

Summary of SkillSea strategy, key findings and recommendations



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Foreword

The most important deliverable of the 4-and-a-half-year European project **SKILLSEA** is the strategy document which describes the main findings of the project and its main conclusions and recommendations. Considering the size and scope of that document, the consortium partners have decided to develop this separate summary for those readers who prefer to be informed about the main project's results.

Education and training for maritime professionals are evolving. Vessels are equipped with new (green) technologies, shipping is undergoing rapid digitalisation and new forms of collaboration are demanding different capabilities in leadership and resilience. Education and training have to adapt to such changes.

SKILLSEA has investigated the current state of seafarer education and training throughout Europe, developed scenarios for the maritime industry for the future and proposes a vision and an educational solution for future training of maritime professionals and for Maritime Education and Training (MET) continuous adaptation.

MAIN FINDINGS

Key industry trends are sustainability and digitalisation.

Current education and training are not fit on an "as is" basis for current and future challenges.

Skills of European maritime professionals have to be made future-proof.

CORE SKILLSEA OUTCOMES



The network cooperation of European METs through MET-NET is key to cooperate and collaborate better for future-proof Maritime Education and Training.



A versatile set of Toolbox-based and flexible at EQF level Educational Packages on Green skills, Digital skills, Leadership, Intrapreneurship & Innovation and STEM skills has been devised by **SKILLSEA** for upskilling and reskilling maritime transport professionals..



Specific **SKILLSEA** tools for MET internationalisation, measuring employability, forward looking MET evaluation and MET stakeholder cooperation, for boosting intrasectoral mobility and career attractiveness simultaneously through focusing on the up to date content of new Maritime skills have been designed across **SKILLSEA** deliverables.



To secure the provision of future-proof skills the GAPMMMET automatic subscribed survey mechanism has been designed to be operated by the SkillSea- established structural cooperation of METs in Europe, MET-NET, with the latter convening the European Maritime Skills Forum (E-MSF).



Together with MET-NET, the E-MSF forum is a key part of the legacy of SkillSea for knowledge transfer from maritime stakeholders to the educational sector and for forward-looking European MET provision.

Synopsis of SKILLSEA Strategy

Key Elements:

- Rapid emerging technologies, digital transformation on ships and in ship operations and an increased focus on sustainability require the development of future-proof skills for maritime professionals, resulting in a substantial need for upskilling and reskilling.
- While a widespread introduction of autonomous ship operations offered by digitalisation and emerging technologies is not expected in the short or medium term, the increasing use of new technologies will continue to change practices onboard ships and in ship operations, intensifying the need for maritime professionals to have an in-depth understanding of the complex systems on their vessels.
- The impact of regulatory requirements for more sustainable shipping operations, including the use of 'greener' fuels and other measures to reduce emissions from shipping, is expected to be strong in the short to medium term, similarly requiring new and enhanced skills to ensure the health and safety of seafarers and safe and environment-friendly operations.
- Occupational profiles of maritime professionals at sea are changing slowly. Related trends may accelerate and require close monitoring which can be achieved if Maritime Education and Training providers cooperate among themselves and also with wider MET stakeholders.
- While increasing the need for the close following of these trends and the subsequent adaptation of MET curricula, the use of modern technology and skills to respond to the needs of digitalisation and sustainability can promote the repositioning of maritime shipping professions at sea and ashore as a prospective career where newcomers to the labour market can apply their talent in innovation, widen their knowledge on sustainability issues and deepen their mastery of digitalisation; new skills support mobility and can enhance the attractiveness of a career in shipping, if appropriately integrated in MET provision including life-long learning.
- Strategic cooperation among MET providers through the MET-NET network established by **SKILLSEA** should strengthen - and be strengthened by - mobility opportunities among METs. The **SKILLSEA** solution includes a number of tools for facilitating selection of strategic partners among METs and for mutual recognition of acquired credits.



