



# Support activities for the development of maritime clusters in the Mediterranean and Black Sea areas

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Annex I Cluster mapping for Phase A

State	Cluster name	Cluster life cycle	Cluster base	Future dev. potential	Trans-boundary cooperation
<b>Black Sea</b>					
BG	Black Sea Energy Cluster (BSEC)	Emerging	Policy	Average	Yes
BG	Cluster for maritime professionals	Emerging	Policy	Average	Yes
BG	Marine Cluster Bulgaria	Growing	Policy	High	Yes
BG	Port of Varna	Growing	Place	High	Yes
BG	Port of Bourgas	Growing	Place	High	Yes
RO	Port of Constanta	Growing	Place	High	Yes
UA	Sea Products Cluster Sevastopol	Growing	Policy	High	Yes
UA	Belgorod-Dnestrovsky Sea Port	Growing	Place	High	Yes
UA	Kherson Commercial Seaport	Growing	Place	High	Yes
UA	Odessa Sea Port	Growing	Place	High	Yes
UA	Port of Ilyichevsk	Growing	Place	High	Yes
UA	Port of Sevastopol	Growing	Place	Average	Yes
UA	Port of Yuzhny	Growing	Place	High	Yes
RU	Novorossiysk Commercial Sea Port (NCSP)	Growing	Place	High	Yes
RU	Tuapse Commercial Sea Port (JSC TCSP)	Mature	Place	Average	No
RU	Port of Sochi	Growing	Place	High	Yes
GE	Poti Sea Port	Growing	Place	High	Yes
GE	Batumi Sea Port	Growing	Place	High	Yes
GE	Supsa Oil Terminal	Growing	Place	High	Yes

State	Cluster name	Cluster life cycle	Cluster base	Future dev. potential	Trans-boundary cooperation
GE	Black Sea Terminal LLC (Kulevi Terminal)	Growing	Place	High	Yes
TR	Trabzon	Growing	Place	Average	Yes
TR	Samsun	Growing	Place	Average	Yes
TR	Zonguldak	Growing	Place	Poor	Yes
<b>East Med</b>					
CY	Maritime Institute of Eastern Mediterranean	Emerging	Policy	High	Yes
CY	Cyprus	Mature	Place	High	Yes
EL	Kavala	Emerging	Place	Average	Yes
EL	Thessaloniki	Mature	Place	High	Yes
EL	Piraeus	Mature	Place	High	Yes
EL	Crete	Mature	Place	High	Yes
EL	Rhodos	Mature	Place	Average	No
TR	Istanbul - Marmaras Sea	Mature	Place	High	Yes
TR	Izmir	Growing	Place	High	Yes
TR	Mersin	Mature	Place	High	Yes
LB	Beirut - port city	Mature	Place	Average	No
PS	Palestine (Gaza Strip)	Declining	Place	Poor	No
IL	Haifa	Mature	Place	Average	Yes
IL	Eilat (Red Sea)	Mature	Place	Average	Yes
IL	Ashdod	Mature	Place	Average	Yes
JO	Aqaba	Growing	Place	Average	Yes

State	Cluster name	Cluster life cycle	Cluster base	Future dev. potential	Trans-boundary cooperation
EG	Alexandria	Mature	Place	High	Yes
EG	Damietta	Mature	Place	Average	Yes
EG	Port city of Port Said	Mature	Place	High	Yes
<b>Adriatic-Ionian</b>					
EL	Western Greece (Prefectures of Achaia, Iliia, Aitolokarnania and the islands of Cephalonia, Ithaca and Zakynthos)	Mature	Place	Average	Yes
EL	Igoumenitsa	Mature	Place	Average	Yes
HR	Brodograevni cluster (Shipbuilding cluster)	Growing	Place	Average	Yes
HR	Cluster Male Brodogradnje Ltd. (Small shipbuilding cluster)	Growing	Policy	Poor	No
HR	Klaster intermodalnog prijevoza (Intermodal transportation cluster)	Growing	Place	High	Yes
IT	NAPA (North Adriatic Ports Association)	Emerging	Policy	High	Yes
IT	Shipbuilding research-driven cluster STARNETregio	Declining	Policy	Average	Yes
IT	Adriatic Cluster Club	Growing	Policy	High	Yes
IT	Port of Pescara	Mature	Place	Poor	No
IT	Nautica di Diporto Puglia	Growing	Place	Average	Yes
IT	Porto di Bari	Mature	Place	Average	No
IT	Turismo Pugliese	Emerging	Policy	High	No
IT	Polo di Innovazione Risorse Aquatiche e Filiere Alimentari della Pesca	Emerging	Policy	Average	No
IT	Ditretto Ittico di Rovigo	Growing	Place	Average	No
IT	Gulf of Venezia	Mature	Place	Average	Yes
IT	DITENAVE	Mature	Policy	Average	No

State	Cluster name	Cluster life cycle	Cluster base	Future dev. potential	Trans-boundary cooperation
IT	Farus	Emerging	Policy	High	Yes
IT	Port of Trieste	Mature	Place	High	Yes
SI	Slovenian transport and logistic cluster	Declining	Place	Average	No
SI	Slovenian Waterborne Technologic Platform	Declining	Policy	Poor	No
ME	Ulcinj	Emerging	Place	Average	Yes
ME	Boka Kotorska (Bay of Boka Kotorska)	Emerging	Place	High	Yes
ME	Budva - Bar	Emerging	Place	Average	Yes
AL	Marinal	Emerging	Policy	High	No
AL	FishNAR	Declining	Policy	Average	No
AL	AgriDUC	Declining	Policy	High	No
AL	ALTourism	Growing	Policy	High	No
AL	TRANSAL	Emerging	Policy	High	No
<b>Central Med</b>					
IT	Mazara del Vallo   District of Fishery	Growing	Policy	Average	Yes
IT	Messina   Agro Bio Fishery	Emerging	Policy	High	No
IT	Port of Catania	Growing	Place	Average	No
IT	Port of Messina	Mature	Place	Average	No
IT	Port of Palermo	Mature	Place	Average	No
MT	Maltese maritime cluster	Mature	Place	High	Yes
LB	Port of Benghazi	Growing	Place	Average	Yes
LB	Port of Darna region	Growing	Place	High	Yes

State	Cluster name	Cluster life cycle	Cluster base	Future dev. potential	Trans-boundary cooperation
LB	Port of Elbrega	Mature	Place	Average	Yes
LB	Port of Khoms/Homs	Growing	Place	High	Yes
LB	Port of Marsa	Growing	Place	Average	No
LB	Port of Tripoli	Growing	Place	High	Yes
TN	Port of Rades	Growing	Place	Average	Yes
TN	Port of Bizerte	Growing	Place	Average	Yes
TN	City of Sfax	Growing	Place	Average	Yes
<b>West Med</b>					
ES	Cluster Nàutic de Barcelona (Nautical Cluster of Barcelona)	Growing	Policy	High	Yes
ES	Forum Marítim Català (Catalan Maritime Forum)	Growing	Policy	High	Yes
ES	Port of Barcelona	Growing	Place	High	Yes
ES	Port of Valencia	Growing	Place	High	Yes
ES	IDIMAR (Balearic Cluster on Maritime innovation)	Growing	Policy	Average	No
ES	Cluster Marítimo de Málaga (Malaga Maritime Cluster)	Emerging	Place	High	No
ES	Port of Algeciras Bay	Growing	Place	High	Yes
ES	Naval y del Mar	Emerging	Place	Average	No
ES	Cluster Marítimo Español (Spanish Maritime Cluster)	Growing	Policy	High	No
FR	Capenergies	Mature	Policy	High	No
FR	Pôle Mer Méditerranée	Growing	Policy	High	No
FR	Pôle Risques	Mature	Policy	High	No
FR	Port de Toulon	Mature	Place	High	No

