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MARitime cluster Management Education Development

FINAL REPORT SKILL GAPS ANALYSIS WP2

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INTRODUCTION

The Maritime cluster Management Education Development (MARMED) project aims at bridging the gap between the existing needs and the current skillset of Maritime Clusters Managers, ensuring upskilling, aiming at outlining an innovative professional profile for an increased competitiveness of Maritime Clusters in the Mediterranean area and, overall, boosting innovation and sustainable growth in the Blue Economy sector.

Maritime Clusters have been growingly acknowledged as essential boosters for innovation and diversification of the Blue Economy. And yet, the very concept of “cluster” and the practical examples of related organisations have evolved through time. As a result, a range of practices and approaches has *de facto* emerged (industrial complex, agglomeration of interlinked industries, community-based network, etc.), depending on specific local needs and experiences, as well as on the different development patterns and challenges faced across the maritime sectors.

Cluster management is a multi-faceted and rather demanding activity, which requires a large set of different skills. However, at present there are very few training opportunities available for the present and future Maritime cluster managers.

Based on innovation strategies within Baltic Sea Region and a large preparatory work to investigate the needs for cluster managers, the MARMED project aims at developing and providing Maritime Cluster Managers with a set of specific skills and competences allowing this professional profile to represent a key driver of change at EU and international level, helping Clusters to become open, collaborative, interconnected, mission-oriented, innovation-driven and, overall, SDG-driven ecosystems.

The project, through the collaboration between Maritime Clusters, Research Centers and Vocational Training Providers, will design, pilot, evaluate a transversal training programme targeted at employees of Maritime Clusters and potential ones.



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EXECUTIVE SUMMARY

The skill gaps analysis (WP2)'s final report analyses step by step the main activities expected from the project, and it aims at reaching a deeper understanding of key skill gaps of current and future Blue Cluster managers.

To reach this objective, relevant literature, reports and documentation have been analysed through a desk analysis to highlight the skill gaps. These gaps have been further assessed through a field analysis with surveys and interviews to a specific target audience.

The strategy adopted was to target managers in marine and maritime clusters as well as groups of interconnected companies and associated institutions operating in the blue economy sector, coming from countries in northern and southern shore of the Mediterranean, in order to maximise north-south cooperation and support capacity building processes in emerging/embryonic clusters. The strategy was elaborated with the support of project partners, associated partners and external stakeholders, in particular the WestMED Clusters Alliance,

From both theoretical and field analysis, it is clear that there is a significant gap between current skills and future/ideal skills in relation to a blue cluster manager role. From the theoretical analysis, a set of competences was analysed and a preliminary list of competences was produced as a preparatory work for the field analysis. In particular, a strong mismatch between current training programmes and current market needs emerged, and more specifically a lack of hard (technical) skills, particularly in relation to skills related to digitalisation, business management foreign language knowledge etc... In addition, a lack of soft skills, such as problem solving, multicultural knowledge, interpersonal skills were registered. Moreover, as far as blue economy sectors are concerned, emerging sectors knowledge is indeed key to enable cluster managers to respond to the increasing water challenges.

The field analysis conducted afterwards has shown further areas of improvement by looking at the needs from the perspective of competence areas analysed in the desk analysis. In addition to specific technical, soft and blue economy-related skill gaps, other useful insights have also emerged,



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for instance in relation to the need of encouraging a less theoretical and a more hands-on approach in training processes.

In conclusion of the report, highlights on how to bridge the gap between current and future cluster managers skills have been provided. Some of the suggested actions are fostering continuous training, boosting awareness and career opportunities, encourage training with multidisciplinary and integrated approaches etc.

The final report of WP2 aims at providing guidelines and suggestions to develop activities in the following WPs in the MarMED projects, in order to reach a higher level of comprehensive competences for blue cluster managers through specific training processes.



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METHODOLOGY

The skill gaps analysis that was conducted in the framework of the Work Package 2 (WP2) represents a crucial step in the success of the project. In fact, through a specific skill gap mapping activity, the subsequent WPs and therefore the pilot training activities will be based upon the results emerged from this in-depth analysis.

WP2 has followed a specific timeline as specified below, which consider the official start of the project.

WP2 SKILL GAPS ANALYSIS TASKS	M1	M2	M3	M4	M5	M6	M7	M8	M9
A.2.1 Desk analysis of possible gaps									
A.2.2. Portfolio of competences									
A.2.3. Gap survey									
A.2.4. In-depth interviews									

Figure 1 - WP2 Timeline

Originally, the activity should have been completed within the first six months of the project (highlighted in light orange in the table above), however, in order to ensure data accuracy, the timeline has been slightly extended, in particular to accommodate the interviewees' tight schedules and therefore to guarantee the expected results (extension highlighted in dark orange in the table above. Actual duration of the activity is therefore from M1 to M9).

As a **preliminary stage**, the four subsequential tasks foreseen in the timeline and project proposal have been analysed, in order to adopt a specific methodology on which the skill gaps analysis was based. Therefore, the approach adopted can be divided in two phases of analysis, which will then produce the WP2's final results. The methodology is outlined in the graph below.



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Figure 2 - Skill gaps analysis process

In **the first phase**, namely the theoretical analysis, a **desk analysis** has been conducted (**R1**) in the framework of the first activity foreseen in WP2 (A.2.1).

Relevant literature and reports produced by National and Regional Clusters, as well as international organisations, have been considered for the analysis. Relevant documentation produced by the Union for the Mediterranean (UfM), the Eurocluster Collaboration Platform (ECCP), the European Commission (EC), the WestMed Clusters Alliance (WESTMED) – only to name a few – have been considered. In addition, some initiatives carried out by the Clusters in the frameworks of their activities and projects have been taken into account. More details on the documentation analysed are available in the footnotes as well as in the references section.

The main goal of the desk analysis was to reach a **deeper understanding of key skill gaps of current and future Cluster managers**, basing the analysis on the current needs set out in the Sustainable Blue Economy Framework (O.1), as well as assess the difference between current and a future state (O.2).

Based on the research conducted, a **list of competences (R2)**, which appear to be the most relevant for a marine and maritime cluster manager, **has been outlined** in order to highlight the most



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important skills among the full list analysed in the available scientific and policy articles and to design the subsequent field analysis content properly and in order to underscore the ideal skills that shall be acquired by current and future Cluster managers (O.3). This activity has indeed produced a list with a cross-cutting feature, including skills ranging from miscellaneous backgrounds (A.2.2).

The **second phase**, which concerns the **field analysis**, was designed based on the theoretical analysis results. As a first and preliminary step, a target audience has been defined considering role, type of organisation and country, bearing in mind the qualitative and quantitative indicators in order to meet the expected results.¹

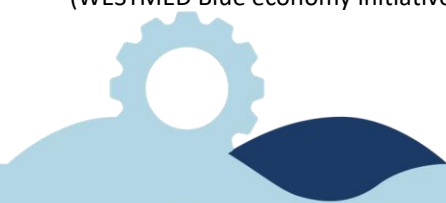
To the purpose of the maritime clusters manager skill gaps analysis, only employees who cover a managerial role have been taken into account, while in terms of type of organisation, not only marine and maritime clusters at national and regional levels have been considered, but also groups of interconnected companies and associated institutions in the marine and maritime field.

The **target countries** considered for the analysis have been selected from **both northern and southern shore** of the **Mediterranean**. The reason was not only to maximise as much as possible the inputs aimed at the analysis, but also to increase the opportunities in the long term of potential cooperation between northern and southern shore of the Mediterranean, since clusters are steadily growing across the Mediterranean.² With reference to the northern shore, as there are several maritime clusters active in several European countries, and with regard to enhancing existing activities and to properly responding to emerging challenges, skill gaps need to be identified and action is needed in a timely manner. As for the southern shore, it has been noted that there are more emerging/embryonic clusters and the cooperation between them is increasing – one need only think of the recent constitution of the Mauritanian Maritime Clusters (MMC)³ and the recent cooperation agreement signed by Cluster Blue Italian Growth (CTN-BIG) and Federazione del Mare (FdM) with

¹ In the final results paragraph a table summarising the Key Performance Indicator (KPI)'s state of the art is available.

² (Union for the Mediterranean (UfM), December 2019, p. 41)

³ (WESTMED Blue economy initiative, 2023)



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the MCC,⁴ not to mention the long-lasting cooperation between Cluster BIG and the Tunisian Maritime Cluster (CMT) since 2020.⁵ With this in mind, adding these countries within the assessment process of potential skill gaps becomes a crucial step, which can therefore potentially encourage training opportunities for new potential Cluster managers.

A full list of the target audience, including type of organisation, type of managers and countries involved, is available in this document.

Once a target audience has been identified during this phase, the field analysis has then followed two processes that ran almost in parallel, namely a survey and interviews.

The **survey** has been launched through a specific dissemination tool, namely Google Form. Not only responses from Cluster managers have been encouraged, but feedback was also sought from other organisations that play an important role in the blue economy, including – but not limited to – some Vocational Education Training providers and Research Centres, in order to highlight the stakeholders' expectations in a realistic and comprehensive manner (A.2.3). The survey has been designed following the logics of the desk preliminary analysis's findings, as well as the approach identified, namely per area of transversal competences **(R3)**.

The other activity that had run in parallel during the field analysis was the **interview** process (A.2.4). The in-depth interviews collected have been carried out in two modalities, namely through online meetings and phone calls of approximately thirty minutes duration, and via email, in those cases in which that option was preferred by the interviewees. The aim was to identify in more detail the cluster managers' skill gaps and in particular the expected outcomes in such roles, by reaching a large sample of respondents and hearing about unpublished experiences and training expectations **(R4)**.

⁴ (InforMARE, 2023) <https://www.informare.it/news/gennews/2023/20230882-Accordo-cluster-marittimi-italiano-mauritanouk.asp>

⁵ (European Cluster Collaboration Platform (ECCP), 2020)



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Lastly, the results have been summarised taking into consideration the outcomes in terms of skill gaps emerged from the desk analysis (R1) and the preliminary list of competences (R2), as well as the findings from the survey (R3) and interviews (R4). Out of these results that highlight the preferable or most fundamental marine and maritime cluster managers skills, the most appropriate training opportunities shall be developed in the next project activities.

This **final report (R5)** aims at summarising the analysis conducted to reach a greater understanding of the needed competences in such roles (O.4); enlisting the competences themselves that address the needs in a dedicated portfolio (O.5) as well as highlighting the huge potential of this emerging professional profile (O.6), ultimately contributing considerably to the overall project objective.

This final report follows the above-mentioned logic and a methodological approach. It is therefore divided into two main sections, one dedicated to the theoretical analysis and one to the field analysis, in which all the activities, objectives and results reported are included.



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SECTION 1: THEORETICAL ANALYSIS

PRELIMINARY SKILLS GAP ANALYSIS (R1)

The **aim of the first activity** of the work package was to **determine**, through in-depth desk research and gap analysis, the potential **skill deviations** between **current and future marine and maritime clusters managers and employees** based on the ongoing changes and needs in this fast-growing sector, highlighting potential room for skills improvement.

