

She4Sea

Employability and entrepreneurial development of women in water-based blue economy sectors

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Introduction

As part of the second work package (“She4Sea Leadership, Entrepreneurial and Sustainability Competence Framework for women in the maritime sector”), this report compiles the data collected by partners during the research phase, implemented at the beginning of the She4Sea project. During this phase, partners aimed at collecting both primary and secondary data with a two-fold goal:

- To gain a broader understanding on the two main topics explored by the She4Sea project:
 - (a) The role of women in three sectors of the Blue Economy (maritime transport, fisheries & aquaculture, water-based tourism), their professional development potential and obstacles faced
 - (b) The demand for soft skills within three competence areas (i.e. leadership, entrepreneurship, sustainability), crucial for pursuing a career in the aforementioned sectors.
- To collect up-to-date data reflecting the latest market needs and trends, so as to adjust accordingly the training material to be developed under WP3.

The current report, developed by the Hellenic Marine Environment Protection Association, compiles the data regarding the first topic in focus (WP2/A4), namely the role of women in three sectors of the Blue Economy (maritime transport, fisheries & aquaculture, water-based tourism), their professional development potential and obstacles faced. Another report on the demand for soft skills within three competence areas (leadership, entrepreneurship, sustainability), crucial for pursuing a career in the aforementioned sectors (WP2/A3) has been developed by MILITOS S.A.. Findings from both reports will serve as guide for the development of the She4Sea training under WP3.

After having completed the data collection from both primary and secondary research, the project partners in charge (HELMEPA for Greece, Nikola Vaptsarov Naval Academy for Bulgaria and Universitat Politècnica de Catalunya and Sea Teach for Spain) developed three national reports (one per country) presenting the research findings as well as information on the data collection process. The current report presents, compiles, and compares the information documented in these three reports, focusing on the outcomes of the primary research (focus groups and interviews), with the aim to provide the reader with a comprehensive idea of the topic at stake. More details on the three national reports and the data collection process is presented in the following section.

Data Collection Process

This chapter describes the data collection process, as implemented by project partners according to the methodology and templates created by both HELMEPA and Militos Consulting S.A. The collected data as well as information on the research process and results are presented in the three national reports (one per country), prepared by project partners in charge. As foreseen by the application form (hereinafter as “AF”), the research was conducted in Greece, Bulgaria, and Spain. The following table presents the partner in charge per country:

Country	Partner in Charge
Greece	HELMEPA
Bulgaria	NVNA
Spain	Sea Teach

The consortium agreed to some modifications to the design of both primary and secondary research, aiming to gain a broader understanding of the two main topics in focus:

- a) The role of women in three sectors of Blue Economy (i.e. maritime transport, fisheries & aquaculture, water-based tourism).
- b) The demand for soft skills within three competence areas (i.e. leadership, entrepreneurship, sustainability), crucial for pursuing a career in the aforementioned sectors.

To this end, the consortium agreed to the following actions:

1. In addition to the foreseen by the AF research methods (i.e. interviews/focus groups and desk research), partners designed and implemented an online survey.
2. In addition to desk research, partners included questions regarding the demand for soft skills in interviews and focus groups.

The consortium proceeded with these two changes with the aim of creating a pool of information that responds to the latest market needs. This will serve the future goal of developing high-quality and Blue Economy-appropriate training (WP3) for unemployed women.

The following table summarises the main information regarding the primary research process:

Country	No of Participants / Responses		
	Interviews	Focus Groups	Online Survey
	(Primary Research)		
Greece	2	<ul style="list-style-type: none"> ▪ 1st F.G.: 3 ▪ 2nd F.G.: 6 	181
Bulgaria	-	<ul style="list-style-type: none"> ▪ 1st F.G.: 6 ▪ 2nd F.G.: 10 	80
Spain	5	<ul style="list-style-type: none"> ▪ 1st F.G.: 5 ▪ 2nd F.G.: 3 	86
Total No	7	33	347

It should be noted that partners could decide whether they implement one-to-one interviews or focus groups, taking into consideration participants' preferences. The KPI foreseen by the AF for both research methods was 10 participants per country (KPI: 30 in total), which partners exceeded (40 people participated in the three countries).

