the platform and materials offline platforms & software cabled internet lower quality sound and video MOOC's Open badges for trainees Pre-test before launching Adjust the number of trainees

Table 1. Inputs and ideas provided by participants of the joint mind-mapping session related to 4 aspects considered critical to attend when planning and structuring distance/b-learning STCW courses.



As for the trainers' profile, participants highlighted the knowledge, skills and attitudes that in their perception would be important to these professionals acquired or shown. These competences are listed below and complement the ones identified by Norwegian experts:

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ATTITUDE	KNOWLEDGE	SKILLS
<ul style="list-style-type: none"> <li>• Willing to be e-trainer</li> <li>• Positive attitude towards blended/at distance learning</li> <li>• Be able to take risks</li> <li>• Be a lifelong learner</li> <li>• Be able to monitor and proceed with follow-up of tasks</li> <li>• Be patient</li> <li>• Align expectations: b-learning is not only implementing F2F training online</li> <li>• Be passionate</li> <li>• Focused on learning (and not curriculum)</li> <li>• Willing to work in team</li> </ul>	<ul style="list-style-type: none"> <li>• Basic knowledge, about the equipment and software for blended/remote training/learning;</li> <li>• Know and understand the methods behind blended/at distance learning</li> <li>• Know the platform and tools to be used (including the limitations)</li> <li>• Know the simulators</li> <li>• Previous experience in maritime</li> <li>• Understand pedagogic differences between classroom and e-learning</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to work with blended/at distance learning</li> <li>• Know how to use digital tools (e. g. filming oneself while presenting, using green walls for filming, using modern cameras, recording PowerPoint, using PPT/zoom or teams with split screens)</li> <li>• Know how to use digital platforms (e. g. teams, zoom, wareby)</li> <li>• Know how to ensure student-based learning (different role from the one in the classroom)</li> <li>• Ability to provide technical support</li> <li>• Ability to present the different aspects of the simulators online/video</li> <li>• Ability to communicate properly with digital tools/platforms, using simple speeches</li> <li>• Be fluent in English</li> <li>• Ability to prepare videos</li> </ul>

Figure 9. Knowledge, skills and attitudes identified as important to training professionals involved in planning and promotion of distance/b-learning STCW courses.

### 3. Contributions to the methodology

#### 3.1 Key ideas to include in the methodology

With the outcomes and findings from the three sessions, the consortium prepared a matrix combining and matching the results from the national and joint sessions in a single document. This matrix presents the attributes, recommendations and practices that trainers, experts and professionals from the maritime sector identified as being relevant for the planning, preparation and implementation of distance/b-learning STCW courses (Table 2.):

Attributes, recommendations and practices	PT mind mapping	NO mind mapping	Joint mind-mapping
Apply work-based learning principles (e. g. trainer and tutor; cross-evaluation; learning diary; seminars)	X		X
Value/ recognize prior competences	X		
Establish procedures and have supporting documents (that may include course factsheet, instructor manual, e-learning document, online lectures/exercises, assignments/tests, step by step path to trainees)	X	X	X
Establish open badges for trainees			X
Co-design courses, content & resources within a multidisciplinary team (e. g. course developers, instructors, trainers, IT developers) matching market and professionals needs	X	X	X
Using LMS software/follow-up software			X
Proceed with an evaluation/identification of needs (e. g. market, trainees)	X		
Gather evaluation feedback from trainers and trainees			X
Establishment and maintenance of partnerships and cooperation for: sharing infrastructures and equipment, jointly planning and promoting training and/or host and training trainees	X	X	X
Training and/or preparing trainers and/or instructors	X	X	X

Attributes, recommendations and practices	PT mind mapping	NO mind mapping	Joint mind-mapping
Careful identification and selection of trainers (motivation, skills and experience) and have a clear plan to cope with resistance	X	X	
Prior selection of trainees (e. g. digital skills, English)	X		
Preparing trainees (e. g. digital skills, English)	X		X
Record video of simulation; registration in the platform			X
Simulation in a private mode and individually			X
Develop relevant and high-quality materials (e. g. clear video content; recorded PowerPoint)		X	X
A person responsible for the photographic reviews and videos during the exercises			X
Video-modelling approach			X
Make sure that the external simulator has the same set-up as the local, and instructors who can practice the set-up			X
Develop courses for mobiles			X
System provider with software for blended/at distance learning and/or virtual classroom		X	X
Establish a clear plan for the practical training onboard and means to register it	X		X
Simulation is important to input trainees with some know-how			X
Use reflexive exercises based on case studies (offline)			X
Use user-friendly (e. g. Moodle)		X	X
Make it mandatory for shipowners and/or seafarers			X
Make it mandatory for maritime personnel (integrating it in the contract)	X		X



Attributes, recommendations and practices	PT mind mapping	NO mind mapping	Joint mind-mapping
Provide offline platforms & software, the choice of specific periods of the day, the use of medium quality streaming, and video recording of home training			X
The use of not synchronized sessions and software down and upload			X
Offline didactic resources, activities, tasks, challenge-based exercises			X
Allow students to plan the asynchronous work while onboard			X
Only cabled internet will get resources			X
Use lower quality sound and video - streaming takes fewer resources			X
Proceed with a pre-test or implementation in a small group before launching the training course	X	X	X
Adjust the number of trainees to the b-learning/at distance context		X	
Complement distance learning with on-site monitoring and training and/or include synchronous follow-up and support by trainers	X	X	X
Bonus payments upon completion of training			X
Course evaluation and further course development			X
Plan and implement strategies for the accurate evaluation of progress/competences of trainees (e. g. frequent quizzes; final exams/tests; high standards of evaluation; practical tests associated with mandatory activities)	X		X

Table 2. Attributes, recommendations and practices that trainers, experts and professionals from the maritime sector identified as being relevant for the planning, preparation and implementation of distance/b-learning STCW courses.

These outcomes and findings obtained in the three sessions will be used by the consortium in the design of the methodology strategy that will work as a roadmap for the development of the upcoming activities previewed in the scope of the project.

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## 4. Annexes

[Briefing of the national mind mapping session – Portugal \(D1.2\)](#)

[Briefing of the national mind mapping session – Norway \(D1.2\)](#)

[Joint mind-mapping session – PowerPoint presentation](#)

[Global results of the mind-mapping sessions](#)

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Promotor:



Parceiros / Partners:



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**INOVA<sup>+</sup>**

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This project is funded by Iceland, Liechtenstein and Norway through the EEA Grants. Through the European Economic Area (EEA) Agreement, Iceland, Liechtenstein and Norway are partners in the internal market with the Member States of the European Union. In order to promote a continuous and balanced strengthening of economic and trade relations, the parties to the EEA Agreement have established a multi-annual Financial Mechanism, known as the EEA Grants. The EEA Grants aim to reduce social and economic disparities in Europe and to strengthen bilateral relations between these three countries and the recipient countries. For the 2014-2021 period, a total contribution of € 2.8 billion was agreed for 15 beneficiary countries. Portugal will benefit from a budget of 102.7 million euros. Learn more at [eeagrants.gov.pt](http://eeagrants.gov.pt)