State	Cluster name	Cluster life cycle	Cluster base	Future dev. potential	Trans-boundary cooperation
FR	Port of Marseille-Fos	Declining	Place	Average	No
FR	Ports d'Azur	Mature	Policy	Average	No
IT	Genova   Port and City Cluster	Mature	Place	Poor	Yes
IT	La Spezia   Ligurian District of Marine Technology	Emerging	Place	Average	Yes
IT	Napoli   Port activities	Mature	Place	Average	No
IT	Gioia Tauro   Technological District of Logistics and Transformation	Emerging	Place	Average	No
IT	Vibo Valentia   Aqua Resources and Fishery Production Chain	Emerging	Policy	Poor	No
IT	Port of Cagliari	Mature	Place	Poor	Yes
IT	Livorno   Green Port Esteso	Growing	Place	Poor	Yes
IT	Viareggio   Yachting District and NAVIGO innovation hub	Mature	Policy	Average	No
IT	Port of Civitavecchia	Growing	Place	Average	No
DZ	Skikda Ports	Growing	Place	High	No
DZ	Algiers Port	Growing	Place	High	No
DZ	Bejaia Port	Growing	Place	High	Yes
DZ	Oran Port	Growing	Place	High	No
MA	Moroccan Maritime Cluster	Growing	Policy	High	Yes
MA	Nador Port	Growing	Place	High	No
MA	Tanger Med Port Authority	Growing	Place	High	Yes
MA	Technopole d'Oujda	Emerging	Policy	High	No

## Annex II Overview on the selected clusters for phase B

Sea-basin and country	Name of cluster	Cluster life cycle	Cluster base	Main comments
<b>Adriatic-Ionian</b>				
Croatia	Brodogradevni Cluster	Growing	Place-based	<ul style="list-style-type: none"> <li>• Shipbuilding cluster based in Split</li> <li>• Synergies between manufacturers of small boats and equipment</li> <li>• Important availability of specialised and matching/appropriate skills</li> <li>• High relevance and use of research expertise and appropriate infrastructure</li> <li>• Important level of international competitiveness of products and services offered by the cluster</li> <li>• Relatively high and very balanced engagement of private, public and research bodies</li> </ul>
Italy	Nautica di Diporto Puglia	Growing	Place-based	<ul style="list-style-type: none"> <li>• Strong regional involvement</li> <li>• Combination of yachting, marinas and tourism activities</li> <li>• Cross-border collaboration with the Turkish city of Izmir</li> <li>• High level of engagement of private bodies with respect to public and research bodies</li> <li>• High relevance and role of a central maritime cluster-supporting organisation</li> <li>• Important availability and quality of regional government promotion measures</li> </ul>
Italy	Ditenave	Mature	Policy	<ul style="list-style-type: none"> <li>• Shipbuilding and nautical cluster based in Friuli Venezia Giulia</li> <li>• Important availability of specialised and matching/appropriate skills, as well as educational programmes</li> <li>• High relevance and use of research expertise and appropriate infrastructure</li> <li>• High level of local, but also international demand for services/products provided by companies in the cluster, but moderate level of local and international competition</li> <li>• Important influence of cluster on public and private sector</li> <li>• Still limited levels of new businesses formation, despite a good availability of business incubators</li> <li>• Remarkable and balanced level of engagement of private, public and research bodies</li> </ul>
Montenegro	Bay of Boka Kotorska	Emerging	Place-based	<ul style="list-style-type: none"> <li>• Multi-sectoral cluster based around a fine natural harbour</li> <li>• The area is currently undergoing development of tourism orientated activity and the conversion of a former naval port</li> <li>• The area is recognised as a cluster in the national Tourism Development Strategy 2020</li> <li>• Relevant international demand for and international competitiveness of services/products provided by the companies in the cluster</li> <li>• Strong representation and involvement of micro-enterprises</li> </ul>
Slovenia-Italy-Croatia	NAPA - North Adriatic Ports Association	Emerging	Policy-based	<ul style="list-style-type: none"> <li>• Cross-border cluster of the ports in Italy, Slovenia and Croatia promoting themselves as an alternative to the North-European ports</li> <li>• Development of markets, environmental protection, safety and information technology</li> <li>• Promotion of coordination planning of road, rail and maritime infrastructure, and harmonisation of regulation</li> </ul>

Sea-basin and country	Name of cluster	Cluster life cycle	Cluster base	Main comments
				<ul style="list-style-type: none"> <li>High level of international, but also local, demand for services/products provided by companies in the cluster</li> </ul>
<b>West Med</b>				
France	Pole Mer Méditerranée	Growing	Policy-based	<ul style="list-style-type: none"> <li>Activities with a cross-sectorial dimension</li> <li>Recent expansion of the cluster's activities to neighbouring regions</li> <li>Development of collaboration schemes with several countries, also beyond the European Union</li> <li>Important availability of specialised and appropriate skills and relevance of university research expertise</li> <li>High level of international, but also local, demand for services/products provided by companies in the cluster</li> <li>High levels of level of R&amp;D investment in the cluster</li> <li>Remarkable and balanced level of engagement of private, public and research bodies</li> </ul>
Italy	La Spezia District of Marine Technology	Emerging	Place-based	<ul style="list-style-type: none"> <li>Focus on a range of sectors like surveillance, coastal protection, shipbuilding and environmental monitoring</li> <li>Collaboration with international organisations such as NATO</li> <li>Partnership with the two French maritime clusters, the Pôle Mer Méditerranée and the Pôle Mer Bretagne</li> <li>Important intensity of international competitiveness of products and services offered by the cluster</li> <li>Relevant levels of R&amp;D investment in the cluster</li> <li>High relevance and role of a central maritime cluster-supporting organisation</li> </ul>
Morocco	Tanger Port	Growing	Place-based	<ul style="list-style-type: none"> <li>Accounting for 25% of goods handled in ports at the national level; traffic mainly operated via trans-shipment</li> <li>Important increase in total traffic volume over the last years</li> <li>Important expansion in terms of infrastructures through the construction of the Tanger Med 2 port complex and the Tanger Med Passengers port</li> <li>Covered by the national port strategy foreseeing the enhancement of a North West pole as one of the six main development poles in Moroccan coastal areas</li> <li>Important rate of new business formation</li> <li>Remarkable contribution to employment creation</li> <li>High level of engagement of private and public bodies, but limited engagement of research bodies</li> </ul>
Spain	Forum Maritim Catalá	Growing	Policy-based	<ul style="list-style-type: none"> <li>Variety of actors (included Barcelona, one of the most relevant Mediterranean ports), activities and sectors</li> <li>Strategic position in the Mediterranean</li> <li>Important development potential</li> <li>Important availability of specialised and matching/appropriate skills</li> <li>Remarkable influence on private sector behaviour against a low level of influence on public sector behaviour</li> <li>Strong level of engagement of private bodies</li> </ul>
Spain	IDIMAR - Balearic Cluster on Maritime Innovation	Growing	Policy-based	<ul style="list-style-type: none"> <li>Innovation as one of its main assets and objectives</li> <li>Important international demand for services/products provided by the companies in the cluster</li> <li>Important engagement of public, research and especially private bodies</li> <li>High availability of business, legal, financial, logistic, property advisors</li> <li>Important availability of national and regional promotion measures</li> </ul>

Sea-basin and country	Name of cluster	Cluster life cycle	Cluster base	Main comments
				<ul style="list-style-type: none"> <li>• Availability of an appropriate infrastructure</li> </ul>
<b>Central Med</b>				
Italy-Sicily	Messina Agro Bio Fishery	Emerging	Policy-based	<ul style="list-style-type: none"> <li>• Identified as an embryonic cluster</li> <li>• Mainly triggered by local universities: remarkable engagement of research actors</li> <li>• Involved in the definition of an appropriate marketing strategy to develop the research ideas generated</li> <li>• High relevance and use of research expertise and appropriate infrastructure</li> </ul>
<b>East Med</b>				
Cyprus	Cyprus	Mature	Place-based	<ul style="list-style-type: none"> <li>• Important availability of specialised and matching/appropriate skills</li> <li>• High intensity of international competitiveness of products and services offered by the cluster</li> <li>• High level of influence on private and public sector behaviour</li> <li>• High level of engagement of private and public bodies</li> <li>• High relevance and role of a central maritime cluster-supporting organisation</li> <li>• Important availability of business, legal, financial, logistic, property advisors</li> </ul>
Greece	Piraeus	Mature	Place-based	<ul style="list-style-type: none"> <li>• Important availability of specialised and matching/appropriate skills</li> <li>• High international demand for services/products provided by the companies in the cluster</li> <li>• Important influence on private, but also public sector behaviour</li> <li>• High level of engagement of private and public bodies</li> <li>• High participation and representation of SMEs in the cluster</li> <li>• Important availability of business, legal, financial, logistic, property advisors</li> </ul>
Greece	Thessaloniki	Mature	Place-based	<ul style="list-style-type: none"> <li>• Potentially synergetic bow Piraeus-Thessaloniki-Istanbul to the corridors of Black Sea and Balkans</li> <li>• Remarkable availability of an appropriate infrastructure (including ports and inter-land connections)</li> <li>• Important influence on private and public sector behaviour</li> <li>• High participation and representation of SMEs in the cluster</li> </ul>
Turkey	Istanbul	Mature	Place-based	<ul style="list-style-type: none"> <li>• High participation and representation of SMEs in the cluster</li> <li>• Important availability of relevant educational programs or trainings</li> </ul>
<b>Black Sea</b>				
Bulgaria	Maritime Cluster Bulgaria	Growing	Policy-based	<ul style="list-style-type: none"> <li>• Focused on shipping activities</li> <li>• Strong engagement of private but also research bodies against a small engagement of public bodies</li> <li>• Good supporting environment</li> </ul>
Bulgaria	Cluster for Maritime Professionals	Emerging	Policy-based	<ul style="list-style-type: none"> <li>• Recently established by local companies to diversify maritime professions and promote greater skills and capability in the sector</li> <li>• Still limited influence capacity on other private and public bodies</li> <li>• Leadership mainly related to private bodies</li> </ul>
Bulgaria	Black Sea Energy	Emerging	Policy-based	<ul style="list-style-type: none"> <li>• Innovation potential</li> </ul>

