FLORES

Offshore Renewable Energies
partnership in the Pact for Skills

Task 3.2

Report on Repository of Training Materials in ORE

January 2025

About this Report

Forward Looking at the Offshore Renewables is promoting the core activity of the Large-scale partnership launching the Pact for Skills in the Offshore Renewable Energies (ORE) sector. FLORES support the most committed stakeholders in the ORE, underpinning the success of the offshore renewable energy strategy with the stimulation of dedicated training offers. The partnership promotes the skilling process for the new jobs expected in the sector, estimated to account for 124.000 new workers in the EU by 2030 and contribute to improve upskilling opportunities in the field of the actual ORE workforce.

Project duration: January 2023 – March 2025 (27 months)
www.oreskills.eu

Document information	
Short description	Report providing an overview and basic descriptive statistics of the training materials collected in the Marine Training learning resources e-repository in the framework of the FLORES Project.
Next steps	This information is considered for the pilot actions T5.1. the report is shared with the FLORES community.
Work Package	WP3. Promoting Lifelong Learning in ORE
Task	Task 3.2. Repository of Training Materials in ORE
Deliverable	D3.2 Report on Repository of Training Materials in ORE
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Lead authors	Delgado, C. (UGent), Gaitan, M. (UGent)
Contributors	Tkint, Tim (UGent)
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Contents

Repository of Training Materials in ORE

Introduction

The aim of "WP3 Promoting Lifelong Learning in ORE of the FLORES Project, Task 3.2. Repository of Training Materials in ORE" was to gather and store in a standardized way existing training resources that can be (re)used in the ORE sectors, including (but not exclusively) in a) Offshore wind energy and b) Ocean energy: tidal, wave and thermal energy (training and awareness) contexts.

To this end, UGent developed a standardized e-repository for learning objects, available through www.marinetraining.eu. This e-repository constitutes a community-driven catalogue of best practices, training and supporting materials, facilitating access to the educators' and trainers' community addressing the ORE. The learning resources include a wide variety of topics and formats, as well as different audiences and EQF levels.

Objective

Develop a catalogue of best practices, training materials and supporting materials and insert them in the www.marinetraining.eu catalogue, to facilitate its access to the educator's and trainer's community addressing the ORE

Methodology

The document "Guidelines on how to upload ORE skills training resources onto the Marine Training learning resources e-repository" (Delgado and Tkint, 2024) was produced for FLORES partners to upload (Meta) data on training resources available across several EU countries relevant to the ORE sector. FLORES partners uploaded any relevant materials during the months of May and June 2024 (M17-18 of the project). The following (Meta) data fields were used to classify the Learning resources:

- Learning resource type
- Format
- ISCED Category
- Language of instruction
- Copyright License
- Intended User role
- Interactivity level
- Interactivity type
- Typical age range

Definition of a Learning Resource

For the purpose of this task, the term "Learning Resource"[1] refers to any material (whether acquired or locally produced) with instructional content or function that is used for formal or informal teaching/learning purposes. Learning resources may include, but are not limited to, print and non-print materials, audio, visual, electronic, and digital hardware/software resources.

Analysis of Learning Resources

During the designated period (September 2023 – June 2024), 43 learning resources were uploaded and tagged as FLORES related. The resources went through a revision process, with the purpose of performing a quality check and preparing and organizing the data for reporting purposes. In several cases, important (Meta) data about the learning resources was not provided. Where possible, we

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[1] Evaluation and Selection of Learning Resources: A Guide (2008). Prince Edward Island Department of Education PO Box 2000 Charlottetown, Prince Edward Island. Canada, C1A 7N8. http://www.gov.pe.ca/educ

added the missing data (i.e., copyright license, intended user role and ISCED categories) for completeness. This missing metadata was extrapolated from the existing information, to the best of our abilities.

In this section, we provide a summary of the collected data across the main (Meta) data fields. These represent the main analysis dimensions, as they allow to categorize the data along well-defined criteria. We focused on aspects such as the language of the learning resource, intended user role, learning resource type, learning resource format, copyright license, ISCED course level (audience), and ISCED categories.

The images below illustrate the Learning Resources Database, which can be accessed on http://marinetraining.eu/resource-search.