- MET stakeholders across Europe should build on the provision of future-proof skills for supporting mobility -within the sector itself or to sectors linked backwards or forward to shipping or even unrelated to it - by highlighting the versatile character of such skills and increasing thus career attractiveness.
- Employability in the sector of maritime shipping can be supported by both the proposed **SKILLSEA** tool to allow measuring the inclusion of relevant elements in MET curricula or the self-assessment of prospective maritime professionals, but also by the proposed mechanism for measuring gaps, for which input by MET stakeholders through surveys will be coordinated initially mainly by MET-NET with the eventual involvement of the European Maritime Skills Forum (E-MSF).
- In the context of a long-term action plan , the **SKILLSEA** solution is complemented by the proposal for the creation of a E-MSF, which can allow the exchange of information and of best practices while serving also as a two-way information channel between European METs and European MET stakeholders; the creation of such a forum is deemed necessary for accelerating adaptation of METs to new developments in the industry, whether technological, organisational or related to sustainability and regulatory requirements.

A common vision across the SKILLSEA wide partnership

SKILLSEA Strategy Key Findings encapsulates the final results of a four and a half-year long project and reflects the collaboratively formed common vision of the partnership for solving the triple knot of the delivery of new future-proof skills required for maritime shipping - as digitalisation and sustainability change operational requirements - while increasing mobility and career attractiveness for current and prospective maritime professionals. Forming such a vision involves understanding the diversity of current shipping industry orientations and of Maritime Education and Training national policies across Europe and encompassing through one solution the variety of national MET European Qualifications Framework levels in EEA countries, designing relevant educational material, specific strategies and tools for MET structural cooperation and connection with MET stakeholders in Europe, for internationalisation and evaluation for future-proof MET education along with a prioritised list of policy recommendations and actions.

A methodology for sectoral stakeholder views' tapping and consensus building

The formulation of a shared solution was achieved by the project partnership focusing on common elements rather than on diverging ones and by using consensus-building methodologies such as Delphi and validation surveys; in the process, the inclusion of representatives of the main stakeholders in this sectoral alliance on skills for the sector played a key role in the successful completion of the tasks. Across **SKILLSEA** reports, a large number of surveys, focus groups and various consultations with stakeholders, informed the project, including the wide participation of maritime professionals, MET instructors and MET managers, along with employers; critical surveys such as those on skills' gaps and future resilience, on evaluation and internationalisation benefited from the input of thousands of participants.

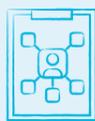
Size and level of external input to **SKILLSEA** strategy



No of strategy external surveys =
11



No of external survey responses =
3.552



No of strategy focus groups =
5



Key findings of the SKILLSEA reports



1 Sustainability, digitalisation and autonomy of operations

The trends towards sustainable and digital & smart shipping are the key drivers of current industry change. While a widespread introduction of autonomous vessels is not expected in the short or medium term, gradual implementation of supporting technology will continue to change onboard operations, while the impact of fuel transition is estimated to become stronger already by the short to medium term (SkillSea D3.1 & SkillSea D1.1.3 reports).

2 The impact of current key trends on skills of maritime professionals

Rapid technological change, digital transformation and an increased focus on sustainability, challenge future-proof skills for maritime developments, resulting in a substantial need for upskilling and reskilling (SkillSea D3.1 & D3.2 reports).

3 Slowly emerging occupational profiles

New skills and competences should be promoted globally through the revised STCW Convention and Code for harmonised implementation via the International Maritime Organization (IMO). New occupational profiles are not expected to emerge in the short to medium term, but new ones may be added in the longer term. However, long-term developments beyond, depend on unforeseeable digital/technology breakthroughs or sustainability challenges. Opportunities offered by digitalisation, sustainability and emerging technologies should be effectively applied in education, reskilling and upskilling to render seafarers future-ready (SkillSea D3.1, D3.2 & D1.2.3 reports).

4 A commonly perceived need for updating educational material

SkillSea surveys revealed common perceptions - at varying degrees - among industry employers and maritime professionals on outdated skills and educational material. There was also clear evidence of a common perception of the level of the short-term resilience of current skills, especially in new areas such as digitalisation and automation onboard and ashore. (SkillSea D2.3 & D3.3 reports).

5 A toolkit approach serves the diversity of European MET systems

SkillSea responded to the assessed industry new trends by delivering an adaptable toolbox approach to create generic syllabi for upskilling and reskilling, flexible in terms of EQF level. Emerging training needs such as occupational safety and health (OSH) and security are thus also supported. The toolbox approach cultivates lifelong learning and supports intra-sectoral mobility along with management of change (SkillSea D2.1 & D2.2 reports).

