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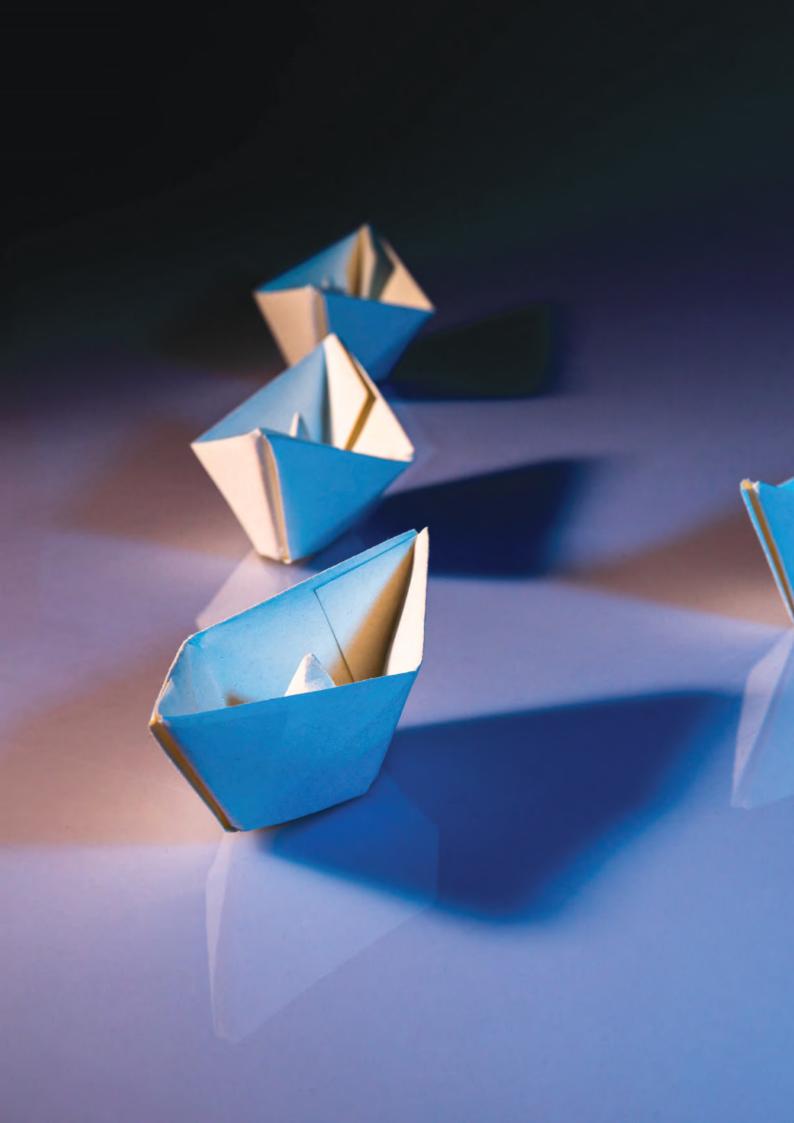
Disclaimer

This publication collects cases studies of types and practices of Maritime Clusters in the Mediterranean region based on existing and publicly available information. The views and suggestions set out in this study do not necessarily reflect the official point of view of the organizations, actors and donors involved.

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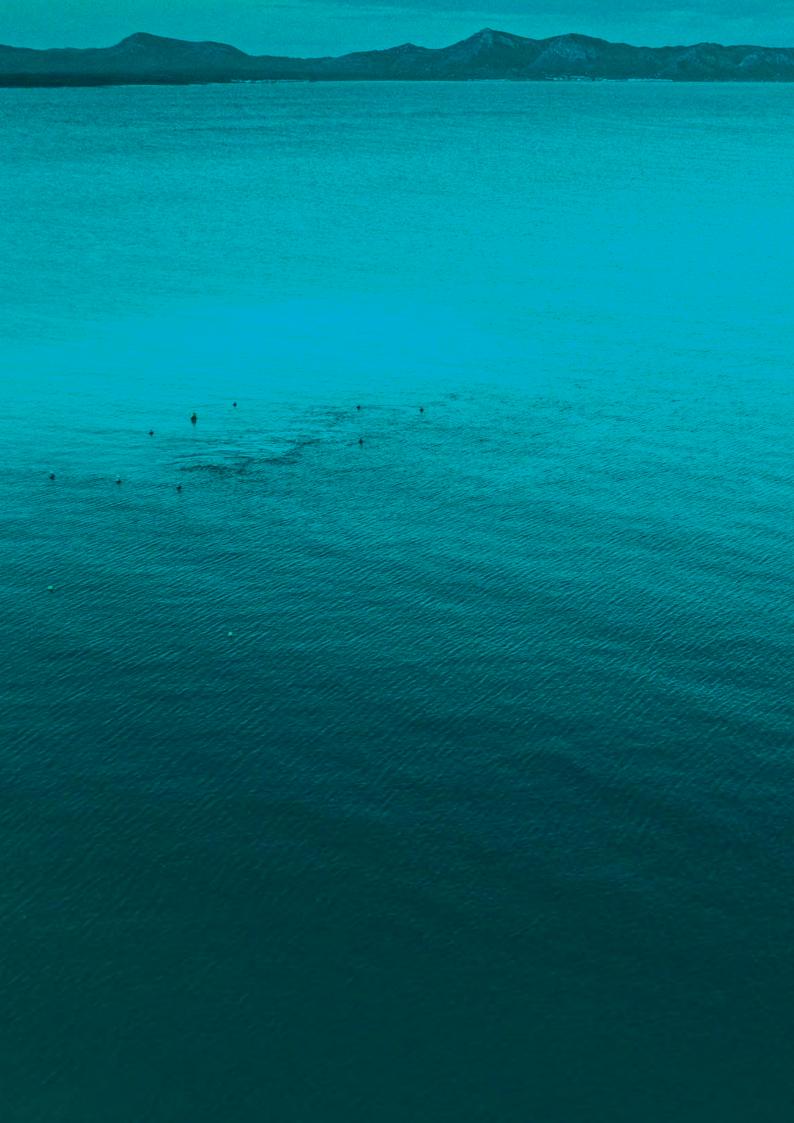
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## Contents

*****	INTRODUCTION	5
****	CHAPTER 1 What is a Maritime Cluster?	6
	1.1. Maritime Clusters: between theory and practices	7
	1.2. Relevance of the Blue Economy for the Mediterranean region	7
	1.3. Boosting blue growth and jobs through Maritime Clusters	9
	1.4. Methodological remarks for our cluster analysis	11
****	CHAPTER 2 Overview of Mediterranean Clusters	12
	2.1. Main features of the existing practices	13
	2.2. Mediterranean Maritime Clusters at a glance	16
****	CHAPTER 3 Clusters in practice: a selected sample	22
	3.1. Transnational clusters examples	23
	3.2. Mature and growing clusters examples	26
	3.3. Emerging and embryonic clusters examples	32
***	CHAPTER 4 Ways forward to ensure relevant support	34
	4.1. Governance: Which role for Maritime Clusters?	35
	4.2. What specific issues and challenges to be addressed?	36
	4.3. What are the possible purposes for cluster development?	38
****	CHAPTER 5 Conclusions and insights for further action	40
	5.1. Features and potentials of the reviewed clustering models	41
	5.2. Way forwards in supporting good Mediterranean practices	41
	5.3. An "Alliance" to support Mediterranean Clusters?	42



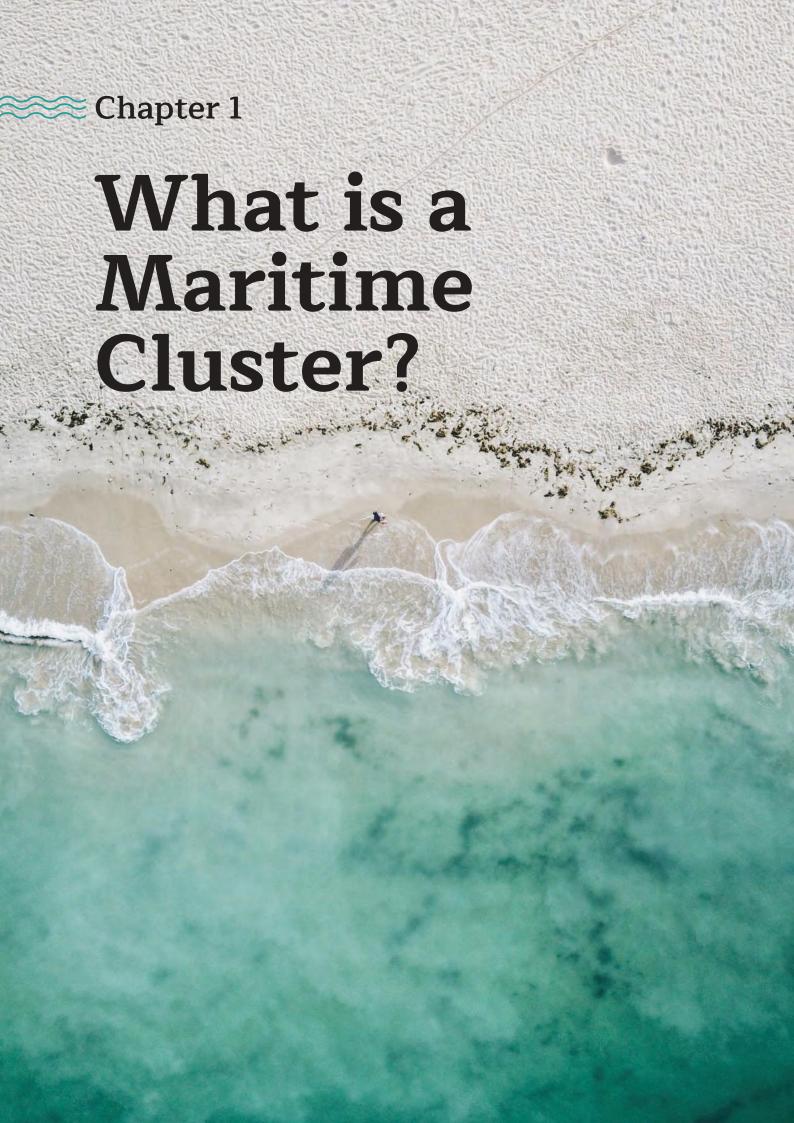
## Introduction

his document provides an overview of the various practices of Maritime Clusters being promoted to foster the Blue Economy across the Mediterranean region. Maritime Clusters are in fact important policy tools to support sustainable growth and jobs across the Mediterranean. They do so by promoting the uptake of innovation, knowledge, skills as well as access to finance – ensuring that the support provided is effective and locally-grounded. This is possible through joint actions promoted by socio-economic and institutional actors at the local, national and sub-regional levels.