Background

In order to assess the maritime clusters manager skills' gaps, an introductory analysis of the importance of the blue economy sectors, as well as the key role of maritime clusters in boosting innovation and reaching sustainability goals, has been outlined.

The blue economy sectors are increasingly crucial to reach sustainability objectives and significantly contribute to the European economy, not only in terms of Gross Domestic Products (GDP) but also in terms of employment. The blue economy is in fact constantly evolving and there are more and more emerging sectors which provide cutting-edge technologies and innovation, and support considerably the European sustainability goals, as well as economic growth and employment opportunities.⁶

In this process of implementing actions towards a more sustainable blue economy, the marine and **maritime clusters play a key role** in fostering **new business models**, investment and jobs opportunities in both traditional and emerging blue economy sectors.⁷ Clusters are, hence, active actors in responding to new challenges and to foster economic development, as well as in promoting business and cooperation opportunities in a widespread manner.

⁶ (European Commission, 2023, p. 3)

⁷ (Union for the Mediterranean (UfM), December 2019, p. 10)



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In a recent article published by the ECCP, the action carried out by such organisations that is composed by interconnected entities from public and private sectors, paves the way to growth, competitiveness and sustainability. Clusters are in fact active **facilitators of matchmaking** and synergies supporters among large companies, SMEs, start-ups, associations, universities, research centres and so on - at both national and international levels⁸ - placed in different positions of the value chain.⁹ A huge benefit of Cluster's work is evident also in increasing best **practice exchanges, technology transfer**, sharing of innovative ideas carried out at various levels.¹⁰

In addition, marine and maritime clusters carry out a wide range of activities, offer specific services and functions and therefore provide concrete support in innovation, sustainable growth and new job opportunities.¹¹ Huge importance and recognition are given to Clusters by Member States and regions in the European Union, which consider Clusters as their governmental policies and priorities ambassadors.

⁸ (European Cluster Collaboration Platform (ECCP), 2023)

⁹ (Union for the Mediterranean (UfM), December 2019, p. 41)

¹⁰ (European Cluster Collaboration Platform (ECCP), 2023)

¹¹ (Union for the Mediterranean (UfM), December 2019, p. 41)



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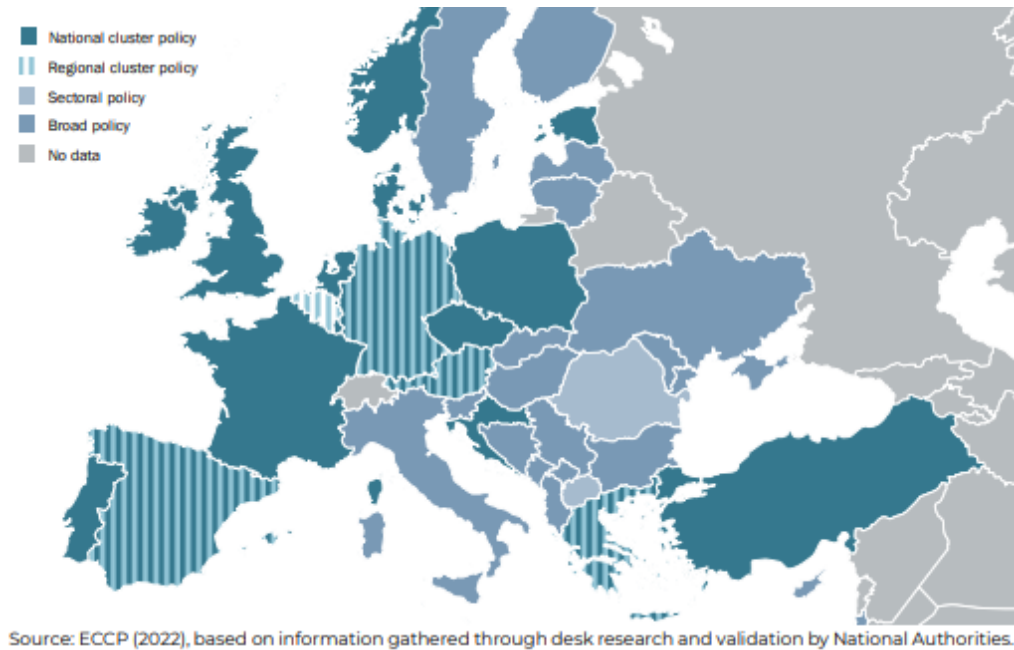


Figure 3 - Overview of cluster support policies across Europe

As a matter of fact, **more than 50% of countries are supported by dedicated cluster policy and programmes** either at national or regional level, while those who are not directly supported, are still covered by sectoral and broad policies, as shown in the image above.¹²

Through these specific policy support, Clusters implement specific actions toward a set of objectives, including, but not limited to: **strengthening innovation ecosystem; SMEs support; R&D support; industry-research collaboration; internationalisation and upskilling**.¹³ Another crucial role that is played by Clusters is supporting the elaboration and promotion of consistent long-term developments throughout the innovation lifecycle, fostering innovation and emerging market niches – e.g. **blue biotechnologies, multi-purpose offshore platforms and other emerging sectors** – as well as promote innovation across value chains. Therefore, Clusters prove to be able to address

¹² (European Cluster Collaboration Platform (ECCP), 14 December 2022, p. 39)

¹³ (European Cluster Collaboration Platform (ECCP), 14 December 2022, p. 57)



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objectives which would be challenging and difficult to reach through other instruments and processes.¹⁴



Figure 4 - Overview of the main Clusters' objectives and actions

Having highlighted the importance of marine and maritime clusters in reaching a more sustainable blue economy, a deeper understanding of their classification is essential to see more closely how clusters are classified and how they approach the various blue economy sectors through their activities, also in terms of stakeholders' engagement.

Firstly, one classification is crucial to better define tailor-made training process based on the actual needs, and it is based on Clusters' maturity levels.



Figure 5 Clusters classification based on maturity levels

¹⁴ (Union for the Mediterranean (UfM), December 2019, p. 37)

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In fact, **objectives and priorities** may differ from one blue cluster category to the other. **Established clusters**, mostly based in European Union, are more oriented towards R&I and they address actions towards these aspects to catch industrial and commercial opportunities. The **emerging/embryonic clusters**, mostly based in the southern shore, aim at increasing their competitiveness by aggregating all relevant actors in one unique industrial district with joint services (e.g., internationalisation & export, sectorial training etc..) and therefore they act as a "wedge" to access European and international markets in a systemic and integrated way.

In addition, according to an analysis produced by the UfM, Clusters can be also divided into **two main groups** based on the **different approach** they adopt:



Figure 6 - Types of approach adopted by marine and maritime clusters

The **focused approach** refers to those clusters whose objectives and activities are oriented towards a number of specific traditional sectors, namely **aquaculture, shipping, logistics tourism** and so on, the 58% of the 45 clusters analysed still adopt this type of approach. Other clusters, specifically the remaining 42% of the clusters analysed, adopt a more **transversal approach**, which enables them to implement actions toward both **traditional and emerging sectors** – such as **blue biotechnologies, multipurpose offshore platforms, desalination** and so on – with a **cross-cutting approach**.¹⁵

It is clear from the different approaches that there is increasing awareness on the fact that a multidisciplinary approach can provide the right instruments to address complex scientific,

¹⁵ (Union for the Mediterranean (UfM), December 2019, p. 17)



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environmental and social system-related issues. Indeed, in relation to the emerging sectors in particular, it is necessary to have highly-skilled and eclectic managers in charge of Clusters, able to address the increasing challenges accordingly and to catch the growing business, investment and funding opportunities which are available on the market. The interconnection among several economic branches within this sector, requires in fact a 360-degree approach in order to have deeper view of this multifaceted blue economy scenario.



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Excellent maritime cluster managers: what it takes

What does it take to be excellent blue economy cluster managers and cluster team, and be ready to catch all the emerging opportunities and tackle the sustainability challenges and climate crisis?

In order to define the approach in the analysis of what is needed in such a demanding role, relevant literature, reports and documentation have been carefully analysed, starting from outlining which are the main activities carried out by Clusters, the evolution of blue economy in current and future scenarios, as well as the increasing opportunities offered by the EU in order to support the achievement of common sustainability goals, as reported in the previous paragraph.

In its attempt to promote specific training programmes under the Erasmus+ programme, the ECCP has stated that «*managers need specific knowledge of cluster management, cooperation between cluster members and partner organisations, project initiation and coordination, strategic management, communication competencies, and the necessary understanding of innovations created by big data and digital technologies and their risk management*». ¹⁶

Hence, bearing in mind the importance of adopting a **cross-cutting approach** given the evolution of the blue economy sectors and the miscellaneous and strategic activities carried out by Clusters, as well as the increasing opportunities emerging in terms of European funding, an eclectic and multisectoral expert would indeed be the ideal fit. As a matter of fact, the Water and Youth Management Strategy 2023-2028 states that there are several backgrounds that can contribute to addressing water challenges, therefore engineers, data scientists, social scientists, artists, public policy professionals, sociologists, economists, agriculture professionals can all come into play to address blue economy challenges. ¹⁷ Hence, ideally, at all training levels, current and future Cluster

¹⁶ (European Cluster Collaboration Platform (ECCP), 2020)

¹⁷ (Union for the Mediterranean (UfM), February 2023, p. 12)



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managers shall receive a **diversified education**, since a silo-based approach to education is no longer sustainable.¹⁸

To outline the ideal characteristics of a maritime cluster manager, **the role has been analysed from different angles.**

Firstly, as reported in the Competency Framework for Managers published by the European External Action Service (EEAS), a manager shall have core **transversal management and leadership competencies**, which are related to a specific set of **soft skills**.

Nonetheless, these should be seen in addition to **the technical or specialised competencies** that managers should have in various fields of expertise.¹⁹ In particular, in order to be able to properly support policy makers, define their mission and implement the expected activities, a marine and maritime cluster manager shall be aware of policies and regulations related to blue economy, at regional, national and European levels, and therefore be **competent in policy analysis**.²⁰

The policy aspects are crucial to properly address actions, as well as to carefully select the funding opportunities that fit most of the objectives: this can offer the opportunity to concretely implement cluster's mission towards the creation of new innovative ecosystems, supporting the R&D as well as supporting SMEs. **Management skills** shall be included also among essential assets in a maritime cluster manager role and, similarly, specific **technical skills** – e.g., digital and languages skills – are central to facilitate connections and engagement of potential partners, as well as to boost internationalisation processes that can lead to new cooperation and investment opportunities.

As already stated, specialised competencies are a prerequisite especially in terms of deepening blue economy related topics and fast changing trends. A **blue economy** cluster manager,

¹⁸ (European Marine Board, N° 2 April 2018, p. 29)

¹⁹ (European External Action Service (EEAS), 2017, p. 5)

²⁰ (Union for the Mediterranean (UfM), 2021, pp. 77-78)



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to successfully fulfil the role, shall be fully acquainted on the sectors and sub-sectors related to the field, as well as to the surrounding ecosystem.