6 Upgraded MET content highlights more attractive career paths

The range of career paths open to maritime professionals is enhanced by upgrading MET education via the inclusion of modern skills required today by a number of industries inside, at the fringe, or beyond the maritime sector. Highlighting the nature of these skills has the potential to attract a more diverse pool of prospective maritime professionals. In turn, increased maritime career attractiveness, which is promoted thus, can redress seafarer shortages and address qualification mismatches. Attractiveness-focused campaigns should highlight technological developments, digitalisation, sustainability and intra-sectoral mobility to show career opportunities related to contemporary highly demanded skills (SkillSea WP4 reports).

7 Strategy and strategic support tools for evaluation, internationalisation, employability, cooperation

International cooperation of METs on the basis of a roadmap for long-term internationalisation strategy (SkillSea D3.4 report), cooperation of MET with its stakeholders (SkillSea D3.5 & SkillSea D5.2 report) and forward-looking evaluation of curricula on the basis of their response to the key current trends in shipping, can enhance quality of education and training as well as – ultimately - increase employability (D3.3). Future-proof Maritime Education and Training can benefit substantially, if validated by stakeholders especially if the latter cooperate with MET providers for knowledge-transfer, as the case is already in some European countries (SkillSea D3.5 & D5.2 reports). To assist MET providers, maritime professionals, and other MET stakeholders in the strategic internationalisation, strategic cooperation and strategic evaluation processes and for allowing versatile employability assessments of skills' profiles, four innovative tools have been elaborated:

I To support strategic cooperation of MET stakeholders of diverse but appropriate as per case types, a Stakeholder Cooperation for MET Tool - S.CO.MET.T strategy tool has been created (SkillSea D3.5 report).

II For evaluating curricula suitability in an evolving industry setting, a versatile AHP-based Strategic Evaluation MET Tool (S.T.E.ME.T) was designed (SkillSea D3.2 report).

III To assess the suitability of MET curricula for employability and the individual employability of maritime professionals, a versatile Shipping Employability AHP-Based Anticipating Tool (S.E.A.B.A.N.T) has been devised. The specifications for the gaps measuring mechanism for MET, (GAPMMMET), have also been devised to increase employability (SkillSea D3.3 report).

IV To support the internationalisation process of METs, two tools have been devised: The Strategy Direction Location (STRA.D.L) can assist in locating partners according to needs. The Transfer International Tool (Trans. I.T.) can be used to transfer credits, accommodating the diversity of European national METs systems (SkillSea D3.4 report) while being based on EQF foundations.

8 Policy recommendations & strategic actions proposed

The overall strategic solution of SkillSea to the triple-knot of skills' gaps, low mobility and decreased maritime career attractiveness - which passes by highlighting the focus on modern generic skills of the proposed educational upskilling and reskilling flexible SkillSea VET solution is included in the full D3.7 Strategy Key Findings together with priority list of Policy Recommendations (PRECs) and Specific Policy Actions (SAPs) built by consensus and validated internally and externally through relevant methodologies. Each of the core sections of the strategy report includes a functional final section with key takeaways and, per case, relevant PRECs and SAPs.

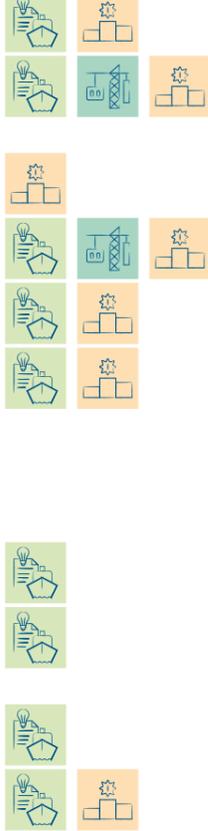


9 SkillSea legacy: MET structural cooperation and openness through MET-NET and E-MSF

European cooperation amongst MET providers becomes effective through the SkillSea designed and initiated, in spring 2023, Maritime Education and Training Network (MET-NET); such a form of structural cooperation will support high-quality provision of maritime education and training, promoting best practice exchange and efficient use of educational resources/infrastructure (SkillSea D2.3 report). In parallel, the proposed by SkillSea European Maritime Skills Forum (E-MSF) would assist in fostering cooperation among MET providers and MET stakeholders, in increasing knowledge transfer and promote the MET-NET initiated biennial surveys which are the basis of the GAPMMMET mechanism for gaps measurement devised by the project (SkillSea D3.5 report). Along with the delivery of an educational solution - short and medium-term future-proof - and of strategic tools designed for METs, the creation of MET-NET and the proposal for E-MSF are considered key strategic outcomes of the project, worthy of further development through follow-up projects and/or EU-supported initiatives (SkillSea D2.3, D3.5 & D5.2 reports).