Sea-basin and country	Name of cluster	Cluster life cycle	Cluster base	Main comments
	Cluster			<ul style="list-style-type: none"> <li>• Important level of engagement of private and public bodies versus a minor involvement of research bodies</li> <li>• Strong supporting environment, mainly in terms of the role of a central maritime supporting organisation and of availability of dedicated platforms</li> </ul>
Ukraine	Sea Products Sevastopol	Growing	Policy-based	<ul style="list-style-type: none"> <li>• Focused on an important niche area for the maritime economy</li> <li>• Great potentials for future development</li> <li>• Established network of international partners</li> <li>• Remarkable contribution to employment creation</li> </ul>

## Annex III Definition of the Maritime Economic Activities

Maritime Economic Activities		Short description
<b>0. Shipbuilding</b>		
0.1	Shipbuilding	This sector includes building of ships and floating structures, building of pleasure and sporting boats and repair and maintenance of ships and boats.
0.2	Construction of water projects	This sector includes the construction of waterways, harbour and river works, pleasure ports (marinas), dams and dykes. Also activities such as dredging of waterways are included.
<b>1. Maritime transport</b>		
1.1	Deep-sea shipping	International (freight) transport by sea with large vessels that often sail fixed routes (containers, major bulks) or tramp shipping. Port services, e.g. operating terminals, handling cargoes, storage, VAL, port management.
1.2	Short-sea shipping	National and international freight transport within Europe and to/from neighbouring countries with medium sized ships. Port services, e.g. operating terminals, handling cargoes, storage, VAL, port management. The same segments are found as under deep sea shipping.
1.3	Passenger ferry services	Transporting passengers on fixed sea routes, national and international. Mainly intra-European. Sometimes this is combined with RoRo transport.
1.4	Inland waterway transport	Freight transport on inland waterways in Europe, consisting of both fixed link services and tramp services.
<b>2. Food, nutrition, health and eco-system services</b>		
2.1	Catching fish for human consumption	Extracting wild natural resources (i.e. fish, crustaceans, molluscs, algae, etc.) for human consumption, fish processing activities, wholesale and retail.
2.2	Catching fish for animal feeding	Extracting wild natural resources (essentially fish) for animal consumption. The final product is mainly fishmeal and fish oil, which can be used by agriculture and aquaculture. This sector also includes fish processing, wholesale and retail.
2.3	Marine aquatic products	Farming of aquatic organisms, mainly for human consumption (mainly fish and molluscs).
2.4	Blue biotechnology	Using wild and farmed aquatic living resources as precursors of bio-molecules used for high value products (health, cosmetics, etc.). It is about unravelling the potential of the biodiversity of a specific earth compartment for the benefit of the rest of the economy.
2.5	Agriculture on saline soils	Development of agriculture on saline soils, through improving existing crops or adapting salt tolerant plants.
<b>3. Energy and raw materials</b>		
3.1	Offshore oil and gas	Extraction of liquid fossil fuels from offshore sources.
3.2	Offshore wind	Construction of wind parks in marine waters, and exploitation of wind energy by generating electricity offshore.
3.3	Ocean renewable energy	Offshore development and exploitation of a variety of renewable energy sources excluding wind, including wave energy, tidal energy, Ocean Thermal Energy Conversion, Blue energy (osmosis) and biomass.
3.4	Carbon capture and storage	Caption of CO <sub>2</sub> at large emitters and ship these to empty offshore fields and other favourable geological formations for long term storage as a means to contribute to sustainability targets.
3.5	Aggregates mining	Extraction of marine aggregates (sands and gravels) from the seabed.

Maritime Economic Activities		Short description
3.6	Marine minerals mining	Deep sea mining of raw materials other than aggregates, including critical materials which have a risk of supply shortage.
3.7	Securing fresh water supply (desalination)	Desalination of sea water for fresh water usage (agriculture irrigation, consumer & commercial use).
<b>4. Leisure, working and living</b>		
4.1	Coastal tourism	Shore based sea related tourist and recreational activities.
4.2	Yachting and marinas	This activity is strongly interlinked with coastal tourism. It can be defined as coastal tourism including the use of yachts and other pleasure boats and excluding cruise.
4.3	Cruise tourism	Tourism based on people travelling by cruise ship, having the ship itself as their home base of holidays and making visits to places passed during the trip.
<b>5. Coastal protection</b>		
5.1	Coastal protection	Protection against flooding and erosion, preventing salt water intrusion, protection of habitats.
<b>6. Maritime monitoring and surveillance</b>		
6.1	Surveillance	Equipment and services used for security purposes in the field of maritime transportation; surveillance of the EU coastal borders using a variety of services, technologies and dedicated equipment.
6.2	Environmental monitoring	Marine environmental monitoring is not a clear-cut function. It may cover water quality, temperature, pollution, fisheries etc.

### The Blue Growth Study<sup>1</sup>

In the Blue Growth study, six maritime functions were defined, which were further subdivided into 27 sub-functions or **maritime economic activities (MEAs)**<sup>2</sup>. An important aspect in these functions or MEAs is that they have been approached from a value chain perspective (combining several economic sector activities) rather than an individual economic sector. Their size and growth rate was estimated at an EU level starting from centrally published EU wide data, e.g. Eurostat SBS<sup>3</sup>, which ensured coherence between countries and sectors and consistency over time. For non-traditional maritime economic activities and in particular for small and immature sub-functions this turned out to be impossible as these activities are not covered by formal statistics. As a result other sources were needed, as was reflected in the Blue Growth study overview table on sub-functions sizes<sup>4</sup>.

### Sea basin studies<sup>5</sup> – country data

Following the Blue Growth study, the European Commission - DG MARE - commissioned **several studies to elaborate the Blue Growth findings at the level of sea basins**. A main characteristic of this work was that it required refining the methodology to acquire country level data. Consequently, for the Sea basins Baltic, North Sea, Atlantic and Mediterranean and Black Sea, country papers were prepared. These country papers include for (at least all EU Member States) data on employment, gross value added (GVA) and the number of enterprises per MEA within the country<sup>6</sup>.

### Estimating the amount of employees in maritime companies

For this study we collected such data provided in the Atlantic Sea basin study<sup>7</sup> (which included the full country analysis for Spain and France) and the Mediterranean and Black Sea study<sup>8</sup>. We could thereby **set-up a database including data on employment and the number of enterprises** for the following countries: Bulgaria, Cyprus, Greece, Spain, France, Croatia, Italy, Malta, Romania, and Slovenia

Vertically we listed in the database all MEAs whereas we distinguished between ‘main activities’ and ‘other’. **‘Main activities’ are the activities within which Phase B clusters are operating**. ‘Other’ are activities also assessed in the Sea basin studies, but not relevant for Phase B clusters.

Horizontally we have **four blocks: employment, number of enterprises, employment by company, average**. In the first block ‘employment’ we list employment data by country and MEA.

<sup>1</sup> Ecorys (2012), *Blue Growth. Scenarios and drivers for sustainable growth of oceans, seas and coasts*.