As a next step, the four areas of competences identified and briefly introduced, have been analysed in more detail.

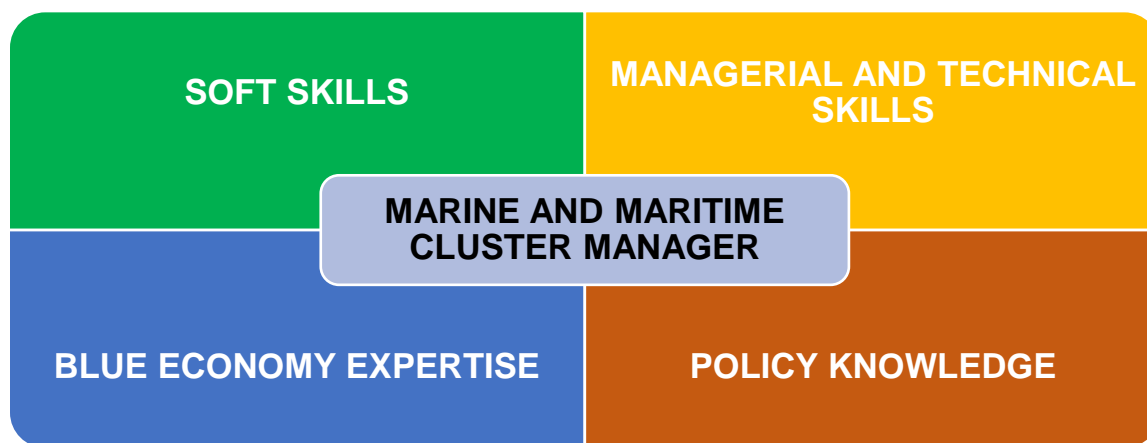


Figure 7 - Marine and maritime cluster manager's four areas of competences

a) *Soft skills*

Looking in more details at the first area, Cluster managers shall have a set of specific **soft skills** to properly cover their role. According to the EEAS Competency Framework, if a manager role is considered purely from a generic and non-technical perspective, a manager shall have a set of specific competencies.²¹

Firstly, the **ability to implement strategies** and therefore to address the Cluster's mission and to properly **communicate internally and externally** is a decisive asset. Similarly, a manager should be able to adopt **strategic thinking** to envision in the short, medium and long term a defined

²¹ (European External Action Service (EEAS), 2017)

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set of goals, as well as to increase organisational awareness and to manage changes, which are both increasingly important within fast growing and emerging sectors.

In addition, executing clusters' actions is possible only through a proper **planning, decision-making** skills as well as **human resources management**.

In particular in relation to the team, the Cluster manager shall be able to develop and **boost motivation and inspiration** by engaging employees and nurturing their talents.

At a more individual level, Cluster managers shall be able to cope with stress, in particular in relation to deadlines management, foster continuous training to **encourage learning and development**. Last but not least, clusters are a group of interconnected organisations at national and international levels, therefore a crucial soft skill is indeed being able to **develop and enlarge clusters networks and connections** through strong interpersonal skills: in this regard, knowledge of foreign languages is a prerequisite to deal with foreign organisations.



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Figure 8 - Managers' soft skills

b) Managerial and technical skills

As it concerns the second area - **managerial and technical skills** – Cluster managers skills shall be as wide as possible and shall concern all aspects related to their role, including **business, management, administration, digital and marketing, languages skills, local stakeholder engagement, investors engagement, access to finance etc.**²²

²² (Union for the Mediterranean (UfM), February 2023, p. 12)



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The Cluster’s main objectives and actions reported in Figure 4, should be achieved by the managers through a specific set of activities. The list provided below – which has no ambition to be exhaustive – is based on the main European Clusters’ activities carried out regularly.

Cluster management	Project management	Internationalisation	IT & Social media	Events management	Stakeholders engagement	Finance
<ul style="list-style-type: none"> • Budget • Action plan drafting • HR • Administration 	<ul style="list-style-type: none"> • EU projects management • Project life cycle • Funding opportunities 	<ul style="list-style-type: none"> • Partnership creation • Research and study of international trends 	<ul style="list-style-type: none"> • Software skills • MS Office • Survey tool • European funding portals • Remote meeting tools 	<ul style="list-style-type: none"> • Logistics • Data analytics • Networking • Agenda planning 	<ul style="list-style-type: none"> • Local stakeholders • Investors 	<ul style="list-style-type: none"> • Access to finance • Scouting funding opportunities

Figure 9 - European Clusters' main activities

As also stated by the UfM, managerial skills are crucial to meet the various sectors’ needs, as well as stakeholder engagement capacity and business know-how,²³ and both of these skills can be applied at all levels of the activities mentioned in the figure above. Just to give an example, stakeholder engagement is applicable in the framework of scouting new potential partnership to foster internationalisation and to promote new transnational project opportunities, as well as to engage new stakeholders in the process of events organisation.

In the framework of all Cluster’s activities, the **knowledge of foreign languages** shall be considered as a mandatory aspect²⁴ and although it was already mentioned in the soft skills

²³ (Union for the Mediterranean (UfM), 2021, pp. 77-78)

²⁴ (Union for the Mediterranean (UfM), 2021, p. 35)



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paragraph, it can be considered a technical skill in the sense of developing a high competence in using the appropriate language and adapting it to each stakeholder's profile and needs as well as in acquiring a blue economy-related vocabulary.

For what concerns **cluster management**, aspects such as proper planning of activities, budgeting, human resources management, are some of the decisive tasks that a Cluster manager shall master. Likewise, **program and project management** are increasingly important, given the higher number of European funding opportunities arising in support of a sustainable blue economy in the Mediterranean,²⁵ as well as **stakeholder and investors engagement**. To achieve success in this aspect a solid **internationalisation** process shall be implemented to foster new cooperation opportunities at international level. Cooperation opportunities can indeed be achieved also through specific **events** that can offer networking opportunities, as well as promotion and exchange of best practices and knowledge transfer, therefore being able to manage these aspects is also important. Lastly, in the digitalisation area, a cluster manager cannot be dispensed with skills related to **IT and social media**, especially for what concerns the main software and office tools, social media and, in particular post-COVID, remote meetings tools.

c) Blue economy sectors expertise

The **third area** concerns blue economy sectors expertise, which provide a highly skilled cluster manager with the appropriate knowledge of the main trends and recent innovation in specific sectors.

According to the Blue Economy Report 2023, although the Gross Domestic Product (GDP) of the EU-27 decreased from €14 019 billion in 2019 to €13 470 billion in 2020 due to the COVID-19 pandemic, the **EU Blue Economy** remained relatively stable. Given the decisive role of Blue Economy within the European economy, acquaintance with blue economy sectors is a prerequisite

²⁵ (Union for the Mediterranean (UfM), 2021, p. 86)



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to shape and address Clusters' activities. This is crucial not only in relation to the **traditional sectors**, but also concerning the trends and new opportunities related to **emerging sectors**.²⁶

The **traditional sectors** still contribute strongly to the European Blue Economy and to the employment opportunities.²⁷ The Blue Economy report 2023, published by the European Commission, outlines these sectors as per table below, including their subsectors.

MARINE LIVING RESOURCES	<ul style="list-style-type: none"> • Primary production • Processing of fish products • Distribution of fish products • Aquaculture
MARINE NON-LIVING RESOURCES	<ul style="list-style-type: none"> • Oil and gas • Other minerals • Support activities
MARINE RENEWABLE ENERGY	<ul style="list-style-type: none"> • Offshore wind energy • Solar photovoltaic energy • Wave energy
PORT ACTIVITIES	<ul style="list-style-type: none"> • Cargo and warehousing • Port and water projects
SHIPBUILDING AND REPAIR	<ul style="list-style-type: none"> • Shipbuilding • Equipment and machinery
MARITIME TRANSPORT	<ul style="list-style-type: none"> • Passenger transport • Freight transport • Services for transport
COASTAL TOURISM	<ul style="list-style-type: none"> • Accommodation • Transport • Other expenditure

Figure 10 - Traditional blue economy sectors

²⁶ (European Commission, 2023, p. 8)

²⁷ (European Commission, 2023, p. 8)



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The second group relates to the **emerging sectors** which offer a huge potential in terms of economic **growth, sustainability and employment** creation.²⁸

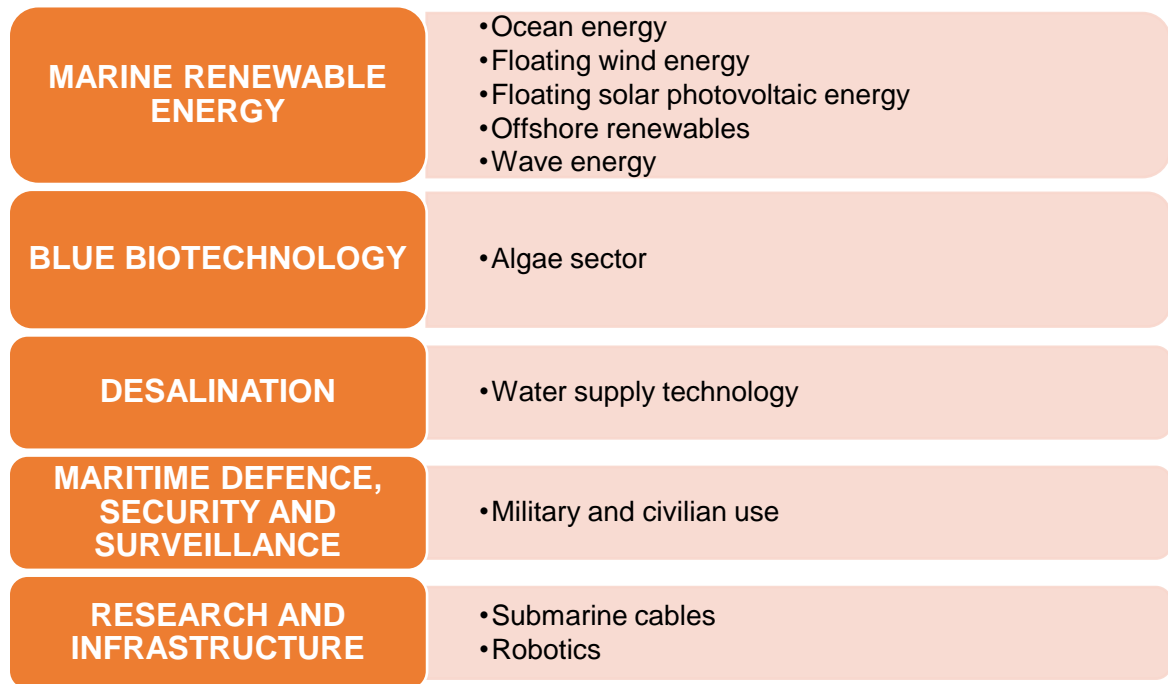


Figure 11 - Emerging blue economy sectors²⁹

The above-mentioned sectors and related sub-sectors are quickly developing and will contribute significantly to the **carbon-neutrality goals**, as well as to **circular and biodiverse economy**.³⁰

²⁸ (European Commission, 2023, p. 3)

²⁹ (European Commission, n.d.)