Regarding participants' profiles, partners ensured that people across the three blue economy sectors with different backgrounds and professional roles were involved. More specifically, the following list summarises the key characteristics of participants in the three countries:

- Both female and male participants were invited as foreseen by the AF.
- People belonging to both first and secondary target groups participated. Great attention was paid to people from the first target group, as partners deemed it crucial to invite women who, despite being currently unemployed for reasons such as parental leave, possess significant experience in the blue sectors in focus.
- Participants come from both academia and industry.
- Participants possess diverse roles of all levels across the three blue economy sectors.

The research methodology was accompanied by research tools (incl. interview and survey questionnaires, as well as templates for data collection) that facilitated the data collection process and ensured consistency in data documentation. These tools were thoroughly discussed during internal partners' meetings.

The research phase started in April 2023 and lasted on average 3 months. Revised versions of the national reports were prepared by partners' in charge according to consortium's feedback and when new relevant data came into light.

Results

This section presents the collected data regarding gender aspects at the nexus of professional development potential and obstacles of women in the three sectors of the Blue Economy (maritime transport, fisheries & aquaculture, water-based tourism), through primary research. The data is presented per country; a comparative approach will be adopted in the following section “Results”.

Greece

In a country characterized by a strong nautical tradition and whose maritime transport records represent 59% of the EU fleet, 21% of the global fleet, and the largest number of people employed in maritime transport in the EU, gender equality in the maritime sector has become a point of debate in recent years, acknowledged as a beneficial factor for the industry as a whole. Many shipping companies set targets and official KPIs within their ESG strategy when it comes to the employment of women and the participation of women in top management positions. At the same time, sea tourism activities, such as coastal shipping and ferry boats, cruise ships, yachts and marinas seem to be considered as more attractive maritime-related sectors for women. In this context, the Hellenic Marine Environment Protection Association found a prosperous ground for conducting its primary (quantitative and qualitative) research regarding the position of women and the obstacles they face in the Greek maritime field.

The quantitative aspect of the research consisted in an online survey, whereas the qualitative one in two sets of focus groups and two one-to-one interviews, engaging participants from the 3 blue sectors examined (maritime transport, water-based tourism and fisheries/aquaculture).

Through the online survey 181 responses were collected, representing all age groups – still the majority of answers came from the 30-40 years old group (33%) and the majority of respondents were highly qualified (holding a postgraduate degree -61.5%, or a university degree - 27.4%). Also, the vast majority of participants (69.8%) are employed in the maritime or other blue economy sectors, 16.2% employed in non-blue economy sectors, 8.4% unemployed and 5.6 % entrepreneurs & self-employed.

As for the focus groups, the first one comprised of 3 women belonging in the primary target group (unemployed women interested in pursuing a career in one of the 3 blue sectors), and the second focus group comprised of 6 members of the secondary target group (women professionally active in all 3 sectors, representative of academia, employers and capacity building organizations) as follows:

- Female, HR manager of major shipping company
- Female, Health-Safety-Environment Officer of company managing wide network of marinas (Maritime tourism)
- Female, Assistant Professor, University Dept of Shipping, Trade and Transport (Academic)
- Female, Deputy Head of Office, Associate Director-Claims of P&I Club, General Secretary of WISTA Hellas (Women’s International Shipping & Trading Association)
- Male, Deputy Training Manager of major ocean-going shipping company/ Chairman HELMEPA Training Committee
- Female, Chief People Officer of major aquaculture company (fisheries).

Most participants fitted the procedure selection criteria as they had professional experience in the maritime and sea-based tourism industry, and relevant academic background.

Additionally, one interview was conducted with a representative of the maritime industry (Regional Maritime Academies Manager of leading classification society and No 2 in the list of 100 most influential women in shipping for 2022, according to allaboputshipping.org) and another one with an unemployed young woman with previous experience in the maritime transport and the sea-based tourism sector, aspiring to be employed in one of these sectors in the future.

Existing barriers faced by women in the Blue Economy sectors

Experts working in shipping companies reported that despite representing 30–40% of the office workforce, there isn't an equal representation in management positions. They also reported that stereotypes and low acceptance are key challenges for women entering the three sectors. Unemployed women reported limited opportunities for professional progress (e.g., promotions, raise) in the blue sectors. There had even been a case of a woman reported as being the last woman hired for 11 years.