HOW IT WORKS: WAVE ENERGY

- narrative text
- Video
- English

TIDAL POWER 101

- narrative text
- Video
- English

THE OFFSHORE WIND PODCAST

- lecture
- Audio
- English

AGE OF RENEWABLES

- game
- Text document Image
- English

BEYOND OFFSHORE WIND: OCEAN MULTI-USE COURSE

🖳 exercise questionnaire slide table narrative text experiment problem statement self assessment lecture

🖼 Video Course archive

🌐 English

RENEWABLE ENERGIES CRASH COURSE

🖳 slide narrative text

🖼 Text document

🌐 English

THE GAME OF THE SEA: CARD GAMES

🖳 game

🖼 Text document

🌐 English

Overview of the Learning Resources

Language(s) of Training Resources

This field/criteria refers to the language of the content of the material. Almost 70% of the learning resources are available in English, only a minority being available in the other languages found (in order of appearance: Italian, Spanish, Portuguese and German).
This likely reflects the dominance of the English language in the technological fields as the main communication language.

Language of the learning resoure

■ English ■ German ■ Italian ■ Portuguese ■ Spanish
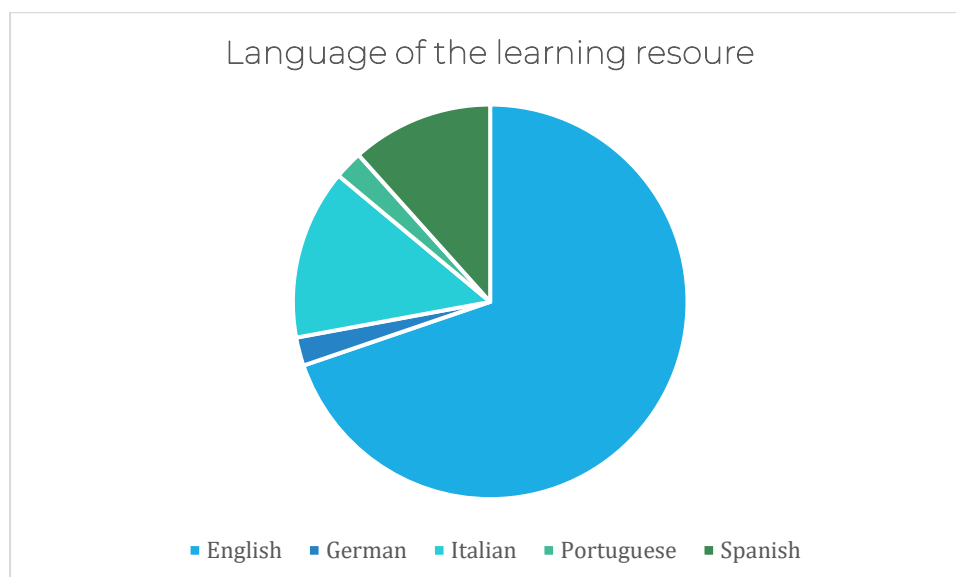
Learning Resource Type