³⁰ (European Commission, 2021)



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Having an overview of aspects related to both groups of sectors would also help in designing cross-sectoral actions and to address various economic activities with the aim to promote greater **competitiveness** and **more interconnected business ecosystems** in the territory.³¹

d) Policy knowledge

Having noted the importance and recognition given to Clusters by the European Union, Member States and regions through specific governmental policies implementation, Blue Economy Cluster managers shall not be dispensed with deepening the strategic priorities addressed in policies at all levels.

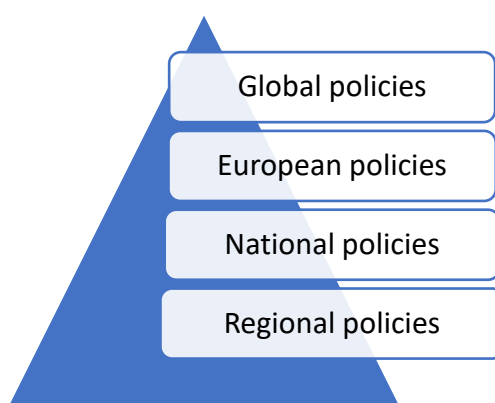


Figure 12 - Policy levels

Global policies, with particular reference to the UN policies, can address blue economy activities towards the SDGs and can concretely address the blue economy challenges at a global scale. As for **European level** and according to the Communication on the new approach for a sustainable blue economy in the EU developed by the European Commission, the Blue Economy covers a **central role** in achieving the European Green Deal's challenges which calls for achieving

³¹ (Union for the Mediterranean (UfM), December 2019, p. 16)



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carbon neutrality, protecting EU's natural capital as well as building a resource-efficient and competitive economy, and meeting the objectives outlined in the Recovery Plan for Europe, i.e. green and digital transition for future generations.³²

From the **national level** point of view, themes related to the sea are growingly important within Member States' national plans on addressing sustainability goals.³³

As for the **regional level**, the Smart Specialisation Strategies (S3) are based on assets and resources made available to Regions and Member States and on their specific socio-economic challenges in order to identify unique opportunities for development and growth.³⁴ Sustainable blue economy has ultimately shown a refreshing interest in the framework of Regional S3 too.

Desk analysis: skill gaps findings

In order to carry out the analysis, relevant literature and reports produced by both individual Clusters and international organizations have been analysed, such as Blue Economy report and documentation from the ECCP, UfM and so on and forth.³⁵

The results of the research highlighted that, based on what is needed nowadays in terms of competences, **several skills gap have emerged** in the current marine and maritime clusters managers and employees.

Taking into consideration that the occupational profile of Maritime Cluster Manager is a relatively new development, there is also a need to specify and elaborate core **hard (technical) skills**, given the newly developed occupations. For instance, there is increasing need for diversifying and widening the range of skills related to digitalisation, innovative and value-added activities e.g.,

³² (European Commission, 2021)

³³ (WESTMED Blue economy initiative, 2023)

³⁴ (European Commission, s.d.)



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skills related to sustainable tourism, climate change adaptation management, carbon neutral efforts, circular economy knowledge, business management and so on. In addition, several skill gaps have been identified in relation to cutting-edge and emerging activities and processes.³⁶ In fact, as reported by the ECCP, the Cluster Manager's role needs to evolve and adapt to operate accordingly, drive innovation and increase impact. It has been noted that most of clusters managers act as a group composed by many stakeholders, but do need to increase their commercial and innovation impact for their stakeholders on the market.³⁷

Although cutting-edge activities and their related skill needs may still require time to be absorbed by cluster managers, there are some more **traditional skills** which register several gaps, in particular **lack of foreign language knowledge, social media management**, as well as some soft skills such as **problem solving, multicultural knowledge, interpersonal skills** etc..³⁸

The main reasons of the existing skill gaps lie on the **mismatch between current training programmes and current market needs**. From an analysis carried out by the European Marine Board it emerged that there is a lack of proper **connection between academia/secondary schools, industry and government** in the blue economy training process. In fact, across the various blue economy related sectors, it has been noted that non-academic employers' expectations hardly ever met marine graduate training priorities.³⁹ In addition, other crucial actors that should be involved in the training process are investors – in fact, blue clusters nowadays support investors in investment pipelines screening processes and act as mediator between local/national investors and local enterprises with great potential, innovative and sustainable technologies and solutions. Therefore, a proper training shall also focus on these aspects, to foster investment and encourage SMEs scaling up.

³⁶ (Union for the Mediterranean (UfM), 2021, p. 35)

³⁷ (Provdadis School of International management and Technology, December 2019, p. 5)

³⁸ (Union for the Mediterranean (UfM), 2021, p. 35)

³⁹ (European Marine Board, N° 2 April 2018)



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The four named areas offer different benefits to the enhancement of skills and career developments in the blue economy and therefore to contribute to the Green Deal objectives,⁴⁰ starting from increasing visibility of marine graduate programmes for which a lack of awareness is registered, as well as drastically reducing the highly fragmented nature of marine science, which are often hidden in various miscellaneous disciplines instead.⁴¹

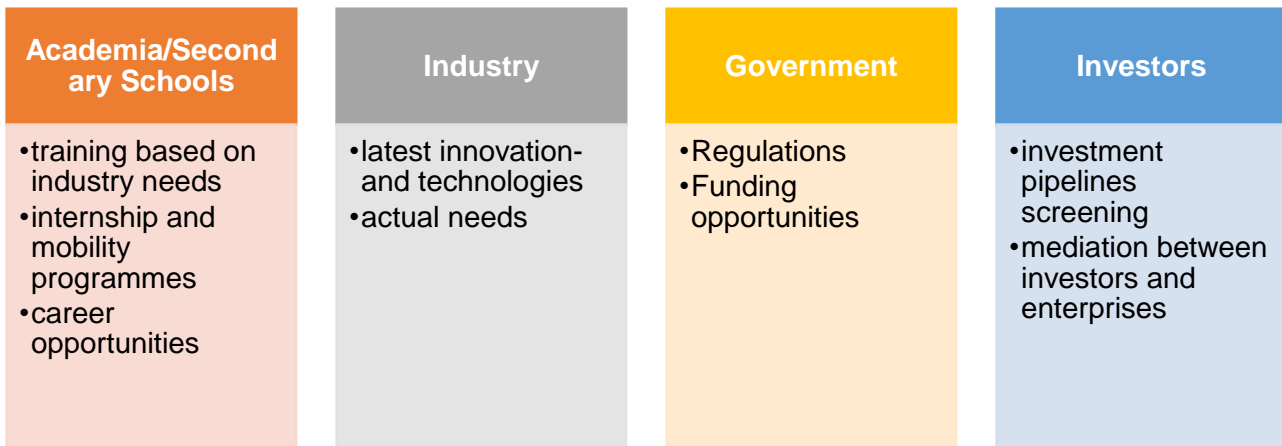


Figure 13 - Areas to involve in blue economy training processes

a) Academia and technical secondary schools

For what concerns the **academia and technical secondary schools**, it has been noted that there is an urgent need of developing and **modernising new education schemes** that would actively improve the image of the maritime technology sector and increase ocean literacy. Setting up **internship and mobility programmes for students** would offer them concrete opportunities to learn on the job within companies or public bodies and assess the great potential of the blue economy sector. This type of approach would also **boost awareness and career opportunities**

⁴⁰ (European Commission, n.d.)

⁴¹ (European Marine Board, N° 2 April 2018, p. 21)



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across Europe.⁴² In addition, promoting **life-long learning and continuous Professional Development (CPD) for marine and maritime professionals and non-marine professionals** represent a crucial step which would contribute to the enhancement of the Blue Economy and its related sustainability goals.⁴³

b) Industry

The connection between academia and industry, as well as between technical secondary schools and industry, would also provide the education providers with a wider understanding of employers' requirements and expectations, where a deficit is currently observed.⁴⁴ In fact, under-skilled workforce is one of the main obstacles to further Blue Economy development. By involving **industry** in the training process, these obstacles can be overcome and higher-level skills on niche sectors might be encouraged. Cluster managers would be more prepared to deal with technological, infrastructural and business changes and improvements and to foster sustainable and safe development of Blue Economy activities in relation to offshore wind, marine energies, marine biotechnology, aquaculture, deep sea exploration and surveillance, multipurpose offshore platforms, etc.⁴⁵ In particular, encouraging connection between young students coming from technical secondary schools and industry would have decisive advantages for local blue Clusters which follow a focused sectorial approach. In fact, young students based in a certain location with specific sectorial priorities, may acquire focused knowledge of specific managing tools being acquainted of the location they are based in. This would bring competitive advantages, thanks also to the young age which lead to a faster learning process.

⁴² (European Commission , 2017, p. 7)

⁴³ (European Marine Board, N° 2 April 2018, p. 38)

⁴⁴ (Union for the Mediterranean (UfM), 2021, p. 35)

⁴⁵ (European Commission , 2017, p. 6)



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c) Government

As for a wider **government involvement**, the benefits would concern the increasing awareness on new regulations for the Blue economy as well as on the several funding opportunities at regional, national and European levels.

d) Investors

Blue economy clusters are playing an increasingly central role in supporting enterprises in searching for new investments to implement innovative solutions and technologies towards a sustainable blue economy. Therefore, to maintain a connection with investors represent an important step and blue cluster can even act as a 'one shop stop' for international investors which may be interested in local enterprises' solutions. A training process for blue cluster managers should be focused also on the acquisition of pitching-to-investors skills, skills that shall be transferred to innovative start-ups and enterprises that seek for investments through accelerators or incubators active in a specific territory.

Desk analysis conclusion

In conclusion, from a preliminary skill gaps analysis, it has been clear that marine and maritime cluster managers are required to develop highly transversal competences, so their capacity in dealing with the current blue economy challenges cannot be compartmentalised. Their competences need to be **harmonised** instead, through a **proper training** which would consider the right combination between soft skills and hard skills, including managerial and technical skills, blue economy-related knowledge as well as good understanding of policies at all levels. Moreover, it has emerged that through increasing cooperation actions among the main actors involved in the Blue Economy, namely education providers, industry and government, a more appropriate blue economy-related training should be adopted at all levels. Skill gaps can be gradually overcome with a



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consistent change in the approach and methodology, and might be reduced so as to reach a level which will allow current and future cluster managers to successfully tackle main blue economy and sustainability challenges.

Lastly, tailor-made training process would be also a crucial step to meet the diversified needs of clusters.

LIST OF COMPETENCES (R2)

The following list of competences has been outlined based on the preliminary skill gaps analysis (R1) and served as a basis to design the survey and interview questions.

Given the results emerged, it is noticeable how marine and maritime manager's skills show indeed a highly transversal content. In fact, the list of competences specified below range from scientific and technological skills related to blue economy sectors to more specific skills in terms of management and marketing and soft skills.



