

MATES project' Final Conference

Overall impact of setting up a Maritime Technologies Skills Strategy: MATES project' main achievements and Sustainability plan

29 March 2022



About this Report

This document was developed within the framework of the **MATES project, Maritime Alliance for Fostering the European Blue Economy through a Marine Technology Skilling Strategy**. The objective of the project is to develop a skills strategy that addresses the main drivers of change to the maritime industry, in particular shipbuilding and offshore renewable energy. Both sectors are strongly linked and require new capacities to succeed in an increasingly digital, green and knowledge-driven economy.

Project duration: 2018 - 2022

www.projectmates.eu

Document information	
Short description	This document describes the outcomes of the MATES Final Conference, in which a general overview of the MATES project impact was provided by invited stakeholders. At this meeting also the Sustainability and Long-term strategy was presented.
Work Package	WP5. Long-term action plan and sustainability, WP6. Legacy brochure. WP7. Project coordination
Task	T5.2. Sustainability roadmap and long term action plan
Dissemination level	Restricted/ WS participants, the partnership and EACEA/DGMARE/EC
MATES website link	www.projectmates.eu
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Photo credits	15/09/2021
Submission date	6/4/2022

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EXECUTIVE SUMMARY

A hybrid Final Conference was held to provide a general overview of the **MATES** project's impact, its sustainability and long-term action plan. 111 attendees from 17 countries participated, representing a balanced group of different types of organisations from the industry, academia and public administrations. An evaluation questionnaire was distributed after the event. The overall rating of the workshop from 26 responses was 4.65/5.

In the first instance, the EU Policies which both frame and support the development of the MATES Blueprint Project were addressed: the skills challenges for a sustainable blue economy were presented by **Ms. Andreea Strachinescu**, who highlighted the **DG MARE** expectations on blue skills contribution to the *Green Deal*: **increasing the capacities in the offshore renewable energy; greening maritime transport and ports; and alleviating pressures on land for food production and protein sourcing**. The next speaker, **Ms. Julie Fionda**, presented some of the initiatives developed by the **DG EMPL** to support the Just Transition to new jobs in promising sectors, such as **Individual Learning Accounts and Micro-credentials**, which will facilitate the uptake of the new skills that will be required. She highlighted some of the most relevant outcomes of the MATES project for the skills agenda development, **stating that the MATES collaborative approach to develop a skills strategy has inspired the Pact for Skills, one of the flagships of the EU skills agenda**.

Following this introductory session, **Ms. Lucía Fraga (CETMAR)** presented, on behalf of the project partnership, an overview of the MATES [Maritime Technologies Skills Strategy](#) and the [MATES Legacy brochure](#), an executive document synthesising the main impacts made by the MATES project. **Mr. Renato Pires, (FRCT-Azores)**, showed how the MATES project had designed its [Sustainability and long-term Action Plan](#) and **Mr. Miguel Marques, (Skipper and Wool)**, outlined the structure of the report, which contains an inventory of the project results and knowledge outputs, a blueprint of actionable steps for practical application of the Skills Strategy, and also an analysis of available funding opportunities for re-skilling and up-skilling.

Two panels composed of end users of the project outputs were invited to share their views of the impacts achieved over the four years of intensive work since the launching of the project in January 2018.

Panel 1, moderated by **Ms. Evelyn Paredes (University of Gent)**, was devoted to showcasing some success stories concerning the sustainability of the project outputs, from a selected group of panellists who presented the views and interests from companies and VET centres:

- **Ms. Virginia Álvarez-Acevedo, NAVANTIA**, described how the Pilot Experiences simulating industrial spaces at the VET Centre are triggering DUAL programmes as well as more applied training.
- **Ms. Laura Alonso, CT Engineering Group**, focused on how the MOOCs developed by MATES are being used to prepare new workers in the enterprise.
- **Mr. Tom Hill, Marine Energy Wales**, commented as to how a strategic approach can support innovative training programmes, such as the Offshore Renewable Energy Courses Skills for a greener shipbuilding industry.
- **Mr. Andrés Rodríguez, Marine Instruments Ltd** showed how the blended learning approach is being used to attract new talent with the theme of Ocean Literacy, applying the results of the MOL2 Pilot Experience.

Panel 2, with three speakers, was moderated by **Mr. Frederico Ferreira (Forum Oceano)** who demonstrated how the core of the MATES Skills Strategy is being transferred for its roll out at

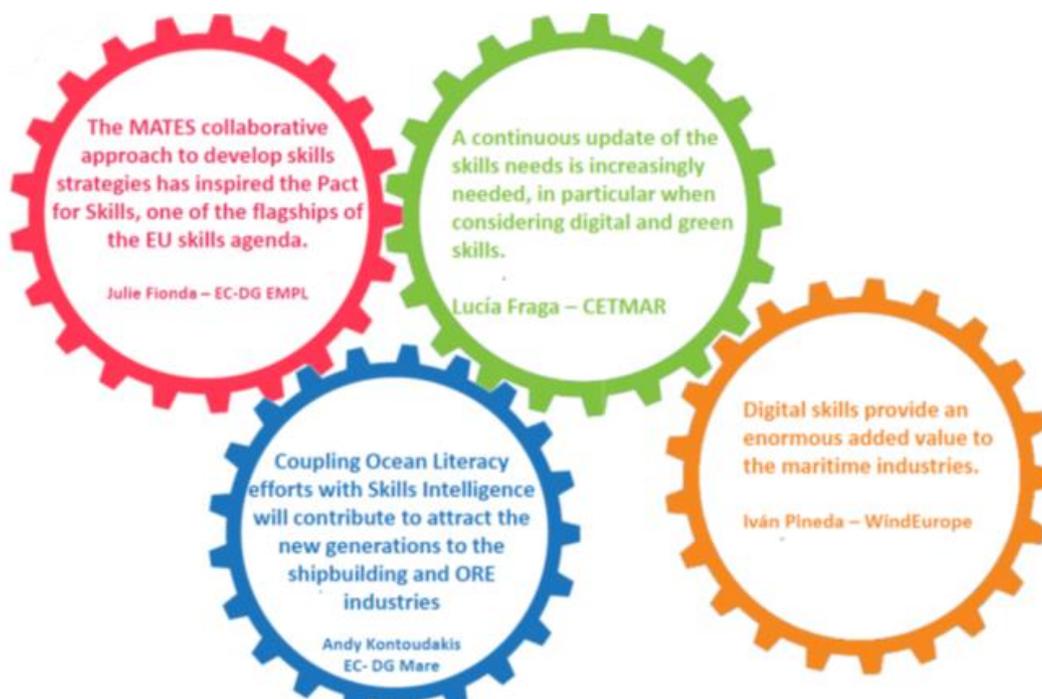
different levels. The panel speakers approached the discussion and made contributions both from the European and the regional level.

- **Ms. Chiara Stramaccioni, ESCO Secretariat**, addressed the use of skills intelligence outputs to update the occupational profiles.
- **Mr. Iván Pineda, WindEurope** focused on the contributions of sectoral clusters to the skills assessment and the Pact for Skills.
- **Ms. Zeltia Lado Lago & Ms. Antía Guillén, Directorate General of Training of the Galicia Regional Ministry of Employment and Equality**, showed how the Galician regional Administration is tackling the skills intelligence processes.

In conclusion, several messages were highlighted during the event:

- **There is a need for hands-on experience, combining academic progress or VET with hands-on apprenticeships**, so that the theory can be applied in everyday practice. Traditional approaches and innovative instruments such as dual trainings may be combined with work-based learning at the Training Centre.
- **Digital applications can complement and enrich curriculum development so that both transversal and hard skills can be acquired**. Blended approaches should guarantee a good balance between the digital and hands-on learning.
- **Ocean Literacy has been highlighted as providing an opportunity to attract new talent to the maritime sectors**.
- There is agreement as to the **need for a collaborative approach between the industry, and all relevant stakeholders** at the EU, national and regional levels to better identify the skills needs and develop strategies to overcome the barriers impeding the emergence of a better qualified workforce.
- The need to **update skills identification and assessment of future needs is continuous** and seems to be increasingly demanding, in particular in relation to digital and green skills.

The MATES partners expect the current project to be a starting point for these processes which will continue within the framework of the Pact for Skills, and eventually the new instruments issued under the Skills Agenda.



AGENDA

10:00 **Welcome Words**

Lucía Fraga. Head of the Training Department, CETMAR (Technology Centre of the Sea - CETMAR Foundation)

Opening Address

Skill challenges for a sustainable blue economy.

