T-shore Education

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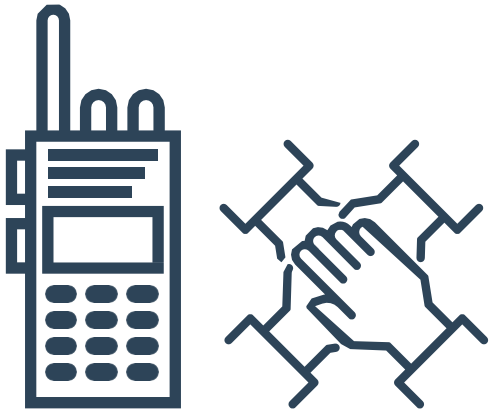
Module and Scenario Overview



Module:
Teamwork and Communication
Learning scenario:
Effective Teamwork and Communication

Co-funded by the European Union

Document Author Partner: ATU

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This document has been created as part of the wider T-shore project, co-funded through the European Union's ERASMUS+ programme.

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Document Information

Project Acronym	**T-shore**
Project Title	Technical Skills for Harmonised Offshore Renewable Energy
Award Number	Project 101055746
Work Package	WP3,4
Deliverable	LSC – Module and scenario overview
Document Title	Teamwork and Communication Module Overview
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Version Control

Version No.	Date	Description	Prepared by	Checked by
01	14.02.2025	Initial document		All partners
02	08.04.2025	Internal review		
03	30.04.2025	Amended following external technical review		
04	05.2025	Document Updated		

Note This is a fictive generic equipment checklist intended for training purposes and therefore may vary from the equipment checklist provided by a company. It is important that a technician always read and fill checklist carefully prior to any task.

Table of Contents

1 Description of module

Teamwork and clear communication are crucial for offshore wind turbine technicians (WTTs) to operate safely and effectively, were the WP 2 final report '***Researching skill and training needs in the offshore renewable energy sector***' highlighted a skills gap in the industry for transferable skills, such as teamwork and communication. Technicians often work in small teams performing complex maintenance and repair tasks at heights on the turbines in challenging offshore conditions. There are several key reasons why teamwork and communication are so important.

First, effective teamwork allows technicians to coordinate their efforts, divide responsibilities, and help each other when needed during difficult procedures. Good communication through radio, hand signals, or voice enables the team to stay synchronized, relay important information, and quickly respond to any issues that arise. Poor teamwork or miscommunication can lead to dangerous situations, mistakes being made, work being delayed or carried out unsafely.

Second, the offshore environment itself - with factors like waves, wind, salt and sea spray, heights, and remote locations - creates additional hazards that require technicians to communicate clearly and work cohesively as a team to mitigate risks. Constant communication about conditions, progress updates, and safety is vital.

Overall, the complexity of the work, harsh environment, and safety risks of offshore wind make it imperative that technicians have excellent teamwork skills and clear communication to get the job done right.

This learning scenario provides participants with realistic training situations that emphasise the importance of effective teamwork and clear communication using verbal, non-verbal and written methods.

1.1 Theory

The module consists of a theoretical part where the participants will learn about the importance of teamwork and communication skills when working as WTT. The theory consists of five lessons, including:

- Foundations of team communication
- Team dynamics and collaboration
- Verbal communication
- Non-verbal communication
- Written communication
- Planning and scheduling maintenance tasks

1.2 Practical

In the practical element, participants will follow the instructor's guidance and documentation for each of the exercises. Participants will be assessed on how they apply the knowledge from the e-learning element of the module during the practical.

Each of the practical exercises will end in a “debrief”, in which the instructor facilitates a conversation allowing the participants to reflect on their performance during the practical. The participants will be given the opportunity to comment on what went well, what did not go well, and where improvements could be made. The debrief will also focus on the participant’s teamwork and communication skills.

1.3 Evaluation

Throughout the module, participants will be evaluated by the instructor through written tests on theoretical knowledge; practical demonstrations of skills through role-play exercises; and assessments which will include verbal, non-verbal and written communication.

2 Instructor pre-qualification

To conduct the learning module (theory and practical training), instructors must meet the minimum requirements below:

Knowledge: specialised education or advanced knowledge in teamwork and communications.

Skills: practical experience with wind turbine maintenance and the importance of teamwork and communication.

Ability: educational skills and ability to conduct classes as an instructor, a reflective approach to teaching, and demonstration of safe work practices.