The lack of quotas in the Greek public and private sector was identified by participants from the unemployed women focus group, as another barrier to their professional development in the 3 sectors of the Blue Economy, not contributing to inclusion and equality at work, especially in the maritime transport sector.

The online survey findings highlighted as key obstacles the limited promotion opportunities (53.3%), the difficult balance between working and family life (43.8%), as well as limited employment opportunities (39.6%). Another reported barrier is the lack of awareness on the notion of Blue Economy: 1 in 4 (26 %) women employed in the maritime sector are not aware of the definition of the term.

Last but not least, both experts and female participants reported that training opportunities – especially those addressed to women - are limited, as well as programs focusing on skills in the maritime industry, rendering them non competitive professionals in the long-term.

Potential for professional development embracing the gender aspect

The survey participants stressed the role of policies and related initiatives as key elements for further support of women's employability in the maritime or other blue economy sectors. More specifically they highlighted the importance of:

- ✓ greater work flexibility for women (76.2%)
- ✓ a more robust legislation concerning gender equality in recruitment processes (54.3%)
- ✓ enhanced education on gender equality in primary & secondary schools (54.3%)
- ✓ stricter legislation or enforcement regarding maternity leave (51.2%)

Other areas increasing the potential for women's professional development include:

- ✓ the role of technology/digitalization as a factor rendering obsolete "traditional" skills connected with muscle strength and a prerequisite for women's employability
- ✓ female-friendly and tailor-made health and safety solutions for women onboard (e.g. dedicated areas onboard, sanitary products and drugs for women, safety gear that fits women, female-friendly access ladder etc.)

- ✓ reduction on the length of travels for everyone, especially women who wish to balance family and professional life (eg., 4-month travels)
- ✓ adherence of companies to SDGs (thus promoting gender equality in the work space)
- ✓ the respective media coverage this trend is gaining

Special attention was granted on leadership skills attributed to women, that can act as enablers for women empowerment and professional development in the three maritime sectors, such as flexibility, resilience and adaptability. Notably, all participants from the primary focus group highlighted that women learn to develop these traits from a very early age in order to compete successfully with their male peers. They also reported that women possess an inherent respect for hierarchy that makes them good workers onboard. Traits that make women unique and successful candidates for top management positions, are communication skills and empathy. Representatives from the maritime sector agreed, highlighting that these two soft skills make women adaptable and well-respected onboard. These skills are also important for increasing their visibility, especially regarding upper management positions, and inspire other women.

Primary research also revealed areas for improvement regarding the existing training programs on maritime jobs. Both experts and unemployed women highlighted the following:

- more training programs, specifically addressed to women
- mixed-gender courses as a tool of interaction and inclusion
- mentoring programmes
- micro-communities comprising of lecturers and students (eg. via team projects and workshops and/or extra communication channels)
- women on the role of lecturers and mentors
- interdisciplinary and international teams

Notably, participants had excellent suggestions for training opportunities, especially focused on skills needed in the blue economy in general and the maritime sector more specifically. The qualitative one-to-one Interviews covered in-depth aspects, such as training settings and skills development. As follows:

- online training, preferably via prerecorded material, is an ideal mode for women (especially those working onboard)
- interactive training modules including practical insights and case studies
- Reflective learning, providing assessments

Bulgaria

In Bulgaria during the recent years, there has been a growing number of women joining maritime specialties, such as maritime transport management, logistics, and fleet and port operations. In parallel, tourism and the maritime industry constitute important economic factors of the Bulgarian economy, with port management figuring as an attractive and well-remunerated profession. At the same time, employment of women and their participation in top management positions in Bulgaria remains low (15-18 %), while the percentage of women seafarers is below 5 %. These numbers are expected to gradually rise, since in the last years, there has been an increase in the specialties in the Blue Sector, which are preferred by women since their High School education, however equal representation in management positions is hard to be envisioned.