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 the different development patterns and challenges faced across the maritime sectors.

An overview of the main features of the Maritime Clusters existing across the Mediterranean region is provided, together with an analysis of the distribution across sub-regions as well as across the different range of experience and sectors of the Blue Economy.

Some concrete examples are also presented, with final reflections and insights on the best way forward in supporting effective clustering initiatives: within each country and at broader Mediterranean level.



# 1.1. Maritime Clusters: between theory and practices

he Marine and Maritime (so called "Blue") Economy is "essential to the future welfare and prosperity of humankind" (OECD, 2016¹). It is a key source of food, energy, minerals, health, leisure and transport upon which hundreds of millions of people depend" (p. 3). Nevertheless, a sustainable Blue Economy requires support to promote and uptake innovation, knowledge, skills as well as access to finance, which is effective and locally-grounded. This is possible through joint actions promoted by socio-economic and institutional actors at the local, national and subregional level.

In this respect, clusters are effective tools to support local stakeholders active in the Blue Economy to identify areas for further development and ensure sustainable growth and jobs. They do so by supporting innovative products and services, internationalisation of micro, small and medium enterprises, dissemination of new knowledge and skills and ultimately integration of sectoral policies at local and national levels. Maritime Clusters have therefore been growingly acknowledged as essential booster for innovation and diversification of the Blue Economy.

The concept and its resulting practices have nevertheless evolved through time, with a wide range of potentially heterogeneous structures being now labelled as "clusters". And yet, many readers might still wonder: what is the Blue Economy and how does it benefit from Maritime Clusters in theory and in practice? Before analysing the existing practices of Maritime (Blue) Clusters in the Mediterranean, this chapter therefore provides a general reflection on the relevance of the concept and a brief explanation of its evolution over time.

# 1.2. Relevance of the Blue Economy for the Mediterranean region

## Relevance of the Blue Economy (towards the UN SDGs)

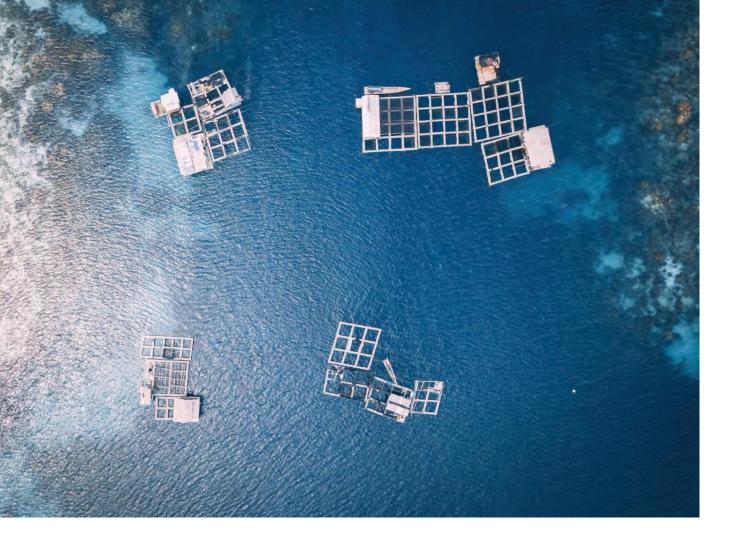
As recently addressed by the UN, the Blue Economy is essential in "supporting sustainable economic growth through oceans-related sectors and activities, while improving human well-being and social equity and preserving the environment" (UNDESA, 2017<sup>2</sup>).

The Blue Economy is an essential element for achieving the UN Sustainable Development Goal (SDGs). Careful management of marine resources is directly recognised as a specific goal by the UN (SDG 14), but marine and maritime economic activities are also essential in achieving a number of other SDGs. They can in fact foster responsible production and consumption (SDG 12), promote affordable and green energy (SDG 7) and provide sufficient food to avoid hunger (SDG 2) – to mention a few examples.



<sup>1</sup> https://geoblueplanet.org/wp-content/uploads/2016/05/ OECD-ocean-economy.pdf

<sup>2</sup> https://www.un.org/development/desa/en/news/sustainable/exploring-potential-of-blue-economy.html



The Union for the Mediterranean (UfM) and the European Commission have been at the forehead of the policy debate on this matter. Already in 2012, the European Commission Directorate General for Maritime Affairs (DG Mare) issued a Communication on "Blue Growth opportunities for marine and maritime sustainable growth"<sup>3</sup>. The EU Blue Growth Strategy, as the communication is often referred to, represents the long-term strategy to support sustainable growth in the marine and maritime **sectors**, as it recognises that "seas and oceans are drivers for the European economy and have great potential for innovation and growth<sup>4</sup>". Potentials for further growth are identified in a number of areas, both more traditional and innovative, highlighted as part of the strategy.

#### Specific relevance for the Mediterranean

The Mediterranean has been a pioneer in Blue Economy. The 43 Member countries have adopted the Union for the Mediterranean Ministerial Declaration on Blue Economy in 2015 which recognises the "potential of the Blue Economy

to promote growth, jobs and investments and reduce poverty" (page 2) in the Mediterranean, while acknowledging the need to ensure healthy seas as "drivers and enablers for national and regional economies" (Ibid.). The relevance of the Blue Economy for the Mediterranean has been also acknowledged in a recent UfM study (UfM, 2017<sup>5</sup>), which compiles a wide range of other existing studies and recognises the diversity existing in the performance of the various marine and maritime economic activities across the region, as well as between the northern and the southern shores.

## Multi-faceted policy support currently in place

A **number of policy initiatives** have also been actively supported by the UfM, jointly with relevant international institutions including the UN and the EU, so to **foster a sustainable and innovative Blue EconomyacrosstheMediterranean**. Amongst those the BLUEMED<sup>6</sup> initiative supporting research and innovation, the Med4Jobs<sup>7</sup> fostering employment

<sup>3</sup> https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX-

<sup>4</sup> https://ec.europa.eu/maritimeaffairs/policy/blue\_growth\_en

<sup>5</sup> https://ufmsecretariat.org/wp-content/uploads/2017/12/ UfMS\_Blue-Economy\_Report.pdf

<sup>6</sup> http://www.bluemed-initiative.eu

<sup>7</sup> https://ufmsecretariat.org/project/mediterranean-initiative-for-jobs-med4jobs/

and create job opportunities, the recent WestMED Initiative<sup>8</sup>, promoted by the EU and supported by the UfM to achieve greater cooperation across the region and the SWITCHMED<sup>9</sup> an initiative that supports and connects stakeholders to scale up social and eco innovations in the Mediterranean. The IMP-CC project has also supported southern Mediterranean Countries through capacity building.

# 1.3. Boosting blue growth and jobs through Maritime Clusters

## From the Porter "concept" to a mapping of Blue Clusters "practices"

Clusters have been originally defined as "geographically proximate group of interconnected companies, associated institutions and research bodies, in turns linked by commonalities and complementarities" (Porter, 1998¹º). And yet, although the analysis of clusters for economic development has flourished since Porter's seminal analysis, the reflection on marine clusters has been relatively limited until recently.

A pioneering study has been commissioned by the EU in 2008, to investigate the "role of Maritime Clusters to enhance the strength and development of European maritime sectors" (DG Mare, 2008<sup>11</sup>). The study assessed the extent to which existing clusters in the maritime domain could be scored in terms of their added value (GVA and jobs), across traditional and innovative activities. The study concluded that the role of clusters is essential in boosting innovation across more traditional as well as emerging economic activities in the Blue Economy. Such innovation is in turn vital to

foster new businesses models and investment opportunities and, as a result, **generate sustainable growth and jobs**.

A specific study was commissioned a few years later, to "support activities for the development of Maritime Clusters in the Mediterranean and Black Sea" (DG Mare, 2014<sup>12</sup>). By collecting a range of socio-economic data related to the performance of over 100 clusters, the initiative has allowed for a systematic assessment of Maritime Clusters existing across the two sea-basins. Moreover, it has offered a benchmark of the most relevant clusters in terms of their level of maturity and the specific focus across the various Blue Economy activities. As a result, broader interest on cluster initiatives has been triggered, resulting in a growing series of policy debates and analytical reviews of the EU sea basins (e.g. European Regional Science Association, 2015<sup>13</sup>).

