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Skills of tomorrow in the European maritime sector

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Responsible partner:	SEAEU
Author:	Monia El faziki
Co-authors:	TUAS: Suvi Kivelä, Juha Valtanen FMV: Ana Mendibil
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Executive Summary

This report complements Deliverable D2.5, the *LeaderSHIP Sectoral Skills Strategy for European Maritime Manufacturing*, by looking more closely at how collaboration between industry, education and training providers, as well as between companies themselves, was developed throughout the project. It considers not only the results of this cooperation, but also the way in which different stakeholders worked together and contributed to the development of the project objectives.

The European maritime manufacturing sector, representing around €125 billion annual production, more than 576,000 direct jobs, approximately 300 shipyards and over 22,000 maritime equipment suppliers and service companies, is facing significant skills challenges. Technological developments, digitalisation and the green transition are changing skills needs rapidly, while companies continue to experience difficulties in recruiting workers with the right profiles. Addressing these challenges requires closer and more continuous cooperation between industry and education and training providers. It also requires companies to exchange experiences and discuss common challenges, including in areas where they may normally compete.

LeaderSHIP provided a framework for this dialogue. Companies, industry associations, trade unions, universities and VET providers worked together through workshops, partner meetings, online discussions and bilateral exchanges. A particularly important part of this process was the organisation of dedicated discussions with industry representatives and education and training providers, followed by joint exchanges on common challenges and possible solutions. This allowed the different groups to first express their own needs and perspectives and then identify areas where greater cooperation was needed.

The experience also highlighted the importance of openness and trust. Participating companies shared experiences related to recruitment, training and skills shortages and discussed approaches with other companies facing similar challenges. At the same time, exchanges with universities and VET providers allowed industrial needs to be confronted with the realities and constraints of education and training systems. Differences in perspective were not necessarily an obstacle; in many cases, they helped participants better understand the challenges faced by other stakeholders and contributed to more balanced conclusions.

These exchanges are reflected particularly strongly in Pillar 3 of the Sectoral Skills Strategy, which focuses on strengthening cooperation between industry and education. The Strategy recognises the value of existing partnerships while also identifying the need for more continuous cooperation, stronger work-based learning, greater interaction between teachers and industry professionals, and better mechanisms for transferring industrial knowledge and experience.

Drawing on the experience of LeaderSHIP, this report identifies the main lessons, enabling conditions and remaining challenges for effective business–education and inter-company collaboration, including the specific constraints faced by SMEs. It also considers how the

cooperation developed through the project can be sustained during the implementation of the Sectoral Skills Strategy.

The main lesson from the project is that effective skills cooperation depends not only on bringing the right stakeholders together, but on creating the conditions for them to exchange views openly, understand each other's constraints and work towards shared solutions. Maintaining this dialogue beyond the project will therefore be important for translating the LeaderSHIP Sectoral Skills Strategy into practical and lasting action.

1. Introduction

The European maritime manufacturing industry is undergoing significant transformation. Green and digital transitions are changing technologies, production processes and, consequently, the skills required by shipyards, maritime equipment manufacturers and service providers. At the same time, the sector is facing an ageing workforce, recruitment difficulties and increasing international competition. Responding to these challenges requires coordinated action and closer cooperation between companies, education and training providers, social partners and public authorities.

Within this context, Deliverable D2.5 of the LeaderSHIP project, the *Sectoral Skills Strategy for European Maritime Manufacturing*, provides a common framework for addressing the sector's current and future needs and challenges. Structured around four strategic pillars and four objectives, the Strategy reflects the contributions and perspectives of the different stakeholders involved in the project.

This report complements D2.5 by focusing specifically on one of the key dimensions that emerged throughout its development: collaboration between industry and education and training providers, as well as cooperation and exchange between companies. These two dimensions are closely connected. Better alignment between education and industrial needs requires companies to communicate clearly about changing skills requirements, while cooperation between companies helps identify challenges that are common to the sector rather than specific to individual businesses.

The LeaderSHIP consortium brought together companies, national and European industry associations, trade unions, universities and VET providers. Throughout the project, all the partners worked together through dedicated workshops, partner meetings, online discussions and bilateral exchanges. This provided different stakeholders with opportunities to share their experiences, compare perspectives and jointly discuss both the challenges facing the sector and possible responses.

An important element of this process was the willingness of participants to discuss not only areas of agreement, but also different views and experiences. Companies of different sizes and from different parts of the maritime manufacturing value chain could compare approaches to recruitment, training and skills development, while education and training providers could bring their own perspective on curricula, learning methods and the practical constraints of adapting training provision. These exchanges contributed to the development of a Strategy that reflects different realities across the European maritime manufacturing ecosystem.

1.1 Purpose and Scope of this Report

The purpose of this report is not to repeat the content of the Sectoral Skills Strategy, but to examine more closely the collaboration that supported its development and the lessons that can be drawn from this experience.

This report focuses on how LeaderSHIP created opportunities for interaction between industry and education, how companies exchanged experiences on shared skills challenges, and which conditions helped make this cooperation effective. Particular attention is given to the findings reflected in Pillar 3 of the Sectoral Skills Strategy, *Strengthening Cooperation between Industry and Education*, which translates many of these discussions into concrete strategic directions.

The report also considers the limitations and challenges associated with sustained cooperation, particularly for SMEs and smaller organisations with fewer resources available for training and stakeholder engagement. Finally, it looks at how the collaborative practices developed through LeaderSHIP can be maintained during the implementation of the Strategy. The following sections therefore move from the rationale for stronger cooperation to the practical experience of collaboration within LeaderSHIP, before examining the lessons learned, the findings of Pillar 3, the main enabling conditions and challenges, and recommendations for strengthening and sustaining cooperation in the future.

1.2 Why This Matters Beyond the Strategy Document

The value of a skills strategy depends not only on the quality of its recommendations, but also on the extent to which the stakeholders concerned recognise themselves in the process and are willing to contribute to implementation.

In LeaderSHIP, the Strategy was developed through repeated exchanges between industry, education and training providers, and social partners. This helped create a stronger understanding of the different realities facing each group and supported the development of recommendations grounded in practical experience.

The collaborative process is therefore relevant beyond the Strategy itself. It provides useful lessons on how skills cooperation can be organised, how trust and continuity can be built between different stakeholders, and how similar approaches could support other sectoral, regional or European initiatives.

2. Strategic Rationale for Business–Education Collaboration

Skills development in maritime manufacturing depends on continuous interaction between companies, education and training providers and other sectoral stakeholders. Rapid technological change makes this particularly important, as neither industry nor education can anticipate and respond to evolving skills needs effectively in isolation. The following sections examine this challenge from both the business–education and inter-company perspectives.

2.1 The Skills Mismatch as a Shared Challenge

The skills mismatch cannot be understood simply as a question of education and training systems not producing enough workers with the right qualifications. The LeaderSHIP discussions highlighted a more complex picture in which both industry and education have an important role to play.

Companies have the practical knowledge needed to identify emerging technologies, changing occupations and the competences required in the workplace. However, anticipating future skills needs with sufficient precision can be difficult in an industrial environment that is itself changing rapidly. Education and training providers, on the other hand, have the pedagogical expertise needed to translate skills needs into curricula and learning programmes, but require sufficiently clear and continuous information from industry to do so effectively.