3 Participant pre-qualification

To conduct the module (theory and practical training), participants must meet the minimum requirements below:

Knowledge: Basic knowledge of wind turbine maintenance procedures and English language.

Skills: Basic computer and IT skills.

Ability: Demonstrate ability to assess and identify workplace hazards, risks, and safety requirements.

4 Overview of theoretical content, scenario documents, training equipment and infrastructure

Name	Quantity	Type	Category	Where to use
PC with projector screen	1	Real-life equipment	Theoretical and practical part equipment	Theoretical and practical part
Teamwork & Communication E-Learning	6	Digital material	Theoretical part material	Theoretical part
Risk assessment template	6	Printed/Digital Document	Theoretical and practical part material	Theoretical and practical part
Equipment checklist	6	Printed/Digital Document	Practical part material	Preparation for practical part
Teamwork & Communication Learning Scenario manual	6	Printed/Digital Document	Practical part material	Practical part
Lego set	3	Real-life equipment	Practical part material	Practical part
Lego Technic Liebherr Crawler Crane	1	Real-life equipment	Practical part material	Practical part
Communication device, e.g. mobile phone, radio	6	Real-life equipment	Practical part material	Practical part
Teamwork & Communication Inspection report (paper or digital)	6	Real-life equipment	Practical part material	Practical part

Table 1 Material and equipment required

Note The list is provided for a group of 6 participants. For smaller or larger groups, the list needs to be adjusted accordingly.

5 Timeframe

Time	Part
2 hours	Theory
6 hours	Practice in classroom

Total: 8 hours	

Table 2 Timeframe of learning module and scenario

Note Timeframe may vary depending on number of participants, level of initial knowledge, skill and ability of participants and need to meet learning objectives.

6 Learning methods

Part	Learning method
Theory part	E-learning modules, classroom lectures, group discussions
Practical part	Practical skills training and role-play exercises in classroom

Table 3 Learning Methods

Note Learning methods depends on accessibility of infrastructure and equipment.

7 Main learning outcomes for the module

By the end of this module, training participants will be able to:

Main learning outcome	Competency	No.
Recognise the importance of and demonstrate proper **teamwork** and **communication**	Teamwork & Communication	5.1 Demonstrate effective communication using verbal skills, industry-specific terminology, and active listening
Interpret, demonstrate and apply industry-standard hand signals for crane operations and equipment movement, understanding their relevance in the industry.	Teamwork & Communication	5.2 Interpret, demonstrate, and apply industry-standard hand signals for crane operations and equipment movement
Demonstrate effective reporting post-task of procedures carried out, both written (on Tablet or computer) and verbal.	Teamwork & Communication	5.3 Report and document technical information accurately, including maintenance records, using written and digital tools
Demonstrate effective communication with team members to collaboratively solve problems and complete tasks.	Teamwork & Communication	5.4 Interpret diverse team inputs and apply effective solutions to demonstrate collaborative problem-solving skills
Demonstrate planning and coordination of maintenance tasks using scheduling principles while working effectively with team members and support staff.	Teamwork & Communication	5.5 Apply maintenance scheduling principles to plan and coordinate maintenance tasks, demonstrating effective collaboration with team members and support staff

8 Theory part

8.1 Learning theory

The part of the training dedicated to theory involves classroom-based teaching of theory or the assessment of knowledge for participants who have completed e-learning before commencing the learning scenario. This can be implemented as a hybrid of both methods.

Note Some modules / practical learning parts may require a back-and-forth between theory and practice.

Instructor must:

- *Present introduction / opening presentation specific for module*
- *Inform about and explain feedback questionnaire.*
- *Present the theory material or verify if participants complete e-learning on their own*
- *Collect feedback after theory introduction.*

Each course participant must:

- Learn theory part by completing e-learning
- Ask questions related to learning materials and module
- Conduct feedback questionnaire

Learning outcomes:

Detailed learning outcome	Module learning outcome
Outline the core principles for effective team communication.	Recognise the importance of and demonstrate proper **teamwork** and **communication.**
Explain the need for non-verbal communication, such as crane hand signalling, when working as a WTT.	Interpret, demonstrate and apply industry-standard hand signals for crane operations and equipment movement, understanding their relevance in the industry.
Summarise the characteristics of effective technical reporting.	Demonstrate effective reporting post-task of procedures carried out, both written (on Tablet or computer) and verbal.
Classify the key elements of clear communication and active listening.	Demonstrate effective communication with team members to collaboratively solve problems and complete tasks.
Explain the importance of and the techniques used in planning and scheduling maintenance tasks.	Demonstrate planning and coordination of maintenance tasks using scheduling principles while working effectively with team members and support staff.