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Basic introduction to blue economy sectors (*)	Regional, National Legislations & EU Policies	Environmental Challenges and Opportunities	Relationship between seafaring and shorebased activities
Business opportunities and business management	Opportunities of funding and entrepreneurship/intrapreneurship	Network & Ecosystem Management	Leadership
Working in a team	Communication	Problem-solving	Critical thinking
Decision making	Finance	Project management	Digital

Figure 14 - List of competences

(*) **Basic introduction to blue economy sectors**, including but not limited to: Commercial Shipping; Yachting; Recreational Boating; Ports and Terminals; Transport and Logistics; Fishing, Aquaculture and Marine Science; Naval Architecture, Shipbuilding and Drydocking; Nautical Security, Protection and Enforcement; Offshore Energy and so on and so forth.



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SECTION 2: FIELD ANALYSIS

TARGET AUDIENCE

The activities have been carried out taking into account a specific target audience, namely all those people who cover a managerial role in a marine and maritime cluster as well as in a Group of interconnected companies and associated institutions operating in the blue economy sector.

The target audience has been identified through the inputs and contribution not only of project partners, but also associated partners and external stakeholders, in particular the WestMED Clusters Alliance, which all gave a strong contribution in reaching relevant actors in the preparatory phase of the field analysis. In fact, the involvement of organisation from the southern shore of the Mediterranean has been considered highly strategic and aims at strengthening north-south cooperation and support capacity building processes in emerging/embryonic clusters.

In the field analysis 35 organisations and 65 managers coming from the countries specified in the image below have been involved.



Figure 15 Countries involved in the field analysis



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SURVEY ANALYSIS (R3)

The survey, as outlined in the previous paragraph which encompassed the target audience per country and organisation, was addressed to a total of 65 managers, belonging to 35 maritime clusters and organisations at both national and international levels. Among them, 18 are national clusters, 7 are regional clusters and 9 belong to other organisations.

The survey was launched through Google Form and GDPR protection was observed. Bearing in mind the findings emerged from the desk analysis (R1), the survey has been designed following the four main area of competences mentioned in Figure 6, including all relevant aspects related to each specific competence. For each competence, the respondents have been asked to select among a limited number of options which competences they were more familiar with, so as to assess those where there is still room for improvement. Other than the actual competences, cluster managers have been also asked to provide their point of view on the most important skills that should be acquired by a person who fulfils this role and give a ranking to assess priorities. Lastly, it was asked to state whether a cooperation mechanism between Mediterranean maritime clusters could be beneficial in terms of skills improvement, to have a sense of potential further actions that could be taken at transnational level.

By looking at the competences emerged from the preliminary skill gaps analysis (R1), and therefore the list of competences designed based on that (R2), the following competences have been assessed.

Firstly, **soft skills**, namely the management and leadership ability, knowing how to work in a team but also independently, communication skills, knowing how to manage deadline and having proper interpersonal skills to facilitate networking processes. From the preliminary skill gaps analysis, it has in fact emerged that a maritime cluster manager shall have a set of specific competencies, which are not necessarily confined to purely technical skills.



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The second competence are assessed concerned the **technical skills**, which have been highlighted in the previous paragraph as one of the key prerequisites to meet the various needs. In this regard, a wide range of skills was assessed.

The third competence relates to **knowledge of European, national and regional policies and government priorities**. As already stated, blue cluster managers shall be highly capable of deepening the strategic priorities addressed in policies at all levels, as it is an essential aspect to keep up with the blue economy perception in Europe – and beyond – at all levels.

Last, but not least, cluster manager's skills in relation to **blue economy knowledge** remains a crucial aspect which requires the professionals to keep always themselves abreast of the main trends and recent innovation in traditional and emerging sectors.

Survey results

Moving on to the survey results analysis, and as far as the **soft skills** assessment is concerned, it emerged that 25% of cluster managers who responded to the survey are excellent in management and leadership skills, followed by 20% with good ability to work in a team as well as networking and interpersonal skills. At the same time, from the analysis it emerged that most cluster managers lack specific soft skills - in particular only 10% of them have the ability to work independently, and only 11% are able to manage strict deadlines. Lastly, having reached only 14%, it is clear that also communication skills are indeed subject to further improvement. These are crucial soft skills that marine and maritime cluster managers shall indeed improve through further training, as they regularly deal with deadlines and develop and maintain relations with stakeholders, national and international institutions; hence, it is of fundamental importance to acquire a good level in such competences, especially to know how to interact with others. More details are available in the table below.



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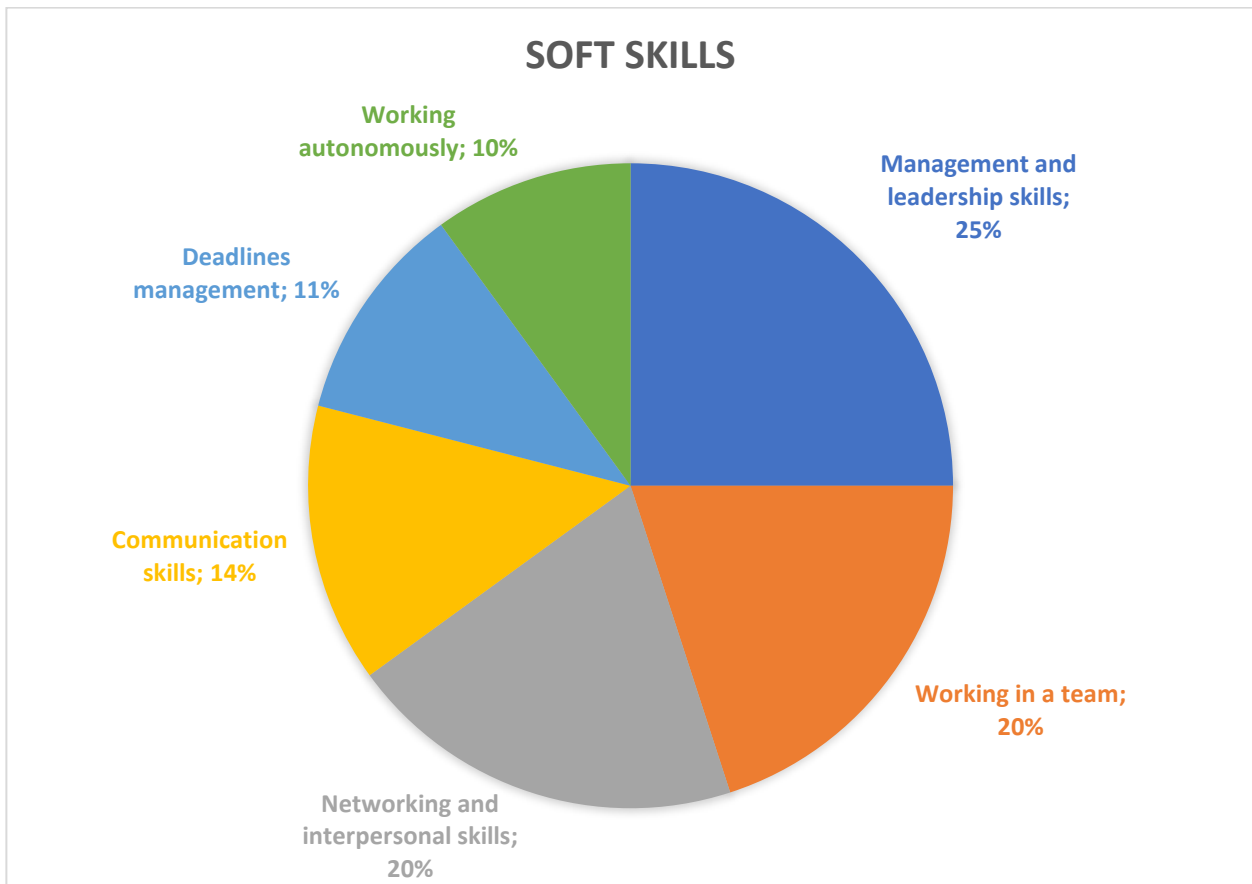
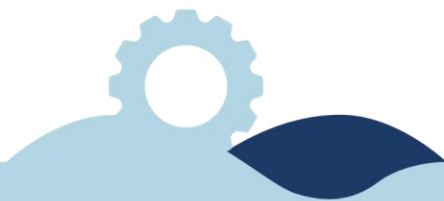


Figure 16 – Self-assessed sufficiency level of soft skills by current blue cluster managers.

The next skillset assessed was the **technical competences** that apply the most to the marine and maritime cluster managers who participated to the survey. It emerged that 32,5% of cluster managers are able to plan and manage projects, and this would include all aspects related to project management phases, starting from the preliminary to the final phases, as well as managing programmes. Events management also appear to be a strong asset for most of clusters managers,



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precisely for 19,3% of them, which is also a critical field as it is through events that clusters promote their activities as well as establish their networks with stakeholders. Less attention is given to knowledge of foreign languages (15,7%) and on IT and social media skills (14,5%), but the most worrying results were registered on technical skills related to European portal management and finance skills, which respectively cover 9,6% and 8,4%. Although most entities might use ad hoc professional figures such as auditors and accountants, financial management skills are crucial for several aspects related to marine and maritime clusters management, economic, patrimonial and financial aspects. More details are available in the table below.