SKILLSEA key findings, policy recommendations and proposed actions

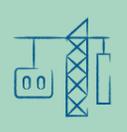
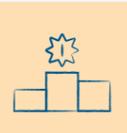
	SKILLSEA key findings cover the following elements of the call	SKILLSEA key findings (in brackets references to deliverables)	Key policy recommendations	Suggestions of concrete actions for policy implementation	Stakeholders to take action (see page 22)
1	<p>What are the scenarios and trends in the maritime sector?</p>	<p>Impact of new fuels and autonomous vessels</p> <ul style="list-style-type: none"> While a widespread introduction of autonomous ship operations offered by digitalisation and emerging technologies is not expected in the short or medium term, the increasing use of new technologies will continue to change practices onboard ships and in ship operations, intensifying the need for maritime professionals to have an in-depth understanding of the complex systems on their vessels. The impact of regulatory requirements for more sustainable shipping operations, including the use of 'greener' fuels and other measures to reduce emissions from shipping, is expected to be strong in the short to medium term, similarly requiring new and enhanced skills to ensure safe and environment-friendly operations together with the health and safety of seafarers (D1.21, D1.1.2, D1.1.3, D1.2.2, D1.2.3, D3.1 and D3.3.) 	<p>1a Closely monitor the evolving technologies in maritime transport in order to gather the most accurate, up-to-date, unbiased view of the developments that are taking place.</p> <p>1b Update scenarios for future development on a yearly basis.</p>	<ol style="list-style-type: none"> Liaise in E-MSF with the most important representatives of the maritime transport sector and the technology providers for the sector. Visit forward-looking seminars and conferences. Follow relevant (scientific) publications (e.g. DNV studies). Define consequences of scenarios and trends for education needs. 	
2	<p>What are the most significant forces affecting the maritime sector, and how are the corresponding trends influencing skills gaps/shortages?</p>	<p>Changes and the need for new and upgraded skills</p> <ul style="list-style-type: none"> Rapid emerging technologies, digital transformation on ships and in ship operations and an increased focus on sustainability require the development of future-proof skills for maritime professionals, resulting in a substantial need for upskilling and reskilling. The SKILLSEA surveys revealed common perceptions - at varying degrees - among industry leaders and maritime professionals on outdated skills and educational material. There was also a common perception of the level of the short-term resilience of current skills, especially in areas such as digitalisation and automation on ships and in ship operations, and ashore (D3.1, D3.2, D1.1.2 and D1.1.3, D3.3) 	<p>A continuous identification of skills gaps by relevant stakeholders (among others, researcher institutions, knowledge providers, maritime industry, regulators) and stimulation of concerted action to close the gaps.</p>	<ol style="list-style-type: none"> Organise regular meetings (e.g. once each year) initiated by the European Maritime Skills Forum (E-MSF; worked out in conclusion 10) with the support of MET-NET to bring the relevant stakeholders together to provide input for closing the skills gaps. Identify needed skills in cooperation with the maritime transport sector and where relevant comparable economic sectors. Presentation of analysis in E-MSF, a panel discussion by experts and dialogue on the impact of these results. Education providers to adapt Educational Programmes and/or upskilling and reskilling. E-MSF, with the support of MET-NET will initiate the skills gap analysis tool survey and present findings, compared with EMSA and others' findings. Send feedback to EMSA and make it available to member states' regulatory bodies and other interested parties through the SKILLSEA portal. Members may distribute further in their networks. 	      
3	<p>What are the significant impacts on occupational profiles?</p>	<p>Emerging occupational profiles</p> <ul style="list-style-type: none"> Occupational profiles in the shipping industry should, as much as possible, be linked with the functions set out in the STCW Convention to ensure that all functions in STCW are reflected in the ESCO occupational profiles. New occupational profiles are not expected to emerge in the short to medium term. However, new ones may appear in the longer term, as developments beyond 10 years ahead can be expected as a consequence of digital/technology/sustainability breakthroughs. <p>Additional skill sets may likely change the current occupational profiles in the short and medium term (D3.1, D3.2 and WP 1.2.3)</p>	<p>3a Align ESCO system and structure with IMO decisions on STCW.</p> <p>3b Improve the focus on additional skills instead of the outdated focus on new job profiles.</p> <p>3c Opportunities offered by digitalisation, sustainability and emerging technologies should be effectively applied in education, reskilling and upskilling to render seafarers future-ready.</p>	<ol style="list-style-type: none"> Maritime Training and Education Network (MET-NET) cf. 7 infra.): look at best practices and implement them in relation to skillsets. Integrate the profiles Electrical Technical Rating (ETR) and Electrical Technical Officer (ETO) in ESCO. 'Translate' the significant impact of developments in maritime transport into new skills that can be transferred to educational programmes. 	  