9 Risk Assessment

Risk assessment training and its planning involves the instructor guiding training participants through an exercise. Planning a risk assessment for a routine maintenance inspection, can be used as an example learning scenario.

Instructor must:

- Explain what risk assessment is and how it is being created
- Show the risk assessment template for the training participant and filled example for instructor
- Conduct risk assessment exercise with training participants
- Answer questions and give feedback

Each course participant must:

- Ask questions related to learning materials
- Conduct risk assessment exercise

Learning outcomes:

Detailed learning outcome	Module learning outcome
Participant can identify and list specific hazards associated with executing a routine maintenance inspection as part of the Teamwork and Communication learning scenario.	Knowledge relating to hazardous environment, can plan risk assessment and execute work in accordance with risk assessment.
Participant can create a corresponding risk assessment addressing the hazards identified in a routine maintenance inspection as part of the Teamwork and Communication learning scenario.	Knowledge relating to hazardous environment, can plan risk assessment and execute work in accordance with risk assessment.

10 Practical part – introduction

10.1 General introduction

This part of the document describes how the practical part of the module should be organised. This is a guideline which may need local adaptation. Following completion of the e-Learning, the training participants will test their skills and knowledge in practical learning scenarios for teamwork and communication. The learning scenarios can be adapted to be a practical examination.

The instructor must provide constructive feedback to participants on relevant practice activities, including feedback on the accuracy of the exercise performed by the training participant, suggestions

for improving the execution of the exercise by the training participant, and general remarks about participant safety at a given moment during the exercises.

At all times during training, participants can ask questions and expect feedback from the instructor.

10.2 Practical training introduction

Before start of practical exercises:

Participants should be divided into teams of two. Maximum ratio is 6 participants per instructor for practical session.

The exercises for the teamwork and communication module should not require PPE.

The participants must be instructed about the following:

- All the equipment to be used and how to use it correctly.
- The instructor must be informed immediately if anyone feels ill, in pain, or tired, or about any condition that may affect health and safety.
- If anybody feels uncomfortable during the exercises, e.g. uncomfortable working position, dizziness, etc., the instructor must be notified immediately.
- If anyone gets injured or causes harm to others, the instructor must be notified immediately.

11 Preparation for practical exercises

11.1 Manual handling

Manual handling is a part of the training dedicated to preparing participants for physical tasks such as lifting heavy objects, bending, or assuming unnatural positions during exercises.

Instructor must:

- Facilitate warming up exercise, and manual handling exercises with group and discussions on how to handle equipment manually according to the equipment characteristics and potential hazards and risks.
- Correct positioning under manual tasks

Each course participant must:

- Warm up, and practice correct manual lifting techniques. Focus on correct work positioning.

Learning outcomes:

Detailed learning outcome	Main learning outcome
Participants understand the rules for proper manual handling techniques.	Can plan and conduct safe work in accordance with general HSE requirements
Participants can perform practical tasks in compliance with manual handling requirements.	Can plan and conduct safe work in accordance with general HSE requirements

11.2 Equipment checks

This part of the training focuses on presenting the verification and inspection process for equipment needed during the practical part. It also emphasises proper storage conditions and procedures.

Instructor must:

- Show participants where the accessories, and equipment are stored. Explain how to store them correctly and describe potential consequences of failing to do so.
- Explain the different indicators that must be checked during pre-use and post-use checks.
- Explain how to fill **the equipment checklist**

Each course participant must:

- Practice the ability to correctly store accessories and equipment – executing also during later practical exercises.
- Practice how to conduct pre-use and post-use equipment and accessories checks.
- Practice the completion of equipment checklist.

Learning outcomes:

Detailed learning outcome	Module learning outcome
Participants understand the importance of correct equipment storage	Can plan and conduct safe work in accordance with general HSE requirements
Participants can perform equipment inspection	Can plan and conduct safe work in accordance with general HSE requirements
Participants can correctly fill out equipment checklist	Can supply written and verbal report

12 Practical skill training

Practical skill training is dependent on participants' pre-qualifications. Based on participants' completion of the e-Learning, the instructor should proceed with the exercises in the learning scenario.