<sup>2</sup> These MEAs are: 1.1 Deepsea shipping, 1.2 Shortsea shipping (incl. RoRo), 1.3 Passenger ferry services, 1.4 Inland waterway transport, 2.1 Catching fish for human consumption, 2.2 Catching fish for animal feeding, 2.3 Marine aquatic products, 2.4 Blue biotechnology, 2.5 Agriculture on saline soils, 3.1 Oil and gas, 3.2 Offshore wind, 3.3 Ocean renewable energy, 3.4 Carbon capture and storage, 3.5 Aggregates mining (sand, gravel, etc.), 3.6 Marine minerals mining, 3.7 Securing fresh water supply (desalination), 4.1 Coastline tourism, 4.2 Yachting and marinas, 4.3 Cruise tourism, 4.4 Working, 4.5 Living, 5.1 Protection against flooding and erosion, 5.2 Preventing salt water intrusion, 5.3 Protection of habitats, 6.1 Traceability and security of goods supply chains, 6.2 Prevent and protect against illegal movement of people and goods, 6.3 Environmental monitoring.

<sup>3</sup> [http://epp.eurostat.ec.europa.eu/portal/page/portal/european\\_business/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/european_business/introduction).

<sup>4</sup> Further elaboration of the methodology in the Blue Growth study see ANNEX I of Ecorys (2012), *Blue Growth. Scenarios and drivers for sustainable growth of oceans, seas and coasts*.

<sup>5</sup> Ecorys et al. (2013): *Study on Deepening Understanding of Potential Blue Growth in the EU Member States on Europe's Atlantic Arc*.

Ecorys et al. (2013): *Study on Blue Growth and Maritime Policy within the EU North Sea Region and the English Channel*.

Cogea et al. (2013): *Study on the Mediterranean and Black Sea*.

Cogea et al. (2013): *Study on the Baltic Sea*.

<sup>6</sup> A coherent methodology was elaborated for all Sea basin studies between the consortia led by Ecorys (covering the North Sea and the Atlantic study) and Cogea (leading the Baltic and the Mediterranean and Black Sea study) in 2013. Further elaboration of the methodology used in these studies can be found in the annex of these individual studies.

<sup>7</sup> Ecorys et al. (2013): *Study on Deepening Understanding of Potential Blue Growth in the EU Member States on Europe's Atlantic Arc*.

<sup>8</sup> Cogea et al. (2013): *Study on the Mediterranean and Black Sea*.

In the second block 'number of enterprises' we list the number of enterprises by country and MEA. In the third block we calculate - by dividing block one by block two – the average amount of persons employed by company in each country and MEA. But these outcomes need to be treated with caution. In some country papers there is no accurate estimate on the number of companies, but rather explanations like '5 main companies'. We therefore mark outliers in red and exclude them from further estimations. In the fourth block we then estimate the average number of persons employed by company in the MEA in the whole Sea basin (on the basis of existing country data) excluding cells marked red as well as cells which do not provide data. At the bottom of the 'main activities' we also calculate the average of persons employed in MEAs by company for all of these activities.

The outcomes of this assessment provide us with a **better understanding of the typical size of maritime companies** in the Mediterranean and the Black Sea and a basis for further assessment of the total size of maritime clusters in the area.

### 1 NAPA

#### Introduction

The focus group was hosted in the Municipal Offices in Koper in round-table format. The focus group included representatives from the member ports NAPA (North Adriatic Ports Association), the selected cluster with expertise across port management, research and development, and strategic planning. **NAPA** was used as the 'lead' cluster for the purposes of the discussion and to provoke debate. A full list of participants is provided as a separate section at the end of this Annex.

Representatives of the **DITENAVE** cluster based in Monfalcone (Italy), which links shipbuilding and marine industry to universities and regional research centres, provided a perspective from a shipbuilding-based cluster. The representative from the **PoliMat** Centre of Excellence for Polymer Materials and Technologies (Slovenia), Mateja Dermastia, also offered valuable professional experience from the establishment of the automotive cluster in Slovenia, and was able to provoke debate from her long-term experience. Peter Vidmar of the University of Ljubljana and Professor Vedran Slapničar from the University of Zagreb, Chair of the newly established **Croatian Competitiveness Cluster of Maritime Industry**, represented the research sector. The Municipality of Koper provided a valuable local government input and perspective. Luca Marangoni of **DG MARE** attended as an observer.

#### Discussion

**Jana Tolja**, the Mayor of Koper's advisor for international affairs welcomed the delegates to the meeting. **Luca Marangoni** of DG MARE provided a brief presentation of the Commission's perspective and link to the Blue Growth agenda. **Brian Shipman** introduced the aims and objectives of the meeting and the broad timeline of the study. **Slavko Mežek** outlined the format of the meeting and introduced the agenda. **Brian Shipman** outlined the findings of Phases A & B of the study and the selection of 'hot spots' for the Focus Groups, including the categorisation of the cluster life-cycle and cluster base for NAPA.

#### Cluster Analysis

NAPA classified as an 'Emerging' and a 'Policy-Based' cluster:

- **'Emerging'** - the individual NAPA ports themselves are long established, and 'mature' in their own right. However, their mutual cooperation and support is relatively new - NAPA being constituted in 2010;
- **'Policy-based'** - the NAPA ports perceive significant advantages in co-operation to realise their full potential as sea terminals of the Ten-T network, additionally, they combine to act as a single voice in the harmonisation of the regulatory environment and to participate in EU projects.

#### Potential:

NAPA is considered to have strong potential for future growth. Trade models forecast further increase of international trade and NAPA ports being strategically well-placed:

- **Membership:** NAPA membership is currently restricted to the port authorities;
- **Employment:** the ports clearly generate considerable direct employment through direct port operation, support and logistical activities, and in the wider local economies. Further research is required to quantify this;
- **R&D:** limited cooperation already exists with universities and research organisations. The potential to extend and develop such cooperation will be the subject for discussion at the focus group;

- **Governance:** the degree to which local and national government could play a role in the cluster is also a subject for discussion;
- **Innovation:** the formation of such a trans-boundary cluster amongst former competitors demonstrates in itself a strong degree of innovation.

(NB: These findings were to be reported to the NAPA Management Committee on the 28<sup>th</sup> January 2014.)

**‘What makes a cluster a cluster?’** The clusters are relatively new, but evidence from long-established existing clusters is that long-term sustainability only occurs when there is financial support from the industrial sector – therefore must demonstrate their added value to that sector (**Mateja Dermastia, PoliMaT**).

### Focus Group Session 1: Testing findings

#### *Ratification of findings and additional information*

#### **NAPA reaction to the study findings on their cluster:**

1. NAPA consider that it fits somewhere between ‘Growing’ and ‘Mature’. *“We are still discussing what we want to be when we grow up”* (Study listed NAPA as ‘emerging’);
2. NAPA considers itself to be ‘Place Based’ (study placed it as Policy Based) – NAPA’s perception of ‘place’ is the northern Adriatic rather than an individual port.

#### **Additional conclusions and discussion:**

- Confirm the lack of a strong connection with the R&D sector, and the need to improve and develop this;
- The current focus has been on institutional cooperation between port authorities rather than the wider economic community;
- The focus has been on enhancing commercial activity and market share, and there is a need to increase focus on generating employment;
- They have strong public sector support (most of the ports are still public entities);
- There is potential to further develop tourism destinations for cruise ships as an alternative to Venice;
- Wish to better integrate logistical operations with Venice Marco Polo airport as a regional hub in the TEN-T network.

**A very important point is that the cluster cooperates fully to attract global traffic and infrastructure to the Northern Adriatic ports in competition with other port regions, but retain strong competition between the individual members.**

*“The cluster operates more like a cloud than a cluster”* Stefano Martini, Trieste Port Authority.

#### **DITENAVE reaction to the study:**

DITENAVE considers itself to be a ‘knowledge-driven’ cluster (56% of the cluster):

1. DITENAVE considers itself to be a **‘Mature’** cluster – the relationship between partners is stable and long-term;
2. DITENAVE is a **‘Place Based’**, although based on the shipbuilding theme.

They are not operating trans-boundary yet, but that potential remains. A notable contrast between NAPA and DITENAVE is the relative concentration on employment rather than cargo.

### *Additional information*

In the study it was recognised that full data is lacking in assessing the economic impact of NAPA as both a cluster and as individual entities. The data on employment by the NAPA members shows only the relatively small number directly employed and not the wider logistical chain either within or around the port. Venice Port for example contains 127 separate commercial concessioner operators.

Koper port and the RCC have carried out various studies, which will be made available for the Case Study.