With these elements under consideration, the Nikola Vaptsarov Naval Academy conducted a research identifying key challenges for women in entering the local maritime industry, opening the floor to both reflecting on national policies, as well as exploring ways of improving the professional orientation of women towards the maritime sector.

Primary research was based on qualitative and quantitative methodologies.

The qualitative methodology consists of 16 personal interviews, 6 of which provided face to face at the premises of NVNA and 10 conducted online. The interviews have been carried out through two sets of focus groups:

➤ The first focus group represented 6 unemployed/underemployed women wishing to pursue a career in marine-based sectors, with a focus on water-based tourism, maritime transport, fisheries & aquaculture. Four of them are students at NVNA in several maritime specialties. The other two women are Master Graduates from the NVNA. The participants' age group is 18-25 years old. The specific jobs within the maritime industry or other water-based blue economy sectors in which participants from the primary focus group are interested in are the following: ship brokerage (69%), maritime logistics (56%), marine insurance (38%), port/marinas (38%), and charter/vessel operations (38%).

➤ The second focus group included 10 employed women in diverse blue economy sectors examined, as follows:

- Import/Export Cargo Coordinator and Export Documentation
- Senior inspector, National Customs Agency
- Expert Administrative-legal, financial and business services
- Charter party administrator
- Inspector, Training and Certification of Seafarers Department
- Forwarding specialist
- Yacht Hostesses, Cruise Shipping
- Associated Professor, NVNA, Maritime Transport (Academic)
- Vessel Operator
- Third Rank Officer of major shipping company.

All age groups were represented – still the majority of answers came from the 25-30 years old group (40%) followed by the 40-50% years old (30%) and all respondents were highly qualified (holding a postgraduate degree - 50%, or a university degree - 50%).

The quantitative methodology consisted in an online survey addressed to participants from The Maritime Cluster,

receiving 80 responses in total. All age groups were represented – still the majority of answers came from 25-30 and the 30-40 years old (27,3% respectively) and all respondents were highly qualified (holding a postgraduate degree - 67%, or a university degree - 33%). As for their professional profiles, most of them (60.8%) were employed in the maritime or other blue economy sectors, 18.4% were employed in non-blue economy sectors, 7.6% were unemployed and 13.2 % were entrepreneurs and self-employed.

Existing barriers faced by women in the Blue Economy sectors

Participants in both focus groups reported that the most challenging element faced by women in the Blue Economy, is entry to the sector on junior level. Gender is a factor of prejudice, emitting the image of women as “weak” employees and often orientating employers into not hiring women professionals.

Especially for women seafarers on board, they constantly face the need of proving themselves as skillful officers (eg. on the bridge), as they are not regarded as equal professionals. Moreover, women experience isolation and lack of support because of their gender on board. This situation is worsened by the fact that there is no diversity in the crew (especially on cargo vessels and containers where almost the whole crew comprises of men). Characteristically, one of the interviewed shared that in her last assignment she was the only woman among 27 crew members. Difficulties faced by women in achieving professional success in the three maritime sectors, are related to their perception of being less competent than their male counterparts.

The most severe barrier faced by women in the maritime professional field is unfortunately the sex harassment or assault on board, where often such reported incidents are concealed and no measures are taken for punishing the offender and attributing justice to the victim. Even worse, in cases in which the abuser is a high-ranking officer, there is a total mentality of impunity, according to which the abuser’s position remains intact, whereas the victim is just transferred to another position and respective reports of harassment remain unaddressed.

Last but not least, the lack of family planning options such as maternity leave, is an important barrier for women, as it disbalances professional and personal life.

Potential for professional development embracing the gender aspect

The state and the civil society can play a crucial role in encouraging young women in their career development in the maritime industry, which in turn becomes more and more attractive to women seafarers.