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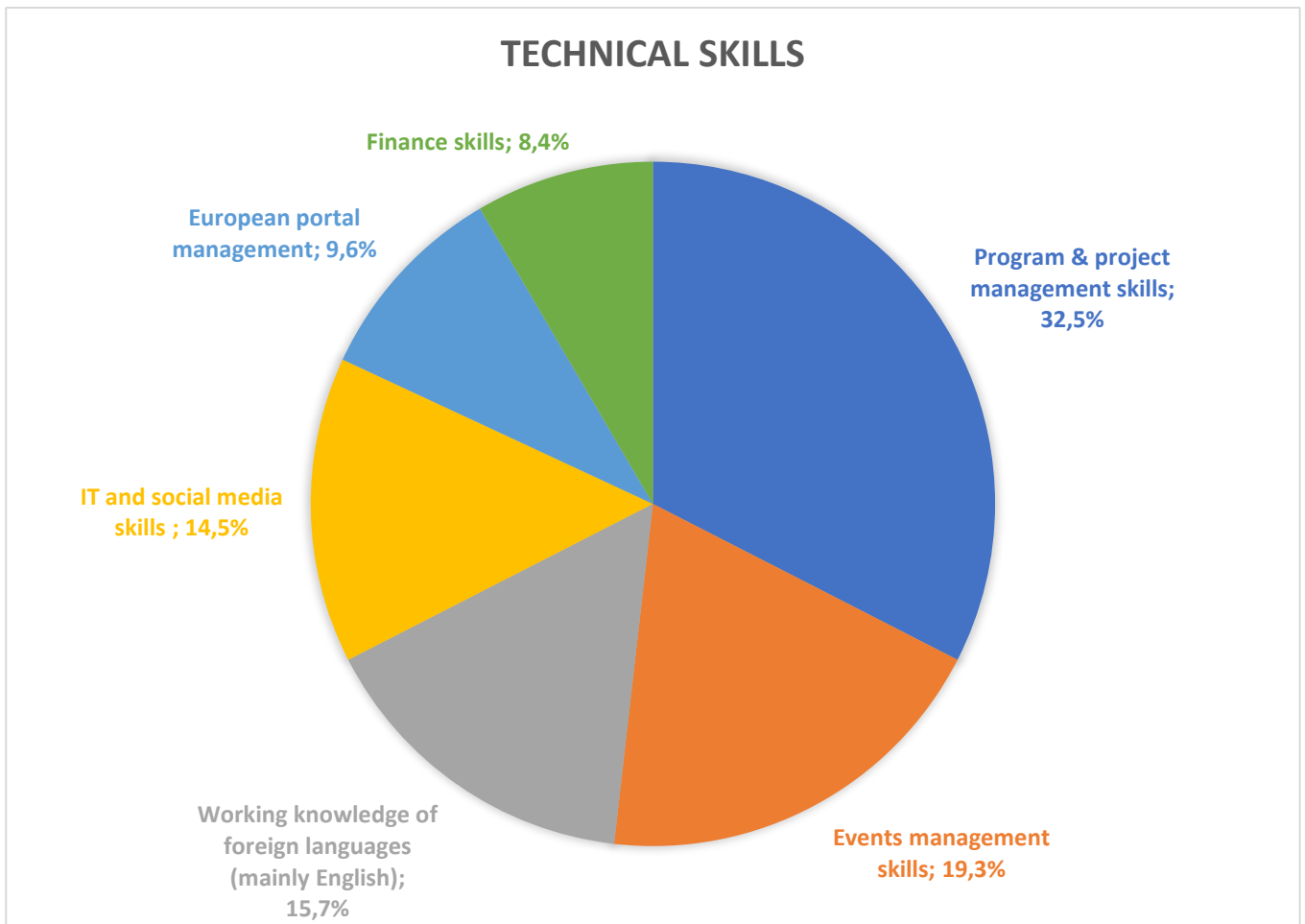


Figure 17 – Self-assessed sufficiency level in technical skills by current blue cluster managers

Following with the third area of competences, namely **policy knowledge**, blue cluster managers were asked to assess their own knowledge with regard to policies and priorities related to the European, National and Regional government priorities, by replying to which level they are mostly familiar with and choosing only one option. As reported in the table below, priority was given to National policies, in fact 41,2% of the Maritime Cluster Managers reported that they were much more



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aware about national policies and initiatives while 38,2% selected EU policies. These results are quite expected since clusters operate at national level and mostly focus on serving the interests of the national stakeholders or representing national interests in EU/international fora. Cluster Managers in EU countries need to be very well aware of the EU policies due to the harmonisation or integration of EU policy frameworks into national regulation. Room for improvement is definitely given to deepening regional policies, where only 20,6% of managers responding to the survey claimed that they are acquainted to the topic.



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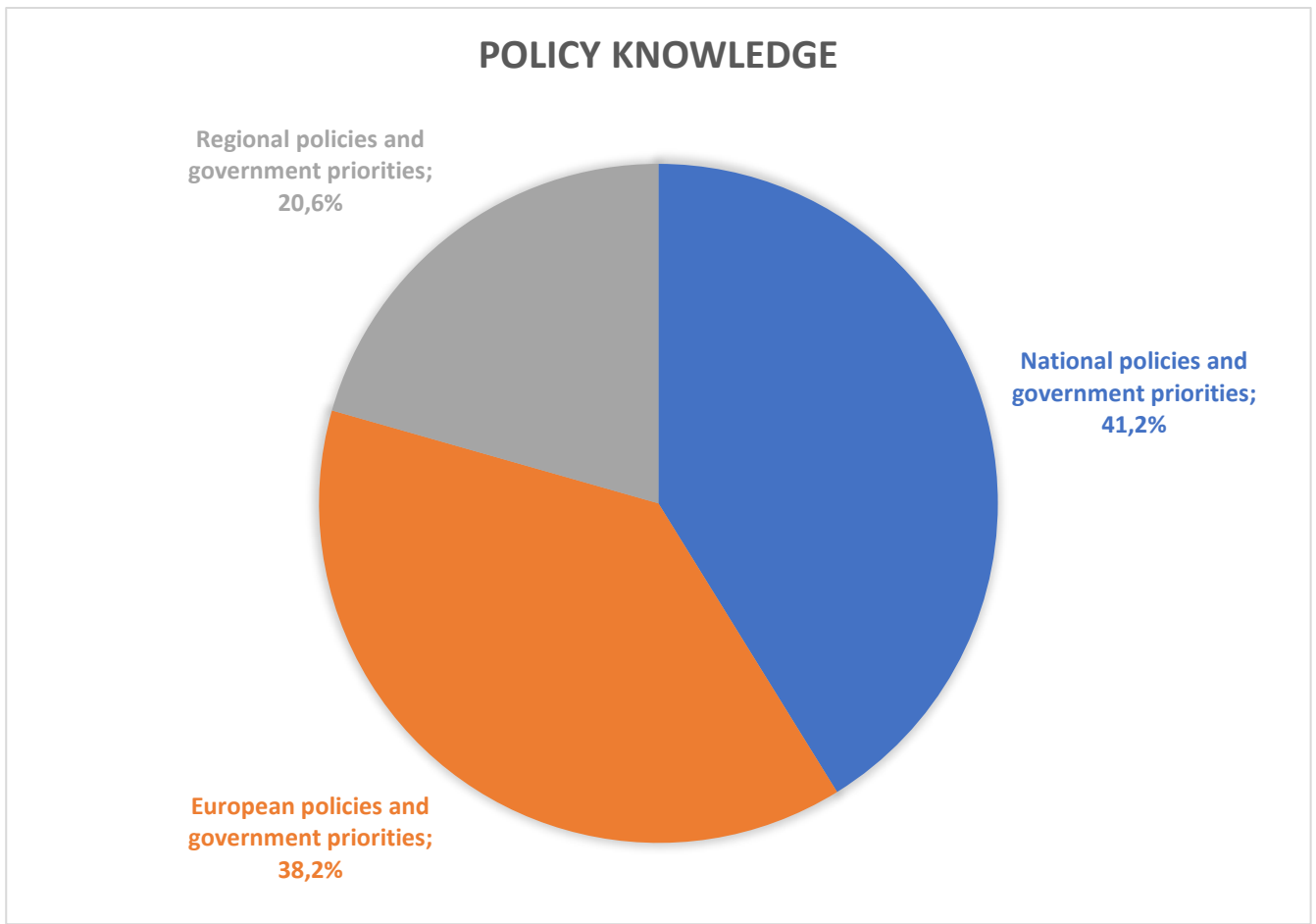


Figure 18 – Self-assessed sufficiency level in policy knowledge by current blue cluster managers

The fourth and last area of competence analysed is related to the **sectorial knowledge**, hence **Blue Economy**. Results are reported in the table below, and it is clear that the sector in which most blue cluster managers are fairly acquainted to is (ports, shipbuilding and robotics with a percentage of 25,7%. Although not quite significantly, the results – which reflect the opinion of several national and regional clusters as well as organisation in northern and southern shore of the



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Mediterranean – have demonstrated that some sectors are prioritised by marine and maritime clusters, in particular the majority of respondents chose coastal and maritime tourism (15,7%), marine renewable energy and marine and coastal environmental protections (both with 14,3%) as well as aquaculture (11,4%). Some sectors have attracted less attention, and this shall definitely be prioritised in the training phases. In fact, emerging sectors such as blue biotechnology (8,6%) need further in-depth study given the huge potential they represent nowadays, or others (5,7%) which might definitely include other emerging sectors mentioned in the preliminary skills gap analysis, e.g., desalination, just to provide one example. Not only emerging sectors, but also traditional sectors still need further attention, in particular fishery, as only 4,3% of marine cluster managers have declared to be quite acquainted with the topic. While organising the training on these specific skills gap, it is suggested to consider that sustainability is increasingly crucial, including ports ecological transition and investing in offshore vessels that exploit wind energy, towards encouraging the reduction of CO2 emissions and increasing usage of renewable energies.



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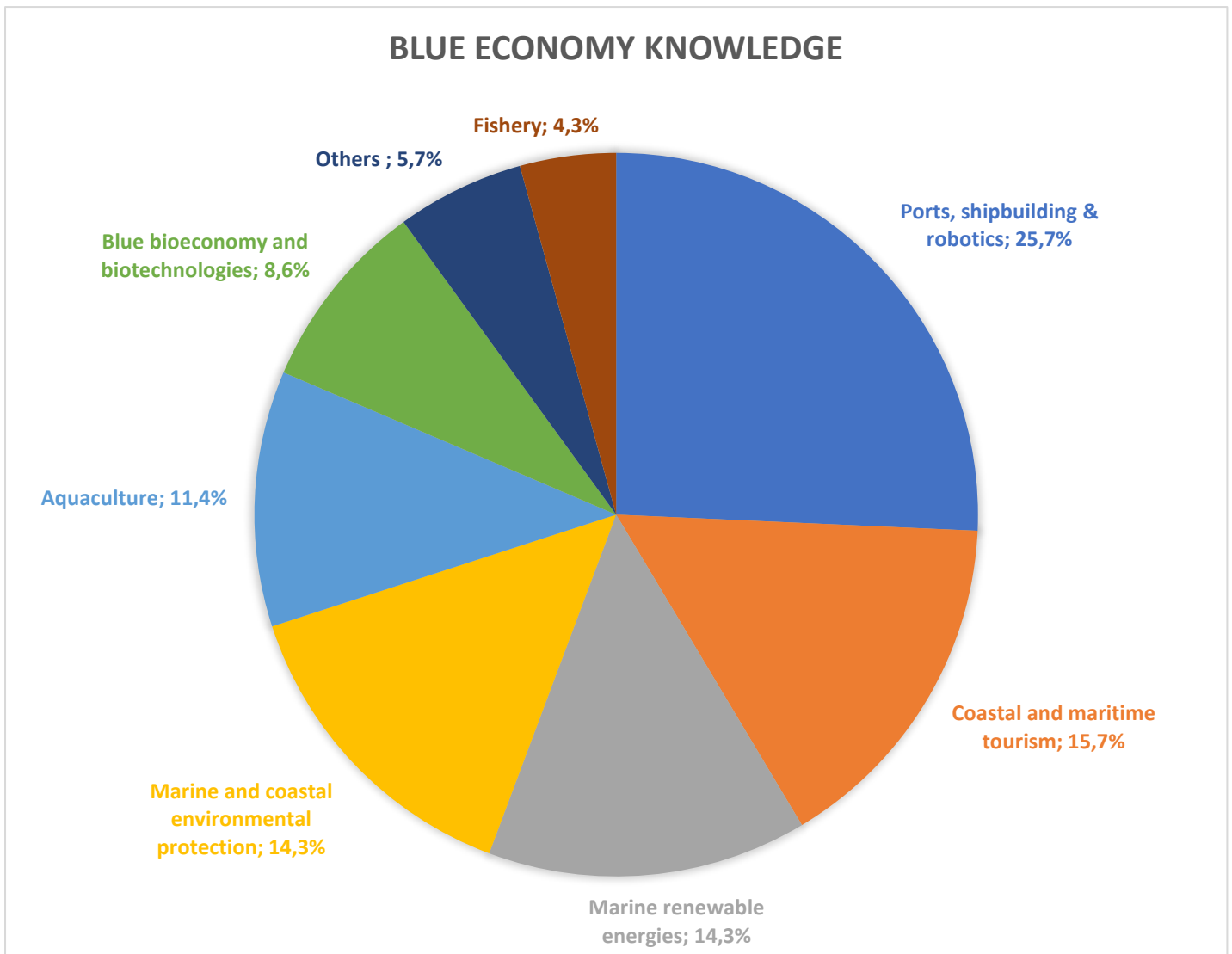