Skill training exercises related to the teamwork and communication learning scenario:

- Lego building challenge
- Verbal communication
- Non-verbal communication
- Written communication

13 Learning scenario

13.1 Scenario introduction

Effective teamwork and communication are at the heart of a WTTs role, where safety, precision, and collaboration are critical. The exercises in the learning scenario are designed to emphasise the importance of teamwork and communication. Through these exercises, participants will develop a deeper understanding of how different forms of communication contribute to successful teamwork.

13.2 Exercise 1 – Lego building challenge

Exercise description

This exercise is designed to highlight the critical role that teamwork and communication play in achieving shared goals. Just like in real-life situations, success in this exercise depends on how well participants collaborate, listen, and convey information. By working together – one person as the **instructor** and the other as the **builder** – participants will experience firsthand how clear communication and trust are essential for overcoming challenges. Through this fun and engaging activity, participants not only build a Lego structure but also strengthen skills that are vital for effective teamwork. Participants must accurately record the various steps throughout the exercise in the inspection report to develop their written communication skills and perform an objective assessment.

Instructor must:

- Explain and discuss the steps involved in Exercise 1 from the **learning scenario manual**.
- Divide the participants into teams of two, with one person assigned as the **instructor** and the other as the **builder.**
- Separate the team members into different rooms to allow communication only through radio.

- During the exercise, observe communication flow between team members to provide feedback and reflections to the participants after the exercise, engaging them in discussions.
- Explain and demonstrate how participants should complete the **teamwork and communication inspection report**.
- Review and discuss the results of the participants reports with them.

Each course participant must:

- Familiarise yourself thoroughly with the exercise manual and clarify any unclear points.
- Perform each step from the manual.
- Reflect on the process, discuss their experience, highlighting successes, challenges and areas for improvement.
- Complete the Teamwork and Communication inspection report for the exercise.

Learning outcomes:

Detailed learning outcome	Main learning outcome
Participants demonstrate the ability to communicate clearly, actively listen, and address uncertainties effectively, while maintaining composure in challenging situations.	Demonstrate effective communication using verbal skills, industry-specific terminology, and active listening.
Participants can critically reflect on, objectively evaluate, and accurately document processes using both written and digital communication skills.	Report and document technical information accurately, including maintenance records, using written and digital tools.
Participants demonstrate the ability to collaborate efficiently, leveraging teamwork to achieve shared goals successfully.	Interpret diverse team inputs and apply effective solutions to demonstrate collaborative problem-solving skills.

13.3 Exercise 2 – Verbal Communication

Exercise description

The objective of this exercise is to simulate real-world crane operations by using a mechanical Lego crane (Lego Technic Liebherr Crawler crane or similar) to mimic the roles of a crane operator and a banksman/slinger signaller. The objective is to develop and reinforce verbal communication skills critical for ensuring safety, precision, and efficiency in crane operations.

Instructor must:

- Ensure the exercise runs smoothly by providing clear instructions of the steps outlined in the **learning scenario manual** and maintaining a structured environment.

- Monitor and observe participants' communication, teamwork, and adherence to the exercise's objectives.
- Offer guidance, when necessary, by coaching without directly intervening in the task.
- Assess participants' performance and provide constructive feedback during the debriefing discussions.

Each course participant must:

- Practice the ability to deliver clear, concise, and accurate verbal instructions to coordinate movements between the crane operator and the banksman/slinger signaller.
- Practice their active listening skills to ensure instructions are understood and executed correctly.
- Learn to use standardised terminology and protocols, like those used in real crane operations, to minimise errors and misunderstandings.
- Foster teamwork by emphasising trust and mutual understanding between the operator and banksman/slinger signaller.
- Complete the Teamwork and Communication inspection report for the exercise.

Learning outcomes:

Detailed learning outcome	Module learning outcome
Participants demonstrate the ability to communicate clearly, actively listen, and address uncertainties effectively, while maintaining composure in challenging situations.	Demonstrate effective communication using verbal skills, industry-specific terminology, and active listening.
Participants can critically reflect on, objectively evaluate, and accurately document processes using both written and digital communication skills.	Report and document technical information accurately, including maintenance records, using written and digital tools.
Participants demonstrate the ability to collaborate efficiently, leveraging teamwork to achieve shared goals successfully.	Interpret diverse team inputs and apply effective solutions to demonstrate collaborative problem-solving skills.