The interviews suggested options to make education and vocational trainings more attractive, comprehensible and inclusive for women in the maritime industry, by:

- ✓ offering scholarships and financial support specifically for women in maritime education and training. This measure could alleviate financial barriers often faced by young women interested in entering the maritime industry and make the related job paths more accessible, by attracting more female candidates to enroll in programs and pursue careers in the maritime industry

- ✓ establishing mentoring programs with women mentors or promoting successful women in the maritime as role models. Such measure can inspire and motivate women to pursue education and training in the relevant field, creating at the same time a community of shared experiences and achievements
- ✓ providing flexible learning options, such as online courses or part-time programs. This measure can accommodate the needs of women who may have other professional, personal or family commitments, by allowing them to balance their studies with other aspects of their lives
- ✓ conducting awareness campaigns that highlight the benefits and opportunities in the maritime industry for women. This measure can help combat stereotypes in the whole society and trigger women's interest for the sector. These campaigns could be developed around success stories, emphasizing the diversity of career paths, and highlight the potential for career growth.

As for the best channels to stay updated with the latest developments in the maritime industry and other blue sectors, the online survey showed that the following:

- following maritime industry experts on social media (81,2%), joining a maritime professional network (75%), reading industry publications (75%) and attending maritime trade shows and conferences (68,7) (Figure 4)

Spain

Spain, as one of the leading contributors to the European Blue Economy in terms of both employment and Gross Value Added (GVA), plays a pivotal role in sectors such as marine living resources, port activities, coastal tourism, and shipbuilding. Despite these impressive contributions, gender equality within the maritime industries remains a significant challenge. While the country ranks first in employment within the EU Coastal Tourism sector and second in Value-Added Rate, these achievements do not necessarily reflect gender parity or fair conditions for women in the field.

Historically, the integration of women into maritime professions in Spain began in 1979, when nautical education was made available to them on equal terms. However, the lack of gender-specific considerations in policies and strategic plans persisted until the introduction of the Law 33/2014. This legislation marked a turning point by explicitly addressing equal treatment and opportunities in maritime professions. Yet, progress has been slow. For example, women account for only 3.18% of employees in maritime fisheries, and in aquaculture, similar trends are evident. Even within academic pathways related to naval, marine, and nautical engineering, the representation of women remains alarmingly low, with female enrollment not exceeding 20% over the past decade.

Primary Research: Observations and Findings

The She4Sea project conducted a series of focus groups and interviews in Spain to delve deeper into the professional development potential and obstacles faced by women in maritime sectors.

Focus Groups

The first focus group involved employed women working in the nautical sector. These women, aged between 40 and 45, possessed maritime education and experience in diverse roles, such as project management in Mallorca's shipyards, repair workshop management, and technical or sales positions in marine companies. The second focus group targeted unemployed women aspiring to enter the maritime sector. These women, with an average age of 50,

came from various backgrounds, including tourism and cleaning services for boats, but lacked substantial experience or formal education in the field.

Participants from both groups shared their perspectives on gender-related challenges. Many highlighted the difficulties women face in male-dominated roles, such as yacht rigging, where customers and colleagues often questioned their abilities. On a positive note, employed women emphasized the importance of communication, negotiation, and persuasion skills, which allow them to advocate for better working conditions and career advancements, even in challenging environments.

Qualitative Interviews

The interviews provided further insights from women working across different maritime roles, including business management in harbors, sustainability and corporate social responsibility in the Port Authority of the Balearic Islands, project engineering in the yachting sector, and yacht hostess training. Participants noted the lack of initiatives specifically targeting women in maritime careers and praised the She4Sea project for addressing this gap. They also highlighted how women's contributions, while valuable, often remain under-recognized in the sector.

Existing barriers faced by women in the Blue Economy sectors

Despite Spain's strong maritime tradition, women encounter numerous challenges in the sector. The primary research revealed persistent gender stereotypes and a lack of training opportunities tailored to the maritime field. Employed women noted that male-dominated environments often undervalue their expertise, creating barriers to career progression. Similarly, unemployed participants identified a disconnect between the economic importance of the maritime sector and the availability of accessible, high-quality education and training opportunities.

The academic field reflects similar patterns of underrepresentation. Women's enrollment in naval and marine engineering programs remains consistently low, with only 17.3% of students in these fields being female in Catalonia during the 2019–2020 academic year. Female graduates in maritime studies also face significant challenges in finding opportunities that align with their qualifications.

Potential for professional development embracing the gender aspect

The findings point to several opportunities to enhance women's professional development in Spain's maritime sector. Participants called for an expansion of training programs, both at the primary and secondary education levels, to foster early interest in maritime careers. They emphasized the need for specialized courses and greater alignment between educational offerings and the sector's economic significance. Improved dissemination of career opportunities and training options was also identified as a critical step toward increasing women's participation.