The learning resource type describes the type of element(s) or object(s) contained in a learning resource, such as an exercise, questionnaire, and/or narrative text, etc. Important to note here is that some learning resources fit into multiple categories and were 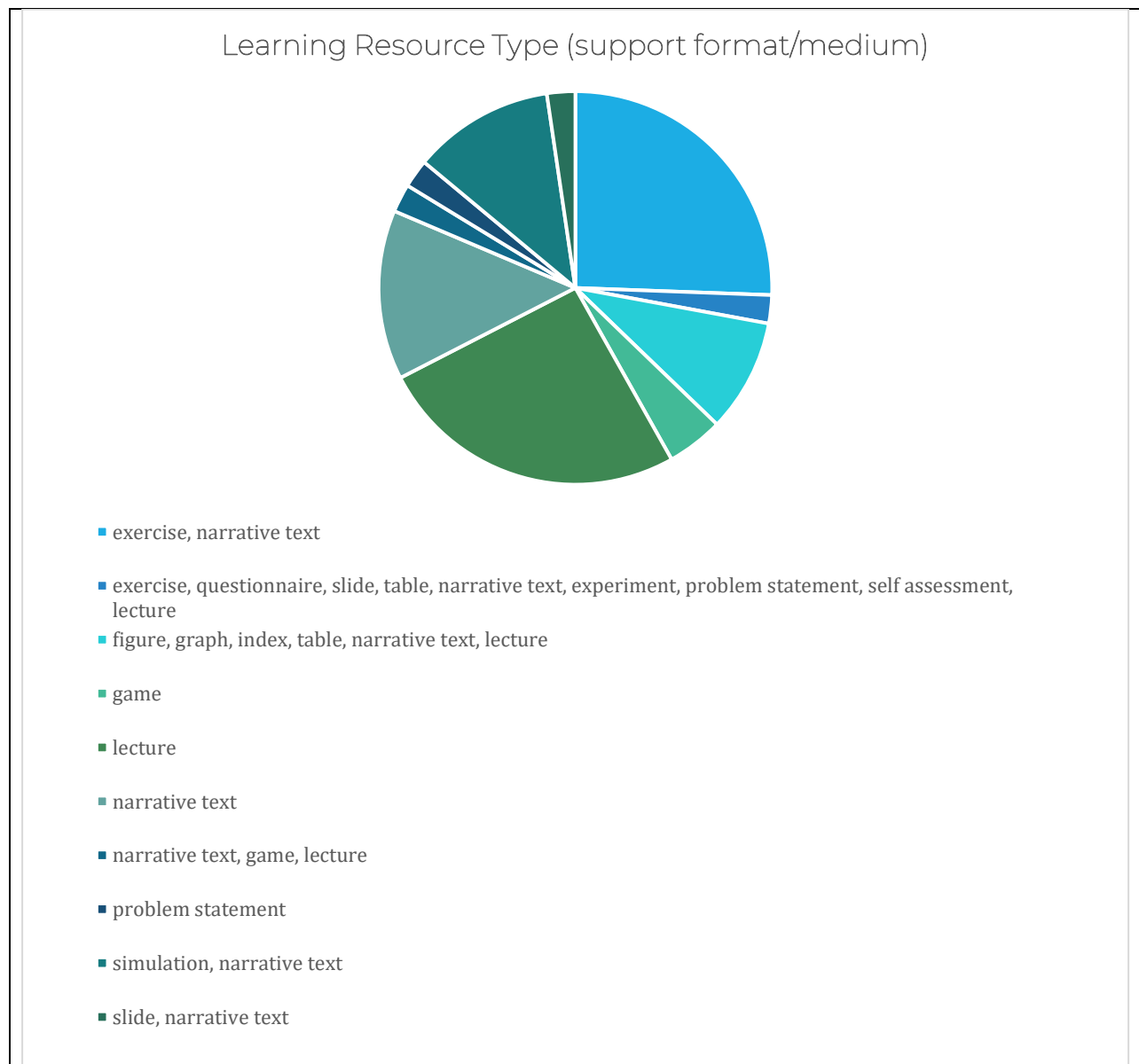uploaded in 'bundle', since the content provider could indicate one or more types of resources. In the case of more than one, these appear as a cluster of all the learning types in one single item.
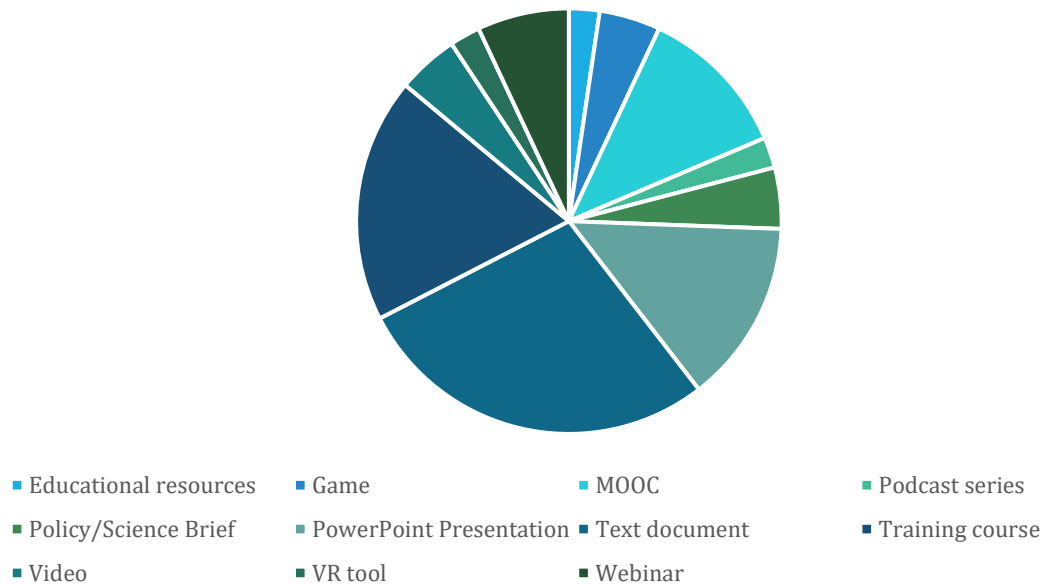
Fifty percent of the resources are either 'lectures' (25%) or exercise/narrative text (25%), with the remainder s of the resources including simulations, narrative text, etc. Notably 2 resources fell under the type game. The fact that the majority of the resources fall under lectures and narrative text underlines the still rather traditional way providing training in this field.