The DG Mare 2014 study remains a relevant source for the analysis of Maritime Clusters in the Mediterranean<sup>14</sup>, as it importantly raised the attention on the heterogeneity of the cluster initiatives in place. The concept of cluster – as well as the nature and sense of its constituting elements and functioning mechanisms – cannot in fact be fully described through a rigid definition.

A range of practices and approaches for clustering has de facto emerged through time (industrial complex, agglomeration of interlinked industries, community-based network, etc.). The different approaches promoted have varied depending on specific local needs and experiences, as well as the variety of development patterns and challenges faced across Blue Economy activities. As a result, a range of different practices have emerged which are all equally labelled as "clusters".

<sup>8</sup> http://www.westmed-initiative.eu

<sup>9</sup> https://www.switchmed.eu/en/about-us

<sup>10</sup> https://hbr.org/1998/11/clusters-and-the-new-economics-of-competition

<sup>11</sup> https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/docs/body/report\_results\_en.pdf

<sup>12</sup> https://webgate.ec.europa.eu/maritimeforum/system/files/ Maritime%20Clusters%20in%20MED-BS%20def\_0.pdf

<sup>13</sup> https://core.ac.uk/download/pdf/46116906.pdf

<sup>14</sup> https://webgate.ec.europa.eu/maritimeforum/system/files/ Med%20clusters%20-%20Annexes%20def\_0.pdf

#### A range of common features and aims rather than a clear-cut definition

In the absence of a clear and common definition, cluster practices can be identified in a range between loose inter-linkages of locally contiguous economic activities and structured organisations aimed at supporting strategic goals. In-between, local clusters have emerged to support businesses, authorities, researchers and other stakeholders in working together more effectively.

If we want to reflect the large variety of practices existing in reality, an encompassing definition of the different "types" of clusters can nevertheless only be intended as a variation amongst a number of different "options" (territorial/sectoral focus, organisational structures, overall aims) across a continuum. Such continuum can be possibly represented through a number of model types (place vs policy-based clusters), illustrated below.

These typologies of Maritime Clusters can be described as follows:

■ Those aimed at fostering "place-based" economic synergies often show specific features — grounded locally and developed spontaneously around an historically-rooted set of core activities (fisheries, ports, security-services, etc). They have then developed a range of new spin-offs and diversified/innovative

actions across their "traditional" value-chains (e.g. in order to react to a crisis in that specific activity or as a way to further grow and expand into a number of emerging "niches");

- Those aimed at supporting hybrid "place-/policy-based" innovation are instead structured organisations supporting the policy needs to boost innovation in a number of Blue Economy activities, as an essential component of economic development promoted by national and/or regional administrations they are often set-up through regional or national policy decisions although in dialogue with relevant local stakeholders;
- Those aimed at supporting "policy-based" national dialogue with relevant stakeholders for the Blue Economy (sectoral associations, port authorities, research bodies, relevant national ministries, etc.) these are usually lean platforms developed to support national policy dialogue on Blue Economy-related matters.

On this basis, and to provide a better understanding of such broad variety, the following chapters provide an overview of the various features of Maritime Clusters existing across the Mediterranean. Note that for ease of analysis we mainly focussed on the hybrid types, but have also included other types where they seemed relevant (e.g. in the absence of relevant hybrid types active in specific Countries).

Figure 1 Different types/focuses of Maritime Clusters: synergies, innovation, dialogue



- No formal structure
- Local business-based
- Cooperation and competition
- Spontaneous evolution
- Formal structure
- Local/Regional business-based
- Support to innovation
- Managed evolution

- Formal structure
- National policy-based
- Dialogue and cooperation
- Managed evolution



# 1.4. Methodological remarks for our cluster analysis

## A "pragmatic" methodological approach

The following sections in the study present the main findings emerged from the analysis of the current practices in Maritime Clusters, as they exist across the Mediterranean. They do so by following three methodological steps, reflected in the corresponding sections.

A first stage of analysis (Chapter 2) reviews the Maritime Cluster practices in the Mediterranean:

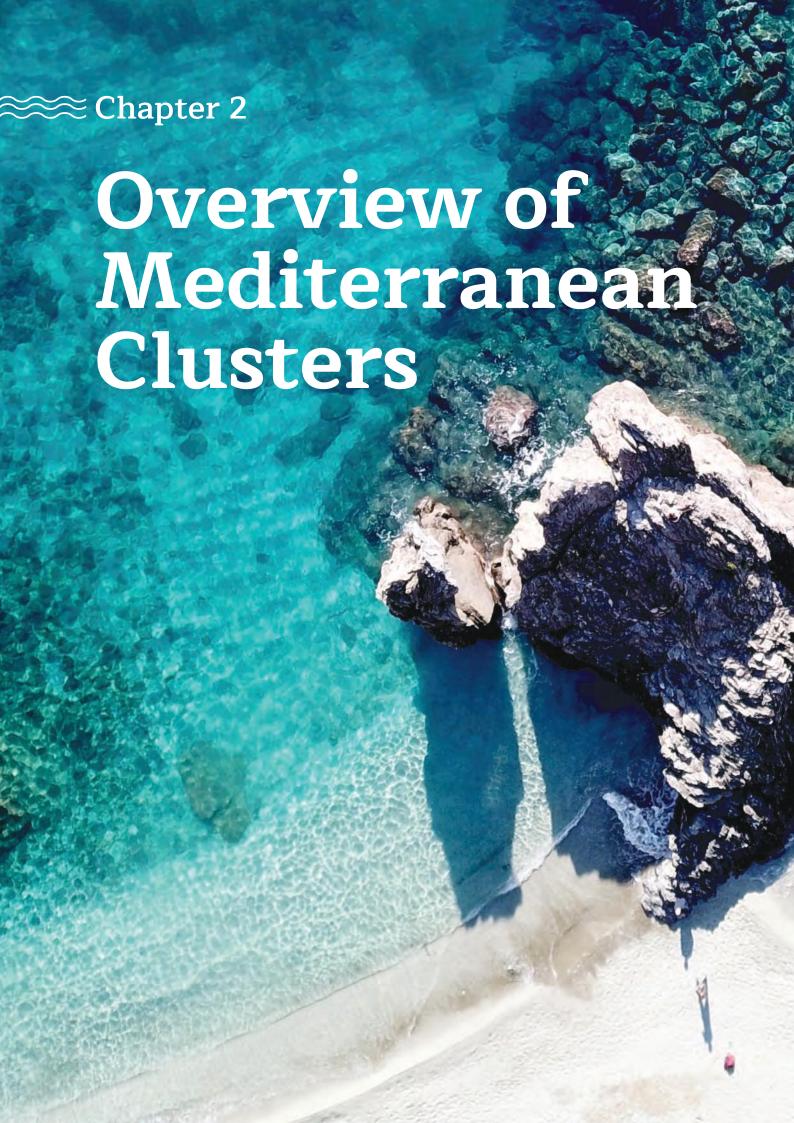
- An overall overview the wide range of Maritime Clusters practices in the Mediterranean with different thematic/geographical focus and characteristics so to offer a wide range of examples;
- An overall analysis of the different sectoral focuses and ideotypes of clusters emerging on the basis of the real cases existing, as well as the resulting gaps, synergies and possible overlaps.

A second and more in-depth stage of analysis (Chapter 3) expands the initial assessment with more in-depth understanding of a selected but representative range of cases, based on:

- Boxes presenting selected clusters active in the Mediterranean, with different thematic/ geographical focus and characteristics (including their capacity to create decent jobs, attract investments, increase productivity, facilitate innovation, share knowledge and identify business opportunities);
- Interviews with managers of a sub-set of the identified clusters, so as to further assess the main features of the identified clusters (including elements linked to their establishment, performance, lessons learned and potential features/insights for replicability).

A third and final stage of analysis (Chapters 4) builds on selected interviews and provides insights on the possible way forward for Maritime Clusters in supporting sustainable jobs and growths through greater uptake of innovation in the Mediterranean Blue Economy.

On this basis **final conclusions and recommendations (Chapter 5)** are drawn, to support practitioners and institutions interested in improving the performance of existing clusters' practices and promoting greater regional cooperation in this area across the Mediterranean.



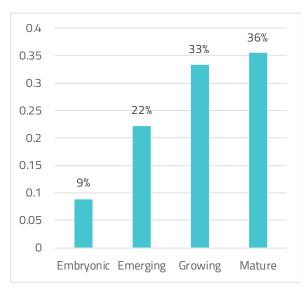
## 2.1. Main features of the existing practices

#### Level of maturity and development

A first striking element in the assessment of Mediterranean Maritime Clusters is the difference in their levels of maturity. Different stages include clusters which are "embryonic" (not yet operational), "emerging" (recently made operational), "growing" (limited years of life) and more "mature" (operating for several years).

Out of the clusters assessed about two thirds are either growing or mature, meaning they might be rapidly reaching a stable level of maturity (growing ones) or are already well-established in their region or country (mature ones).

**Figure 2** Distribution of clusters across the various stages of lifecycle



Importantly, though, the large majority of such growing and mature clusters is based in the northern shore of the Mediterranean, leaving southern clusters to be mostly very recent or even at an early stage of development and often not yet fully active. Interestingly, though, southern clusters are being increasingly promoted, with a growing interest emerging for those practices across both shores of the Mediterranean.