**Key question for discussion: is NAPA too focussed on increasing volume rather than the potential benefits for local employment and the regional economy? There was an acceptance that a stronger focus on local employment was needed.**

Koper have identified a number of spill-overs and value-added activities from the port, these include specialist cargo management for example, and increased local GDP is evident. Koper confirmed that it is critical to the success of the port to involve small, specialist technology providers.

The Regional Development Centre has identified the local 'added value' of logistics as +27% to GDP and +20% to employment in the Karst region.

**Croatia** – the story of business clusters has not been a good one, most failing after the ending of temporary public funding.

### *Key questions arising from session*

1. How to measure the added value to the local economy of a cluster;
2. Balancing the macro (strategic) role of clusters vs the micro role in the local economy;
3. Retaining the competitiveness of individual partners within a cluster;
4. The importance of industrial engagement to the long-term sustainability of a cluster.

## **Focus Group Session 2. Future challenges and opportunities**

### *Presentation by NAPA on future direction and challenges*

**NAPA** is a response to changing market conditions, in particular shifting global and internal European trade flows and increasing size of container ships (up to 9000 TEUs) and shipping company conglomerations. So NAPA is both a market and technical response.

**Aim** – to increase future container trade from 1.3m TEUs to 6m TEU's by 2030 focussing particularly on the east of Suez market.

### **What is needed to achieve this?**

- Intervention and innovation;
- Deeper water and longer trains;
- More container terminal capacity;
- More rail/freight liberalisation;
- Competitive deep-sea container shipping industry.

In addition to marketing and efficiency collaboration, NAPA also mutually support infrastructure improvements and invest in removing logistical 'bottlenecks'.

### **Public benefits of the strategy:**

- Lower shipping costs;

- Reduced emissions;
- Balanced regional development;
- Balanced use of European ports and rail infrastructure.

**Future:**

- A wider geographic membership;
- Wider sectoral membership;
- Closer integration;
- Opportunities for increased cooperation in common activities, notably in dredging (NAPADRAG Project).

**Future Action Plan:**

- Development of new technologies and innovation;
- Promoting the use of alternative fuels;
- Project engagement as a partnership;
- Participation in Italy-Croatia, Italy-Slovenia programmes;
- Participation in Adriatic-Ionian programme;
- Horizon 2020 and funding programmes.

**Environmental Issues:**

- Ambition to be seen as best practice in terms of substitution for fossil fuels.

Further discussion on the environmental consequences of port expansion was discussed as an issue for the regulatory authorities. **This unresolved issue of reducing environmental impact, and the potential for the development of environmental technologies are worth further discussion as part of the case study.**

**Other issues**

NAPA currently rotates the chair and shares secretariat duties between them. A challenge for the future is to establish a permanent secretariat.

**DITENAVE future strategy to:**

- Reduce emissions;
- Enlarge the cluster model within the space.

***PoliMAT***

- See enormous potential for technological collaboration, particularly the development of innovative responses to environmental issues and the development of clean technologies for both ports and ships;
- Considerable potential to widen the cluster (NAPA) to wider community;
- Previous cluster initiatives in other sectors have failed because of the lack of engagement by companies;
- Training has a key role to play in the future of clusters.

*Role of Local & Regional Government*

**National & Regional Collaboration**

Inter-ministerial technical meetings for future cooperation activity between Slovenia, Italy and Croatia will be held in 2014. Key areas for discussion include transportation, energy and ports. Support for NAPA will play a key role in the discussion.

These meetings are seen by NAPA as an important response by governments to create an 'enabling environment' for their development.

**Further details of this inter-ministerial collaboration have been requested.**

#### *Challenges/opportunities to discuss in the governance focus group in Brussels*

1. The **importance of engaging private enterprises** beyond the initial 'start-up', project-funded phase;
2. The **role of national and regional governments** in creating an enabling environment for clusters at both local and strategic levels – national, trans-boundary, Europe-wide;
3. **Maximizing the added value** and spin-offs to the local economy;
4. The **environmental impacts of clusters**: collaborating to minimise effects, reduced costs in amelioration, and to exploit the potential of clean technologies.

#### **Focus Group Session 3. Bringing about change**

Session led by **Mateja Dermastia of the PoliMaT** Centre of Excellence, Slovenia based on experience of (non-maritime) clusters.

#### *What are the crucial elements to be addressed to bring about change?*

1. **Broaden the agenda** from an individual partner agenda to a 'cluster agenda'. Leadership is the key to this. Cluster success can often be traced back to the role of a leader who can develop a common agenda and drive it forward. This is a particular challenge for NAPA, which sees itself as a 'democratic' cluster, rotating the chair and sharing secretariat functions;
2. **Leadership** is required to fully exploit the potential and opportunities provided by clusters such as the development of new technologies;
3. How to realize opportunities within the private sector: i.e. **clusters need a Business Plan, not just a strategic plan** or just 'collecting' companies, along with the:
  - I. A benchmarking plan;
  - II. Identification of **key opportunities for the cluster** (which may be much broader than the original cluster objectives);
4. Clusters as part of wider economic transformation:
  - I. In the regional **transition** of ports and coastal areas as declining centres of manufacturing to growing specialist logistics centres to link wider markets and industrial centres far inland;
  - II. In **'adding value'** to the local economy;
  - III. In becoming better **'market-orientated'** - as part of wider marketization, particularly as ports are some of the last-surviving public bodies operating in a commercial environment, and are likely to become increasingly operated as private companies. Within NAPA only Koper currently operates as a part private company. NAPA members have already been studying private port operation in the UK.

*Tension on the benefits of cluster development to individual member's vs that benefits to the wider community;*
5. **Leadership is key to managing change** – this is a logistical issue: i.e. Who does it? How is it resourced?;
6. **Share Best Practice** – do not reinvent the wheel;
7. **Positive government responses are crucial** – to provide that 'enabling environment' as discussed above;
8. Experience from DITENAVE – **"it takes time"** for companies to learn to work together, to work with universities. Taken 10 years to build structure for innovation, for continuous learning. Issue is how to take *existing* enterprises and put them together in such a way to increase competitiveness.

### *Suggestions to discuss in the governance focus group in Brussels*

1. Leadership – how can clusters develop a strong leadership yet retain their democratic structure?
2. How can clusters move from institutional-led to an enterprise-led structure? In order to secure long-term sustainability, clusters must attract private sector membership and funding?
3. What is the role of governmental institutions in creating an ‘enabling environment’ for clusters?
4. What role can maritime economic clusters play in supporting the sustainable development of coastal and marine areas through clean technologies and innovative environmental management?

## **2 Piraeus**

### **Introduction**

The focus group was hosted in the Club House "Kostis Palamas" Building of the National & Kapodistrian University of Athens. The focus group theme was ‘How to Strengthen the Competitiveness of the Maritime Cluster of Piraeus: Challenges for the Transition to a New Phase’ and included key representatives from the maritime sectors of Piraeus. There were 14 attendees. A full list is provided as a separate section at the end of this Annex.

### *Discussion*

**Vali Lampridi**, the moderator, welcomed the delegates and provided a brief presentation of the project. She introduced the aim and objectives of the meeting, outlined the format of the discussion and introduced the participants. The key points of the discussion are presented below. Concluding the discussion **Christos Theophilou** of DG MARE provided a brief presentation of the Commission’s perspective and link to the Blue Growth agenda and **Agni Spilioti** of the Greek General Secretariat of Research and Development (GSRT) briefly outlined the framework of innovative clusters supported by the GSRT. After the completion of the discussion, a survey conducted by one of the participants (Prof. A. Pardali) among Piraeus shipping companies was presented, investigating the same more or less topics.

### **Focus Group Session 1. Test findings**

#### *Study Findings - The Piraeus Cluster Presentation*

An abstract of the study’s key findings regarding the characteristics of Piraeus cluster has been circulated together with the agenda 10 days before the meeting.