Andreea Strachinescu. Head of Unit 'Maritime innovation, marine knowledge and investments'. DG MARE - European Commission -

Introductory session

The Skills Agenda for Europe and the joint work of the EU Commission to match the skills gaps.

Julie Fionda. Deputy Head of Unit "Skills Agenda". DG EMPL. European Commission

10:30 **MATES Strategy overview. A review of main project outcomes and Sustainability Plan**

Lucía Fraga Lago. Head of the Training Department, CETMAR; Renato Pires, FRCT- Azores (The Azores Regional Fund for Science and Technology) and Miguel Marques, Skipper & Wool.

Debate with the audience

11:00 **Panel 1: Success stories in the sustainability of the project outputs**

Moderator: Evelyn Paredes, University of Gent

- Simulation of industrial spaces at the VET Centre: a trigger for DUAL programmes and more applied training. **Virginia Álvarez-Acevedo, NAVANTIA.**
- Online Training: the use of MOOCS to prepare new workers in the enterprise. **Laura Alonso, CT-Ingenieros.**
- Innovative training programmes: Offshore Renewable Energy Courses Skills for a greener shipbuilding industry. **Tom Hill, Marine Energy Wales.**
- Attracting talent with Ocean Literacy in blended learning. **Andrés Rodríguez, Marine Instruments Ltd.**

12:00 **Panel 2: Transferring the core of the MATES strategy**

Moderator: Frederico Ferreira, Forum Oceano

- Skills intelligence outcomes to update the occupational profiles. **Chiara Stramaccioni, ESCO Secretariat.**
- Transferring results to feed the Pact for Skills. **Iván Pineda, WindEurope.**
- Feeding the skills agendas. **Zeltia Lado Lago & Antía Guillén, Directorate General of Training, Galicia Regional Ministry of Employment and Equality.**

12:50 **Closing remarks.** Lucía Fraga. Head of the Training Department, CETMAR

MAIN CONTENTS

Conference executive summary is available [here](#)

Presentations are available [here](#)

Sustainability and long-term Action Plan document is available [here](#)

Legacy brochure and Strategic Plan is available [here](#)

Video of the Final Conference: <https://www.youtube.com/watch?v=I91a5tI8TXw>

For more information about the MATES Project, visit <https://www.projectmates.eu/>

ATTENDEES

113 people registered and 111 attended the event, 37 in person and 74 online. Of these 61 were women and 50 men.

Attendees represented Industry both as individual companies (25%) or Clusters (6%) and industrial associations (5%), Academia (19%), Public Administration (31%), Research Centres (9%), Trade Unions (2%) and NGO (3%).

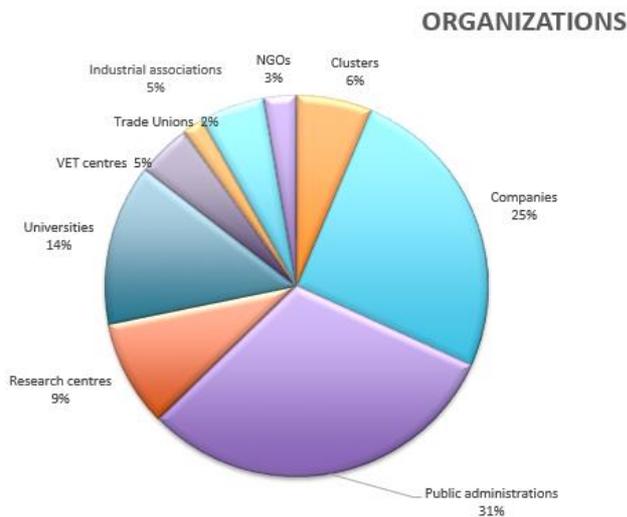


Figure 1: Distribution of attendees by type of organization

Attendees came from 17 different countries covering all European Sea basins, though three countries had a higher proportional share (Spain, Portugal and Belgium).

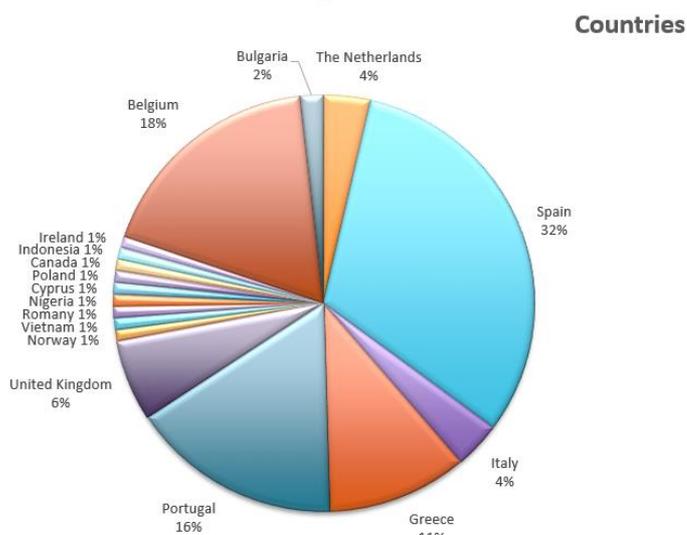


Figure 2: Distribution of attendees by country

MAIN CONTENTS OF THE MEETING AND THE ROUND TABLE SESSIONS

Welcome words

The session was opened with a welcome to participants and an introduction to the workshop background and context, by **Ms. Lucía Fraga Lago (CETMAR)**. The goal of the meeting was to deliver an overview of the impact of setting up a Maritime Technologies Skills Strategy to bridge the skills gaps in the shipbuilding and the offshore renewable energy sectors. During this final event the sustainability plan for the roll out of the Strategy beyond the MATES project activity was presented together with some of the most relevant achievements and successful stories. Two panels of end users of the project outputs were invited to share their views of the impact achieved in these four years of intensive work, since the launching of the project in January 2018.

The meeting continued with a brief presentation of the structure and agenda of the workshop. In first place with the insights of three representatives of the European Commission about the EU Policies framing the development of Blueprint Projects:

- **Ms. Andreea Strachinescu**, Head of Unit 'Maritime innovation, marine knowledge and investments' at the DG Maritime Affairs and Fisheries, responsible for promoting innovative and emerging technologies and solutions, and ensuring broad dissemination of marine knowledge and research. She addressed the skills challenges for a sustainable blue economy.
- **Ms. Julie Fionda**, Deputy Head of the Unit "Skills Agenda" in the DG Employment. She has been a member of the Cabinet of Commissionaire Marianne Thyssen, for Employment, Social Affairs, Skills and Labour Mobility. She focused on the Skills Agenda for Europe and the coordination of efforts from the different Directorates of the EU Commission to bridge the skills gaps.

Opening address and introductory session

Ms. Andreea Strachinescu (ppt), remarked on the intensive work done by the MATES project: the first results had set out the skills situation for the maritime sector, and the MATES skills strategy had then set out a series of proposals showing how to tackle them, which would allow the shipbuilding and offshore renewable energy (ORE) sectors to grow. She encouraged the project consortium to validate all the discussions held in the meeting with the industry representatives. She conveyed the expectations of DG MARE concerning the Blueprint projects and the large-scale partnerships addressing maritime sectors under the Pact for Skills, which should **contribute to carbon neutrality by developing offshore renewable energy, greening maritime transport and ports and alleviate pressures on land for food production and protein sourcing**. She stated that many different instruments will be available to tackle this ambitious objective, which will have to combine resources from different funds – such as the Recovery and Resilience Facility - and encompass the efforts done from different areas and projects, as the Blue Economy is made up by a multitude of sectors (fisheries, aquaculture, coastal tourism, blue biotechnology, offshore and ocean energy, marine scientific knowledge...) and blue skills and jobs are required under many frameworks (such as for maritime spatial planning, maritime surveillance and security, ocean governance, sea basin regional strategies...). Finally, beyond the upskilling and reskilling aspects, proposals for attracting young

people into these two sectors will be welcome, and might profit from the celebration of the EU Youth year in 2022¹.

Ms **Julie Fionda (EC-DG EMPL)** analysed how the MATES project fits into the broader picture of the EU policies and the Skills Agenda for Europe, and how it links to the EU priority of creating a Lifelong Learning culture in Europe's workplaces. Considering the Green Deal context and the goal for climate neutrality by 2050 mentioned before, about one million jobs are expected to be created in the EU by 2030 and about two million about 2050. This positive effect will also be accompanied by the need for adaptation of many sectors and occupations. **The EU is committed to support the transition to new jobs in promising sectors, contributing to facilitate the uptake of the new skills required for their adaptation.** The EU commission put a proposal for **individual learning accounts**, placing financial support for re-skilling and up-skilling, and measures to strength the motivation to participate in training and to make training more accessible and valued. This is accompanied by quality assurance and measures to support better recognition and trust, including the **micro-credentials** which allow to record and measure the skills acquired in short targeted trainings. Guidance is also integral to ease the selection of relevant trainings and facilitate the adaptation to this new system.