Closer cooperation helps bridge these two perspectives. Regular exchanges allow industry to communicate emerging needs earlier, while education and training providers can explain how these needs can realistically be incorporated into programmes and what resources or time may be required. The objective is therefore not simply for one side to respond to the other, but to develop a more continuous process of jointly identifying and anticipating skills needs.

Cooperation between industry and education is only one part of the equation. Collaboration between companies is also important because many of the skills challenges facing maritime manufacturing are shared across the sector. Individual companies have detailed knowledge of their own recruitment and training needs, but these experiences do not necessarily show whether a particular shortage is company-specific, regional or part of a wider European trend. Bringing together companies from different countries, sizes and parts of the maritime manufacturing value chain makes it possible to compare experiences and identify common patterns.

This was particularly relevant within LeaderSHIP, exchanges between companies helped provide a broader picture of challenges related to recruitment, skills development, technological change and training. They also created opportunities to share existing practices and approaches that could be useful to other partners.

This collective dimension is particularly important for SMEs, which often have fewer resources for dedicated training structures, skills forecasting or regular engagement with education providers. At the same time, their needs may differ from those of large shipyards or equipment manufacturers. Inter-company cooperation therefore provides an opportunity not only to share knowledge and experience, but also to ensure that the different realities across the maritime manufacturing value chain are reflected in the wider discussion on skills.
Identifying shared challenges does not, however, imply a one-size-fits-all approach. European and sectoral cooperation can provide common direction and facilitate exchange, while practical responses need to remain adaptable to different national, regional and company-level realities.

2.2 Moving from Fragmented Responses to a Collaborative Approach

Without effective cooperation, responses to skills challenges risk remaining fragmented. Companies may develop their own training solutions, while education providers may adapt programmes based on incomplete or highly localised information. Valuable initiatives can therefore remain isolated and difficult to replicate, even when several organisations are facing similar challenges.

A more collaborative approach makes it possible to pool information, identify common priorities and better connect existing initiatives. This does not mean that all companies or regions require the same solutions. Maritime manufacturing includes companies of very different sizes, activities and technological profiles, operating within different national education and training systems. Collaboration is valuable precisely because it allows these differences to be discussed while identifying areas where joint action can add value.

This principle informed the development of the LeaderSHIP Sectoral Skills Strategy. Rather than relying on desk research alone, the Strategy was supported by direct stakeholder engagement and the combined experience of companies, industry organisations, trade unions, universities and VET providers. This helped ensure that the resulting priorities reflected both industrial needs and the practical realities of education and training provision.

As highlighted in the methodology of D2.5, the Strategy was therefore developed through a bottom-up process combining available skills intelligence with the collective expertise and experience of the project partners.

3. Building Collaboration within LeaderSHIP

Collaboration within LeaderSHIP was developed through a combination of structured workshops, consortium meetings, online exchanges and bilateral discussions between partners. Rather than relying on a single consultation exercise, the project created several opportunities for companies, industry associations, trade unions, universities and VET providers to contribute their experience and discuss the skills challenges facing the sector.

Several workshops provided concrete opportunities to bring together different parts of the maritime skills ecosystem. The following examples illustrate how LeaderSHIP used workshops for different purposes, from identifying emerging skills needs and training opportunities to directly supporting the development of the Sectoral Skills Strategy.

3.1 Concrete examples of collaboration in practice

3.1.1 Workshop on Training Activities, Bilbao

The LeaderSHIP project organised the 1st Workshop on Training Activities in Bilbao, Spain, bringing together key project partners and maritime stakeholders from across Europe. The workshop focused on training activities, human resource strategies, best practices, and workforce challenges within the European maritime technology sector. It provided a collaborative platform for participants to exchange experiences and explore opportunities to strengthen skills development across the industry. Industry experts Jaime Jacob and Leticia Martinez contributed valuable insights, enriching discussions on current and future workforce needs.

The event supported the objectives of LeaderSHIP4Skills by fostering cooperation between industry, academia, and vocational education and training (VET) providers. Discussions highlighted the importance of building a sustainable European partnership capable of promoting upskilling and reskilling initiatives, mobilising resources for training activities, and strengthening collaboration throughout regional maritime ecosystems.

Representatives from leading academic institutions, including Jesús Mari Blanco from Universidad del País Vasco/Euskal Herriko Unibertsitatea, Juha Valtanen from Turku University of Applied Sciences, and José Luis del Val from the University of Deusto, presented newly developed training courses created within the framework of the project. These programmes are designed to equip both current and future maritime professionals with the knowledge and competencies required to respond to technological, environmental, and industrial transformations affecting the sector.
Vocational education and training centres also played a prominent role in the workshop. Representatives from IFP San Jorge, CIFP Blas de Lezo, Haram Upper Secondary School, and Herøy Upper Secondary School showcased their approaches to workforce development and highlighted successful initiatives supporting skill acquisition, upskilling, and reskilling in shipbuilding and

maritime technology. Their contributions demonstrated the essential role of VET institutions in maintaining a qualified and adaptable workforce.

The workshop enabled participants to deepen their understanding of future skills requirements and the evolving needs of the maritime technology sector. The exchange of experiences and good practices reinforced the commitment of LeaderSHIPto developing a resilient, innovative, and highly skilled workforce capable of supporting the competitiveness and sustainability of the European maritime industry. The project continues to strengthen cooperation between academia and industry, ensuring that training provision remains aligned with future sectoral demands.

CHALLENGE

The maritime manufacturing industry faces increasing skills gaps driven by technological innovation, digitalisation, sustainability requirements, and demographic changes. Companies and education providers must work together to ensure that current and future workers acquire the competencies needed for the sector's green and digital transitions.

ACTION

LeaderSHIP organised the 1st Workshop on Training Activities in Bilbao, bringing together industry experts, universities, VET centres, and project partners to exchange best practices, present new training programmes, and discuss future workforce development strategies.

IMPACT

Participants strengthened cooperation across Europe's maritime ecosystem, identified priority skills needs, shared innovative training approaches, and promoted collaboration between industry, higher education, and VET providers to support a skilled and resilient maritime workforce for the future.

3.1.2 Arctic Outlook Workshop – Turku

The LeaderSHIP project organised the Arctic Outlook workshop in 2025 in Turku, Finland. The workshop focused on the Arctic maritime industry and provided participants with insights into current research, funding opportunities, and industry developments.
The event brought together maritime industry experts, suppliers, seafarers, policymakers, researchers, and educators to discuss emerging challenges and new business opportunities related to Arctic shipbuilding and upcoming icebreaker procurement programmes. Several Finnish maritime companies and university representatives delivered presentations, sharing their expertise and experiences with an audience of 36 participants. Training needs and possibilities to organise these were discussed. LeaderSHIP project created short pilot trainings for the industry.

https://www.linkedin.com/company/100322769/

3.1.3 Workshop on Emerging Skills in Maritime Technology – Turku

The LeaderSHIP project jointly organised the Workshop on Emerging Skills in Maritime Technology together with the CHAlleNGE 4S project in Turku, Finland. The workshop brought together representatives from industry, education and training providers, research organisations, regional development bodies, and maritime stakeholders to explore future competence needs across the maritime value chain.

The event aimed to identify emerging skills requirements resulting from technological change, digitalisation, sustainability challenges, and the evolving needs of the shipbuilding and maritime industries. A dedicated discussion session enabled 33 participants to exchange views on future workforce needs and identify actions that could strengthen the maritime skills ecosystem at regional and sectoral levels. The workshop contributed to the objectives of LeaderSHIP by promoting stakeholder engagement, knowledge exchange, and the development of skills strategies supporting the green and digital transition of the European maritime industry.