## Distribution across the various economic activities in the Blue Economy

Another striking evidence is the different extent to which Maritime Clusters address various economic activities across the Mediterranean. In this respect, it is worth noting that:

- Over 40% of the assessed clusters have a cross-cutting approach, touching upon a broad range of sectors;
- A slightly larger amount of the assessed clusters (about 60%) is instead rather sectoral, with a focus on few related activities and at times covering both maritime and inland activities (e.g. for tourism, logistics, security).

These patterns depends on a number of variables, possibly including an initial strategic choice on the overall approach to be endorsed (focussing on specific activities or acting to facilitate broader support to their associated members), the recognition of different specificities of the supported stakeholders, but also a possible development through time (including a growing interconnection with other sectors or even a choice to get more focussed)<sup>15</sup>.

<sup>15</sup> An overview of the different approaches is provided as part of Chapter 2.2.

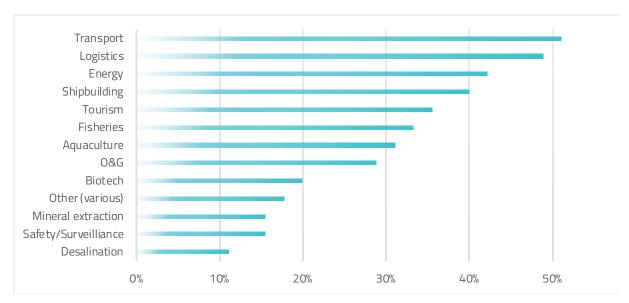


The most commonly targeted activities (40% of clusters) include transport, logistics and shipbuilding (i.e. traditionally associated with port activities), as well as infrastructural activities (e.g. energy). These are followed by other traditionally larger activities for the region (over 20 % of total clusters), including tourism, fisheries and aquaculture.

A third and last group of activities covered by clusters in the Mediterranean (below 20%) reflects

recently emerging and innovative activities, such as biotech and surveillance, or activities with a more limited potential across countries (desalination and raw materials). Interestingly, support to skills is amongst those activities, although is certainly not a marginal aspect when it comes to boosting innovation, growth and jobs. This limited although growing focus on skills may be indicative of an area that should receive further attention for Mediterranean clusters.

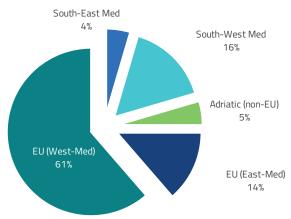
Figure 3 Overall distribution over blue economy activities



#### Distribution across Countries on the two shores of the Mediterranean

An important distinction needs to be made with respect to the distribution of clusters across the Mediterranean. The number of clusters observed varies in fact across countries, depending on a number of variables – size of the overall Blue Economy, proportion of territories with Mediterranean coastlines, development of central or regional/local clusters.

Figure 4 Distribution across the Med



As a result, the large majority of Maritime Clusters across the Mediterranean is based in EU countries: Italy, Spain, France. The western Mediterranean seems to be more prone to the promotion of innovation in the Blue Economy through the set-up of clusters: in the EU (mostly regional-level clusters) but also in African countries (mostly national-level clusters).

A further difference is the extent to which Mediterranean clusters are *purely maritime* (hence entirely focused on the Blue Economy), or instead *mixed* (addressing some relevant activities which may be relevant for the Blue Economy, for example renewable energies and biotechnologies at large).

Although the focus of our analysis is on clusters aimed at fostering innovation and sustainable jobs and growth related to the Blue Economy, it is worth noting that in some limited cases clusters include maritime sectors but focus also on in-land activities, while a clear distinction is shown on the southern shore between maritime and non-maritime clusters.





## 2.2. Mediterranean Maritime Clusters at a glance

This section provides an overview of the Mediterranean Maritime Clusters as emerging from a desk-based review of main practices. The review has no ambition of being exhaustive, but nevertheless gives a good sense of the main practices currently in place, and their various level of development and experience. This overview is grouped by the approaches, either "transversal" (several economic activities) or "focused" (few specific sectors). Note that the Maritime Clusters presented reflect the distribution illustrated in the previous chapter and largely based in the western Mediterranean for the reasons already mentioned.

The analysis is based on publicly available information <sup>16</sup> with no ambition of compiling a full list. To do so, the study adopts a relatively loose and broader concept of clusters so to include the most advanced as well as the embryonic practices (without any judgmental preconception). It also

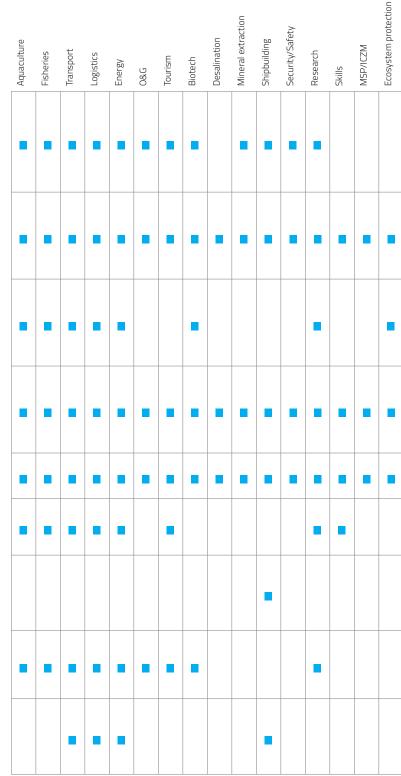
includes clusters that are based on coastal regions but address sectors which are synergetic with Blue Economy activities, even if they are not strictly maritime.

## Clusters with a more cross-cutting approach

A number of clusters across the Mediterranean are based on a cross-cutting approach. They therefore address various economic activities of the Blue Economy, in order to promote greater competitiveness and more interconnected business ecosystems in the territory they support.

<sup>16</sup> Sector allocation is based on information available on official websites and at disposal of the team (in case of no websites).

**Tbale 1** Overview of Maritime Clusters involving several sectors through a cross-cutting approach











Cluster Maritime Tunisien









#### Egyptian Maritime Cluster











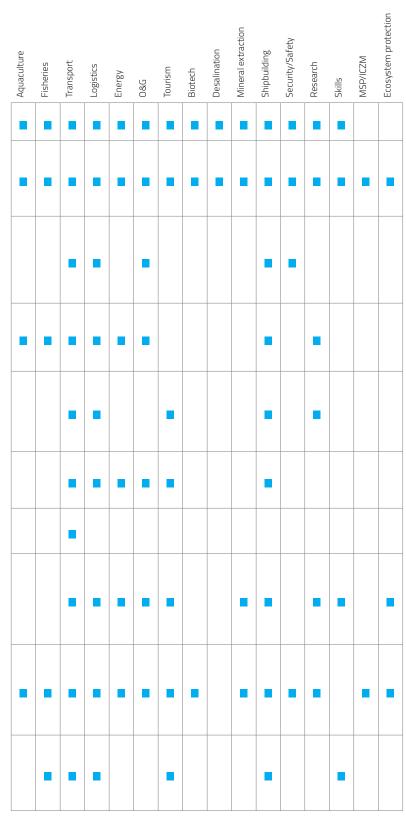












#### Clusters with a more purely sectoral approach

POMORSKI KLASTER

AQUACUTURE CLUSTER

**BLUE TOURISM CLUSTER** 

catalonia logistics

cemater

Cluster Trasporti

Many other Maritime Clusters across the Mediterranean are instead targeting specific sectors, often focussing on more traditional activities in the Blue Economy (shipping, transports, logistics, tourism, etc.). If well designed such approaches are nevertheless very relevant, particularly in fulfilling specific needs of economic diversification in the territories they support, as they allow to develop high range of specialised value-chains and socio-economic ecosystems.