13.4 Exercise 3 – Non-Verbal Communication

Exercise description

The objective of this exercise is to develop participants' non-verbal communication skills by simulating real-world crane operations using a Lego Technic crane. Participants will learn and apply standardised

hand signals to effectively coordinate tasks between a crane operator and a banksman/slinger signaller. This exercise is not necessarily to test hand signal knowledge, but rather to emphasise the importance of clarity, precision, and teamwork in high-risk environments.

Instructor must:

- Ensure the exercise runs smoothly by providing clear instructions of the steps outlined in the **learning scenario manual** and maintaining a structured environment.
- Monitor and observe participants' non-verbal communication, teamwork, and adherence to the exercise's objectives.
- Offer guidance, when necessary, by coaching without directly intervening in the task.
- Assess participants performance and provide constructive feedback during the debriefing discussions.

Each course participant must:

- Practice the ability to deliver clear, concise, and accurate non-verbal instructions to coordinate movements between the crane operator and the banksman/slinger signaller.
- Practice their non-verbal communication skills, i.e., hand signals, to ensure instructions are understood and executed correctly.
- Learn to use standardised hand signals and protocols, like those used in real crane operations, to minimise errors and misunderstandings.
- Foster teamwork by emphasising trust and mutual understanding between the operator and banksman/slinger signaller.
- Complete the Teamwork and Communication inspection report for the exercise.

Learning outcomes:

Detailed learning outcome	Main learning outcome
Participants demonstrate the ability to communicate clearly using non-verbal communication techniques, such as hand signals, addressing uncertainties effectively, while maintaining composure in challenging situations.	Interpret, demonstrate and apply industry-standard hand signals for crane operations and equipment movement, understanding their relevance in the industry.
Participants can critically reflect on, objectively evaluate, and accurately document processes using both written and digital communication skills.	Report and document technical information accurately, including maintenance records, using written and digital tools.

Participants demonstrate the ability to collaborate efficiently, leveraging teamwork to achieve shared goals successfully.	Interpret diverse team inputs and apply effective solutions to demonstrate collaborative problem-solving skills.

14 Completion of training practical part

14.1 Work zones clean up and equipment storage

This exercise involves cleaning up the work zone after completing the practical sessions. It aims to instill the etiquette of safely dismantling equipment, returning it to the storage space, and preparing it for future use.

Instructor must:

- Inform participants how to safely dismantle the equipment and in what order to return the equipment to storage.

Each course participant must:

- Safely dismantle the equipment.
- Correctly return the equipment to storage.

Learning outcomes:

Detailed learning outcome	Main learning outcome
Participants understand the importance of correct equipment storage	Can plan and conduct safe work in accordance with general HSE requirements
Participants can perform equipment inspection	Can plan and conduct safe work in accordance with general HSE requirements

15 Learning module & scenario evaluation

Module part	Exercise name	Evaluation method
Theory - E-Learning	Foundations of team communication	Automated quiz
Theory - E-Learning	Team dynamics and collaboration	Automated quiz
Theory - E-Learning	Verbal communication	Automated quiz
Theory - E-Learning	Non-verbal communication	Automated quiz
Theory - E-Learning	Written communication	Digital written assessment
Theory - E-Learning	Planning and scheduling of maintenance tasks	Automated quiz
Theory - E-Learning	Risk assessment	Instructor evaluation based on the **risk assessment** document created by the participant.
Preparation for practical exercises	Equipment check	Instructor evaluation based on the **equipment check** report completed by the participant.
Learning scenario	Lego building challenge	Instructor evaluation based on the teamwork and communication skills demonstrated and the completed section of the **inspection report**.
Learning scenario	Verbal communication	Instructor evaluation based on the teamwork and verbal communication skills demonstrated and the completed section of the **inspection report**.
Learning scenario	Non-verbal communication	Instructor evaluation based on the teamwork and non-verbal communication skills demonstrated and the completed section of the **inspection report**.
Learning scenario	Written communication	Instructor evaluation based on the completed sections of the **inspection report.**

Co-funded by the European Union

The T-shore project is funded through the the Erasmus+ Centres of Vocational Excellence (CoVEs) call 2021

Acknowledgements

We would like to extend our sincere thanks to all the project partners for their invaluable contributions to this report and their dedicated work on the T-shore project.
Our deepest appreciation also goes to all T-shore stakeholders, particularly the members of the regional Centres of Vocational Excellence (CoVEs), whose ongoing efforts are instrumental in driving the success of this initiative.

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