This event highlighted the critical role of the maritime technology sector in the economy of Southwest Finland, emphasizing its importance for regional growth. Key takeaways included:

- Foresight Studies: The Southwest Finland Foresight Academy's maritime cluster working group has been proactive in identifying emerging skills essential for the sector.
- Revised Research Agenda: The Association of Finnish Marine Industries (AFMI) has updated its Research Agenda to focus on new skill themes, ensuring the industry's competitiveness and innovation potential.

Training Needs: Specific training requirements for companies like Meyer Turku Ltd were discussed, underscoring the need to equip the workforce with the skills necessary to meet future industry challenges.

https://www.linkedin.com/feed/update/urn:li:activity:7256680586226868224

3.1.4 Sectoral Skills Strategy Workshop – Toulon

The LeaderSHIP workshop in Toulon was organised to support the development of the Sectoral Skills Strategy and brought together industry representatives and education and training providers to discuss the sector's current and future skills needs.

The workshop followed a two-phase approach. Participants were first divided into two groups: industry representatives discussed skills needs, recruitment challenges and workforce development, while education and training providers focused on curriculum development, training provision and cooperation with companies. The groups then came together to compare their findings, identify common priorities and discuss areas where perspectives differed.

This approach allowed both sides to first express their own priorities and constraints before addressing the challenges jointly. The objective was not necessarily to reach immediate agreement, but to develop a better understanding of the different perspectives and identify areas where stronger cooperation could provide practical responses.

The discussions provided direct input to the Sectoral Skills Strategy and were particularly relevant to Pillar 3, *Strengthening Cooperation between Industry and Education*, highlighting both existing cooperation and opportunities for closer and more continuous interaction.

CHALLENGE	ACTION	IMPACT
Different perspectives and obsatcles between industry and education on skills needs, training provision and workforce development.	.LeaderSHIP organised a two-phase workshop combining separate industry and education discussions with a joint exchange.	Participants compared perspectives, identified common priorities and provided direct input to the Sectoral Skills Strategy and Pillar 3.

Workshop questions in Annex I

Taken together, these workshops illustrate how LeaderSHIP created different formats for stakeholder interaction according to the objective of the discussion. Some exchanges focused on emerging technologies and training needs, while others deliberately brought industry and education perspectives together around the development of the Sectoral Skills Strategy. Combined with partner meetings, online discussions and bilateral exchanges, these activities created a continuous framework for collaboration throughout the project.

3.2 Concrete Outcomes of Business–Education Cooperation

One of the most tangible outcomes of the cooperation developed within LeaderSHIP is the joint development of training curricula and syllabi addressing the evolving skills needs of the European maritime manufacturing industry. While the workshops and stakeholder exchanges helped identify common challenges and priority skills needs, the curriculum development activities carried out under Work Package 3 translated these findings into practical educational solutions, with selected training activities subsequently piloted within Work Package 4.

The development process brought together the complementary expertise of companies, universities, VET providers, research organisations and industry associations. Industrial stakeholders contributed knowledge of technological developments, skills needs and operational requirements, while education and training partners translated these needs into learning outcomes, course structures and teaching approaches. In this sense, cooperation moved beyond consultation towards the joint development of concrete training solutions.

The resulting training portfolio reflects the diversity of skills required by a changing maritime manufacturing sector. It covers areas related to sustainability and the green transition, welding and metalworking, digitalisation and advanced manufacturing, naval architecture and ship systems, as well as leadership, communication and workforce development. The curricula themselves are presented in detail in Deliverable D3.2 and are therefore not reproduced in this report.

The development of these training programmes also provided an important lesson for business–education cooperation: collaboration becomes particularly concrete when stakeholders work together around a shared output. Developing training content required partners to connect identified skills needs with industrial experience and pedagogical expertise, creating a direct link between the strategic discussion on skills and practical education and training provision. Some of the developed programmes also address the relationship between learning and the workplace directly. Examples include the *Sheet Metal Welder Apprenticeship Pilot Programme* and *Workplace Instructor Training*, illustrating how cooperation between companies and training providers can support both practical skills development and the transfer of knowledge within industrial environments. The curriculum development process therefore provides a practical example of how the collaborative approach promoted by the Sectoral Skills Strategy can be put into practice. It demonstrates that sustained interaction between industry and education can lead not only to a better understanding of skills needs, but also to concrete learning opportunities supporting the upskilling and reskilling of the maritime manufacturing workforce.

In conclusion, the cooperation developed through LeaderSHIP resulted in concrete educational outputs. The joint development of more than forty training curricula demonstrates how dialogue between industry and education can be translated into practical learning solutions covering technical, digital, green and transversal skills. This provides a tangible example of the value of sustained business–education cooperation and creates a basis for further upskilling and reskilling activities within the sector.

4. Lessons Learned from the LeaderSHIP Collaboration Experience

The collaboration developed through LeaderSHIP provided a number of practical lessons on how companies, education and training providers, social partners and sectoral organisations can work together on shared skills challenges. While the partners came from different countries, organisations and professional backgrounds, many of the issues raised during the project proved to be common across the maritime manufacturing sector.

One of the main lessons was that effective collaboration requires continuity. A single consultation can provide useful information, but repeated interaction allows stakeholders to better understand each other's priorities, constraints and ways of working. Through the different exchanges organised during LeaderSHIP, discussions could evolve over time, allowing partners to return to previous issues, clarify their positions and consider them from different perspectives.

4.1 Openness and Trust as a Basis for Cooperation

A key element of the LeaderSHIP experience was the willingness of partners to discuss challenges openly. Companies shared experiences related to recruitment, skills shortages, training needs and workforce development, including with other companies operating within the same European market.

This openness is particularly relevant in an industrial environment. Companies naturally have commercial interests and do not share all types of information with competitors. However, the project showed that there is also a space for pre-competitive cooperation on challenges that affect the sector as a whole.

Skills are a good example. A shortage of welders, engineers, digital specialists or workers able to operate new technologies cannot always be addressed effectively by one company acting alone. Discussing these challenges collectively can help companies understand whether their experience is specific to their organisation or reflects a wider trend.

Trust was therefore important, but it developed through interaction rather than being a prerequisite from the beginning. Regular exchanges, a common project framework and a shared interest in strengthening the European maritime manufacturing workforce created conditions in which participants could progressively engage more openly.