Learning Resource Type (support format/medium)

- exercise, narrative text
- exercise, questionnaire, slide, table, narrative text, experiment, problem statement, self assessment, lecture
- figure, graph, index, table, narrative text, lecture
- game
- lecture
- narrative text
- narrative text, game, lecture
- problem statement
- simulation, narrative text
- slide, narrative text

Learning Resource Format

The learning resource format defines the delivery format, and as such whether the learning resource can be made available to wider audiences e.g., via online platforms (e.g., webinars, podcasts, MOOCs, etc.). The Learning resources compiled comprise a wide variety of formats in use. The majority is represented by text documents, some of them in combination with PowerPoint presentations, confirming the rather traditional use of resources, suitable mainly for face to face training delivery contexts.

Learning Resource type: delivery mode

- Educational resources
- Game
- MOOC
- Podcast series
- Policy/Science Brief
- PowerPoint Presentation
- Text document
- Training course
- Video
- VR tool
- Webinar

(Intended) User Role

Another aspect considered was the intended user role (in other words, the kind of user the material is intended for), especially aiming to distinguish between resources that can be used independently by learners, as opposed to learning materials meant to be (re-)used by teachers and other trainers in their training environments.

The graph below shows that most of the training materials are intended for learners (55%). A few materials are intended for 'managers', these kind of resources in our data refer to policy and science briefs, and reports.

Intended User role

- Learner
- Teacher
- Manager
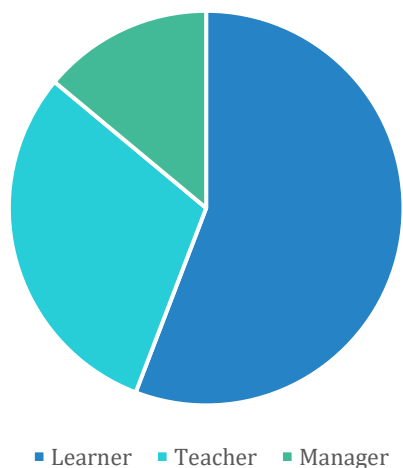
Copyright License

The indicated Copyright license for each learning resource refers to the legal rights of the author of the learning resource(s), and under which conditions the author enables the (re)use of the learning resource(s) by others.

The two Creative Commons licenses used in this report can be described in more detail as follows:

Creative Commons Attribution 4.0 International
This license requires that reusers give credit to the creator. It allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, even for commercial purposes.

Creative Commons Attribution-NonCommercial 4.0 International
This license requires that reusers give credit to the creator. It allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, for noncommercial purposes only.

All the resources were assigned the 'broader' CC license (4.0 International), however the vast majority indicates no commercial use allowed. This means that anyone reusing the learning resources are required to give credit to the creator. Furthermore, the majority of resources (29) allow others to reuse the original work only for non-commercial purposes. Only 6 resources can be reused for commercial purposes.