Overview of Maritime Clusters with a more targeted (sectoral) approach Table 2











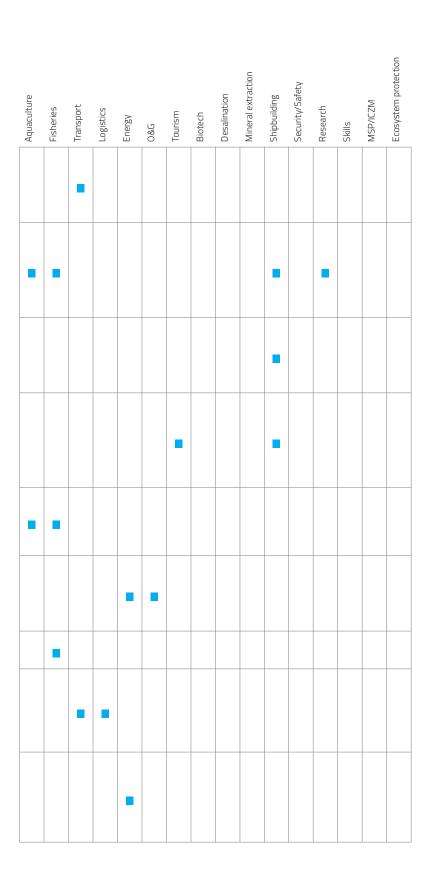




FISHING CLUSTER







MARINE BODIVERSITY AND KEY HABITAT CLUSTER

MARINE TRANSPORT CLUSTER





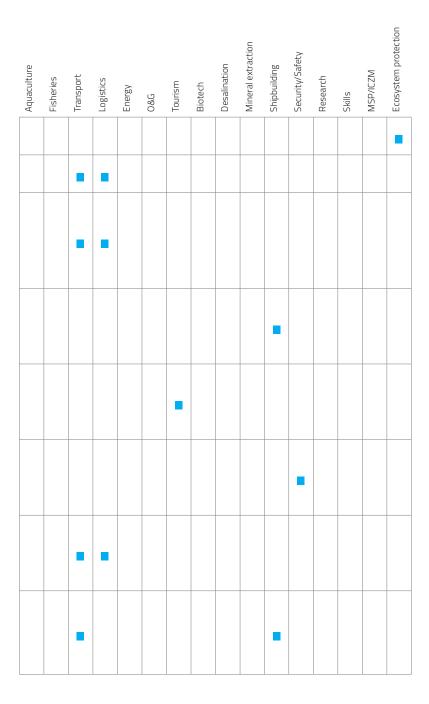


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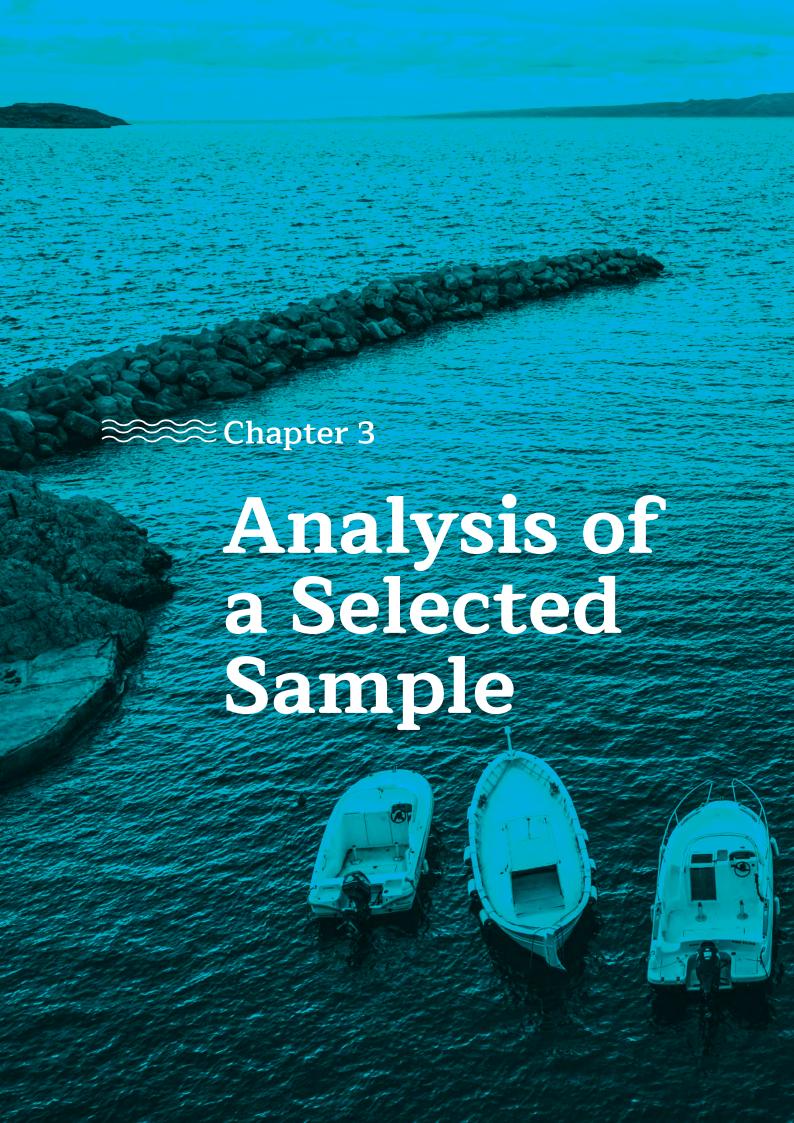








The next section provides a zoom in with "boxes" for some selected clusters practices depending on their status (mature, growing, emerging and embryonic).





#### 3.1. Transnational clusters examples

Examples of transnational Maritime Clusters are relatively rare in the Mediterranean, although a number of recent initiatives have been promoted with this purpose. Mainly funded by EU and for the time being based on the EU shore of the basin, these clusters focus on strategic transnational activities for a sustainable and prosperous Blue Economy in the Mediterranean.

























#### Mediterranean Maritime Surveillance Cluster

The transnational MED Maritime Surveillance Cluster (MED MS Cluster)<sup>17</sup> was established within the framework of the PROteuS project, funded under the Interreg-MED 2014-2020 programme. As part of the initiative, National Nodes dedicated to Maritime Surveillance (currently piloted) are set up in each associated country and are expected to be fully active by 2020. The nodes are usually national maritime clusters or clusters interested in expanding their activities in the sector.

The MED MS Cluster intends to foster business opportunities and exploit the market potential of the maritime surveillance industry in the Mediterranean, and to create "economic value" through socio-economic development and promotion of new job opportunities.



The cluster has an international scope, which makes the initiative relatively unique for the Blue Economy in the Mediterranean. National nodes operate in Italy, Cyprus, France, Greece, Portugal and Spain, ensuring a north-west Mediterranean coverage. In this respect, while the cluster ensures an overall coordination of activities, priorities of actions vary according to each country's specificities.

The cluster includes members of the public and private sectors (e.g. industries, research bodies, public authorities and civil society organizations), which are based in north Mediterranean countries where the national nodes operates and are involved or interested in maritime security and safety aspects across the Mediterranean — in principle also in the south.



## Mediterranean Blue Energy Cluster (Pelagos)

The transnational Blue Energy Cluster<sup>18</sup> was launched under the PELAGOS project<sup>19</sup>, also funded under the Interreg-MED 2014-2020 program. The cluster is managed by operators active in renewable energy and new technology development, and is aimed at fostering innovation in the renewable marine energy area.

The Blue Energy Cluster aims at increasing the innovation capacity of its members, support research and innovation in the Marine Renewable Energy (MRE) sector and fosters linkages and collaborations among all the stakeholders of the so-called "quadruple helix" (business- academia-public- citizens). A blue energy platform and a related marketplace are set up as part of the



initiative, providing a significant channel for service delivery, international cooperation and access to innovation.

The cluster and its national hubs operate in Croatia, Cyprus, France, Greece, Italy, Portugal, and Spain, hence ensuring a scope of action which covers the whole Mediterranean region.

The cluster includes about 450 members spread across industries, research bodies, authorities and civil society organizations, who are active in different marine-maritime and blue energy sectors and relative sub-sectors relevant for the initiative. Members are active in the field of renewable energy across the Mediterranean countries where the national hubs operate.

<sup>18</sup> https://pelagos.interreg-med.eu / http://be-cluster.eu/

<sup>19</sup> Promoting innovative nEtworks and cLusters for mArine renewable energy synerGies in cOasts and iSlands.

## 3.2. Mature and growing clusters examples

Examples of more mature and growing clusters – with a few years of successful history in supporting innovation, growth and new jobs in the Mediterranean – are easier to find on the northern shore of the Mediterranean. They are usually promoted at the sub-national (regional/local) level in EU countries where Blue Economy is more diversified and where greater support is provided at the regional or even local level, due to decentralised forms of governance. Some of those clusters have a stronger focus on specific sectors, while others have a broader scope and aim at fostering complex socio-economic ecosystems in the local Blue Economy.

#### Pôle Mer Méditerranée



Created in 2005, Pôle Mer Mediterranée<sup>20</sup> is one of the two French maritime innovation clusters along with the Pole Mer Bretagne-Atlantique. The cluster was established as part of the national cluster policy initiative promoting "competitiveness poles" for France.

Pôle Mer Méditerranée is an example of innovation-based cluster with a more "transversal" approach, led by the conglomeration of interlinked national and international industries with a strong focus on supporting local socio-economic needs. Its main means of action are synergy building and fundraising for labelled projects. It is specifically oriented toward six action themes: defence, security and safety; nautical and water sports; energy and mining resources; living resources; environment and coastal development; ports, logistics and transport.

20 https://www.polemermediterranee.com/

Pôle Mer Méditerranée
ambitiously aims at being one of
the main levers of the integrated
maritime policy by relaying
and deploying national policies
regionally; being an international
reference in the maritime and
coastal field and to promote
its members and territories
through the "Pôle Mer" brand by
consolidating its leading position
in the Mediterranean basin and
by deploying a business-oriented
service policy for its members."

Initially oriented toward the SUD region, the Pôle has continuously widened its perspectives, first towards neighbouring regions, then countries, the Mediterranean basin and even further (Indonesia, Malaysia, Brazil, USA, Australia, Korea), developing a serious international ambition.

During the last few years, Pôle Mer has kept bringing new members at a medium pace (+4,5% per year on average) around maritime and coastal themes with high security and sustainable stakes. To date, the network brings together 409 members, mainly SMEs but also bigger companies, research and training institutes, consultants, banks, etc.