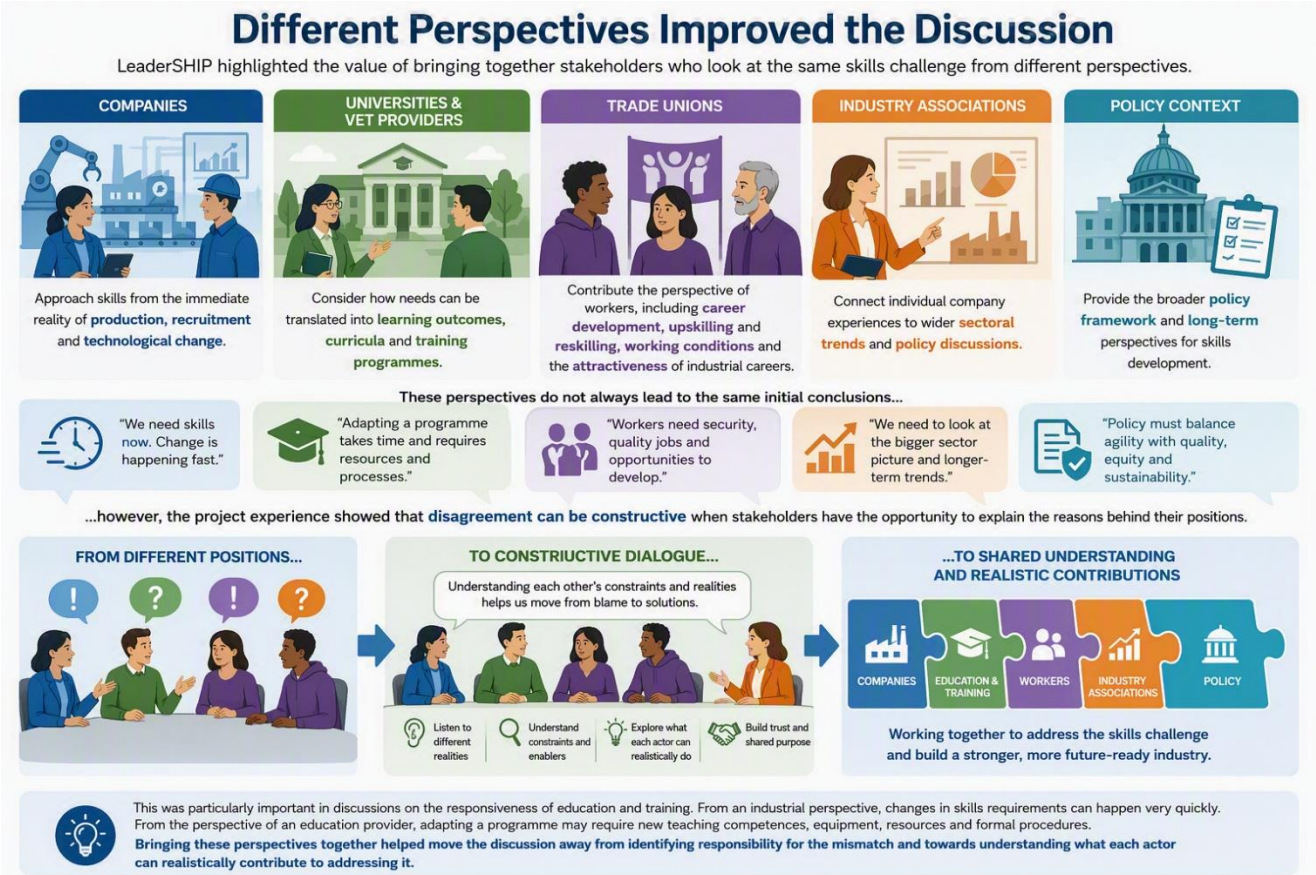
4.2 Different Perspectives Improved the Discussion

LeaderSHIP also highlighted the value of bringing together stakeholders who look at the same skills challenge from different perspectives.

Companies tend to approach skills from the immediate reality of production, recruitment and technological change. Universities and VET providers have to consider how these needs can be translated into learning outcomes, curricula and training programmes. Trade unions contribute the perspective of workers, including career development, upskilling and reskilling, working conditions and the attractiveness of industrial careers. Industry associations can help connect individual company experiences to wider sectoral trends and policy discussions.

These perspectives do not always lead to the same initial conclusions. However, the project experience showed that disagreement can be constructive when stakeholders have the opportunity to explain the reasons behind their positions.

This was particularly important in discussions on the responsiveness of education and training. From an industrial perspective, changes in skills requirements can happen very quickly. From the perspective of an education provider, adapting a programme may require new teaching competences, equipment, resources and formal procedures. Bringing these perspectives together helped move the discussion away from identifying responsibility for the mismatch and towards understanding what each actor can realistically contribute to addressing it.



4.3 From Project Collaboration to Longer-Term Cooperation

Finally, LeaderSHIP highlighted that collaboration should not end when a project or consultation exercise is completed. The relationships and working methods developed through the project can provide a basis for continued cooperation during the implementation of the Sectoral Skills Strategy.

Existing European structures, including the Shipbuilding Pact for Skills and the Sectoral Social Dialogue, provide opportunities to maintain dialogue between industry, education and social partners. At regional and national level, cooperation between companies and education and training providers remains equally important for translating European priorities into practical training and workforce initiatives.

The experience of LeaderSHIP therefore suggests that one of the project's useful outcomes is not only the Strategy itself, but also the network of stakeholders and the collaborative practices that supported its development. Maintaining these connections can help ensure that the Strategy remains responsive to changing industrial realities and that its implementation continues to benefit from the perspectives of the different actors involved.

5. Pillar 3: Strengthening Cooperation between Industry and Education

Pillar 3 of the Sectoral Skills Strategy, *Strengthening Cooperation between Industry and Education*, translates many of the lessons emerging from the LeaderSHIP collaboration into a strategic priority for the sector. Its objective is to reduce the mismatch between education and training providers and evolving industry needs by strengthening apprenticeships, work-based learning and cooperation between companies, universities and VET providers at regional, national and European level.

The starting point of Pillar 3 is that cooperation already exists and works well in many parts of Europe. The challenge is therefore not to create cooperation from scratch, but to strengthen existing partnerships, make them more continuous and ensure that they remain responsive to technological and workforce changes.

5.1 Building on Existing Cooperation

Across Europe, companies, universities and VET providers already cooperate through a wide range of activities, including regular meetings, advisory boards, joint projects, internships, shipyard and company visits, guest lectures and curriculum development.

These partnerships bring education closer to industrial reality. They allow students and teachers to gain a better understanding of the sector, while companies can contribute practical knowledge and provide feedback on changing skills requirements. They can also support recruitment by giving learners direct exposure to maritime manufacturing companies, technologies and career opportunities.

The LeaderSHIP discussions confirmed the value of these existing practices. At the same time, the level and form of cooperation differ considerably between regions, companies and education systems. Strengthening cooperation therefore means building on structures that already work while creating additional opportunities where interaction remains limited.

5.2 Responding to the Limits of Curriculum-Based Learning

Closer cooperation alone does not automatically resolve the skills mismatch. One of the challenges identified through the Strategy is the different pace at which industrial technologies and formal education and training programmes can evolve.

Curricula remain essential for developing the technical and theoretical foundations required by the sector. However, maritime manufacturing also relies heavily on competences developed through practical experience. Many specialised skills are acquired and refined in real production environments, where workers learn to apply knowledge to complex industrial processes, technologies and working conditions. Work-based learning therefore plays a particularly important role. Apprenticeships, internships and other forms of practical training can complement classroom-based education by giving learners direct experience of industrial environments and helping them develop a level of job readiness that formal education alone may not always provide. This is also important for the transfer of knowledge between generations. Maritime manufacturing retains significant practical know-how among experienced workers, some of which is not formally documented but transmitted through daily practice and professional experience. Stronger cooperation between industry and education can help preserve and transfer this knowledge while combining it with new digital and green competences.

Pillar 3 therefore calls for greater interaction between the people working in industry and those responsible for education and training. Industry can contribute by opening its facilities to learners, teachers and young researchers and by providing opportunities to experience industrial technologies and production processes directly. Company visits, apprenticeships, work-based learning, demonstrations and joint projects can help make training more closely connected to the realities of the workplace.