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4	<p><i>Which actions must be taken to reduce related skill gaps, and at what level? How can some of the identified skills gaps be closed?</i></p>	<p>Toolbox approach</p> <ul style="list-style-type: none"> • SKILLSEA has responded to the assessed industry trends by delivering an adaptable toolbox approach to create tailor-made syllabi for upskilling and reskilling, flexible in terms of EQF level. Emerging training needs such as safety and security are thus also supported. • The toolbox approach cultivates lifelong learning and supports intra-sectoral mobility (D2.1, D2.2). • Updating educational material • Educational Packages Green Skills, Digital Skills, Leadership, Intrapreneurship & Innovation, STEM, Train the Trainer, and a guide have been delivered for the toolbox; these support future responses to new and emerging educational needs, increasing attractiveness and employability (D3.3, D2.1, D2.2, D1.1.3, D4.4) 	<p>4a Encourage education providers to apply the toolbox approach to close skill gaps and further qualify maritime professionals.</p> <p>4b Enrich MET study programmes with broader upskilling/upgrading topics beyond STCW requirements, such as leadership, resilience, communication, and English language skills.</p>	<p>Current SKILLSEA partners:</p> <ol style="list-style-type: none"> 1 present the SKILLSEA project development and its results, 2 Participate in congress/seminars at national/international/ European level, 3 Use/promote the SKILLSEA website to get more people connected/linked. <p>Future MET-NET partners:</p> <ol style="list-style-type: none"> 1 Organise a yearly Maritime Day Congress, 2 Organise (online) information sessions with MET providers and other relevant stakeholders to: <ul style="list-style-type: none"> – Promote the relevance and benefits of the SKILLSEA toolbox and Educational Packages (EPs); – Encourage, stimulate, and support MET providers in applying the toolbox with common terminology and the developed EPs; – Continuously update the toolbox and EP contents (which includes maintaining this capacity in terms of structure and finances). 3 Support the collaborative development of new EPs in MET-NET. <ul style="list-style-type: none"> – MET providers integrate EPs in the educational structures of European member states for certification and academic recognition. – Increase staff mobility. 	
5	<p><i>Which concrete, sustainable solutions are needed for the qualitative and quantitative mismatch between demand and the supply of labour?</i></p>	<p>As well as enhancing the educational offer, improved mobility between onboard and onshore positions of all educational levels will be of vital importance to maintain the skills level of current and future employees in maritime transport and, whenever possible, to expand the number of staff positions onboard (D1.2.2).</p>	<p>5a Improve and promote opportunities for career mobility and progression.</p> <p>5b Develop appropriate solutions for systemic blockages which hamper mobility.</p> <p>5c Promote lifelong learning to foster mobility in the context of the impact of emerging trends.</p> <p>5d Training should be generic to facilitate mobility of seafarers across a broad range of ship types and trades.</p> <p>5e Remove (official and unofficial) obstacles restricting intra-sectoral mobility.</p>	<ol style="list-style-type: none"> 1 Promote the use of relevant tools developed by SKILLSEA. 2 Raise awareness of the importance of mobility among industry representatives and policymakers at regional and national levels at relevant events. 3 Investigate the potential for regulatory change to improve the possibilities of mobility. 4 Promote the visibility of career opportunities onshore, offshore, and on ships and in ship operations. 5 Investigate the potential for recognition of prior learning. 6 Where appropriate, MET providers should engage further with the European Credit System for Vocational Education and Training (ECVET) with the aim of improving the recognition and transferability of individuals' learning outcomes achieved in both formal and non-formal contexts. 7 Raise awareness of the EPs through the E-MSF; ask users' preferences on delivery. 8 Use SKILLSEA EPs to deliver updated knowledge continuously (by the education provider of the customer's choice). 9 Inform of options for micro-credentials (education providers to initiate). 10 Provide and inform of updates to the ESCO database through E-MSF (MET providers to initiate). 	