**Maritime Hellas** 

The Hellenic Chamber of Shipping, the Union of Greek Shipowners and the Piraeus Chamber of Commerce

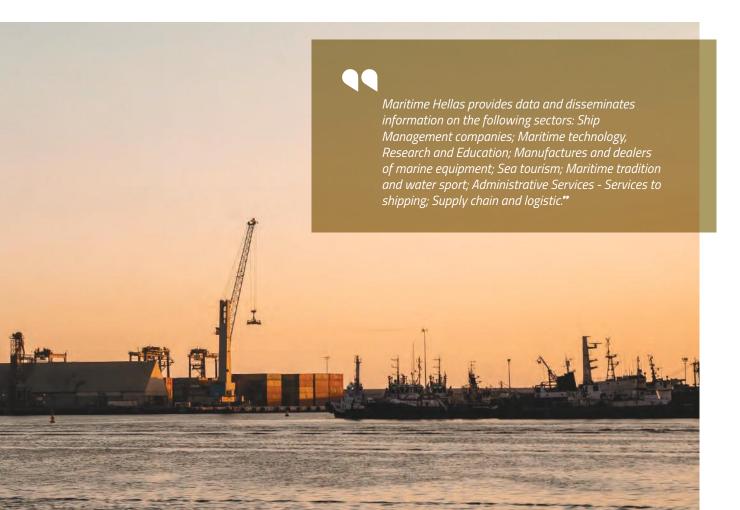
Shipowners and the Piraeus Chamber of Commerce & Industry, jointly decided early in the summer of 2016 to promote in a systematic and coordinated

manner the Greek Maritime Cluster. They appointed NAFS, a non-profit subsidiary, to organize the platform "MARITIME HELLAS – navigate the Greek cluster"<sup>21</sup>.

The platform provides professional support for the wider maritime sector, covering the whole of Greece. Services are offered to companies and individuals in the Greek Shipping and Maritime Community, so to boost the national creation of jobs and growth in the sector. All sectors and ancillary maritime activities that are comprehensively mentioned in the information sections of the platform can register with it.

Members of the Maritime Hellas cluster are companies, professionals, Classification Societies involved in the Greek shipping and maritime community as well as related fields.

21 https://www.ugs.gr/en/greek-maritime-cluster/





#### Malta Marittima



Created in 2016, Malta Marittima<sup>22</sup> is the national cluster functioning as an agency of the Government of Malta. The Malta Marittima Act defines a corporate body with a separate and distinct legal personality, to which the Government may assign relevant functioning parameters and/or operational processes.

Malta Marittima's objectives is to bring industry and government stakeholders together so as to focus and promote the continued and enhanced development of the marine and maritime industries in Malta.

As such, it is ideally placed to act as a catalyst for bringing together stakeholders from the public sector and the industry at large. In doing so it support an open dialogue across various stakeholders, as well as stable and competitive framework conditions for Malta's Blue Economy.

Malta Marittima focusses on a wide range of traditional and more innovative activities for the national Blue Economy. Its geographical scope is the whole country and, in doing so, it engages with international partners and similar clusters — in the Mediterranean and beyond. The cluster is composed of a steering committee, composed of five members representing the public sector and five members appointed by the government in consultation process with industry stakeholders. Members are economic and institutional actors in the Blue Economy of Malta.

TMalta Marittima endeavours to provide the necessary management, networking and support services for the existing and potential maritime investment opportunities in Malta, and foreign direct investment, as well as to strengthen developments in research and innovation towards further job creation in the maritime

sector."



#### Fisheries and Blue Growth Cluster - Mazara del Vallo<sup>23</sup>



The cluster is a reference point for all regional operators, companies, institutions, research centres acting at various level in the transformation of fisheries-products, including the programming of maritime activities for the Sicily region.

The role of the cluster is to promote, coordinate and represent the needs of the fishery sector, in order to define a strategic policy that allows cooperation, specialisation and support of the sector itself.

In addition, the cluster also supports Sicilian companies active in the field and the regional ports (Trapani, Marsala, Mazara del Vallo, Palermo, Sciacca, Catania, Syracuse), which are now



relevant not only for fishing purposes but also for the exchange of goods and passengers throughout the Mediterranean basin. For historical and vocational reasons, the cluster also promotes synergies with the North African coast (Tunisia, Libya, etc.), where joint ventures in the fishing, processing, shipbuilding and other connected sectors have been implemented.

The cluster associates Public and Research Institutions, Trade Associations and Producer Consortia, such as the Chamber of Commerce of Trapani, the IAMC-CNR, the Scientific and Technological Park of Sicily, the University of Palermo, the Institute for Applied Marine Technology Research (ICRAM), the Zooprophylactic Institute of Sicily, the Banco di Sicilia Foundation. To date, the network brings together over 1300 workers from public and private stakeholders.

#### Clúster Marítimo-Marino de Andalucía



The Clúster Marítimo-Marino de Andalucía (CMMA)<sup>24</sup> was created in 2014 and is composed by representatives of innovative companies with access to high technologies (all members of its executive board) and operating in different maritime economic activities.

The cluster aims at supporting the development of the Andalusian maritime-marine sector at large, enhancing its competitiveness, while promoting its interests through the creation of an adequate legal framework to boost the growth and relationships of the different Blue Economy activities. The cluster supports innovative companies from different maritime and marine sub-sectors such as fishing, aquaculture, shipbuilding, maritime transport, recreational boating, maritime research and training, ports and port activities, auxiliary and maritime extraction industries, maritime tourism and underwater archaeology.

Originally oriented toward the support of Andalusian stakeholders, it is progressively increasing its network and widening its perspectives for the benefit of its associates – e.g. through agreements with institutions, organizations and companies in Spain, the Mediterranean and beyond.

24 http://cmma.eu/

The CMMA provides different services, including: a) cooperation, innovation and entrepreneurial capacity in order to stimulate business development and knowledge transfer; b) facilitating the labour integration of maritimemarine sector professionals; c) strengthen and maintain open dialogue between the members of the association and other Andalusian maritime-marine sector operators; d) supporting companies in finding open calls, tenders and funding opportunities that suit their needs. e) participation and organization of national and international congresses, events, awareness sessions, taking also advantage of the synergy of the H2020 program."

#### Tourism Cluster Montenegro









Tourism Cluster Montenegro (TKM)<sup>25</sup> was founded on March 29, 2017 to support synergies between in-land and coastal tourism in the country.

The cluster aims at networking and fostering capacity building for its members, so to increasing the quality of existing and developing new autochthonous tourism services and products, through the application of new knowledge and technologies and international standards quality.

The cluster focusses on the specific sectors across the entire country, and as such fosters in-land/ sea-side cooperation and overall innovation. It is therefore not exclusively focussed on coastal and maritime aspects, but it rather addresses those indirectly as part of its broader sectoral support.

The cluster has 12 members - that are horizontally and vertically integrated in the tourism industry consisting of entrepreneurs and representatives of public, private and civil sectors, who together create high value-added products and services.

25 https://www.turistickiklaster.me/o-nama



# 3.3. Emerging and embryonic clusters examples

Examples of emerging clusters (recently established and with a still limited activity in practice) and those at a more embryonic level (currently under discussion or at a piloting stage) also exist. A sample of those is presented in this section with the purpose of illustrating the main dynamics currently ongoing in the Mediterranean region. These are more typically nationallevel clusters, often promoted in southern and non-EU countries with the purpose of boosting the Blue Economy sector as a whole, but mostly requiring greater support to be fully operational.

#### Cyprus Maritime Shipping Cluster<sup>26</sup>



Aim of the cluster is to support Cyprus as an advanced maritime player. The cluster focuses on the national shipping industry, including the development of greater international cooperation and commercial alliances.

Limassol, the heart of the Cyprus shipping sector, hosts the members of the cluster, which would include more than 200 companies offering shipping and shipping-related services – from

ship ownership/management to insurance, finance, brokerage, bunkering, ballast water system production, marine training, maritime technology in satellite and radio systems and many more.

#### Tunisian Maritime Cluster<sup>27</sup>



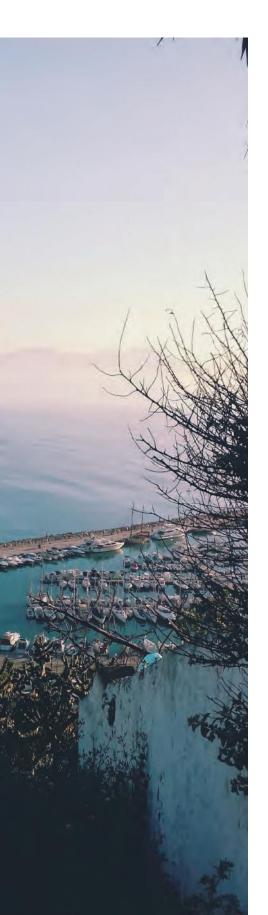
The Tunisian Maritime Cluster has held its constituent assembly on March 25, 2019. The foundations of this creation were laid in October 2018 at the first edition of the Forum of the Sea of Bizerte. The creation of the Tunisian Maritime Cluster reflects the wish of the actors of the African continent to develop their maritime activities and work with international actors.

The cluster supports all of the maritime components of Tunisia and identifies avenues of cooperation between the players of the various activities. It could be an ideal forum for reflection to positively influence national maritime strategy as well as implementing legislative texts and regulatory measures to promote it. The cluster acts as an interface with the general public promoting investments and exploiting new renewable energies.

The cluster federates stakeholders (private entities, agencies and state bodies, etc.) from all segments of the Tunisian maritime sector. It also supports valuable

Tunisian Maritime Cluster and as part of its noble mission is called to achieve the following objectives: a) Protect and ensure freedom of work in all sectors of the blue economy; b) Ensure the professional and academic training in all the sectors and maritime activities equitably among all regions; c) Envisage the creation of federations and organizations of character of development associations in the various sectors and maritime activities; d) Support for the development of national and international investments: e) Establish and set up research and scientific research centres; f) Establish a work program with the Heritage Promotion and Cultural Promotion Agency and the Coastal Protection and Development Agency.\*\*





synergies across Tunisian partners and potentially at the international level — for example through the set-up of strategic partnerships with other similar clusters in the Mediterranean.