At the same time, experienced workers and industry professionals can contribute directly to education and training activities, for example through guest lectures, practical sessions, mentoring or participation in curriculum discussions. Their involvement can help ensure that training remains relevant while providing learners with first-hand insight into industrial careers and working environments.

Personnel exchanges offer another promising mechanism. Temporary placements of teachers and trainers within companies can help them remain familiar with new technologies and changing working methods, while the involvement of industry experts within education and training institutions can support the transfer of practical knowledge. These exchanges should not be understood as replacing the respective roles of industry and education. Rather, they allow both sides to better understand each other's environments and combine pedagogical expertise with industrial experience.

5.3 Making Cooperation Accessible to SMEs

The ability to participate in these forms of cooperation is not equal across the sector. Large companies may have dedicated HR departments, training centres or established relationships with universities and VET providers. SMEs often operate with much more limited human and financial resources. Hosting apprentices, releasing experienced workers to contribute to teaching, participating regularly in advisory structures or providing placements for teachers can therefore represent a significant commitment for smaller companies.

For this reason, Pillar 3 recognises that cooperation mechanisms need to be practical and accessible to SMEs. Regional and sectoral structures can help by pooling resources and facilitating connections between smaller companies and education providers. Public authorities can also support participation through targeted funding, financial incentives and simplified administrative procedures.

Ensuring SME participation is particularly important in maritime manufacturing given the large number of equipment suppliers and specialised companies that form part of the European value chain. A cooperation model that is accessible only to the largest companies would capture only part of the sector's skills needs and expertise.

5.4 Shared Responsibilities

Implementing Pillar 3 requires contributions from several actors. Industry, education and training providers and public authorities have different but complementary responsibilities.

Actor	Key actions
Industry	Strengthen partnerships with universities and VET providers to support industry-aligned curricula; provide apprenticeships and work-based learning opportunities; organise regular joint industry–university/VET meetings at regional level; commit to annual input on skill needs, guest lecturers and case studies; promote teacher and trainer placements in industrial environments to keep training aligned with technological change.
Education & training providers	Develop closer cooperation with industry so that training programmes reflect technological developments and emerging skills needs; integrate practical learning components into all relevant programmes; use formal and informal structures such as vocational advisory boards with regional company representatives; modernise provision through e-learning modules and maritime training labels; promote active involvement of industry professionals in teaching.
Member States / public authorities	Support national and regional cooperation platforms facilitating dialogue between industry and education systems; fund regional maritime skills partnerships; develop schemes for temporary exchange of personnel between education and industry; provide dedicated financial support and incentives for SMEs engaging in training activities and mentoring programmes.

5.5 Pillar 3 as Part of the Wider Skills Strategy

Pillar 3 is closely connected to the other priorities of the Sectoral Skills Strategy. Identifying future skills needs has limited impact unless these needs can be translated into education, training, upskilling and reskilling opportunities. Similarly, improving the attractiveness of maritime manufacturing requires stronger links between young people, education providers and companies so that potential workers can better understand the opportunities offered by the sector.

Pillar 3 should consequently be understood not as an isolated area of action, but as an enabling element of the wider Sectoral Skills Strategy. Its implementation will be important for ensuring that the priorities identified through LeaderSHIP are translated into training, knowledge transfer and workforce development activities that respond to the changing needs of European maritime manufacturing.

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6. Enabling Conditions and Remaining Challenges

The LeaderSHIP experience highlighted a number of conditions that can support effective cooperation between companies, education and training providers, social partners and other sectoral stakeholders. At the same time, it also showed that collaboration requires time, resources and continued engagement and that not all organisations have the same capacity to participate.

6.1 Enabling Conditions for Effective Collaboration

A common sectoral framework. Bringing stakeholders together within a shared European project provided a common framework for discussing challenges that extend beyond individual companies or national contexts. The involvement of sectoral organisations helped connect individual experiences with wider industry priorities and European initiatives.

Structured dialogue. The use of targeted questions and facilitated discussions helped keep exchanges focused while giving different participants the opportunity to contribute. Structure was particularly useful when stakeholders approached the same issue from different professional or institutional perspectives.

Space for both stakeholder-specific and joint discussion. The LeaderSHIP workshop demonstrated the value of allowing industry and education and training providers to first discuss their respective perspectives and then bring these views together. This helped identify both areas of convergence and issues where further discussion was needed.

Trust and openness. Effective collaboration depends on participants being able to discuss challenges as well as good practices. Within LeaderSHIP, companies were willing to exchange experiences on recruitment, training and skills development, while education and training providers could openly discuss the possibilities and constraints they face when responding to changing industrial needs.

A focus on shared challenges. Skills development provides a particularly relevant area for cooperation because many challenges are common across the sector. Recruitment difficulties, technological change, knowledge transfer and workforce development affect companies across the maritime manufacturing value chain. Focusing on these shared challenges created space for cooperation even between companies that may compete in other areas.

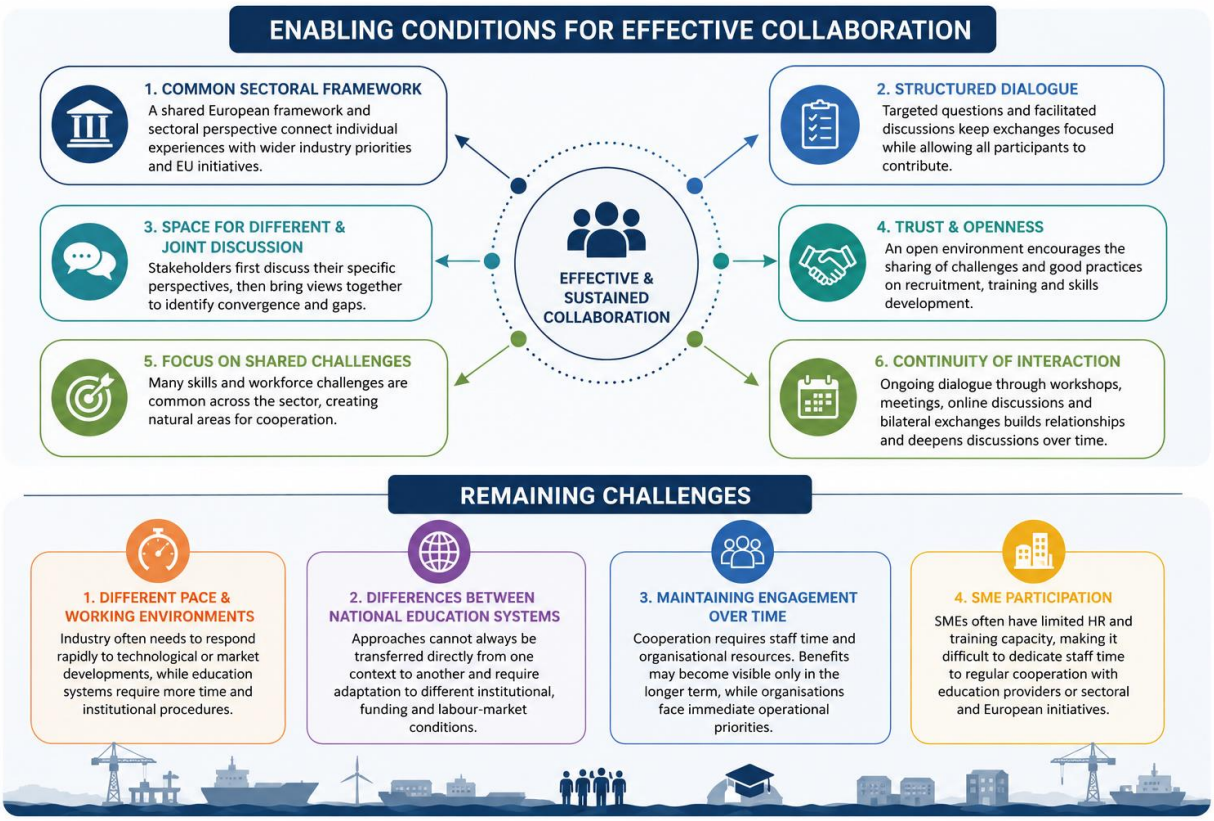
Continuity of interaction. Collaboration was supported not only through dedicated workshops but also through partner meetings, online discussions and bilateral exchanges throughout the project. Repeated interaction allowed partners to develop discussions over time rather than treating stakeholder engagement as a one-off exercise.