Learning Resources distribution vs CC assigned

- ■ CC Attribution-NonCommercial 4.0 International
- ■ CC Attribution 4.0 International
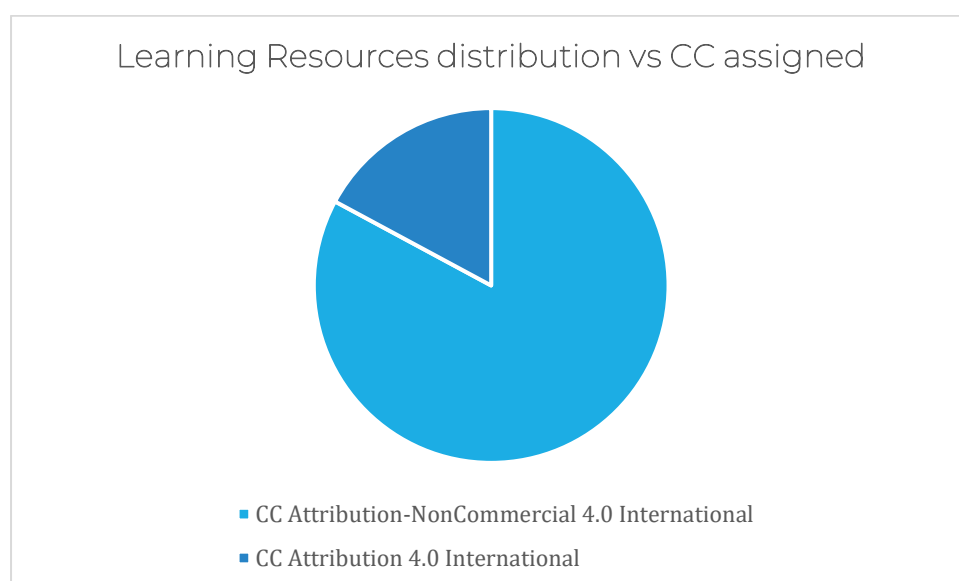
ISCED Level

ISCED is the reference classification for organizing education programs and related qualifications by education levels and fields. The description of the ISCED levels (considered equivalent to the EQF levels in this context) can be found on "Guidelines on how to upload ORE skills training resources onto the Marine Training learning resources e-repository" (Delgado and Tkint, 2024).
The top audiences for the learning resources include:
- Primary education (ISCED 2011 level 1) 27%
- Upper secondary education (ISCED 2011 level 3) 21%
- Short-cycle tertiary education (ISCED 2011 level 5) 21%

Notably, no resources were uploaded targeting Doctoral (PhD) (ISCED 2011 level 8)

Learning resources distribution across ISCED levels
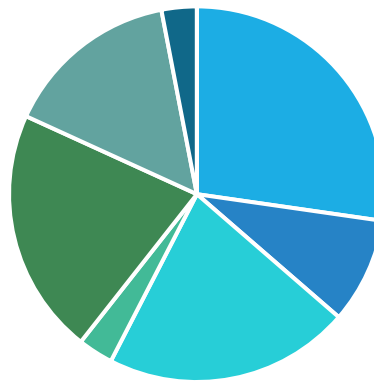
- Primary education (ISCED 2011 level 1)
- Lower secondary education (ISCED 2011 level 2)
- Upper secondary education (ISCED 2011 level 3)
- Post-secondary non-tertiary education (ISCED 2011 level 4)
- Short-cycle tertiary education (ISCED 2011 level 5)
- Bachelor (ISCED 2011 level 6)
- Master (ISCED 2011 level 7)
- Doctoral (PhD) (ISCED 2011 level 8)

ISCED Categories (Topics)

The ISCED categories (topics) refer to the fields of education, and are subject specific.

The top 4 topics were:
  0713 - Offshore and Renewable Energy (37 resources)
  0188 - Ocean Literacy (8 resources)
  0715 - Machinery and Operators (6 resources)
  0311 – Maritime Economy