#### *Ratification of findings and additional information*

The summary of participants’ responses is presented below:

- **Lack of a governance body:** though all participants agreed in this self-evident finding, a debate was triggered on whether Piraeus can be considered as a cluster, as the lack of governance body coexists with a lack of common vision, common strategy etc. It was though agreed that Piraeus complies with all the characteristics of Porter’s diamond analysis;
- **Place based:** One of the participants (ship-owner) objected to this finding arguing that ship-owners came again to Piraeus during the 1950s because of the favourable tax and legal regime, so in this sense he would consider Piraeus as a ‘policy based’ cluster. Obviously there was a misunderstanding regarding the content of the notions of policy/place based clusters, which in a bilateral conversation with him was later clarified. It is though indicative of the difference in spatial dependency of the various maritime sectors, with deep-sea shipping being the most volatile among them;
- **Mature:** No participant actually expressed an opinion on that finding, most of them because they were not familiar with the cluster life cycle concept, though in the abstract there was an

explanation on that. One of them, the same person that denies the term cluster for Piraeus due to the lack of a governance body, argued that she cannot characterize mature something that according to her opinion is not a cluster. Empirical evidence though, showed that spatial concentration, rivalry, vertical and horizontal relationships and labour pool existed in Piraeus since the 1950's;

- **Employment:** The Study's calculations regarding private employment in the Piraeus cluster pointed to 37,000 jobs. This figure was not presented in the circulated abstract of study findings. It was just mentioned that the employment created by the cluster is substantial. Two different figures were mentioned during the discussion reflecting different approaches on what must be included as cluster employment. One was 30,000 jobs (quite close to the study's figure), another one was 100,000 jobs. This is a topic that needs further investigation during the elaboration of the case study;
- **Infrastructure:** In the study deficiencies in infrastructure were mentioned: focus group participants agreeing on this finding. Some evolutions have been mentioned in this regard;
- **Moderate scores on Innovation - not so strong cooperation with universities & research centres:** There was a consensus in the group regarding this finding, but there were different arguments as far as the cause of this characteristic was concerned, with stakeholders and universities on the opposite edges;
- **Small internal market - large external market potential:** the first finding is somehow self-evident, the second one was agreed by all participants, with some of them pointing out the need to add the transit transportation (with the necessary interventions in infrastructure), as opposed to transshipment transportation, in order to fully exploit the potentials of the large external market;
- **MEAs:** The five main activities identified by our study were deep-sea shipping, short-sea shipping, passengers, cruise tourism and fisheries. We detected an implicit 'surprise' regarding only the last one by one participant only. The fact that 50% of the national daily fish landings take place in Piraeus (actually in Keratsini, a bay just next to the main port of Piraeus), mentioned by the moderator, blocked any objections of fishing being included. But there is still an issue of whether all maritime sectors do develop synergies. The majority of the participants argued that the broader the range of sectors included the greater the efficiency, but some of them insisted that only shipping and port activities actually form a cluster;
- **High potentials of development:** Consensus on this finding, based on the robustness of Greek fleet, the new investment plan of Piraeus port authority, the presence of COSCO and the expressed interest of new key players, the increased trend of cruise tourism, the favourable geographical position of Piraeus.

## Focus Group Session 2: Future challenges and opportunities

### *Main strong points of Piraeus cluster*

Already one of the world's busiest passenger ports, in 2013 **Piraeus** became the Mediterranean's third largest container port. Main strong points:

- Proximity to Suez, the point of entry for Asian products to Europe;
- Greece has among the largest fleets in the world;
- The Greek shipping cluster consists of a large number of core firms and ancillary services;
- Recent port expansion with the car terminal and cruise terminal;
- The key maritime activities have a good reputation nationally and/or internationally;
- A highly skilled seafarer labour force, mainly captains and engineers, with a worldwide reputation. Much of the Greek fleet gigantism owes a lot to this invaluable resource. Additionally, highly skilled labour force in ship-repair sector;
- Know how on installation of Liquefied Natural Gas (LNG), exhaust scrubbers as well water ballast treatment systems.

### *Main weaknesses to overcome*

The following weaknesses identified:

- Low level of trust and lack of cooperative spirit among stakeholders. Greeks are characterized by a very strong individualism;
- Lack of vision and strategy for the next 5-10 years;
- Bureaucracy, lack of action or delays in action by the central government leads to lost opportunities for Piraeus cluster. Lack of state continuity (changing ministers change priorities);
- Despite a large number of supporting activities in the cluster, some deficiencies are identified such as the lack of naval justice and arbitration and the lack of protection and indemnity insurance companies based in Greece. Also the downturn of the shipbuilding sector affected the added value created by the cluster;
- A deterioration of the quality of maritime academies;
- Statist mind-set, that the State should do the first step in each initiative;
- Insufficient interconnection ports to terrestrial networks;
- Aging personnel in the ship-repair sector that slowly retires without transferring the know-how to the younger generations due to the stagnation of the works;
- Labour Unions block almost every initiative for change;
- Rather weak collaboration with the University of Piraeus and other Greek universities and Research Institutes.

### *Challenges- Threats imposed by changes in the international maritime environment*

The following challenges - threats identified:

- Signs of changing regime, identified by ship-owners, may lead shipping companies to move out;
- The recent Greek government-debt crisis led several banks to transfer their maritime specialized departments in London or Hamburg from Piraeus;
- Complex, inefficient, time-consuming procedures for approval, funding, project maturity (complex licensing system);
- Intense competition from other ports, especially in the Eastern Mediterranean, which have already launched international collaborations, operating or transit centres;
- Piraeus faces enormous competition from London and Singapore and Hong Kong as they are traditional maritime centres with long standing Institutional tradition and an attractive institutional framework;
- Greek shipping companies do not have access to EC R&D funds as they are considered as offshore companies. Norway (a non EU Member State) attracted significant amounts of R&D funds from the EC while Greek shipping companies could not because of the legal status of these companies.

### *Specifying Opportunities and Potentials for future development*

The following opportunities identified:

- Strengthening the role of Piraeus as 'gate' to the Balkans and Black Sea countries, through completion of infrastructure;
- The launch of three low cost international airlines in Athens airport in 2014 will create a favourable environment for Piraeus to become a hub cruise port;
- Open port to private firms with appropriate experience and position in the global market-place. South Korean multinational Samsung is the latest technology giant to examine the possibility of forwarding its products to the countries of Central and Eastern Europe through Piraeus port and Samsung has expressed "strong interest" in talks with China's COSCO;
- The new strict environmental regulations that require the incorporation of technologies such as LNG, exhaust scrubbers, water ballast treatment systems, create significant investment

- opportunities for the Naval Repairing Zone of Piraeus;
- No other alternatives for development (last chance). This has been addressed simultaneously as an opportunity and as a threat. The only route for Piraeus development is the sea and therefore maritime sectors and value chains added to them will be the steam engine of this development.

### **Focus Group Session 3: Bringing about change**

#### *What are the crucial elements to be addressed to bring about change?*

- A more holistic approach towards a vision that embraces all relevant actors;
- Innovative strategies and practices are a must for cluster's sustainability;
- A common agenda must be developed to fully exploit the potentials and opportunities provided in the cluster.

#### *Who will be the driving forces to implement the action plan?*

- **Make a first step.** A lot of discussion focused on who will make the first step towards a more formal cluster development in Piraeus. Participants highlighted the fact that the only solution is if a small number of visionary and active individuals 'take on their shoulders' the task and make the first step, others will join them sooner or later. This first step apparently can create a small revolution that will have multiplying effects and will act as a catalyst for others to join. Two best practices were described during the discussion, the one from SETE, the Association of Greek Tourism Enterprises, and the other from Coralia, the only formal cluster (and a successful one) in Greece in the microelectronics field. Both were the result of spontaneously activation of 4-5 people the former and 3 people the latter;
- **Leadership of the cluster.** The discussion revealed that the driving force must be the private sector, 'anything else will fail'. This outcome agrees with the results of the presented survey where respondents expressed the opinion that the leader and coordinator of the maritime cluster should be an independent authority of rather private nature.

#### *Necessary policies to enhance Piraeus cluster competitiveness based on Session 2 outcome*

The discussion revealed several policies that need urgently to be adopted in order to overcome the barriers for cluster development:

- Reduction of bureaucratic practices;
- Increasing cooperation between business operators as well as between private and public actors;
- Institutionalization of the cluster;
- Greater emphasis on knowledge and innovation.

#### *Supporting actions to ensure the feasibility of the suggested policies*

- More informal meetings, platforms to produce the facilitator-catalyst;
- Sharing of best practices.

#### *Suggestions to discuss in the governance focus group in Brussels*

Topics that explicitly or implicitly rose from the discussion as challenges/opportunities to discuss in the governance focus group in Brussels include:

- Leadership, overcoming the lack of cooperation culture;
- European Clusters Cooperation a tool for European economic integration and cohesion. Towards a more active European Network of Maritime clusters;
- Best practices on how universities can play a more active role in knowledge transfer;
- Which maritime sectors can really develop synergies? Are we talking about a maritime cluster or a network of sub-clusters of maritime sectors?