The identification of key skills is an important challenge for the green transition. Well-tailored job training will be key to guarantee the adequacy of both specific skills but also transversal skills. The EU published in January 2022 a taxonomy identifying the skills for the green economy together with a core green skills set for a labour market and a Competence Framework: GreenComp. The maritime technologies and ORE specifically, are one of the key areas for the green transition. Today around 62000 people work in the offshore wind industry and around 2500 in the ocean energy sector. It is a sector in which EU has a particular advantage. In November 2020 the strategy for ORE to replace Fossil Fuels was published². In the next years it is crucial to move to create a sustainability in both the environmental and social science.

Among the most relevant outcomes of the MATES project, Julie signalled that it has identified occupations that will be mostly affected by the future scenarios, together with the skills needed for their adaptation and the practical courses to address them; MATES has contributed to a Council Recommendation on addressing social and labour aspects of the just transition towards climate neutrality³. **The MATES collaborative approach to develop a skills strategy has inspired the Pact for Skills, one of the flagships of the EU skills agenda.** The large scale partnership in the ORE is a living lab in the Pact for Skills, showing how the blueprint deliverables can feed this process. There are 9 large scale partnerships, and a support team that is starting its activity this month. Finally, Julie congratulated the MATES partners for their hard work, the collaboration and the outputs of the project, stating that the project has influenced the debate from an EU level but also implemented concrete solutions for its partners.

MATES Sustainability and long-term Action Plan

Following this introductory session, the coordinator of the project, **Ms. Lucía Fraga Lago**, presented an overview of the MATES [Maritime Technologies Skills Strategy](#) and the [MATES Legacy brochure](#), an executive document synthesising the main impact from the MATES project, which was distributed

¹ <https://www.eusa.eu/european-year-of-youth-2022>

² https://energy.ec.europa.eu/topics/renewable-energy/eu-strategy-offshore-renewable-energy_en

³ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13247-Council-Recommendation-on-addressing-social-and-labour-aspects-of-the-just-transition-towards-climate-neutrality_en

among the attendees at the venue. **Mr. Renato Pires**, from the Azores Regional Fund for Science and Technology, introduced how the MATES project designed its [Sustainability and long-term Action Plan](#) and **Mr. Miguel Marques**, from Skipper and Wool Ltd, outlined the structure of the report.

Ms. Fraga gave an overview of the MATES blueprint project and its main goal to improve the Skills Intelligence addressing two sectors: Shipbuilding and ORE. She presented the collaborative approach to support the project consortium - 17 partners from 8 EU countries – with the contribution of 221 experts representing different stakeholders. These external experts were organised in eight thematic groups, gender and age balanced, which were consulted and informed in a regular basis.

Ms. Fraga outlined the main results of the different phases of project, showing the sections of the web where they are publically available. She mentioned some numbers of the impact gathered by the project:

- 946 training addressing shipbuilding and ORE identified have been transferred to the [MarineTraining](#) platform⁴.
- More than 100 best practices in Ocean Literacy.
- 183 Companies, Schools & Training Centres reached
- 1675 hours of training delivered to 1405 participants
- MATES was presented in more than 320 events attended by more than 39600 people
- Blue skills & Ocean Literacy Atlantic Project Award in 2021

Mr. Pires presented how the MATES sustainability and long-term action plan was led by FRCT and Xunta de Galicia, and developed by an external consultancy company, Skipper & Wool. The document contains an inventory of the project results and knowledge outputs, a blueprint of actionable steps for practical application of the Skills Strategy, and also an analysis of available funding opportunities for re-skilling and up-skilling.

Mr. Marques detailed the structure of the document, which reflects the importance of skills for the challenging transition to a greener economy. The MATES project has delivered 23 outputs and 32 recommendations to reinforce the maritime technologies ecosystem with the necessary capacities and skill-sets that will enable the EU to continue to compete in an increasingly digital, greener and knowledge-driven economic context. This document aims to identify the main stakeholders within the maritime industry to whom the MATES recommendations are addressed, i.e. the priorities that will require more efforts in the coming periods and the key points to undertake them.

MATES Long Term Action Plan and Sustainability identifies five groups of stakeholders for the implementation of these recommendations: Policy makers Standardisation bodies, Social Partners and Professional bodies, Education and training providers, and Employers. MATES' partners are matched with these groups, and are committed to support the project outputs and recommendations. The sustainability roadmap differentiates priorities, classified in a timeline. Finally, EU instruments available for funding skills actions are described, and importance of national funds and private funds for re-skilling and up-skilling are also pointed out.

Panel and debate with key stakeholders that guarantee the project sustainability

This session was dedicated to present some successful stories in the sustainability of the project outputs. **Ms. Evelyn Paredes**, from the team promoting the **Marine Training Platform at the**

⁴ <http://marinettraining.eu/mates>

University of Gent, moderated a selected group of panellists who presented the views and interests from companies and VET centres:

- **Ms. Virginia Álvarez-Acevedo, NAVANTIA**, addressed the pilot experiences for the simulation of industrial spaces at the VET Centre: a trigger for DUAL programmes and more applied training.
- **Ms. Laura Alonso, CT Engineering Group**, focused on how the MOOCS developed by MATES are being used to prepare new workers in the enterprise.
- **Mr. Tom Hill, Marine Energy Wales**, addressed how a strategic approach can support innovative training programmes: Offshore Renewable Energy Courses Skills for a greener shipbuilding industry.
- **Mr. Andrés Rodríguez, Marine Instruments Ltd** showed how the blended learning approach is being used for attracting talent with Ocean Literacy.

In the first round, speakers presented their organisations, highlighting their outcomes and insights to promote skilling for the maritime technologies in their region.

Ms. Virginia Álvarez-Acevedo ([ppt](#)): Ms. Álvarez-Acevedo presented the main activity of [NAVANTIA](#), a Spanish state-owned company (SEPI Group), which designs and builds ships with a high technological content for the Spanish and other navies. Its activity focuses on three areas: Shipbuilding and Ship Repairs, Systems and Services, and since 2010 Green Energy, where NAVANTIA is an international benchmark. In this sense Navantia is a clear example of how naval construction and marine energies can be addressed together, profiting the know-how in the shipbuilding activity for manufacturing structures for the wind turbines generators and offshore substations. NAVANTIA has been engaged with the organisation of dual trainings since the start of this training approach in Spain, in which students combine periods in the Training Centre with internships at the industry. Main NAVANTIA Shipyards are located in 3 places: Ferrol, Cadiz and Cartagena⁵, which are places with an important military tradition and history, in which the cities have grown around the shipyards. The speaker highlighted how the shipyard acts as a driving force in all the regions where they have shipyards, promoting trainings and contributing to the integration of well-prepared students not only in their site, but also in the enterprises providing services to them. She pointed how they develop training for young people and workers, with a specific focus in the Spanish Navy.

For the naval vessels business, Navantia inaugurated last year the **Navantia Training Centre in Cádiz**. The NTC is a strategic commitment by Navantia to have a reference centre in the field of naval training. It will project the image of the company inside and outside of Spain since it will allow the development of training programs and other training and dissemination activities for the naval and defence industry. The training is always a part of Navantia's scope in all the projects.

With the experiences in **MATES project** (Freeboard and the Magnus effect Pilots), Navantia has provided a naval work environment for students for both, naval construction and Offshore Wind. The main purpose is to simulate real work conditions of a real shipyard, where most of our students are likely to work in a future.

As part of their commitment with the skills building processes, NAVANTIA also joined the Pact for Skills. The company is member of **ASSETs+ (Alliance for Strategic Skills addressing Emerging Technologies in Defence)** which is working within the Pact for Skills to develop demand-led upskilling

⁵ <https://www.navantia.es/en/about-us/where-we-are/>

and reskilling training programmes on the cutting-edge technologies of Robotics/Autonomous Systems/Artificial Intelligence, Cyber Security and C4ISTAR.