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6	<p><i>How to increase the attractiveness of the maritime sector?</i></p>	<p>Improve and promote the attractiveness of the maritime transport sector</p> <ul style="list-style-type: none"> The opportunities of the maritime transport sector and the range of maritime career paths should be promoted to attract a more diverse pool of prospective maritime professionals. Increased maritime career attractiveness can address maritime professional shortages and qualification mismatches. National campaigns fit for local conditions could be coordinated, though not necessarily integrated, on a pan-European basis. Campaigns can highlight technological developments, digitalisation, sustainability, and intra-sectoral mobility to show career opportunities related to contemporary skills (WP4 deliverables). 	<p>6a Dispel outdated and inaccurate perceptions of the maritime industry to improve its attractiveness.</p> <p>6b Take concerted action to improve the visibility of maritime professionals' different possible career paths through public campaigns at the European level, in particular, directed to young people.</p>	<ol style="list-style-type: none"> Communicate current characteristics of the maritime transport sector instead of 'old', outdated images. Use more general themes such as 'the ocean' to attract more interest for the sector, in particular to young people. Involve a specialised agency. Promote the widespread use of dissemination tools developed by SKILLSEA. Organise a yearly event with MET providers and industry focusing on sectoral developments, (new) skills, career paths and opportunities, new jobs, mobility, etc. Involve the young to promote the maritime sector and begin introducing maritime transport in secondary education. Better target possible recruitment from other, current, maritime sector students. Analyse competences (ESCO) and the labour market to identify possible equivalences and gateways for students from other maritime sectors. 	
7	<p><i>Which benefits can be derived from fostering increased European MET cooperation?</i></p>	<p>MET cooperation</p> <ul style="list-style-type: none"> The development of the Maritime Education and Training Network (MET-NET), which was started by SKILLSEA, remains important. MET-NET is necessary to achieve a level-playing field with other organisations of MET stakeholders. MET-NET will enable the sharing of resources and expertise to enhance the education and training provided to maritime professionals. Improved cooperation increases knowledge sharing, builds trust, and inspires further developments and progress, thus contributing to increased learning and mobility within the sector (D2.3, 3.1, 3.4, 1.1.3, 1.1.2) 	<p>7a Stimulate participation in MET-NET for the exchange of ideas and knowledge and for the discussion on identifying skills gaps, stimulating concerted actions to close those gaps.</p> <p>7b Capitalise on the cooperation among education providers to overcome challenges to future-proofing MET.</p> <p>7c MET providers should be encouraged to share and extend the educational packages to close skill gaps and further qualify maritime professionals.</p>	<ol style="list-style-type: none"> Industry presentations of innovative developments. MET providers/academia exchanging knowledge/experience regarding common issues (staff shortages, skills gaps, etc.). Promoting new technologies and solutions through channels to stimulate participation. Organise workshops, seminars, summer schools, traineeships, etc. (face-to-face/online). Knowledge transfer. Facilitate mobility. Share best practices on education. Improve recognition to facilitate mobility. Exchange information to promote the toolbox and the Education Packages. Disseminate newly developed educational packages. Organise workshops for teachers. Encourage critical review of educational packages in MET. 	    