Moreover, communication and leadership skills were highlighted as key enablers for women in the sector. Women's ability to communicate clearly, negotiate effectively, and demonstrate adaptability in male-dominated environments emerged as significant strengths. Participants also suggested that the implementation of mentoring programs, as well as greater representation of women as lecturers and trainers, could inspire and empower the next generation of female maritime professionals.

Conclusions

The comparative findings from Spain, Greece, and Bulgaria reveal shared patterns of challenges and opportunities for women in the maritime and Blue Economy sectors across Southern and Eastern Europe. Despite each country's unique socioeconomic context, systemic gender-based barriers persist, limiting women's representation and professional advancement in these traditionally male-dominated fields.

In Bulgaria, there has been a notable increase in women pursuing maritime specialties such as maritime transport management, logistics, and port operations in recent years. However, the overall representation of women, particularly in seafaring roles, remains low, with only 15-18% of top management positions in the maritime industry occupied by women and women seafarers accounting for less than 5%. While initiatives such as those by the Nikola Vaptsarov Naval Academy highlight growing interest and efforts to address gender gaps, these numbers indicate that achieving equal representation, particularly in management and operational roles, remains a distant goal.

Spain and Greece similarly face gender imbalances in maritime education and employment, with women underrepresented in leadership and technical roles. In both countries, low enrollment of women in maritime education pipelines perpetuates these trends, and cultural stereotypes continue to challenge women's ability to enter and thrive in these fields.

Qualitative and quantitative research across all three countries reveals common barriers to women's success in the Blue Economy, including:

- **Limited access to entry-level opportunities:** Women in all three countries report challenges in breaking into maritime professions due to employers' biases regarding their perceived competence and physical capabilities.
- **Discrimination and gender-based prejudice:** Women, particularly those working onboard ships, consistently face the need to prove their skills and deal with isolation, lack of support, and limited crew diversity. In Bulgaria, the reported prevalence of harassment and impunity onboard vessels underscores the urgent need for workplace protections and accountability mechanisms.
- **Lack of family-friendly policies:** The absence of robust maternity leave options and flexible work arrangements creates significant challenges for balancing professional and personal responsibilities across all three countries.

Despite these systemic barriers, there is clear potential to foster gender equality and professional growth for women in the maritime industry. The studies from Spain, Greece, and Bulgaria emphasize several key strategies for progress:

1. **Strengthening education and training opportunities:** In Bulgaria, offering scholarships and flexible learning options tailored to women has been identified as an effective way to remove financial and logistical barriers. Across all three countries, increasing female enrollment in maritime academic programs is critical to building a pipeline of skilled professionals.
2. **Creating mentoring and role model networks:** Mentoring programs featuring successful women in the maritime sector are widely recognized as a way to inspire, motivate, and guide younger generations. Women-focused professional networks can also create a sense of community and provide support for navigating workplace challenges.

3. **Promoting awareness and addressing stereotypes:** Public campaigns that celebrate women's success stories and highlight the diverse career opportunities within the maritime sector are essential for changing societal perceptions and encouraging more women to consider these fields.
4. **Improving workplace conditions and accountability:** Addressing harassment, ensuring crew diversity, and introducing family-friendly policies such as maternity leave and flexible schedules are critical for fostering an inclusive and supportive working environment.

The data from Bulgaria also points to a growing recognition of the maritime sector's attractiveness as a well-remunerated and dynamic field, particularly in areas like port management and logistics. Capitalizing on this momentum will require targeted interventions at the policy and organizational levels, coupled with efforts to integrate women into leadership roles.

Overall, the findings from Spain, Greece, and Bulgaria highlight both the significant barriers and untapped potential for women in the Blue Economy. Initiatives like She4Sea and the efforts of institutions such as the Nikola Vaptsarov Naval Academy serve as models for tackling systemic challenges and empowering women to thrive in the maritime industry. By implementing inclusive policies, improving access to education and training, and addressing workplace inequalities, the maritime sectors in these countries can become more competitive, innovative, and sustainable.