Ms. Laura Alonso ([ppt](#)): She's an expert in ILS (Integrated Logistics Support). Ms. Alonso introduced the CT Engineering Group, an engineering company, leader in technological innovation throughout the product lifecycle, from concept to post-sales services. CT is involved in different sectors from pure naval to the aviation, automotive, rail, industrial plant, and renewable energy sectors including offshore. CT is strongly committed with innovation, including training innovation and intensively involved in Dual VET programmes, providing internships for VET and engineering students. With the MATES project, together with the University of Coruña, CT has developed two MOOCs with the aim of bridge the skills gaps identified in the shipbuilding industry, and also contributing to upgrade traditional shipbuilding tools to 4.0 industry level.

Mr. Tom Hill ([ppt](#)), introduced [Marine Energy Wales](#), a networking organization bringing together developers, the supply chain, academia and the public sector to establish Wales as a global leader in sustainable marine energy generation, making a significant contribution to a low carbon economy. Marine energy Wales has developed an education programme called the "Coastal Curriculum"⁶ which educates young people about the pressures that are currently being put on our coast and seas. The aim is inspired local people to develop professional careers in marine renewables, for moving away of the oil and gas sector, which is important at the moment at Wales. Marine Energy Wales contributed to develop the ORE short courses curricula in the MATES project, and are also users of the [Strategy baseline report](#), which identifies present and future skills needs. It was presented to Careers Wales (Welsh Government) which provides independent and impartial careers information, advice and guidance service.

Mr. Andrés Rodríguez ([ppt](#)) introduced [Marine Instruments](#), a leader company in marine technology for smart and sustainable fishing, located in NW of Spain. Marine Instruments is focused on innovation, as part of the Grupo Arbulu⁷, which leads the naval electronics and satellite communications. They are leaders in manufacturing satellites buoys, radio buoys, oceanographic software, and electronic monitoring solutions, as the buoys to detect pollutants in order to prevent spills on the ocean. Marine Instruments organises trainings, mainly for fishing associations, to teach them to be more respectful with the sea. Their aim is to contribute to the SDG (Sustainable Development Goals) 2030, so they cover three dimension of the economic growth, social inclusion and environmental protection. In this frame, Marine Instruments organizes yearly the Regata solar⁸, which was designed in order to train youngsters in STEAM subject. Participants have to build a raft, radio controlled and powered by solar energy. It has tree prizes, efficiency, performance and design. They have created an incubation lab, in collaboration with University of Vigo. 200 people participate every year

Questions and answers to the panel 1 (Q&A):

Ms. Evelyn Paredes: Navantia has been engaged with the organisation of Dual trainings since 2016⁹, being one of the first enterprises promoting this training approach, in which students combine

⁶ <https://www.pembrokeshirecoastalforum.org.uk/projects/education/>

⁷ <https://www.grupoarbulu.com/?lang=en>

⁸ <https://www.regatasolar.org/>

⁹ https://www.xunta.gal/hemeroteca/-/nova/054801/conselleria-educacion-navantia-impulsan-primeiro-proxecto-dual-ferrol?langId=es_ES

periods in the Training Centre with internships at the industry. With the MATES project, you have been involved in the [Freeboard](#) and the [Magnus Effect](#) Pilot Experiences, in which you have gone further with the work-based learning approach, simulating a work space at the training centre. **In what sense does a proposal of this type make it possible to better prepare future workers?**

Ms. Virginia Álvarez-Acevedo: With this kind of training, students can understand first hand problems that can arise on the job. Therefore Navantia promotes this kind of training in order to get well prepared workers.

Ms. Evelyn Paredes: The CT Engineering Group is an engineering company continuously involved in “State of the Art” projects in the shipbuilding and naval sectors. As part of your activity, you have contributed to develop massive online open courses (MOOCs) for engineering and VET students. With the MATES project, you have gone further in your involvement to support educational transformation, creating courses for skills development, also contributing to upgrade traditional shipbuilding tools to 4.0 industry level. **How does a MOOC contribute to continuing professional development and lifelong learning opportunities?**

Ms. Laura Alonso: MOOCs were used by CT in different locations in Spain with the aim to re-skill and upskill our staff. So, we noticed at CT that the MOOCs proved and are proving to be helpful for professionals transitioning from a discipline to one another within the company or people entering the shipbuilding sector. In example, one of our colleagues that participated in the developing of the MOOC 1 due to her specialisation has now taken the MOOC 2 to start working in the ILS section. She’s not the only one. More colleagues have been taking this course to swap from another discipline (pure naval architecture, structural engineering, etc.) to ILS. This helps in retaining talent and being more flexible when it comes to face the market fluctuations.

Ms. Evelyn Paredes: Marine Energy Wales brings together technology developers, the supply chain, academia and the public sector to establish Wales as a global leader in sustainable marine energy generation. As part of your activity, you have contributed to develop educational resources for youngsters. With the MATES project, you have gone further in this and your involvement in capacity building processes, been involved as experts in the skills analysis, and also contributing to the definition of contents for the Offshore Renewable Energy Courses. **In what sense has this experience contributed to support your activity aimed at promoting a better skilled marine energy industry and what are the main challenges in these processes?**

Mr. Tom Hill: The main challenge in Wales and the UK is that most of the colleges are privately funded, and their training offer is mostly shaped by the demand of the students. In this context, there is a strong need to transmit to the youngsters and potential future workers which are the job opportunities in the sector, and the trainings addressed at providing the skills needs to succeed in marine energy careers.

Ms. Evelyn Paredes: Marine Instruments has been very active in the promotion of Science, Technology Engineering, Arts and Mathematics, the STEAM subjects, among youngsters. The regatta solar is celebrating its fifth edition, and has created a community of followers. **How does a proposal of this type contribute to make more popular the STEAM at secondary school?**

Mr. Andrés Rodríguez: The regatta solar promotes a challenge based learning. Participants register on a volunteer basis, and dedicate their own time to develop their projects. They are attracted by the project: being able to build a remote controlled raft, making it navigate and participate in the regatta is in itself a fantastic reward. The day of the regatta, all participants are the protagonists of a popular event. So they feel interested in preparing a good project, and when a group of teenagers is

interested in something, they can dedicate enormous amounts of energy and time to develop their project, and thus learn science, technology, engineering and even arts to create a beautiful boat.

Ms. Evelyn Paredes: From Navantia's point of view, **how do these experiences, in which you join efforts with VET training centres, impact in the qualification of future workers?**

Ms. Virginia Álvarez-Acevedo: Navantia acts as a driving force in those regions it develops its activity, promoting new dual trainings and contributing to the integration of well-prepared students not only in their facilities, but also in the enterprises providing services to them. Since we started this collaboration more than 100 students worked at Navantia. Besides, Navantia has inaugurated last year a training centre specialized in offshore wind energy, so we do informative talks for secondary schools, etc. Based in our own experience, we think that courses that include both training and practical apprenticeship at companies guarantee a better qualification, which is essential for the industry's future.

Ms. Evelyn Paredes: With the MATES project, you have designed and implemented state-of-the-art courses oriented to fill the gap between what is taught in universities and training centres, and what companies really need regarding Industry 4.0 and the shipbuilding sector. From CT's point of view, **what is the contribution of the MOOCs in terms of joint efforts between universities and companies?**

Ms. Laura Alonso: The development and implementation of the MOOCs gave us a great outcome, which is a **trust relationship** between the company and the university. This has set the basis for future collaborations. MOOCs accelerate the incorporation of innovative content to fill the skills gaps identified by companies. The incorporation of this kind of content could take considerable more time if it had to be included into the official university/VET centres curricula.

Ms. Evelyn Paredes: Regarding the educational materials produced for the ORE short courses, **what are the main features of these materials that you would like to highlight?**

Mr. Tom Hill: The materials are great. I liked the fact that participants could interact with each other and with experts from the industry as well. I would like to highlight the section addressing the environmental impact assessment, because it is a big part of a project and sometimes is missed. Also stress the deep ground skills rooted in Wales and the UK about MRE.

Ms. Evelyn Paredes: **Which future development or improvement would you recommend us for future editions of the course?**

Mr. Tom Hill: Materials in this course were quite targeted to academics. So maybe in future editions could include content to other occupational profiles such as welders, etc. Just have in mind that industry is out there.

Ms. Evelyn Paredes: With the MATES project, *Marine Instruments* have gone further in the activities of the regatta, and organised a series of workshops to better prepare the participants in priority management, but also in the techniques for designing and building their rafts, and the remote control. From your point of view, **how does this experience in which you join efforts with more partners contributes to improve it?**

Mr. Andrés Rodríguez: **I think the partners are the key of the project.** We had at our disposal quality teachers. Together we had identified the most relevant contents to support the Regata Solar' participants. Also, the video tutorials will allow to use them in future editions, i.e. they can reach future cohorts of participants. Training addressed polyester modelling, bamboo, radio control and telemetry, complemented to Priority management. This is one of the transversal skill considered

more relevant for the Regatta solar. As a result of this collaboration the Terms of Reference for the Regatta Solar were reviewed to reward the use of innovative technologies in the design, and the use of more sustainable materials, in order to reduce the environmental impact.