#### Zemmouri Integrated Maritime Cluster<sup>28</sup>

The Algerian Maritime Cluster was launched in 2019 as a pilot initiative in the field of fisheries and aquaculture that will bring together the local administration and all relevant sectoral stakeholders (training institutes, companies, researchers, involved at the local level. The approach of the cluster is based on the principle of synergy, the optimization of resources and the sharing of actions, in order to build a common vision and concerted approaches to foster the general interests of its stakeholders.

The cluster allows for the federation of associated companies, as well as training and research institutes to facilitate, the emergence of collaborative innovation. In doing so, it supports sustainable development of the maritime and coastal economy, including fisheries and aquaculture, in the context of the national Blue Economy strategy. The cluster currently includes in its board a mix of public administrators (responsible for fisheries and aquaculture in the regional government) and businesses (involved in food processing, aquaculture, etc.).

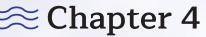
28 Not available yet

Due to its geographical location and its potential, the Wilaya (Province) of Boumerdès was chosen to set up the Zemmouri Cluster. Although the cluster is at a very early stage of development, its activities may be extended at the broader national level after an initial pilot initiative.

## A number of other initiatives are emerging but still too "embryonic"

Anumber of other cluster initiatives active in the Blue Economy have been discussed more recently across the Mediterranean, including in southern countries where the topic is triggering some political interest. Amongst those, for example, the Moroccan Cluster, Egyptian/Arabic Maritime Cluster, the Agaba Blue Cluster<sup>29</sup>. Although these initiatives are at too early stage to be described in further details, they represent valuable examples of a much broader set of Maritime Clusters to be potentially promoted in the near future across the Mediterranean. All such initiatives would benefit from greater visibility, recognition and support to reach full maturity.

<sup>9</sup> Limited public evidence exists at the international level for most of those initiatives, besides direct exposure of the study team.



# Ways forward to ensure relevant support



# 4.1. Governance: Which role for Maritime Clusters?

## Flexible and versatile, but with a specific drive on practical results

Maritime Clusters are a major component for the governance of the Blue Economy as they have the potential to support virtually any form of cooperation between all Blue Economy stakeholders willing to foster innovation (public or private organisations, sector-based or cross-sectoral stakeholders, research organisations, NGOs, etc.), thus favouring a purpose-orientated cooperation. This is a feature which is essential to boost innovation and is unique to clusters.

Another characteristic of clusters is their *versatility* and informality. Their mission is not necessarily defined by institutional or legal provisions, although this is the approach often taken by local institutions interested in setting up cluster initiatives. As such, clusters can be freely defined by the cooperating organisations themselves and tailored to their very focused needs (and/or those of the territories and actors in which they are established).

But such flexibility and versatility do not necessarily mean that clusters are the appropriate format to fulfil all local needs. For instance, the definition of relevant public policies should be better established through institutional instruments. Similarly, clusters are probably not the right instrument to support cooperation in areas with potentially divergent interests, as they are not the right organisational formats to enact arbitration and litigation procedures.

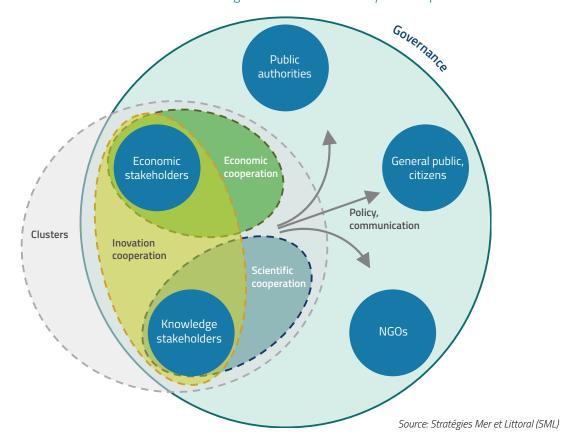
And yet, there is a great tendency to label any cooperation initiative linked in some way to maritime subjects or maritime stakeholders as a maritime cluster. Initiatives ranging from small local cooperation setups with very limited objectives to national agency-like maritime bodies (aimed to support national maritime policy) might not necessarily need clusters to be set up. It is therefore essential to reflect on the type of support envisaged before setting up a cluster.

## Fostering large-scale cooperation through practical exchange

When looking at the broader picture of governance, it appears that clusters have been very efficient when they address cooperation between economic (e.g. industrial or financial companies) and knowledge stakeholders. The most successful Maritime Clusters in the Mediterranean and beyond cover cooperation between:

- economic stakeholders seeking to develop synergies within the same value chain or between different value chains (e.g. sharing the same place, or infrastructure);
- scientific organisations looking for critical mass, interdisciplinarity, pooling of scientific infrastructures, etc.;
- economic and scientific organizations working on *innovation*.

Clusters have generally succeeded in ensuring regular dialogue and exchange across a range of relevant stakeholders, including public authorities (policies, regulation), research bodies, as well as general public and NGOs, thus covering the whole spectrum of maritime governance stakeholders. Such multi-layered scope and its interaction with the broader scope of maritime governance is illustrated in the figure below.



**Figure 5** Successful clusters within maritime governance – a multi-layered scope of action

# 4.2. What specific issues and challenges to be addressed?

As discussed in this report (Chapter 2) that of "cluster" is not a specific *maritime* concept, but Maritime Clusters can address aspects specific to maritime economic activities. It is interesting to focus on the **specific added value of Maritime Clusters** in these respects, such as:

- Maritime innovation is both capital-intensive and knowledge-intensive;
- Maritime infrastructures are very costly, but usually shareable;
- Synergies can be developed across most maritime

activities and sectors (e.g. nearly all maritime activities use ships and port installations, share the use of maritime space, etc.);

 Valuable niches can be developed within and across specific value chains to a large extent.

In the framework of Blue Economy, therefore, clusters should therefore be considered in their relations with the challenges and future potentials of the specific maritime value chains, and throughout their life cycles (emerging, growing, being commercially established, entering commercial decline and aiming at new areas of innovation and development). By bringing together science, technology, industry and financiers, and other stakeholders from different value chains, potentially sharing common interests or likely to develop synergies, Maritime Clusters can efficiently support a number of strategic developments.

In particular, we should consider the **potential support of Maritime Clusters to the following objectives**, that are difficult to address through other instruments and set-ups:

- Elaboration and promotion of consistent longterm developments all along the innovation lifecycle (from theoretical research to industry and from cradle to grave, in accordance with the circular economy principles);
- Actively support the pooling and sharing of valuable and capital- and knowledge-intensive resources at all levels and stages (research, observation, technological developments, operational platforms, etc.), including placebased and related infrastructures;
- Identification and *fostering of the many valuable innovation/market niches*, which are currently at an embryonic level but are expected to develop in the future Blue Economy (e.g. marine renewables, blue biotechnology, multipurposes offshore platforms, sustainable maritime mobility...):
- Enabling of sufficient critical mass (knowledge, markets, investment attractiveness) to foster emerging areas of innovation within and across value-chains, so to support the optimisation of both the whole value-chain and each individual component in the value generation.



# 4.3. What are the possible purposes for cluster development?

Building on the theoretical and practical overview provided in this report (Chapter 2 and Chapter 3), there is a **potentially wide range of possible objectives/goals for Maritime Clusters across the Mediterranean**. These goals have been arbitrarily arranged following three strands, in no particular order or priority:

- Pooling and sharing joint resources: this strand covers operational synergies across industries (e.g. pooling infrastructure, sharing port installations), in science (e.g. common laboratories, mixed teams, research infrastructures), and between science and industry (e.g. education, training, innovation);
- Support joint development and innovation: the development of new sectors or of large programmes and projects requires strong and

long-term cooperation between all stakeholders along the value chain of the sector, programme or project, including financiers, and often structured communication towards external stakeholders (public authorities, general public, NGOs, etc.);

Assess and prepare for a joint future: sustainable development of new sectors requires cooperation from a broad range of stakeholders, now usually from many different sectors including environment. This function should be supported by observatory services (economic, social, environmental), research and innovation, prospective and strategic services, all of them possibly shared or common.

The figure below illustrates the interplay of the three abovementioned strands and the different mix of services and functions being used. As anticipated, these strands and purposes are not mutually exclusive, but can operate either in a more selective clustering approach or through a more complex cluster support.