### 3 *Marine Cluster Bulgaria*

#### **Introduction**

The Focus Group was hosted in the Hotel "Golden Tulip Varna" in the city of Varna. The focus group included 9 key representatives from the maritime sector of Varna. A full list is provided as a separate section at the end of this Annex.

Each of the participants introduced herself/himself. The **representatives of the two clusters - "Marine Cluster Bulgaria" and "Cluster for Maritime professionals"** presented the history of the cluster development, its members and main activities. It should be pointed out that the Cluster for Maritime professionals started actively working in May 2013. The **representative of the Varna Municipality** welcomed the participants and added that the municipality will put all efforts to support the business activities and will try to adequately react to the needs of the business in the region.

#### *Discussion*

**Radostina Tsvetanova**, the moderator, welcomed the delegates and provided a brief presentation of the project. She introduced the aim and objectives of the meeting, outlined the format of the discussion and introduced the participants. The key points of the discussion are presented below. She then gave the floor to the **Svetoslav Stoyanov**, representative of DG MARE, to provide a brief presentation of the Commission's perspective and link to the Blue Growth agenda as well as to present the objectives and the expected results from the European Commission.

#### **Focus Group Session 1. Test findings of the clusters' analysis**

##### *Study Findings – Status of Black Sea Cluster (Bulgaria) Presentation*

An abstract of the study's key findings regarding the characteristics of 3 Bulgarian Clusters (Maritime Cluster, Energy Cluster and Professionals Cluster) has been presented to the participants in the meeting.

##### *Ratification of findings and additional information*

The summary of participants' responses is presented below.

##### *Status of the Black Sea clusters (Bulgaria):*

The participants said that they agree with the findings and the results of the clusters' analysis for the status of the three clusters in Bulgaria. The main topic which caused intensive discussion was the influence of the clusters over public sector behaviour.

Influence on the public sector is one of the main problems for the clusters, as well as the popularisation and promotion of the cluster activities – an unknown topic in Bulgaria. Cluster representatives agreed on this conclusion and pointed out that in Bulgaria the shipping industry and everything related to the sea is not a high priority. They said that the clusters don't have influence over the public sector behaviour.

It was admitted that also the cluster themselves are not so active in presenting themselves to the public. Nevertheless, in the last year they undertook more initiatives to promote their activities. But this is not the popularisation which is the main problem for the clusters development. There are other factors with bigger influence which stumble cluster development. In the last year through the Cluster Association, the clusters started to work together with the public administration.

The participants agreed on the fact that there is no strategic national document regarding cluster development and that there is a lack of focus and direction of cluster policy in Bulgaria.

The Municipality of Varna raised the issue that Varna is one of the few towns of Europe which has no ownership of the city port, which in Bulgaria is managed and owned by the central state administration, with the municipality having no influence over the port development. The local authority is nevertheless engaged in cluster support and this theme is included in the Strategy for Municipal Development of Varna 2014-2020.

#### *Overview of key economic actors*

Large enterprises are indirectly members of clusters through the associations which are the direct members of the clusters. It was explained by the Ecorys Team that the estimated direct jobs are calculated on the basis of the information provided by the telephone interviews and the available data in the APIS Register (database for companies).

#### *Level of R&D*

There was short talk on how it is possible to stimulate clusters to increase investments in R&D activities.

#### *Clusters leadership.*

One of the main points mentioned is that the level of engagement of public bodies depends also from the personal contacts of the cluster management body as well as from the cluster's core activities. For example, the Energy cluster has the highest level of public body engagement but this is determined by their work in the energy sector which is mainly regulated and managed by public institutions.

#### *Supporting Cluster – specific activities.*

The discussion ended with the remark that the development of a cluster very much depends from the qualification, the motivation and the strategic management skills of the cluster management body. Participants agreed that this is essential for the successful development of every organisation and that training for the management staff is needed.

### **Focus Group Session 2: Future challenges and opportunities**

The opportunities and challenges identified by the participants are presented in the table below.

<b>Challenges/National</b>	<b>Opportunities/National</b>
Lack of investments and limits to co-financing opportunities	EU level funding programs and own resources. Cooperation with similar entities from Romania, Turkey, Ukraine.
Need of a promoter in the cluster (driving force), notably for innovation projects	Relation between companies and R&D institutions – dialogue, common projects.
Global financial crisis (40% drop in some sectors related to maritime industry, job cuts)	Highly skilled and competitive maritime personnel
Weak economy performance (low demand and supply)	Potential for development of container transport in the Port of Varna.
<b>Lack of a national development strategy for the maritime sector.</b> No clear vision from the central state regarding maritime development. No coordination among institutions – Ministry of Transport, Ministry of Economy, Ministry of Education. Maritime sector is not among priority sectors of the Ministry of Economy and Energy.	Recently, clusters established dialogue with the Ministry of Economy and Energy.

Challenges/National	Opportunities/National
Difficulties with the Managing Authorities (i.e. Ministry of Economy and Energy – OP Competitiveness) of National Operational Programmes, when applying for public funding (no formal regulation on cluster definition; lack of common understanding of what a cluster is, no relation between clear strategy, criteria and focus of funding).	
Lack of cluster policy and cluster development strategy – no acknowledgement of clusters. Lack of objective criteria in evaluation of cluster projects.	
Poor port management (lack of port development). Port management is too centralized – no local decisions. Varna and Burgas ports are not included in major transport corridors. The second Danube bridge construction hinders the port development.	
Tourism development problems – active season is short (4 months at the most). No information available on consumers demands in maritime tourism.	Seaside maritime tourism development potential in cooperation with neighbouring countries.

### Focus Group Session 3: Bringing about change

#### SUPPORT ACTIONS

Theme	Problems/Challenges	Support action needed
<b>INFORMATION</b>	Lack of information on clusters at national and local level	<ul style="list-style-type: none"> <li>• Provision of resources</li> <li>• European network of business info centres</li> </ul>
<b>STATISTICS</b>	Lack of statistics on maritime industries and professions	<ul style="list-style-type: none"> <li>• Provide services for maritime activities and strategy for maritime sector development</li> </ul>
<b>RECOGNITION/VISIBILITY</b>	Cluster development is not acknowledged as a priority of the state policy.	<ul style="list-style-type: none"> <li>• Promotion, recognition, visibility of clusters</li> <li>• Legal definition of clusters as entity</li> </ul>
<b>GOOD PRACTICES/ LINK WITH OTHER COUNTRIES</b>	Need of support for clusters to participate in international forums	<ul style="list-style-type: none"> <li>• Support for clusters for participation in international initiatives</li> <li>• Good practices of cluster support policies from other countries</li> </ul>

#### MESSAGE TO THE EUROPEAN COMMISSION:

To support and assist national government to acknowledge the importance of and to develop strategy of the maritime sector with the participation of all stakeholders, especially the business sector:

- Support for National Maritime Strategy development;
- Acknowledge the existence of maritime clusters and industry at national level;
- Support for establishment of policy framework which will allow the clusters to operate.

21st February 2014

### Introduction

The focus group was hosted in the premises of the Pôle Mer Méditerranée in La Seyne-sur-Mer in a round-table format. A total of 16 participants attended the event, including representatives of the Pôle, the province, the region as well as invited participants from the Moroccan maritime world including from the Tanger-Med Port Authority as well as from the IMP Med project. A full list of participants is provided as a separate section at the end of this Annex.

### Discussion

**Patrick Baraona**, Director of Pôle Mer Méditerranée welcomed the participants and briefly introduced the French maritime cluster (see below). **Luca Marangoni** of DG MARE provided a brief presentation of the Commission's perspective and link to the Blue Growth agenda. **Jan Maarten de Vet** introduced the aims and objectives of the meeting and the broad timeline of the study. **Isabelle Lesprit** briefly presented ACRI-IN, member of the Pôle Mer Méditerranée, an SME of 22 people working in the areas of coastal management and coast protection. She stressed the importance of both the national and the international markets, with ACRI-IN having a subsidiary in Lebanon as well as collaboration projects with Morocco, Algeria, Congo and Gabon.