Ms. Lucía Fraga: I have heard that networking has a positive effect. Virginia, students participating in dual VET trainings are willing to go to Navantia, but not always succeed; **could you tell us about the tractor effect of dual VET courses for the other companies in the area?**

Ms. Virginia Álvarez-Acevedo: Training is part of our scope, not all Dual training' students end up working in Navantia, but they find a job in a related company, because the acquired capacities are very valuable.

Mr. Tim Deprez (UGent University): My question is about the MOOCs. 1) How many people had participated? 2) Cost for being open. 3) Quality assurance.

Felix Rohn (*following on the previous question*): How to engage MOOC with LLL?

Ms. Alonso: 1) About 600 students from 9 countries. It is available for CT workers, so there is still room to grow. 2) Regarding the cost, it depends on many factors: quality you want to achieve, video quality, how long it will be, if you pay actors to film it, if you have the knowledge or you have to contract someone.... 3) **Ms. Lucía Santiago** (University of A Coruña) explained that Miriadax¹⁰ offers 3 way of evaluation: a) digital badge, b) certificate of attendance, c) certificate of completion, which provides all info on students' performance.

Andy Kontoudakis (EC- DG Mare): I would like to make a comment some main take-away messages that I got from this Panel:

- 1) **There is need of hands-on experience, combining academic or VET progress with hands-on apprenticeships**, for applying theory into everyday practice. This is applicable to any sector, and the MATES strategy has tested solutions for the two industries addressed by the project: shipbuilding, the more traditional, and a greener sector, ORE, that requires to some extent upskilling and reskilling staff from the Oil and Gas industry. **Digital applications/distance learning can complement and enrich curriculum development to acquire both transversal and hard skills, and must be combined with the practical hands-on approach.** Online or flexible training means a huge shift towards partnerships between local – government lead trainings- industrial solutions and the available labour force.
- 2) Tom and Andres mentioned **the importance of the Ocean Literacy (OL)**. Coupling Ocean Literacy efforts with Skills Intelligence successfully we will end up with a knowledgeable, skilled workforce capable to feed these two industries (maritime sectors). Applying OL in young ages and through education helps youth to appreciate the opportunities offered by the blue economy and later contribute to them, sustainably. Look at the EU coalition, EU4Ocean¹¹ which aggregates organizations, stakeholders, youth and schools into a members platform, a youth forum and a network of blue schools respectively, and promote at the same time scientific development through thematic work. She invited Marine Energy Wales to join this network.

¹⁰ <https://miriadax.net/>

¹¹ <https://webgate.ec.europa.eu/maritimeforum/en/node/4484>

Panel and debate about transferring the core of the MATES strategy

This round table addressed how the core of the MATES Skills Strategy is being transferred for its roll out at different levels. **Mr. Frederico Ferreira** from Forum Oceano, the Maritime Cluster of Portugal, moderated this panel composed by three speakers, who approached the discussion both from the European and the regional level..

- **Ms. Chiara Stramaccioni**, ESCO Secretariat, addressed the use of skills intelligence outputs to update the occupational profiles.
- **Mr. Iván Pineda**, WindEurope, focused on the contributions of sectoral clusters to the skills assessment and the Pact for Skills.
- **Ms. Zeltia Lado Lago & Ms. Antía Guillén**, Directorate General of Training of the Galicia Regional Ministry of Employment and Equality described how the Galician regional Administration is addressing the skills intelligence processes.

Ms. Chiara Stramaccioni ([ppt](#)) gave an overview on how the EC-DG EMPL manages the ESCO classification¹², which is a multilingual¹³ database that works as a dictionary, **describing, identifying and classifying** professional occupations, skills, and qualifications relevant for the EU labour market and education and training. ESCO was built upon three 3 main policy goals: 1) Encourage EU mobility, 2) Align people’s skills with industry needs and 3) Provide skills-based labour market services. It has two pillars¹⁴: A) Occupations (3000) and B) Skills classified in terms of occupation, sector, cross-sectoral, transversal, languages and knowledge. There is a wide variety of ESCO users, from private sector to public sector; in example, training providers may use ESCO to identify the Learning outcomes.

Ms. Stramaccioni outlined how ESCO keeps track of the changes in the labour market to update the database, with the contribution of sectoral stakeholders and blueprint projects, such as WindEurope and MATES. The process comprises of eight steps, and includes a validation by all EU Member States (Ministries of Education and Labour) and the translation to all languages before its publication (Figure 3).

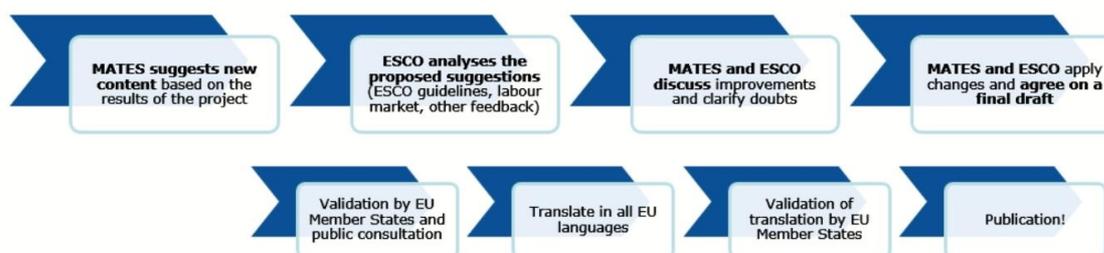


Figure 3: MATES project and ESCO collaboration

Mr. Iván Pineda ([ppt](#)) introduced WindEurope¹⁵, a trade association based in Brussels representing wind energy across the entire value chain. Then he showed how the wind energy industry is going to apply the MATES recommendations. Mr. Pineda presented the current situation in Europe in terms of offshore wind generation: there are 28 GW of Offshore wind installed in Europe, which provide about 3% of the electricity we consume. Ms. Strachinescu mentioned earlier that the EU expectation

¹² <https://ec.europa.eu/esco/portal>

¹³ ESCO is available in all EU languages, plus Icelandic, Norwegian and Arabic

¹⁴ The qualifications pillar is at present integrated in the project Europass <https://europa.eu/europass/en>

¹⁵ www.windeurope.org

is to increase that until 25%. Offshore wind contributes with €7.5 bn to EU GDP every year. To give a simple number, on average a single offshore wind turbine contributes with €15 m to the economy. Translated into jobs, there are 77000 jobs in Europe including the UK and Norway. This number is expected to growth until 20000 jobs in 2030. Many of those are related to manufacturing, but it is important to take into account that **direct jobs are of the same order of magnitude as the indirect jobs** (Figure 4).

Jobs will be generated across the entire value chain

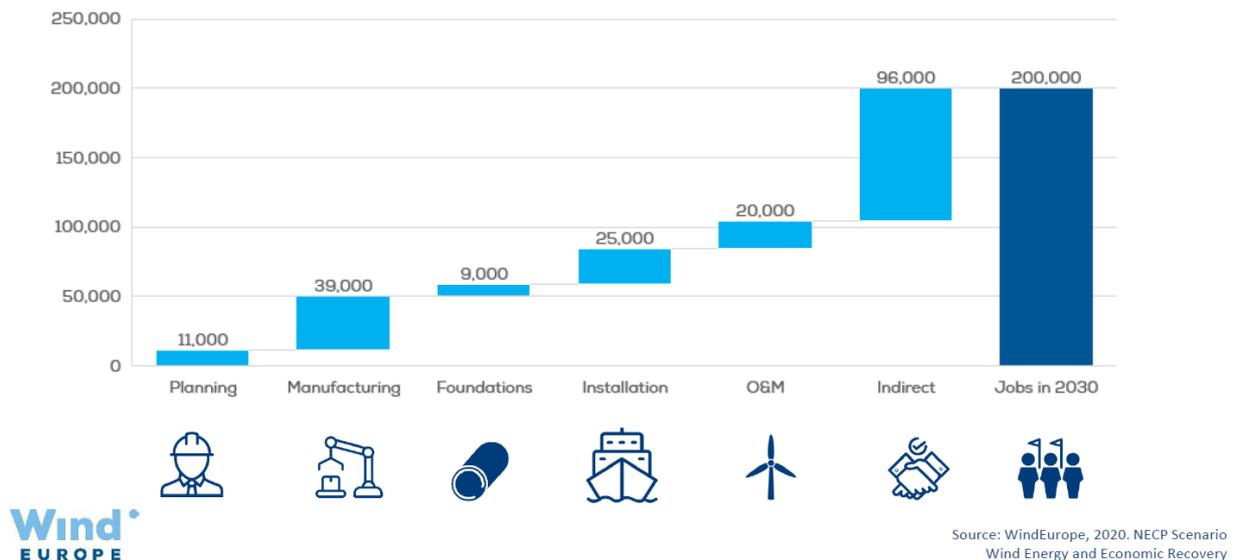


Figure 4: expectations of job generation in the offshore wind value chain

The installed capacity is expected to increase 5 times, but it is important to point that **the number of jobs will not proportional to that, and that's an important factor, because otherwise skills needs may be magnified**. Ivan also signalled the increasing importance of ports for the offshore wind, not only because their function for the operation and maintenance of offshore wind turbines, but because they are going to be key for assembling floating offshore turbines and converting offshore wind power into renewable hydrogen.