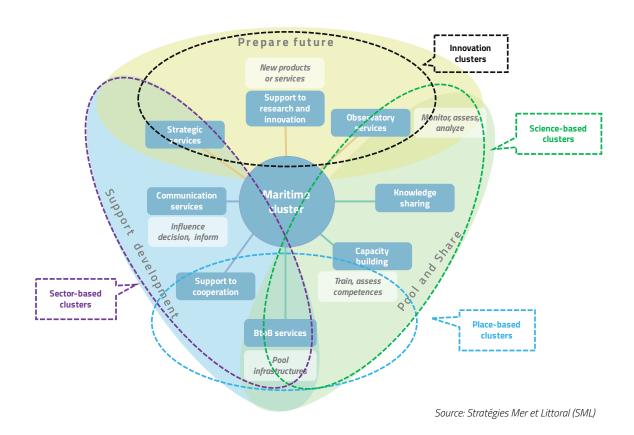


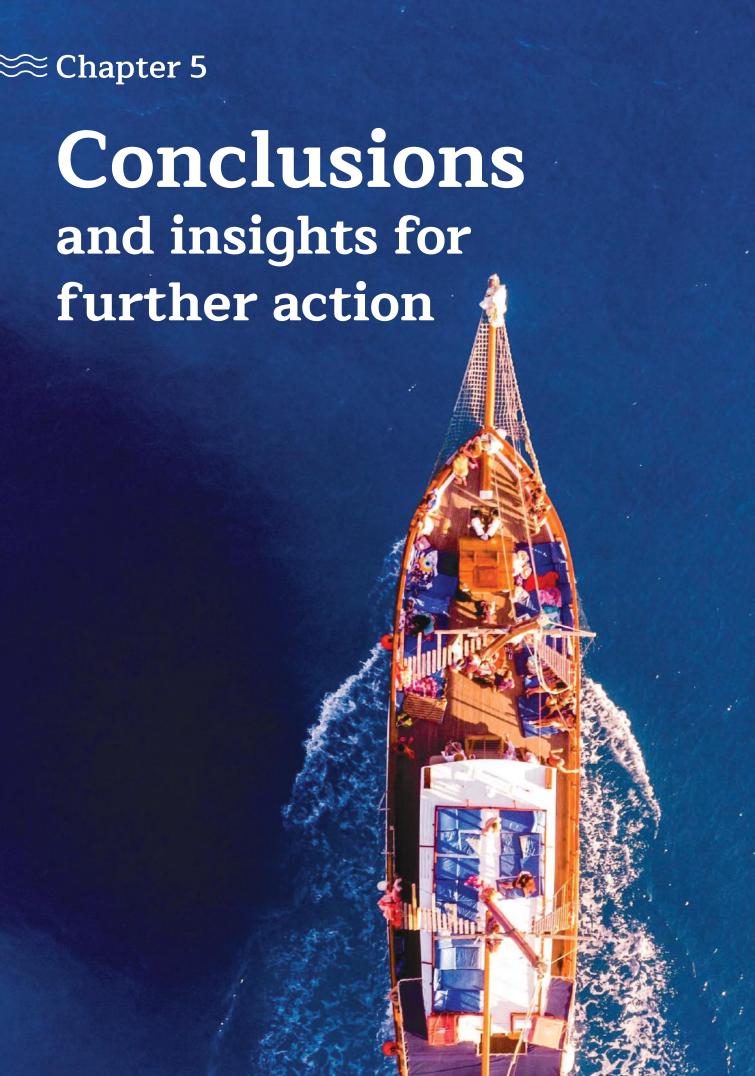
**Figure 6** Maritime Clusters: a wide range of possible purposes

The different approaches in the cluster support, depending on the narrower or wider focus on the various purposes described so far, are also illustrated in the next figure. These approaches are in some way vertical, if compared to the usually integrated approach proposed by many cluster, but it is easy to recognise a range of existing Maritime Clusters across the various functions they aim to fulfil. Sector-specific clusters are after all common in the maritime domain (as discussed in Chapter 2).

Again, the figure below is not aimed to be prescriptive (it does not necessarily indicates how clusters should be), but it is rather descriptive (it suggests how cluster can be). Successful clusters are those whose purpose best reflects the specific needs and challenges they aim at addressing, and as such cannot be judged from an "external point of view" but on the basis of the extent to which they fulfil their members' expectations.

Figure 7 Maritime Clusters: a wide range of possible approaches (including possible specialisations)





# 5.1. Features and potentials of the reviewed clustering models

Maritime Clusters are irreplaceable tools for boosting cooperation between practitioners **towards common (shared) goals** in the Blue Economy. More concretely, Maritime Clusters allow to address specific challenges which are also relevant in the Mediterranean region:

- Collective and forward thinking;
- Support for common project;
- Assembling stakeholders with different positions in the same value chain;
- Support synergy development between stakeholders in different value chains.

As such, the priority for the creation of Maritime Clusters should be towards action, rather than decision, while the purpose and services to be provided should be agreed on the basis of the specific needs and ambitions of the stakeholders involved, rather than on the basis of specific "universal recipes". And yet a number of general insights have emerged in the analysis of existing clusters initiatives across the Mediterranean, including the following as particularly relevant:

- Maritime Clusters are steadily growing across the Mediterranean, although they still appear to be more advanced and aware of their potentials in the EU than in the other Mediterranean countries, and in general more on the western than on the eastern shore of the sea basin;
- Southern Mediterranean countries are increasingly being aware of the potentials that maritime clusters can offer to boost sustainable innovation, growth and jobs in the Blue Economy; and yet they largely struggle to understand how to best support such initiatives, and avoid "empty boxes";

- Maritime Clusters offer a number of potential services and functions, in support of innovation, growth and jobs creation, but there is no "one-fits-all" recipe for the success of their work; different purposes are possible and different degrees of specialisation is emerging (sectoral focus, skills-based, research-based, public-financing based, etc.);
- Still, the large majority of the Maritime Clusters observed across the Mediterranean is either growing or embryonic, with a limited number of practices having more than 5 years of activities and supporting large groups of businesses and other stakeholders' organisations.

It is therefore important to put in place continuous support for both the existing and (even more importantly) emerging/embryonic clusters, so as to allow for a better exchange of experiences and lessons learned. Such support should be based on practical needs, not "text-book recipes".

# 5.2. Way forwards in supporting good Mediterranean practices

Based on these results of the present study and on the inventory presented above of the very wide range of possible purposes for Maritime Clusters, the following recommendations can be formulated for supporting their development in the Mediterranean:

- Build on what exists and grow "step-by-step" instead of "starting from scratch". Maritime Clusters have proved to be irreplaceable instruments to serve the development of Blue Economy and widen its scope beyond traditional maritime sectors, but they should recognise and build on existing practices rather than create new structures with potential conflicts;
- Focus on needs to be addressed rather than the specific institutional instrument or setup.
   Maritime Clusters should have a clear focus

on addressing the challenges and needs of Blue Economy stakeholders (knowledge, innovation, financing, etc.). Their function, rather than the organisational structure, should be the guiding engine, rather than its organisational structure, and they should not be misunderstood for a quasi-institutional body (with different competencies and aims);

- Strengthen the cooperation between relevant stakeholders. Cooperation is greatly needed to boost innovation and sustainable development in the Blue Economy, and Maritime Clusters allowing for such cooperation have been proven efficient even in areas where no specific institutional setups exist (often the case for cross-sectoral cooperation within and across the Blue Economy activities);
- Support the priority-setting for clusters with wide scopes and long-term objectives. Clusters should aim to establish a long-term cooperation process. Sectoral clusters should aim at supporting a wide part of the targeted sectors (and value-chains) and be able to aim at long-term innovation and change. In this context, it is vital to identify clear short/midterm priorities, to ensure concrete quick wins and advancements within a longer-term ambition;
- Enrol (and engage with) local and global financial stakeholders. Financial stakeholders and investors in general are often the missing element in many clusters, while they are and will be more and more key to any major development of Blue Economy. Financial support offered by public institutions is certainly vital, particularly for investments which are not directly profitable (large infrastructures, early innovation, etc.), but in the absence of private investors it is unlikely that the support provided by the clusters will be fully sustainable;
- Monitor the outputs and outcomes of clusters. Clusters are voluntary creations of their members, that should be able to assess the benefits of cooperation and synergies. To do so it is essential that goals and objectives are based on a clear understanding and assessment on the context, the value potentials for the sector(s) and the specific ecosystem(s) in which clusters operate, with sound monitoring systems to be developed.

# 5.3. An "Alliance" to support Mediterranean Clusters?

Maritime Clusters are certainly an effective mechanism to boost the potentials of the Blue economy to "promote growth, jobs and



investments and reduce poverty" across the region, as stated in the **Ministerial Declaration on Blue Economy** adopted by the UfM in 2015 (p. 2).

Clusters can do so by supporting knowledge transfer, fostering innovation and attracting financial streams in areas that are particularly relevant for local businesses and other stakeholders. As a

result, they help achieving positive societal impacts and serving essential policy functions.

In the future, it may be relevant to further stress the importance of Maritime Clusters as boosters for sustainable growth and jobs in the Mediterranean.

More specifically, it could be interesting to analyse the **creation of a "Clusters Alliance for the Mediterranean".** Given that a dedicated focus on – and support to – Maritime Clusters is lacking.

The **objectives** foreseen for such a Cluster Alliance can be two-fold, and namely:

- Promoting political dialogue to strengthen the understanding of what clusters are and how they can support policymaking in the Blue Economy (including through greater awareness);
- Supporting a technical cooperation platform for exchange of practices, peer-to-peer commercial/ technical dialogue, peer-review and technical support for capacity building at country/local level (and therefore raise the level of existing technical capabilities).

The specific actions foreseen for such a *Cluster Alliance* can result in the promotion of:

- Periodical meetings that could foster focussed political/policy dialogue sessions;
- Mediterranean Cluster Award for the best initiative of the year, based on the submission of activities/ proposals by each cluster to a technical jury at regional level (e.g. selected clusters);
- Technical assistance to support capacity building under ad-hoc request (so as to improve the capacity of existing Maritime Clusters and support the creation of new relevant ones);
- Mediterranean Clusters Days with a showcase of initiatives and exchanges/discussions with international clusters (with relevance for the Blue Economy);
- Dissemination of practices and knowledge material for policymakers and practitioners.



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