6.2 Remaining Challenges

Despite these positive conditions, sustained collaboration is not automatic. One challenge is the **different pace and working environment of industry and education**. Companies may need to respond rapidly to technological or market developments, while changes to education and training programmes often require more time, resources and institutional procedures.

Differences between national education systems also mean that approaches cannot always be transferred directly from one context to another. A model that works well in one region may need to be adapted to different institutional structures, funding arrangements or labour-market conditions elsewhere.

Another challenge is **maintaining engagement over time**. Participation in meetings, workshops, curriculum discussions, apprenticeships and other forms of cooperation requires staff time and organisational resources. The benefits of collaboration may also become visible only over the longer term, while participating organisations often face more immediate operational priorities. These constraints are especially relevant for SMEs. Smaller companies often have limited HR and training capacity and may find it difficult to dedicate staff time to regular cooperation with education providers or European and sectoral initiatives.



7. Conclusion

Addressing the skills challenges of European maritime manufacturing requires more than identifying shortages or anticipating future occupations. It requires continuous cooperation between the actors that understand industrial needs, those responsible for education and training, and those representing the workforce and the wider sector.

The LeaderSHIP experience provided a practical environment for this cooperation. Companies, industry associations, trade unions, universities and VET providers brought different perspectives to the same discussion, compared experiences and worked together to identify common priorities. The value of this process was not that all participants approached the challenges in the same way, but that different views could be expressed, understood and progressively translated into shared strategic directions.

The experience also highlighted the importance of inter-company cooperation. While companies have different business models, technologies and workforce needs, many of the challenges related to recruitment, training, knowledge transfer and technological change are shared across the maritime manufacturing ecosystem. Creating space to discuss these issues at sectoral level helps build a broader understanding of skills needs and makes it possible to identify areas where collective action can add value.

These lessons are reflected particularly clearly in Pillar 3 of the Sectoral Skills Strategy. Stronger cooperation between industry and education should build on the many partnerships that already exist across Europe while making them more continuous, practical and responsive to industrial change. Work-based learning, closer interaction between teachers and industry professionals, personnel exchanges and greater exposure to real industrial environments can all contribute to bridging the distance between training provision and workplace needs.

At the same time, effective cooperation must recognise the diversity of the European maritime manufacturing sector. Solutions need to take account of different national and regional education systems and, importantly, the more limited resources available to SMEs. Sectoral organisations and public authorities therefore have an important role in facilitating participation and ensuring that cooperation mechanisms are accessible across the wider industrial value chain.

The main conclusion of this report is that collaboration should not be seen as a supporting activity but as an important condition to overcome industry challenges. Skills needs will continue to evolve with technological, environmental and labour-market developments; maintaining regular dialogue between industry, education and training providers, social partners and public authorities will therefore be essential.

LeaderSHIP has provided a basis for this continued cooperation. The next step is to build on the relationships, working methods and shared understanding developed through the project and

connect them with existing structures, including the Shipbuilding Pact for Skills and the Sectoral Social Dialogue. In this way, the Sectoral Skills Strategy can remain a living framework that evolves together with the needs of European maritime manufacturing and supports a skilled, adaptable and competitive workforce over the longer term.

ANNEX I: Sectoral Skills Strategy Workshop – questionnaire

WORKSHOP PREPARATION QUESTIONS

Sectoral Skills Strategy for Maritime Manufacturing Industry

Grounded in D2.5 — Chapters 5 & 6

LeaderSHIP Project · Consultation Workshop · Toulon

Part 1	Part 2	Part 3
6 questions for industry	6 questions for education providers	6 questions for mixed groups

Each question is grounded in an exact passage from D2.5, includes discussion prompts designed to move from general opinion to concrete proposals, and states the expected output — the specific contribution the group should produce for the strategy revision.

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PART 1 — FOR INDUSTRY REPRESENTATIVES

Phase 1 homogeneous discussion · 25 minutes · Chapters 5 & 6

Come prepared with bullet-point notes. Focus on specific examples from your company or country — a real number, a concrete obstacle, a named mechanism. The more specific, the more useful your input will be for revising the strategy.

Questions 1–4 — Chapter 5: Vision & Strategic Pillars

Q1 *Ch.5.1 — Pillar 1: Preserving core shipbuilding skills*

Apprenticeships and mentorship are listed as industry's primary tool for knowledge transfer. Are these mechanisms actually working at scale in your company — and if not, what is blocking them?

> *"Strengthen apprenticeships and mentorship programmes to transfer critical shipbuilding know-how"*

To discuss:

- Do you currently have structured mentorship or apprenticeship programmes? How many workers do they reach per year?
- What is the biggest obstacle to scaling them: cost, time, lack of qualified mentors, administrative burden, or regulatory barriers?
- With 40% of the workforce expected to retire in the next decade, is your current approach sufficient — or is there a knowledge-transfer crisis coming?
- What would a realistic EU-level support mechanism look like to help companies scale these programmes?

Expected output: *A specific gap in your knowledge-transfer practice and a concrete ask for what the strategy should say to address it.*

Q2 *Ch.5.1 — Pillar 2: Upskilling & reskilling for green and digital transition*

The strategy asks industry to develop and pilot common training programmes for upskilling and reskilling across companies. Do you know if it is already the case in region?

> *"Develop and pilot common training for up and re-skilling activities within the companies, covering digital technologies, green, technical, and soft skills"*

To discuss:

- Do your regional companies currently offer in-house training for green or digital skills? What does it cover and how many workers does it reach?

- What prevents smaller companies in your supply chain from offering the same?
- The strategy mentions 'common' training across companies and sectors. Is this realistic — or does it create competitive concerns about sharing workforce intelligence?

Expected output: *A view on whether in-house or shared training is the right solution, with concrete examples and solutions.*

Q3 *Ch.5.1 — Pillar 3: Strengthening cooperation with education*

The strategy calls for industry to strengthen partnerships with universities and VET providers through regular regional meetings. How often does this actually happen in your country — and what does it produce?

> *"Regular meetings between regional industries and VET and Universities to support the development of curricula aligned with industry needs"*

To discuss:

- Do you currently have regular structured contact with VET schools or universities in your region? What form does it take and how often does it happen?
- When you tell a VET school what skills you need, does their curriculum actually change? How long does it take?
- What is the most significant mismatch between what graduates know when they arrive and what your production floor actually needs?
- What would make it worth your company's time to invest more consistently in these partnerships?