To conclude, Mr. Pineda mentioned WindEurope's resources for children, such as Learnwind¹⁶ that includes an inspirational book with personal stories from people that chose to work in clean energy.

Ms. Antía Guillén ([ppt](#)), from the Galician Regional government, started stating the MATES project alignment with the regional initiatives addressed at improving skills intelligence. Ms. Guillén presented two relevant projects from the Galicia Regional Ministry for Employment addressed at improving the skills of the workforce.

In first place, she presented a study of emerging technologies for the transformation of employment, analysing 15 economic sectors relevant to the Galician economy, to propose a set of professional

¹⁶ <https://windeurope.org/about-wind/learnwind/>

qualifications in order to anticipate the skills requirements of 14 emerging technologies. The study included shipbuilding and ORE, whose main skills needs are related to the digitalisation of processes. According to the study, the occupations most demanded in the coming years will be those related with the digitalisation of processes in manufacturing and in installation or maintenance processes.

In second place, she mentioned the Galician Skills Agenda for Employment presented in November 2021, which adapts the European Skills Agenda for employment to Galicia. Its main goal is to adapt the training offer promoted by the regional administration to the industrial needs. It is based in the creation of nine sectorial working groups assembling the most relevant players to define the training needs and actions. The list includes a Blue economy working group addressing fishing, naval, offshore renewables as well as the metal-mechanic sectors linked to the sea. At present the results of a first questionnaire based on ESCO classification are being analysed, to prepare a catalogue listing the most relevant trainings promoted by the Xunta de Galicia.



Figure 5: Working groups and key participants in the Galicia skills Agenda for Employment.

The work developed by the MATES project confirms that training for employment is essential to promote emerging sectors with great projection in economic terms and employability. The collaboration of public and private sectors produces a multiplier effect on the quality of the results obtained. The results of MATES not only provide a valuable added value for the Galician skills Agenda blue economy working group, but also an example on how the multi-stakeholder collaboration in the skills intelligence can be implemented. The training needs identified by the MATES project for the shipbuilding and ORE sector will be directly transferred to the Galician skills Agenda for employment. This will imply the inclusion of the identified training needs and proposed solutions in a program funded by ESF+ and the Recovery and Resilience funds, addressed at providing funding for the organisation of sectoral trainings.

Questions and answers to the panel 2 (Q&A):

Mr. Frederico Ferreira: One of the main challenges of the ESCO platform is to keep updated, considering the rapid changes that may occur in the work environment: new occupations appear, some require new or different skills and competences... **Could you build a little more on how are the sectoral stakeholders and the blue-print projects contributing to this process?**

Ms. Chiara Stramaccioni: Blueprint projects are very valuable for this process, as they dedicate a huge amount of time and efforts to analyse the changes in a specific sector in terms of occupations and skills required, and reviewing the contents already available. The inclusion of these results in a dictionary as ESCO allows to use them with a transversal approach, and apply them to more sectors.

ESCO is at present developing methodologies based on machine learning technologies to better analyse and transfer the information provided by the blueprints.

Mr. Frederico Ferreira: Wind Europe has also contribute to this updating process; could you complement with your views?

Mr. Iván Pineda: One of the important aspects getting right descriptions on aspects such as health and safety in the ORE occupational profiles. The ORE descriptions are usually focused on the essentials, the engineering or even the ocean literacy, but it is important to take into consideration the skills needed to work at sea, being prepared for dangerous working spaces, and contribute to create a culture of health and safety. And not only qualifications are needed, but the lack of recognition of certifications are at present creating obstacles for workers mobility. There is an important work to develop in this regard, as some of the differences are issued on a totally different conception of the tasks that are being undertaken. In example, the offshore devices may be considered as a building, while in other systems they are considered a machine, and the training path for preparing a transfer of a worker is totally different in both cases. We hope that all the work done for the harmonisation of skills needs will contribute to overcome this barriers.

But the biggest challenge at present to promote training is hiring people, due to the lack of projects, produced by the delay in getting permits.

Mr. Frederico Ferreira: Coming back to Galicia, could you comment us **how the MATES Blueprint experience contributes to reinforce the *Consellería* of Employment action's lines?**

MATES results and EU VET standards are being very important for the Galician Skills Agenda for Employment. For example, the ESCO taxonomy allows us to speak with the clusters in the same language. The MATES project provided lines of action that are being implemented by the Galician Regional government, to produce trainings which are demanded by the industrial partners.

Mr. Frederico Ferreira: Several speakers have remarked the importance of bringing together all stakeholders in the process of identifying capacity needs and developing strategies to bridge the skills gaps. In this context, Wind Europe is supporting the development of the Pact for Skills in Europe since its preliminary steps. **Could you share with us your considerations towards this new instrument to promote investment in capacity building?**

Mr. Iván Pineda: It is a very good initiative to bring together different industries to make commitments for the promotion of skills. But sometimes it should be seen as a balancing act for companies that are facing a very difficult economic environment, due to the extremely competitive tendering processes giving very little economic margins.

In this context it will be important to match the industry commitments –in term of skills as in terms of hiring people– with a strong industrial policy supporting the maintenance of jobs in Europe for the whole value chain, including the manufacture of the turbines.

Mr. Frederico Ferreira: Could you give us an example on how the ESCO classification is being used in the maritime sector?

Mr. Chiara Stramaccioni: The different examples are mostly linked to the type of user more than to the sector approach. Many implementers of the ESCO classification are IT providers, for example

using machine learning to match job seekers with vacancies. There are also Universities doing surveys for students and obtaining skills groups, or occupations can be suggested out of a qualification.

ESCO also gives a basis to compare occupational profiles for the job transitions; this could be used to evaluate the skills needs to transfer workers from on-shore wind to the offshore wind.

Mr. Iván Pineda: An important discussion that was held with ESCO relates to the differentiation of the level of seniority on the skills, which will be relevant in those transition processes.

Ms. Chiara Stramaccioni: It is very difficult to implement the graduation of seniority at the European level, and reach agreements across all EU countries.

Mr. Frederico Ferreira: Galicia region is one of the European forerunners in the setting up of a regional Skills Agenda, could you comment us on this process, which could be inspiring for other territories in Europe?

Ms. Antía Guillén: For us the MATES project is an example for other economic sectors in Galicia, which can do a similar process and approach. The skills analysis results are key for the development of these regional and national agendas.

Mr. Mariam Krzaklewski (online), Doctor on Engineering Sciences and ICT. I would like to congratulate the MATES project for its results. In 2009 I have been rapporteur for the Economic and Social Committee opinion on the Sectoral Skills Councils. Later, on behalf of the shipbuilding sector in Poland, I joined the USWE¹⁷ project which had great similarities with the MATES project. **Is there any cooperation or even interaction between MATES project and USWE project?**

Ms. Lucía Fraga: Indeed both USWE and MATES project had many similarities, both addressed the analysis of skills needs in the shipbuilding sector, although they had a different scope. During the period in which both projects were active, several approaches were undertaken, and references of the other project results can be found in the outputs in both cases. The connections among them were done, and continue existing through the Pact for Skills: most of the USWE partners are part of the shipbuilding large scale partnership in the Pact for skills, which are in contact with the MATES consortium and also connected to the large scale partnership launching the Pact in the ORE. In this context, it is good to know that there is willingness to strengthen these contacts and continue approaching all stakeholders taking part in the capacity building process for the maritime technologies.