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8	<p>How can MET-specific tools assist in MET curricula improvement, assessing employability, identifying cooperation between MET partners, and supporting student mobility?</p>	<p>Strategic tools Strategic tools have been devised in the context of SKILLSEA to assist MET providers, maritime professionals, and other MET stakeholders:</p> <p>A A Strategic Evaluation MET Tool (ST.E.ME.T) was designed to evaluate curricula suitability (D3.2).</p> <p>B An Analytic Hierarchy Process (AHP) tool has been produced (D3.5) to support MET stakeholder strategic partnership form, the Stakeholder Cooperation for MET Tool - S.CO.MET.T</p> <p>C A Shipping Employability AHP Based Anticipating Tool (S.E.A B.AN.T) has been devised to assess the suitability of MET curricula for employability and the individual employability of maritime professionals. The specifications for a gaps-measuring mechanism have also been devised to increase employability (D3.3 and D2.2).</p> <p>D Two tools have been devised to support the internationalisation process of METs. The Strategy Direction Location (STRA.D.L) can assist in locating partners according to needs. The Transfer International Tool (Trans. IT) can be used to transfer credits, accommodating the diversity of European national MET systems (D3.4) while being based on EQF foundations (D3.4)</p>	<p>8a European MET study programmes should be encouraged to include topics related to desired skills in a common and transparent format that is easy to update and document (such as the toolbox) to foster greater compatibility of MET study programmes..</p> <p>8b European MET stakeholders should take into account existing different approaches to organising and structuring education, training and certification, including formats of delivery of training.</p>	<ol style="list-style-type: none"> 1 Define desired skills. 2 Use the formats and tools developed in SKILLSEA for current and future educational programmes and modules in the toolbox framework. 3 Raise awareness of SKILLSEA Toolbox as an appropriate response to new skills needs. 4 Support MET providers in the inclusion of developing topics and skills. 5 Put the Train-the-Trainer guides of the developed tools and instruments into use. 6 Involve MET providers in the continuous updating of teaching materials. 	
9	<p>How can the European blueprint methodology assist in overcoming maritime sector challenges and foster increased stakeholder cooperation?</p>	<p>Maritime Skills Forum Establishing a sustainable European Maritime Skills Forum (E-MSF) will assist in sharing best practices, fostering cooperation among MET providers and maritime stakeholders, and increasing knowledge transfer. (D3.5 and D5.2).</p>	<p>9a E-MSF should be promoted as a European instrument for harvesting synergies with related sectoral projects.</p> <p>9b Inform ESCO on relevant developments of maritime professions in EU projects.</p>	<ol style="list-style-type: none"> 1 Demonstrate the feasibility and potential contribution of the E-MSF to stakeholders. 2 Develop the vision, mission, objectives and activities of E-MSF into a long-term action plan. 3 Use E-MSF to share knowledge and tools amongst the stakeholders. 4 Involve relevant stakeholders in the creation of E-MSF. 5 Incorporate the E-MSF page in the SKILLSEA website. 6 Encourage social partners to take the lead. 7 Recognise and support E-MSF as the centre for the exchange of relevant EU-funded research. 8 Create a common gateway website for completing and running EU-funded research in the area of MET (and more general maritime transport). 9 During E-MSF events, a dialogue between regulatory bodies, social parties and MET providers on improved recognition of seafarers' training, experience and qualifications can occur. ESCO can be informed on latest developments. 10 Encourage the update of maritime profiles in accordance with STCW requirements. 11 More fluid communication among national authorities, regulators, industry, and universities. 12 Evaluate current European grant programmes on their opportunities to finance development of European sectoral cooperation. 	

STAKEHOLDERS

-  Maritime Education and Training Institutes
-  Maritime Transport Sector
-  Competent authorities and other regulatory bodies



- Constanta Maritime University
- Danish Maritime Authority
- Danish Shipping
- École Nationale Supérieure Maritime
- ESA
- Estonian Maritime Academy
- Eugenides Foundation
- European Community Shipowners' Associations
- European Transport Workers' Federation
- Fleetwood Nautical Campus
- ForMare
- Hamburg School of Business Administration
- Liverpool John Moores University
- National Maritime College of Ireland
- Nautilus
- Norwegian University of Science and Technology
- Sea Europe
- Secrétariat général de la mer
- Sindicatul Liber al Navigatorilor
- STC Group
- Stena
- Svendborg International Maritime Academy
- University of Cadiz
- University of Rijeka
- University of the Aegean

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