The fact that the topics are dominated by '0713- Offshore and renewable energy', which may not come as a surprise since it reflects the natural bias give the focus of the FLORES project. Nevertheless, it shows that this field is already being rather well covered, whilst others may need some further attention.
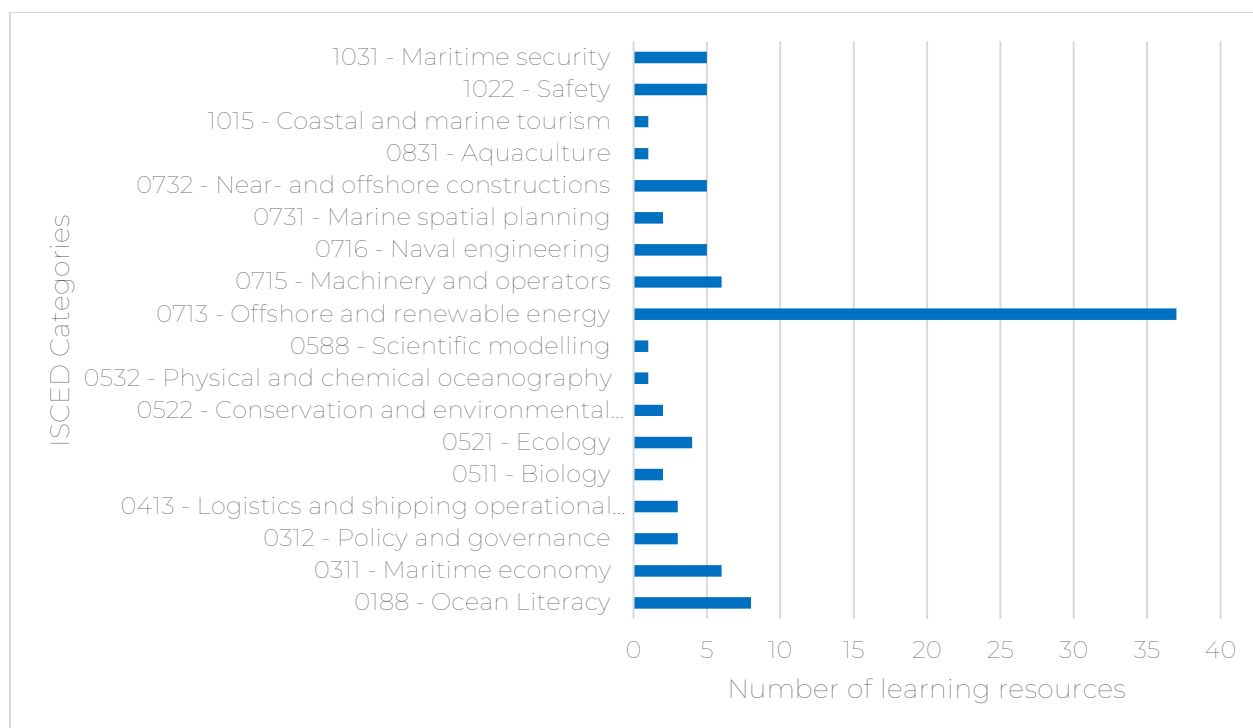
ISCED categories of learning resources

Conclusions and final considerations

This task (T3.2) aimed at creating a Repository of training materials for the ORE to facilitate its access to the educator's and trainer's community addressing the ORE. The structure of the database was outlined in detail in the document "Guidelines on how to upload ORE skills training resources onto the Marine Training learning resources e-repository" (Delgado and tkint, 2024). The catalogue is available on http://marinetraining.eu/resource-search, and will be kept live and accessible for users beyond the end of the project. Uploading new learning resources will also be possible beyond the project lifetime. During the data harvesting process the partners uploaded circa 40 resources.

Most of the resources target Primary education (ISCED 2011 level 1), Upper secondary education (ISCED 2011 level 3) and Short-cycle tertiary education (ISCED 2011 level 5) audiences. This probably reflects the investment (also through the FLORES project) on outreach to young audiences that may be part of the future ORE-related workforce.

The fact that the majority of the resources are available as narrative text and PPT formats probably denotes the relatively low investment on alternative teaching methods and the low uptake of digital and online learning approaches. However, a few good examples already exist.

Considering language of the training resources, the majority is available in English. This likely reflects on one hand the international character of the Flores project but also and likely more importantly the fact that Englis is commonly used in technical fields. However, and given the need to attract future workforce for the ORE sector, alternatives in other languages targeting the audiences up to 18 year olds, should be provided, so that language of training does not become a barrier. Well designed learning resources should foresee this, enabling easy translation into various languages, including (free) online translating tools.

The fact that all training resources uploaded were assigned a CC International 4.0 license is seen as very positive, but this should be interpreted cautiously, since very likely resources with more restrictive CCs may have simply not been uploaded by the partners.

This task is a first contribution mapping available ORE related training resources as well as to the 2019 UNESCO Recommendation on Open Educational Resources, namely in the field of vocational education and training in the ORE sector.

In order to improve the number of available resources for this sector, we recommend outreach campaigns that could improve the access to more and better resources, as well as the level of access and openness to be reused. Additionally, we recommend the use of e-learning management platforms that can also contribute increasing access to learning resources.