Mr. Marco Alves, from COLAB+ Atlantic a cluster of space and ocean industries in Portugal. Considering the harsh environmental conditions in which the ORE industry takes place, **is it already a trend for the development of skills to improve the remote activity in the industry, aligned with data analytics, or space based services? What is the weight in the added value that those high qualified profiles can bring?**

Mr. Iván Pineda: Going out in open sea is always a harsh environment. The use of observation technologies and the automation are two relevant technologies that will shape the future offshore activities. There are specific periods in which the work at sea can be undertaken, not only due to safety reasons, but also due to the other maritime activities taking place, as the shipping routes, or military operations. The earth observation technologies are using the satellite technology to analyse environmental and meteorological conditions for scouting better sites and implementing maintenance operations at the better time.

¹⁷ <https://www.usweproject.eu/>

One of the jobs that is more dangerous and which is called to be automated is diving. In Spain, the Tecnalía technology Centre is developing an autonomous submarine robot to supervise subsea cables¹⁸.

The added value of these skills is enormous. It leads to knowledge developments but also to start ups and new business models.

Mr. Yuri Demchenko: the Galicia Region presentation highlighted the requirements in digitalisation for jobs in offshore and naval sectors. **How much this assessment of digital skills is well established for companies, considering that most documents addressing digital skills assessment, as DigComp or the Digital Coalition are dated from 2017? Also, guidelines for industry assessment of skills should be implemented.**

Ms. Antía Guillén: The study analysing the skills needs conducted by the Galicia region was finalised in February 2022, so we hope that the digital needs identified to be updated, at least today. We understand this as a baseline for a new model of co-governance which will be a living lab between Administrations, clusters and training providers.

Ms. Chiara Stramaccioni: the DigComp framework has been updated to the version 2.2 in February 2022¹⁹. At ESCO we are working on labelling these digital skills in the occupational profiles, and this should be published by June 2022.

Mr. Iván Pineda: There is a lot of work that should be done on national context for the digitalisation. As an example, in many countries there is a lot of documents that should still be submitted on paper, as for example, those required for the submission of project proposals.

Closing remarks

The coordinator of the project, **Ms. Lucía Fraga Lago**, highlighted the key messages from the conference:

- The agreement on the need of a collaborative approach to better identify the skills needs and develop strategies to overcome the barriers encountered for a more qualified workforce.
- The increasing needs for updating the skills identification and assessment of future needs.

We hope the MATES project to be a starting point for this processes which will continue on the frame of the Pact for skills, and eventually the new instruments issued under the Skills Agenda.

¹⁸ SCARGO: Installation of submarine cables with remote vehicles. <https://www.tecnalia.com/en/technological-assets/scargo-installation-of-submarine-cables-with-remote-vehicles>

¹⁹ DigComp 2.2: The Digital Competence Framework for Citizens - With new examples of knowledge, skills and attitudes <https://publications.jrc.ec.europa.eu/repository/handle/JRC128415>

SATISFACTION SURVEY RESULTS

This section is based upon the 26 answers received. The overall rate of the workshop was 4.65/5, affirming that their expectations from the event were fulfilled. Figure 6 shows the organizations to which respondents belong, 5 were from companies, 5 from Universities or VET centres, 5 from Public administrations and 4 from Clusters, so most different type of stakeholders has answered.

1. Type of organisation

[Más detalles](#)

● Company	5
● Industry Association	1
● University / Higher Education ...	5
● Vocational Education and Trai...	0
● Academic Association	1
● Research Centre	3
● Research Association	1
● Cluster	4
● Public Administration	5
● Otras	1

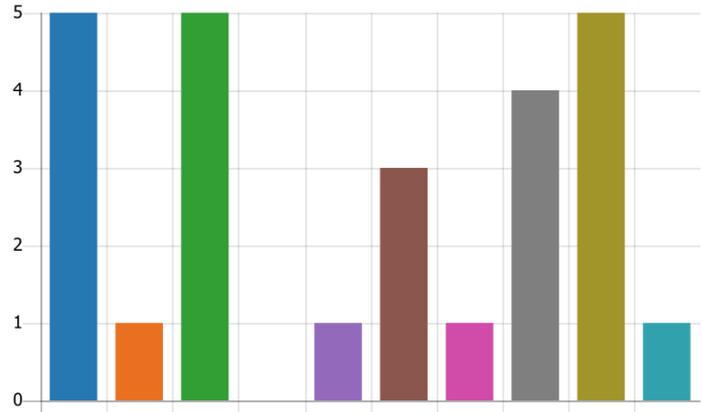


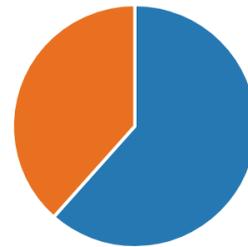
Figure 6: Distribution of type of organizations to which respondents represents

2. Did you attend the meeting

[Más detalles](#)

[Insights](#)

● In person	16
● Online	10



3. Gender

[Más detalles](#)

[Insights](#)

● Woman	16
● Man	10
● Prefer not to say	0

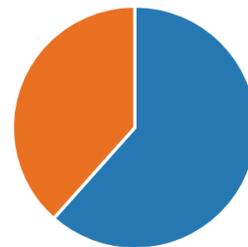


Figure 7: Summary of respondents' statistics, how many attended in-person or online and the gender.

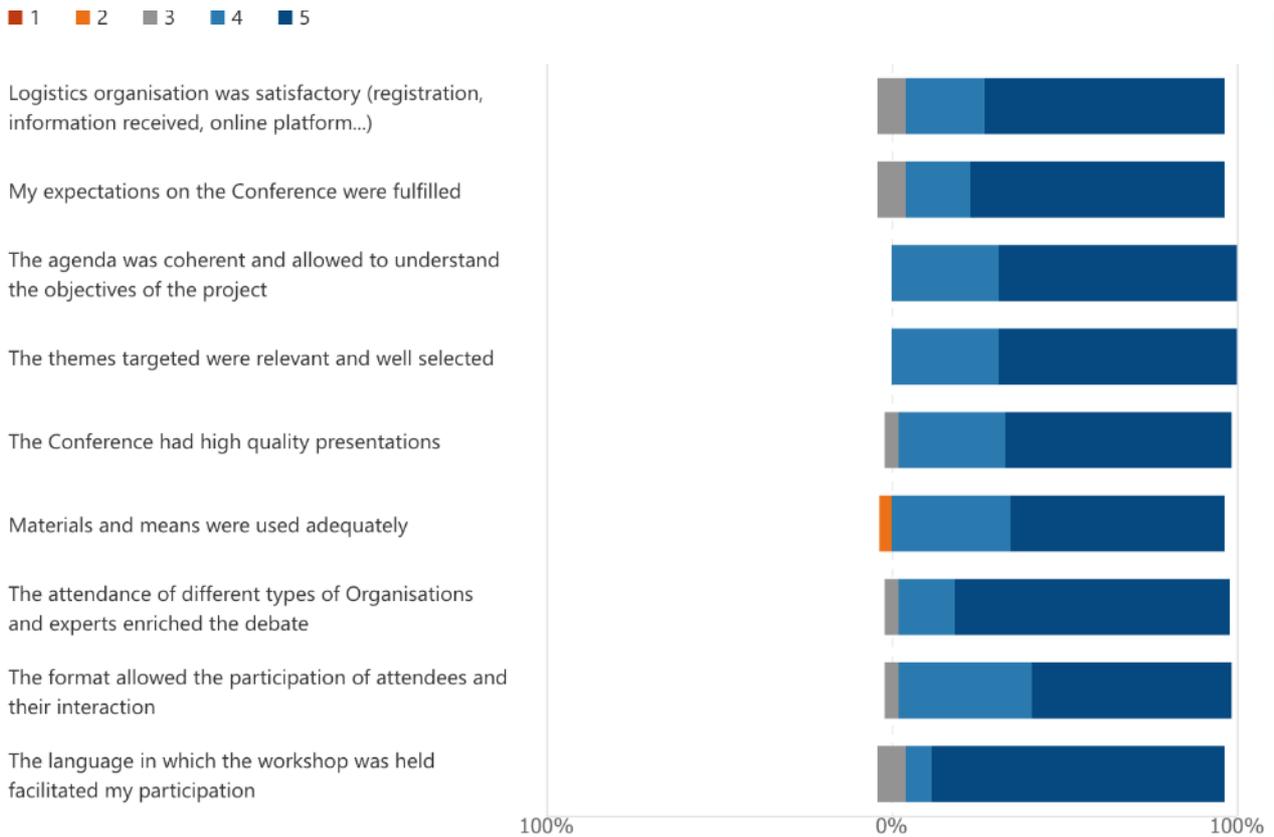


Figure 8: Answers to the satisfaction questionnaire

It was pointed out that the platform selected to organise the event could be improved, as other platforms could be more appropriate than Zoom for the purpose of the workshop, considering the number of attendees. Two people mentioned that it could be improved by being a little more interactive, increasing the opportunities to receive feedback from participants.