Expected output: *One concrete commitment industry could make (e.g. structured annual curriculum review, provision of expert trainers, open yards visits for students) and what you would need in return from education providers.*

Q4 *Ch.5.1 — Pillar 4: Attracting and retaining new talent*

The strategy identifies the '3D sector' image and women representing only 20% of the workforce as key barriers to attracting talent. What is your company actually doing to change these — and what is the strategy missing?

> *"The sector continues to struggle with an outdated perception as a '3D sector' (difficult, dangerous and dirty). Women represent only around 20% of the workforce"*

To discuss:

- What outreach activities — school visits, internships, career fairs — does your company run, and what is the measurable return?
- Have you taken concrete steps to attract more women: flexible working, targeted recruitment, inclusive working environments? What has worked?

- Which career pathways in maritime manufacturing are genuinely attractive to a 22-year-old today — and which are not?
- What should the strategy say that it currently does not about making the sector attractive at company level?

Expected output: *One measure your company could commit to in the next 12 months to improve attractiveness or gender balance, and the support you would need to do it.*

Questions 5–6 — Chapter 6: Implementation & Governance

Q5 *Ch.6.1 — Role of industry in implementation*

Section 6.1 describes industry's role as identifying skills needs and supporting training development. What specific commitment could your company or association make — not in general terms, but concretely?

> *"Industry stakeholders can contribute to skills intelligence activities by sharing information on technological developments, workforce trends and emerging competences"*

To discuss:

- Would your company share workforce data — vacancies, skills gaps, training investments — with a sectoral monitoring system? Under what conditions?
- Could you co-fund training programmes with VET providers? At what level and for which skills specifically?
- What governance guarantee would you need before investing time and resources in a multi-country sectoral partnership?

Expected output: *A specific, realistic commitment your company or association can make under this strategy.*

Q6 *Ch.6.5 — Monitoring and follow-up*

The strategy relies on continuous monitoring of skills needs. Who in your company currently tracks the evolution of skills gaps — and would you contribute that intelligence to a shared European system?

> *"Monitoring mechanisms should include the collection of data on labour market trends, skills shortages and emerging technological developments"*

To discuss:

- Do you systematically track which skills are hard to recruit for, which are becoming obsolete, and which new ones you will need in 3–5 years?
- If a sectoral observatory asked you to share annual data on hard-to-fill vacancies and training investments, would you? What anonymisation or governance conditions would you need?

- What kind of intelligence output from such a system would be useful enough to justify contributing to it?
- How should the Shipbuilding Pact for Skills be resourced and governed to play this monitoring role sustainably?

Expected output: *Whether your company would participate in a shared skills intelligence system and under what specific conditions.*

PART 2 — FOR EDUCATION & TRAINING PROVIDERS

Phase 1 homogeneous discussion · 25 minutes · Chapters 5 & 6

Come prepared with bullet-point notes grounded in your institution's specific experience — what you do now, what you cannot do, what you would need. Abstract support for cooperation is less useful than a concrete example of what works or what blocks you.

Questions 1–4 — Chapter 5: Vision & Strategic Pillars

Q1 *Ch.5.1 — Pillar 1: Preserving core shipbuilding skills*

The strategy asks education providers to develop specialised maritime curricula and practical training modules. How current are your existing programmes — and what prevents you from updating them faster?

> *"Develop specialised maritime curricula and practical training modules"*

To discuss:

- When did you last substantially revise your maritime or shipbuilding curriculum? What triggered the revision?
- What is the typical lag between a new industrial technology entering shipyards and it appearing in your training programmes?
- Do you have direct, structured contact with shipyards that allows you to understand what they actually need — not what they say they need in general terms?
- What accreditation, funding, or institutional barriers prevent faster curriculum adaptation in your country?

Expected output: *A concrete example of a skill the industry needs today that your institution is not yet training for — and what it would take to add it.*

Q2 *Ch.5.1 — Pillar 2: MOOCs and modular training for upskilling*

The strategy asks education providers to develop European MOOCs on a common online platform covering digital, green, OHS and soft skills. Is your institution ready and willing to contribute — and what would it realistically require?

> *"Develop European MOOCs open to workers in several companies and countries. A common online platform will be required, covering digital and green skills, OHS, soft skills"*

To discuss:

- Has your institution developed online or modular courses before? For which audiences and with what results?

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- What are the real costs of developing and maintaining a MOOC — staff time, platform, quality assurance — and who should bear them?
- How would micro-credentials from such a platform be recognised by employers and by national qualification frameworks in your country?

Expected output: *Whether your institution could contribute to a European MOOC platform, under what conditions, and what the strategy needs to say to make this happen.*

Q3 *Ch.5.1 — Pillar 3: Strengthening cooperation between industry and education*

The strategy calls for education providers to develop closer cooperation with industry to ensure training reflects technological developments. What does this cooperation look like in practice at your institution — and where does it break down?

> *"Develop closer cooperation with industry to ensure that training programmes reflect technological developments and emerging skills needs"*

To discuss:

- Do you have formal or informal relationships with shipyards or maritime equipment manufacturers? What form — advisory boards, joint projects, industry secondments, shared equipment?
- When industry tells you what it needs, can you act on it? Or do accreditation cycles, national regulations or internal governance make rapid change very slow?
- What does industry need to provide — trainers, equipment access, data, co-funding — for the cooperation to be genuinely useful to your institution?
- Have you had a cooperation arrangement with industry that worked well? What made it work, and why did it or did it not continue?

Expected output: *One structural change in funding, governance or accreditation that the strategy should explicitly call for to make industry-education cooperation sustainable rather than project-dependent.*

Q4 *Ch.5.1 — Pillar 4: Attracting and retaining new talent*

The strategy asks education providers to develop programmes that highlight modern maritime technologies and strengthen links between STEM education and maritime careers. Is this happening at your institution — and is it working?

> *"Develop programmes that highlight modern maritime technologies and strengthen links between STEM education and maritime careers"*

To discuss:

- Do you have programmes specifically designed to attract young people — particularly women — to maritime careers? What do they consist of and what is the uptake?

- What would make maritime careers genuinely compelling to a 17-year-old today — and is that message reflected in your current programmes?
- What industry cooperation — factory visits, employer ambassadors, sponsored projects — would help you do this better?

Expected output: *One joint action between your institution and a maritime employer that you could commit to in order to improve sector attractiveness among young people.*

Questions 5–6 — Chapter 6: Implementation & Governance

Q5 *Ch.6.2 — Role of education and training providers in implementation*

Section 6.2 says education providers should adapt curricula continuously and deepen cooperation with industry. What governance or funding conditions would make this sustainable beyond individual EU projects?

> *"Universities, VET providers and specialised training centres should continue adapting curricula to reflect technological developments. Strengthening cooperation with industry will be essential"*

To discuss:

- Is your institution's cooperation with industry currently dependent on EU project funding? What happens to the relationship when the project ends?
- What national-level mechanism — a sectoral training fund, a joint advisory body, a regional skills council — would give this cooperation a stable and permanent institutional base?
- How does your institution's autonomy interact with calls for sector-level curriculum alignment? Where is the tension between academic freedom and industrial responsiveness?
- What should the strategy say to national governments and the European Commission to create the right structural conditions?