Figure 19 – Self-assessed sufficiency level in Blue Economy knowledge by current blue cluster managers



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Once all four competences have been assessed, as anticipated the **role of cooperation mechanisms** in training current and future cluster managers for the improvement of their skills has been analysed. Cooperation mechanisms appear to be definitely crucial for the enhancement of blue skills, in fact most of cluster managers have recognized their importance with 94,1%, as per the table below, against the 5,9% who did not vote in favour. Having the possibility to establish a collaboration among Clusters, then grouping different focal areas, can help have a broader vision on future perspectives. Therefore, the mechanisms of cooperation, for instance the WestMED Cluster Alliance, turn out to be decisive platforms in order to encourage the exchange of different ideas and best practices, thus bringing added value to anyone who are part of it.



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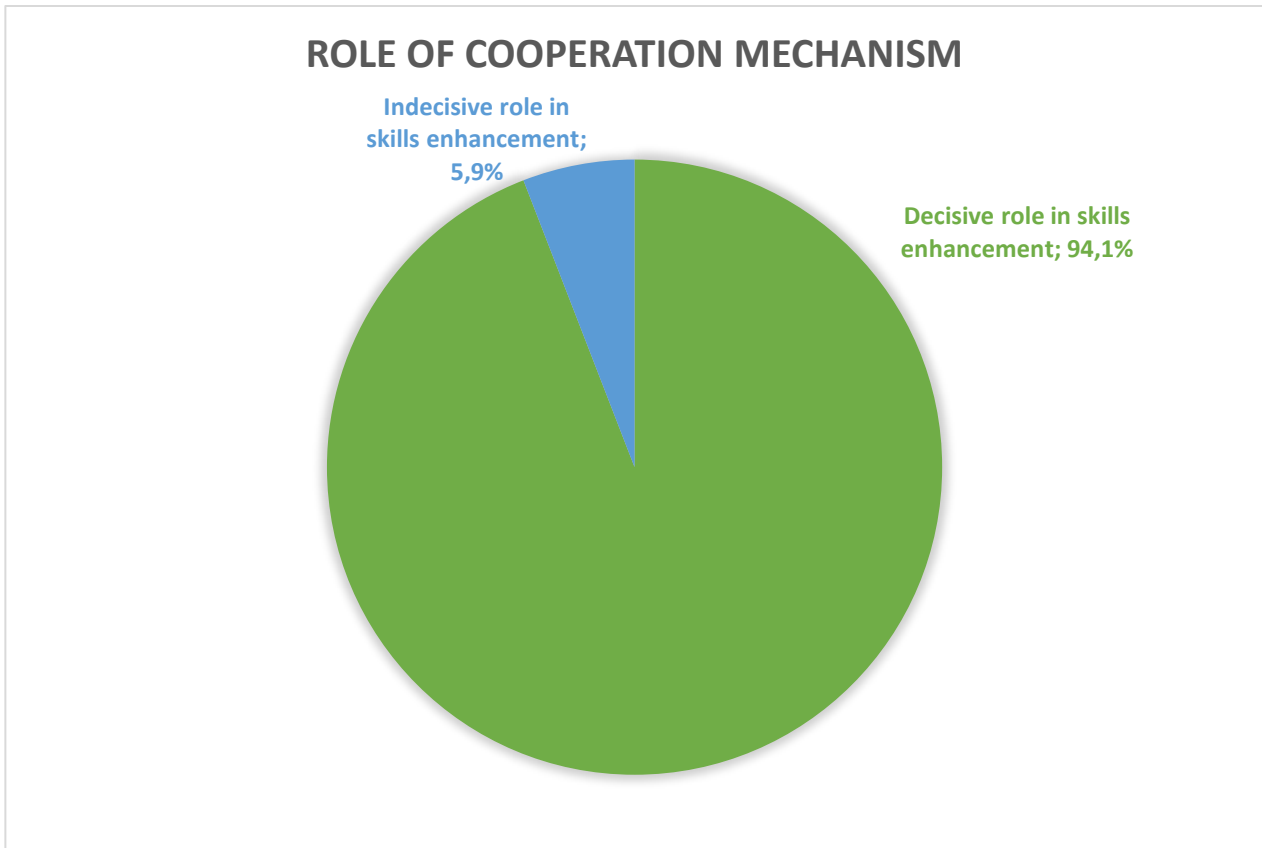


Figure 20 - The importance of cooperation mechanism in blue cluster managers training according to current blue clusters manager



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INTERVIEWS ANALYSIS (R4)

The interviews were conducted in order to analyse in more detail which are the needs of Cluster managers and to identify the areas of improvement for the development of the training material. During this process only employees who cover a managerial role in a marine and maritime Cluster were considered, as well as managers working in other organisations operating within blue economy sectors.

The approach adopted was based on the four areas of competences and the aim was to figure out in more detail unpublished experiences and training expectations. Overall, 20 interviews were conducted.

Interview results

Firstly, the interviewees were asked to provide an overview of their **role in the organisation**. Most of the roles covered were chairmen, CEOs, managers and directors, whose areas of expertise concerned different sectors, strategic innovative activities, project management and other technical activities.

Next, the interview focused on the interviewees' opinion about their training needs based on each manager experience, in relation to all areas of competences analysed in the preliminary skill gaps.

With reference to the **technical skills**, therefore those related to e.g., program and project management, finance, IT etc, the ideas turned out to be varied. By looking at the most common ones, program and project management are definitely a top priority for most managers, followed by funding management, communication skills and proficiency in foreign languages (especially English). This is justified by the fact that more and more funding opportunities to support innovation and sustainability at all levels are made available by the European Commission, therefore seizing



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these opportunities is becoming increasingly important, given that EU, national and regional funded opportunities are precious occasions to implement action towards sustainability.

Hence it emerges that project management, from the design to the closing phase, is critical in order to submit successful proposals and deliver actual decisive results to the benefit of the sustainable blue economy. Likewise, financial and basic legal skills, as well as IT skills – for what concerns for instance EU funding portals – are only a few of the crucial aspects. Moreover, managers cannot be dispensed with appropriate knowledge of foreign languages, in particular English, and business management. Concerning the soft skills, problem solving, leadership and proper communication skills are key, as well as being able to deal with stakeholders in a highly diplomatic approach. It was suggested that training should cover techniques for building cohesive and high-performing teams, as well as, networking and relationship-building techniques, which are valuable elements for cluster managers to establish partnerships, attract new members, and foster collaboration within the industry. In addition, managerial qualifications play a crucial role in pursuing cluster goals and contributing to the overall growth of the blue economy. Several opinions also highlighted the importance of lobbying, since managers need to bring together, on a daily basis, a multiplicity of actors at working groups, or events. Leadership capacity and risk management was also reported as relevant aspects.

In relation to **European, National and Regional government strategies and priorities** towards the blue economy, blue cluster managers were asked to highlight the possible training needs on the matter, for the development of managerial qualifications of a marine and maritime manager. It is critical that the cluster manager have a thorough understanding of European, national, and regional policies, regulations, and priorities that impact the blue economy and can facilitate investments in the sector, as most Clusters are strongly linked to national and regional policies and often deal with ministries, policy makers and are actively involved in the S3 regional strategies. In addition, it emerged that maritime law and regulations also appear to be a key aspect; within maritime clusters there are different economic or strategic interests (e.g., interests of port authorities



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and those of shipping companies); therefore, it is of paramount importance that the Cluster manager would be able to balance and coordinate them effectively. To this end, short courses on EU Blue Economy strategies, as well as introduction to relevant Regional Innovation Strategies in the Mediterranean basin might be something to consider in the training processes.

With reference to the **skills and technical knowledge related to the blue economy**, the importance to get further training on specific sectors of the blue economy would be indeed beneficial. Although there are opinions were managerial skills – for instance project management - are specific areas that need more attention than others, it was also encouraged the organisation of short courses introducing the basics on the Blue Economy sectors reported in the preliminary skills gap analysis, as well as innovation management of marine and maritime technologies. In fact, technical knowledge related to the blue economy is essential to make effective decisions and adopt a systematic and collaborative approach and to assess the priorities of other clusters and sectors that are the most important to a specific area. In addition, training on the general characteristics and operations of the technologies available in the sectors would be important in order to learn about their competitive advantages and disadvantages, as well as the associated financial and environmental risks. In all cases, for what concerns training related to specific sectors, one should consider the different focuses that each blue economy cluster pay attention to.

In relation to **potential training on the emerging sectors**, particular attention, according to the interviewees, shall be focused on sustainable economy, namely, initiatives to protect the environment and sustainably exploit marine resources through renewable energy and robotics, with a focus on marine biotechnology. Indeed, these emerging sectors are developing rapidly and will soon play a crucial role in the EU's transition to a zero-emission, circular, and biodiverse economy. Attention to offshore activities, ocean monitoring, and aquaculture needs also to be paid, as well as deep-sea mining and artificial intelligence.

Once training needs were assessed on the various areas of competences, the managers were asked to suggest **how to make a training course valuable, concrete and practical**, focusing



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the attention on a more methodological aspect. Opinions go in a fairly common direction, in fact it was suggested by several managers to organise blended training courses through a comprehensive, hands-on learning experience that provides the Cluster manager with skills, knowledge and tools needed to excel in his or her role. It was also highlighted that it might be useful to engage experienced and knowledgeable trainers to share their experiences or even to provide weeks of "on-the-job training", so that staff would learn by gaining field experience in another team. Best practice sharing would also be a key aspect, as it would be useful to learn case studies and best practices from successful maritime clusters around the world, or even learn from their mistakes. Furthermore, a generic course could be structured around number of modules that touch on all the components from IT to finance, operations, legal or ESG, thus giving people the multidisciplinary skills, which is a crucial aspect and also emerged from the preliminary skills gap analysis. This approach would prove to be comprehensive, helping managers grasp effective strategies and solutions.