Figure 9: Photo finish of the meeting (in person)



Figure 10: Photo finish of the meeting (remote)

ANNEX 1: LIST OF PARTICIPANTS

	Name	Centre	Country
1	Afroditi Anagnostopoulou	CERTH-HIT	Greece
2	Alexander Senss	University of Strathclyde	UK
3	Amaya Soto	CETMAR	Spain
4	Ana Jesús López	Universidade da Coruña	Spain
5	Ana Mendonca	Direção regional das Pescas dos Azores	Portugal
6	Anastasius Eleftheriou	AQUALEX Multimedia Consortium CLG	Greece
7	Andreea Strachinescu	European Commission- DG MARE	Belgium
8	Andrés Rodríguez Morado	Marine Instruments	Spain
9	Andy Kontoudakis	DG MARE - European Commission	Belgium
10	Antía Guillén	Consellería de Empleo e Igualdad. XUNTA DE GALICIA.	Spain
11	Antonio Garcia Gomez	European Commission - DG Education	Belgium
12	Antri Theodorou	CMMI Cyprus Marine and Maritime Institute	Cyprus
13	Apostolos Sigouras	Self	Greece
14	Asril Sattar	Patent energy	Indonesia
15	Augusto Carreira	NOVA School of Science and Technology	Portugal
16	Belén Martín	WMO	Spain
17	Bernt Leira	NTNU, Dept. Marine Technology	Norway
18	Boyko Doychinov	Regional Cluster "North-East"	Belgium
19	Carla Damaso	OBSERVATÓRIO DO MAR DOS AZORES	Portugal
20	Carlos León	Sustainn	Spain
21	Carlos Maio	QSR - Talent Driven Culture	Portugal
22	Carmen Cotelo	FEUGA	Spain
23	Chiara Stramaccioni	ESCO	Italy
24	Claudia Pablos Lorenzo	Fundación Galicia Europa	Spain
25	Claudia Suárez	Delegación del Gobierno de Canarias en Bruselas	Belgium
26	Costantino Cosmidis	COSNAV Engineering	Italy
27	Creig Lamb	Shift Insights	Canada
28	Cristina Socias Monserrat	EU Balearic Islands Office	Spain
29	Cristina Amosa	FUNDACION GALICIA EUROPA	Spain
30	Cristobal Garcia Pariente	TSI	Portugal
31	Daniel Prieto	Asime / Soltec	Spain
32	Dimitris Lemonakis	Piraeus Chamber of Commerce & Industry Kedros SA	Greece
33	Dogancan Uzun	University of Strathclyde	UK
34	Elena Mente	AMC	Greece
35	Enrique Pazo Lopez	CIFP Ferrolterra - Consellería Educación Xunta de Galicia	Spain
36	Evelyn Paredes Coral	Ghent University	Belgium
37	Faidra Bazigou	Indigo-MED	Greece
38	Felix Rohn	European Commission	Belgium
39	Flor Arenaza	CETMAR	Spain
40	Francisco Javier Sánchez Naya	XUNTA DE GALICIA- CIFP SOMESO	Spain
41	Frederico Ferreira	Fórum Oceano	Portugal
42	Gabriel Manole	CNFR Navrom SA	Romany

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43	Gregory Yovanof	Strategis Maritime Center of Excellence	Greece
44	Greta Valente	COSNAV Engineering	Italy
45	Gustavo Rodriguez	Xunta de Galicia (CIPF Universidade Laboral)	Spain
46	Helder Silva	University of the Azores	Portugal
47	Ioannis Ergas	WEGEMT	The Netherlands
48	Iván Pineda	WindEurope	Belgium
49	Ivana Lukic	SUBMARINER Network for Blue Growth EEIG	UK
50	Jennifer Fox	Aquatera Ltd.	UK
51	Jesica Pastoriza	CETMAR	Spain
52	Jesús Carballo González	La Voz de Galicia (newspaper from Spain)	Spain
53	Jorge Eduardo Regueiro Tato	Xunta de Galicia	Spain
54	Jose Luis Souto Otero	CIFP SOMESO	Spain
55	Julie Fionda	European Commission	Belgium
56	Keegan Porter	AquaTT	Ireland
57	Konstantinos Voutzoulidis	ABS Hellenic	Greece
58	Laura Alonso García	CT Ingenieros	Spain
59	Lila Perra	CERTH-HIT	Greece
60	Linda Kunertová	ESCO Secretariat/NTT Data	Belgium
61	Lizet Ramirez	WindEurope	Belgium
62	Lucía Fraga Lago	CETMAR	Spain
63	Lucía Santiago Caamaño	University of A Coruña	Spain
64	Luís Antonio Garea Rodriguez	XUNTA GALICIA CIPF SOMESO	Spain
65	Luz Paramio	FRCT	Portugal
66	Manuel Carrasqueira	QUALISEG	Portugal
67	Mar Bennasar Aleñar	EU Balearic Islands Office	Spain
68	Marco Alves	Colab +Atlantic	Portugal
69	Margaret Eleftheriou	AQUALEX Multimedia Consortium CLG	Greece
70	Margarida Segard	ISQ	Portugal
71	María Boile	Hellenic Institute of Transport, Center for Research and Technology Hellas	Greece
72	Maria Guadalupe Saião	Associação das Industrias Navais	Portugal
73	Maria Orobítg	Government of Catalonia - Delegation to the EU	Belgium
74	Mariam Krzaklewski	NSZZ "Solidarnosc" (Independent and Self-Governing Trade Union "Solidarność")	Poland
75	Marina Martinez-Garcia	CDTI-SOST	Belgium
76	Marleen Roelofs	Ghent University	Belgium
77	Martha Papathanassiou	INDIGO MED	Greece
78	Martina Rossi	Maritime Technology Cluster FVG	Italy
79	Miguel Marques	Skipper & Wool	Portugal
80	Mónica Quesada Peña	CLUSTER MARÍTIMO DE CANARIAS	Spain
81	Osman Turan	University of Strathclyde	UK
82	Paula Kellett	European Marine Board	Belgium
83	Peter Scheijgrond	Bluespring	The Netherlands
84	Publio Beltrán	TSI-TÉCNICAS Y SERVICIOS DE INGENIERÍA, S.L.	Spain
85	Rachel Bonnici	The Heritage Porthole	Portugal
86	Ramiro Vázquez López	Xunta de Galicia	Spain
87	Raquel Rodríguez Hernández	CIFP Ferrolterra - Consellería Educación Xunta de Galicia	Spain
88	Renato Pires	FRCT	Portugal

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89	Ricardo Faustino	ISQ	Portugal
90	Riccardo Felici	Offshore Wind Consultants	Vietnam
91	Rita Inko-Tariah	Solari Skills And Entrepreneurship Development Centre (SSEDC)	Nigeria
92	Sara Oliveira	Qsr	Portugal
93	Sarai Vila Cid	Fundación Galicia Europa	Belgium
94	Shanna Vanblaere	EMBRC	Belgium
95	Silvia Torres López	CETMAR	Spain
96	Stephen Davies	European Commission	Belgium
97	Susana Bastón Meira	CETMAR	Spain
98	Teresa Vereterra	European Boating Industry	The Netherlands
99	Tim Deprez	Ghent University	Belgium
100	Tom Hill	Marine Energy Wales	UK
101	Tomás Fernández	CT Ingenieros	Spain
102	Tony Devlin	Unite the Union	UK
103	Vanessa Huertas Mosquera	ASIME	Spain
104	Vanessa Lobo Casas	Fundación Galicia Europa	Belgium
105	Vicente Diaz Casas	Universidade da Coruña	Spain
106	Virginia Álvarez-Acevedo García	NAVANTIA S.A. S.M.E.	Spain
107	Vyte Ezerskiene	EACEA	Belgium
108	Yoanna Ivanova	Association "Forum"	Belgium
109	Yuri Demchenko	University of Amsterdam	The Netherlands
110	Zara Teixeira	MARE-Marine and Environmental Sciences Centre	Portugal
111	Zeltia Lado	Consellería de Empleo e Igualdad. XUNTA DE GALICIA	Spain