Expected output: *A specific governance or funding mechanism the strategy should recommend to make education-industry cooperation in your country lasting and not project-dependent.*

Q6 *Ch.6.5 — Monitoring and follow-up — education perspective*

The monitoring mechanism in section 6.5 relies on data from multiple stakeholders. What data does your institution currently hold that would be relevant — and what would it take for you to share it?

> *"Regular exchanges between industry, education and training providers and policymakers will help ensure that training systems remain aligned with the evolving needs of the sector"*

To discuss:

- Do you track where your graduates go — which sectors, which occupations, which countries? Do you share this with industry or public authorities?
- Does your institution participate in any national or European skills observatory or labour market intelligence system?
- What data from industry would you need in return to make curriculum decisions based on evidence rather than ad hoc employer requests?
- What should the Pact for Skills' monitoring role look like for education providers — a reporting obligation, a data-sharing agreement, an annual joint review?

Expected output: *What data your institution could contribute to a sectoral monitoring system and what you would need in return.*

PART 3 — FOR MIXED GROUPS (INDUSTRY + EDUCATION)

Phase 2 · 30 minutes · Country cluster groups · Same questions for both clusters

Both cluster groups work on the same questions simultaneously. The goal is not consensus but concrete joint proposals — things both industry and education can agree the strategy should say or do. Where your group cannot agree, note the disagreement — that is also valuable.

Your note-taker should record explicitly whether countries within your cluster agree or differ on each question.

Questions 1–4 — Chapter 5: Upskilling gap, cooperation & measurable objectives

Q1 *Ch.5.1 — Pillar 2: The upskilling gap — both perspectives*

Industry says it needs workers with green and digital skills. Education says it cannot adapt fast enough. Where exactly is the mismatch — and what would it take from both sides to close it?

> *"Training programmes must integrate emerging competences related to digitalisation, automation, alternative fuels and sustainable production processes"*

To discuss:

- Industry: name one specific competence you cannot find in graduates today. Education: is that competence in your curriculum? If not, why not — and what would it take to add it?
- How long does it currently take from industry identifying a new skills need to education delivering a training programme that addresses it? What lag is acceptable?
- Is the gap primarily about content (what is taught), format (how it is taught), or access (who gets trained and when)? Or all three?
- What would a 'fast-track' curriculum update mechanism look like — one that bypasses normal accreditation delays for clearly emerging skills?

Expected output: *A joint proposal for one specific mechanism — a curriculum update protocol, a joint standing working group, a micro-credential fast-track — that both industry and education can agree on and commit to.*

Q2 *Ch.5.1 — Pillar 3: What does real cooperation look like — and who pays for it?*

The strategy calls for stronger industry-education cooperation but does not specify who funds the time, travel and development costs. How should the burden be shared — and what does each side need to give and get?

> *"Closer cooperation between industry and education and training providers is essential to reduce the mismatch between curricula and industry needs, including strengthening apprenticeships and work-based learning"*

To discuss:

- Industry: what would you be willing to provide to a partner institution — expert trainers, equipment access, paid placements, curriculum co-funding? What would you expect in return?
- Education: what would genuine industry cooperation require from your institution — dedicated staff time, curriculum flexibility, shared facilities? Who should fund this?
- Is the current model — where cooperation mostly happens inside time-limited EU projects — good enough? What happens to the relationship when the project ends?

Expected output: *A draft list of mutual commitments — what industry gives, what education gives — that could form the basis of a model bilateral agreement referenced in the strategy.*

Q3 *Ch.5.2 — Strategic objectives A–D: making them measurable*

The four strategic objectives are stated without indicators, targets or timelines. Working together, can you propose one measurable target for each objective that both industry and education would accept?

> *"A. Increase availability of skilled workers in key occupations B. Reduce mismatch between curricula and industry needs C. Improve participation of under-represented groups D. Strengthen lifelong learning in yards and supply chain"*

To discuss:

- Objective A: what would a meaningful improvement look like in 5 years — a % reduction in unfilled vacancies in priority occupations, a number of new apprentices, something else?
- Objective B: how would you measure a reduction in curriculum mismatch — employer satisfaction surveys, time-to-hire, graduate employment rates in the sector within 12 months?
- Objective C: Given the current 20% female workforce, what is a realistic 5-year goal — and who is responsible for reaching it, and how?
- Objective D: what does 'strengthening lifelong learning' mean in practice — hours of training per worker per year, number of workers reskilled per company size, something else?

Expected output: *One proposed indicator and a 5-year target for each of the four objectives — agreed between industry and education in the group and attributed to specific responsible actors.*

Q4 *Ch.6 — Governance: who does what, by when, with what resources?*

Chapter 6 describes the roles of industry, education, public authorities and the EU but the actions are not sequenced, resourced or assigned to specific actors. As a mixed group, can you begin an implementation roadmap?

> *"The successful implementation of this Sectoral Skills Strategy requires coordinated action from a wide range of stakeholders. Implementation should rely on a collaborative approach involving continuous dialogue"*

To discuss:

- Which actions in Chapter 6 require national government involvement — and how realistic is that in each of your countries?
- Who should coordinate implementation at European level — SEA Europe, the Pact for Skills, the Commission, or a new body?
- What is the minimum viable governance structure: a steering committee, a secretariat, an annual review? Who sits at the table ?

Expected output: *A draft 3-horizon roadmap: priority actions, with a named responsible actor for each and an indication of who funds it.*

Questions 5–6 — Chapter 6: Pact for Skills, governance & national flexibility

Q5 *Ch.6.5 — The Shipbuilding Pact for Skills: is it the right vehicle?*

The strategy places the Shipbuilding Pact for Skills at the centre of monitoring and coordination. From both sides of the table, is the Pact actually equipped to play this role — and what would it need to succeed?

> *"The Shipbuilding Pact for Skills can play an important role in supporting the monitoring and follow-up. As a sectoral partnership bringing together industry, education and training providers, trade unions and regional stakeholders, the Pact provides a valuable platform"*

To discuss:

- Is your organisation currently a member of or actively engaged with the Pact for Skills? If not, why not — and what would change your mind?
- For the Pact to function as a real monitoring body it would need dedicated staff, agreed data-sharing protocols, and continued EC support. Is that realistic — and who makes the case for it?
- What would make the Pact meaningful for a shipyard in Romania or a VET school in Norway — not just for associations and Brussels-based actors?

Expected output: *A joint recommendation on what the strategy should say about the Pact's mandate, resources and governance to make it a credible implementation vehicle rather than a coordination forum.*

Q6 *Ch.5 & 6 — What needs to be flexible for different national contexts?*

The strategy is written as a single European framework. But the VET systems, labour markets and industrial structures of Norway, France, Romania and Spain are very different. What must the strategy keep universal — and what must it allow to vary by country?

> *"Addressing these challenges requires a coordinated and forward-looking approach involving industry, education and training providers, social partners and public authorities at both national and European level"*

To discuss:

- Which of the four pillars needs the most national adaptation in your country — and why?
- Is there a national initiative, collective agreement, sectoral training fund or regional skills platform in your country that the strategy should reference as a model?
- Where does the strategy risk being impractical or simply irrelevant if applied exactly as written in your national context?
- How should the strategy signal that national implementation paths can differ while still pointing toward common European goals?

Expected output: *One national good practice that should be referenced in the strategy, and one specific passage in Ch.5 or Ch.6 that needs a country-flexibility clause or a note on variable national conditions.*

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