When interviewees were asked to outline the **skills gaps in a marine and maritime cluster manager role**, the majority believed that there is lack of knowledge related to emerging technologies, sustainable practices, environmental regulations, and innovative approaches to addressing the changing dynamics of the Blue Economy. By emphasizing these managerial skills, cluster managers will be able to effectively lead their clusters, navigate technological advances and promote sustainability, fostering a thriving and resilient maritime sector. Another aspect that emerged was lack of knowledge in project and program management as well as funding opportunities, whose importance was stressed multiple times. One of the skill gaps that should be also bridge is the lack of knowledge in foreign language, although this is changing with the new generations, as well as in stakeholder and communication management and business analysis, only to name a few.

Lastly, interviewees gave their point of view on the **importance of cooperation mechanisms** between maritime clusters at the European and Mediterranean levels. Unanimously, the answers were totally in favour of it, as it allows a favourable and dynamic environment for cluster managers to develop their skills, share knowledge, and improve their performance. Moreover, they



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do influence positively the growth and sustainability of the maritime industry as a whole. The establishment of formal cooperation mechanisms in maritime cluster networks, such as the European Network of Maritime Clusters (ENMC) initiative, the WestMED Cluster Alliance and Euroclusters, certainly help to bring clusters together and collectively develop better management capabilities, especially in emerging sectors and markets where the need for knowledge transfer is a high priority.

The full interviews are available in a separate confidential addendum.

KPI RESULTS

Below is an overview of the KPI expected from WP2 and their respective actual results. In all cases the expected KPIs have been reached and in some cases results even exceeded expectations.

KPI	EXPECTED RESULTS	RESULTS REACHED	
	Number	Number	%
At least one list of competences to be analysed and realized, in support to the questionnaire	1	1	100%
At least 15 Mediterranean Maritime Clusters involved in the analysis	15	35	233%
At least 45/50 employees (or collaborators) reached through the GAP Analysis	45	65	144%
At least one survey produced and disseminated online	1	1	100%
At least 30 answers collected from the questionnaire	30	34	113%
At least 20 in-depth interviews carried out	20	20	100%
At least one final report produced, summarizing the work done	1	1	100%



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CONCLUSIONS: SUGGESTED ACTIONS NEEDED TO BRIDGE SKILL GAPS

From the theoretical and field analysis there were several skill gaps that emerged, confirming the need to act on the issue and design new training programme which will be tailored to the existing needs of Maritime Cluster Managers. Specific actions will be taken to ensure that each current and future employee receives specific training to perform their duties according to the expectations and rules dictated by the organisation in which they work or aim to work in.

In both analysis the key aspect is **multidisciplinarity**, **topic transversality** and coexistence of all – or most – aspects related to the **four areas of competences**. Therefore, the recommendations are to develop training programmes which will focus in particular on those **topics where gaps have been highlighted** both in the desk analysis and survey/interviews analysis, **by looking from the soft skills, technical skills, blue economy and policy knowledge angles**.

The methodology recommended would be also to consider the needs in terms of **continuous training, on-site and online**, encouraging both a theoretical and **hands-on approach** to facilitate and accelerate the learning process, as also outlined in the figure below.



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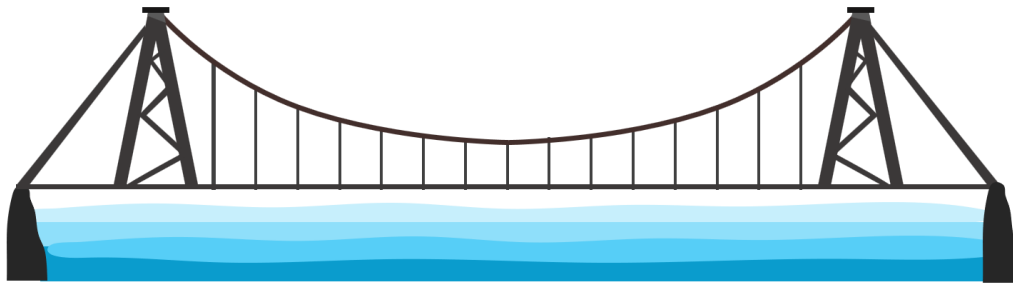
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BRIDGING SKILL GAPS OF BLUE ECONOMY CLUSTER MANAGERS



CURRENT SKILL GAPS

- × Soft skills (e.g. foreign languages, interpersonal skills, multicultural knowledge..)
- × Blue economy skills (e.g. emerging sectors)
- × Technical competences (e.g. finance skills, digital skills, project management..)
- × Policy knowledge (e.g. regional policies)
- × Mismatch between current training programmes and current market needs
- × Lack of connection between academia/schools-industry-government-investors
- × Silo mentality

SUGGESTED ACTIONS

- Foster continuous training (onsite and online) and boost awareness and career opportunities
- Engage young talents
- Focus on blue economy emerging sectors
- Adaptation to emerging activities and processes
- Implement training with multidisciplinary and integrated approaches
- Encourage connection between academia/schools-industry-government-investors
- Seek support from cooperation mechanism (e.g. WestMed)

EXPECTED RESULTS

- ✓ Diversified education at all competence levels
- ✓ Increase investors engagement
- ✓ High-level policy knowledge
- ✓ Up-to date with emerging blue economy sectors and trends
- ✓ Tailor-made training on technical and management processes (e.g. EU project management)
- ✓ Integrated and transversal approach
- ✓ Enhance stakeholder visibility at national and international levels
- ✓ Engage with cooperation mechanism to foster cooperation and internationalisation

Figure 21 - Bridging blue cluster managers skill gaps

The image above shows an overview of the current state of blue economy cluster managers, as well as the expected outcomes and goals to improve blue cluster managers performances and enable them to respond to the increasing challenges. In addition, the figure shows a list – which is not necessarily exhaustive – with the current state and the expected outcomes, with a set of suggested actions for the next MarMed project activities.



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ANNEX 1 – SURVEY



SKILLS GAPS SURVEY

The MarMED project, funded under the Erasmus+ programme, wants to bring substantial contribution to the upskilling of the Manager of Maritime Clusters, in order to respond to the emerging capacity development needs of current and future Maritime Clusters Managers at European and international level, contributing to increasing the level of innovation and contributing to the definition of a new highly qualified professional profile in the Blue Economy sector as well as contributing to improvement of job opportunities and career development in the domain.

In order to reach this objective, the MARMED Consortium is carrying out a skill gaps analysis aiming at current clusters managers. Your precious inputs are needed to analyse what are the skills that need improvement and what are the training needs to upskill the marine and maritime managers' role.

Please fill out this short survey, which will only take 3-5 minutes. Please note that your responses will be completely anonymous and will never be analysed or displayed individually.



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Thank you for your time and support.

SECTION 1 – GENERAL INFORMATION

- Role
- Organisation
- Region
- Country
- Type of organisation
 - National cluster
 - Regional cluster
 - Other

SECTION 2 – SKILLS GAPS ASSESSMENT

- Please select the soft skills that apply the most to yourself (MIN 1 – MAX 3 OPTIONS):
 - Management and leadership skills
 - Working in a team
 - Working autonomously
 - Communication skills
 - Networking and interpersonal skills
 - Deadlines management

- Please select the technical skills that apply the most to yourself, with respect to your management role in a marine and maritime cluster (MIN 1 – MAX 3 OPTIONS):



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- Program & project management skills
 - Finance skills
 - IT and social media skills (Office, remote meetings tools, LinkedIN, website management...)
 - European portal management (ECAS, ECCP, etc.)
 - Events management skills
 - Working knowledge of foreign languages (mainly English)
- Please select the option that apply the most to yourself, with respect to your knowledge on European, national and regional government policies and priorities (MAX 1)
 - European policies and government priorities
 - National policies and government priorities
 - Regional policies and government priorities
- Please select the sectorial skills and knowledge that apply the most to yourself, with respect to the blue economy (MIN 1 – MAX 3 OPTIONS):
 - Aquaculture
 - Fishery
 - Marine renewable energies
 - Blue bioeconomy and biotechnologies
 - Coastal and maritime tourism
 - Marine and coastal environmental protection
 - Ports, shipbuilding & robotics
 - Others (please specify below)



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- Please indicate the most important skills you think that a Cluster manager should acquire in order of priority:
 - Soft skills (Management and leadership skills; Working in a team; Working autonomously; Communication skills; Networking and interpersonal skills; Deadlines management)
 - Technical and management skills (Program & project management skills; Finance skills)
 - IT and social media skills; European portal management; Events management skills; English skills)
 - Knowledge in European, national and regional policies and government priorities
 - Knowledge in Blue Economy sectors (Aquaculture; Fishery; Marine renewable energies; Blue bioeconomy and biotechnologies; Coastal and maritime tourism; Marine and coastal environmental protection; Ports, shipbuilding & robotics; others)

- Do you think that a mechanism of cooperation between maritime clusters at European and Mediterranean level could improve your skills and attitude as a manager in the reference sector?

Yes or No

GDPR disclaimer: The information collected on this form is recorded in a computerized file by the MARMED Consortium. The legal basis for the processing is the consent of the user. The data collected will be communicated only to the MARMED consortium. The data will be kept during the MARMED project. You may request rectification or deletion of your data within the limits of your anonymity.



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Link to the survey: <https://forms.gle/dXVAwmqjEbGqHwvv6>



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ANNEX 2 – INTERVIEW



SHORT INTERVIEW

The MarMED project, funded under the Erasmus+ programme, aims to contribute substantially to the upskilling of the Manager of Maritime Clusters, to respond to the emerging capacity development needs of current and future Maritime Clusters Managers at European and international level, contributing to increasing the level of innovation, defining a new highly skilled professional profile in the Blue Economy sector, and improving job opportunities and career development in the sector.

To achieve this goal, the MARMED Consortium is conducting a skills gap analysis targeting current clusters managers. Your valuable input is needed to analyse what skills need improvement and what are the training needs to upgrade the marine and maritime cluster managers' role.

Please answer the following questions, which will only take about 20 minutes. Please note that your responses will be completely anonymous and will never be analysed or displayed individually.

1. Introduce yourself and describe your managerial role in your marine and maritime cluster.



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2. With reference to management and other skills (e.g. Program & project management; Finance; IT and social media; European portal management; events management, foreign languages), in your opinion, what would be the training needs for a marine and maritime cluster manager role?
3. In relation to the European, national and regional government strategies and priorities towards the blue economy, in your opinion, what are the educational needs and training priorities for the development of the managerial qualifications of the manager of a marine and maritime cluster?
4. With reference to technical skills and knowledge with respect to the blue economy (e.g., Aquaculture; Fishery; Marine renewable energies; Blue bioeconomy and biotechnologies; Coastal and maritime tourism; Marine and coastal environmental protection; Ports, shipbuilding & robotics etc...), what would be in your opinion the training needs for a marine and maritime cluster manager?
5. In your opinion, are there emerging blue economy-related sectors that would need more focus and training?
6. What would you expect from an innovative training programme addressed to a Cluster manager, what are your suggestions in order to make the training path valuable and concrete?
7. What do you believe are the skill gaps that shall be bridged in a marine and maritime cluster manager role?
8. Do you think that a mechanism of cooperation between maritime clusters at European and Mediterranean level could improve your skills and performance as a manager in the reference sector?



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