**Guy Vignals** offered a presentation of the province of Toulon and of its maritime dimension. He stressed the importance of creating synergies among the maritime economic activities and of maritime special planning, for all the actors to be able to benefit from the potentials coming from the sea. **Eve Garry** provided an overview of the different instruments used by the Pôle Mer Méditerranée for international and cross-border projects. **Guillaume Huet** stressed the role that the French region Province-Alpes-Côtes d'Azur (PACA) plays in implementing the maritime policy, accompanying businesses and clusters and developing a regional strategy for the sea and the coastlines. He also introduced the MED transnational cooperation programme, as well as the IEVPmed instrument.

**Marc Abeille** highlighted the technical assistance that the EU project IMP-Med offers to the southern neighbourhood states of the Mediterranean. **Mohamed Chagdali** emphasized the role that the *Société marocaine des sciences maritime et portuaire* plays in supporting training in the maritime sector. He stressed the importance for Morocco of matching the maritime sector needs with professional skills. **Hassan Abkari** presented the integrated project of the Tanger-Med port, while stressing the following issues:

- Need to recognize the potential of maritime economic activities;
- The concept of clusters as a means to stimulate dynamics and innovation;
- The role of national and European policies and programmes;
- The importance of maritime spatial planning;
- The role of enterprises and the need to connect the different markets;
- The strategic importance of training and education in the maritime sector.

### Presentation of Pôle Mer Méditerranée

#### *Policy diversification*

Since its creation in 2005, the Pôle Mer Méditerranée has been focusing on six maritime economic activities, combining both traditional and emerging economic activities:

- Ports, infrastructure and maritime transport;
- Maritime security and safety;
- Ships and nautical industry;
- Marine energy and mineral resources;

- Marine biological resources;
- Environment and coastal management.

### *Governance*

In order to boost French industrial competitiveness, the 2005 Finance Act has introduced the concept of 'competitiveness clusters'. The main objective of such national cluster policy was to make the French economy more competitive, fight against relocations, and create jobs and private-public synergies. After a specific public tender launched between 2004 and 2005, 66 out of 105 cluster projects were retained. Out of these, two cluster projects specifically addressed the maritime sector: the Pôle Mer PACA (today, Pôle Mer Méditerranée) and the Pôle Mer Bretagne.

Local roots with global aspirations: as other competitiveness clusters, the Pôle Mer Méditerranée is the result of a local initiative aiming at stimulating traditional territorial specializations and boosting traditional maritime economic activities (ship building, ship maintenance, reconversion, ship repair). Through innovation the cluster supports the re-qualification of mature activities and thus the creation of added value along traditional maritime value chains.

In July 2005, the Pôle Mer Méditerranée has been awarded the label of 'pôle à vocation mondiale', therefore stressing the aim to further develop international, transnational and cross-border synergies. This is done by supporting businesses and particularly SMEs in different forms, such as: organisation of export missions, participation in international fairs, grouping of complementary businesses around the same export project or investment. Indeed, the Pôle Mer Méditerranée looks first and foremost at partners in the Mediterranean sea-basin. However, it also teams up with the Pôle Mer Bretagne to reach a higher critical mass, to prevent overlaps and engage in projects beyond the European level.

### **Focus Group Session 1: Testing Findings**

#### *Ratification of findings and additional information*

#### **The Pôle Mer Méditerranée reaction to the study findings regarding their cluster:**

The presentation has mirrored the hybrid form of the Pôle Mer Méditerranée, which can be considered as both a policy-based cluster and a place-based cluster.

A criterion which has not emerged from the presentation is the geographic extension of the cluster, which goes beyond the PACA region.

Indeed, the cluster has opted for the diversification of activities, including both mature and innovative ones. Innovation is fundamental to provide mature maritime economic activities with new dynamism, to qualify them and place them within an industrial value chain.

To enable maritime economic development, there is a need to provide an integrated economic offer by placing the marine territory at its centre.

Clusters are a means to bring business, training and research together. The example of Tanger shows that the creation of a cluster was not possible due to the primary need to create an organisational frame into which synergies could be pulled together.

A strategy to better direct initiatives and investments towards promising projects would be to allow for the combination of INTERREG and the Social Fund financing mechanisms.

#### *Key issues arising from session*

1. How to measure the added value to the local economy of a cluster?;

2. The importance of maritime spatial planning;
3. The fundamental role of education and training to match the maritime sector's needs;
4. The role of innovation to boost mature maritime economic activities.

### **Focus Group Session 2: Future challenges and opportunities**

International competitiveness, providing job opportunities, and sustainable development concepts were seen as the overarching challenges for all. More specifically, training, qualified skills and access to the job market have been identified among the most critical challenges which maritime clusters and, in general, maritime territories have to address.

#### **What is needed to overcome such challenges?**

- Support from public actors, notably to accompany business initiatives and especially those focusing on SMEs;
- The issue of employment and qualifications should be focused on activities in which there is still room for enhanced competitiveness vis-à-vis other global actors. For instance, it would not be wise to invest in employment in shipbuilding as such. Instead, those activities and competencies linked to shipbuilding can be transformed and contribute to the creation of added value along the value chain;
- A need to focus on real competitiveness factors such as proximity to maritime resources and the strategic geographical positioning of Mediterranean countries. This contributes to greater efficiency in logistics and services;
- Promote exchanges among students and business professionals;
- A need to connect and integrate existing maritime value chains to overcome common issues such as the seasonal nature of some activities (i.e. yachting maintenance, ship repairing) and the dependence from few work providers;
- Create, implement and preserve innovative value chains (i.e. ocean renewable energy);
- Respect environmental constraints.

#### **Trans-boundary cooperation**

Cooperation among maritime clusters and with other organisations and countries is to be favoured. However, it would not be wise to develop business-to-business cooperation in areas where competition is high. Areas where cooperation should be favoured are:

- Training and education, through the link with education institutes and university as well as through the signing of cooperation agreements;
- Technological transfer between Europe and its southern neighbours. By doing so, European businesses could ensure their future existence in the medium and long term;
- The development of local competences in neighbouring countries which could serve as relay to Europe;
- Benchmark good and negative practices.

Key issues arising from session:

1. Make use of, develop and adapt competencies when building a maritime cluster;
2. The importance of capturing and developing such competencies for a broad set of other maritime economic activities;
3. Make best use of existing infrastructures and local endowments;
4. Privilege trans-boundary (especially transnational and international) cooperation around training, skills and technology.

### **Focus Group Session 3: Bringing about change**

#### *Concrete cooperation initiatives*

- Anchor the southern neighbours to the financing instruments supporting for the development of

maritime routes.

- Reflect upon the development of a Mediterranean maritime route, for instance Toulon-Tanger;
- Identify business partners in southern countries for accompanying European businesses in export projects, missions and reception of foreign delegations. One starting point to do so would be to observe the value chains and identify complementarities;
- Develop cooperation programmes to promote the creation of consortia, work packages and shared objectives;
- Organise events to share ideas and further explore common interests;
- Networking of maritime training and education institutes across the Mediterranean.

#### *Key issues arising from session*

1. Development of a free area between the two sides of the Mediterranean;
2. Consider the development of a Western Mediterranean sea-basin strategy, which takes full account of the potential and the specificities of the sea-basin;
3. Cooperation can find a fertile ground in research areas;
4. Work on the complementarities along the value chains;
5. Promote initiatives to bring together regions facing similar issues (i.e. Industrie Maritime pour la Croissance Bleue, run by the Pays de la Loire region);
6. Encourage exchanges through the organisation of events;
7. Promote Blue Growth synergies across policies (EU, national, regional), maritime economic activities, key actors (maritime clusters, businesses, training institutes);
8. Consider the development of a label for maritime EU clusters;
9. Promote inter-clustering initiatives with other parts of the world;
10. Promote the cooperation and the networking of education and training institutes.

## **5 IDIMAR**

### **Introduction**

14 people participated in the IDIMAR focus group. It's important to note the representativeness of the group which was made up by participants from the public administration, private companies, education and research institutions and associations. A full list of participants is provided as a separate section at the end of this Annex.

### *Discussion*

The focus group was held in the ParcBit technological where IDIMAR is located. At this point, it is important to mention the active role and support received from IDIMAR in the organization and preparation of the focus group. A presentation was prepared for each of the parts, with an overview of the study and its preliminary results. Presentations prepared for the other sessions included the questions and topics to be discussed. The questions and themes to be discussed were provided to participants beforehand in order to give them the opportunity to prepare themselves for the focus group. Javier Fernández moderated the debate and encouraged all participants to interact with each other. It was a very participative focus group and all participants' interventions turned out to be relevant and with added value for the case study.

### **Session 1: Test findings**

The objective of the first session was to obtain a general picture of IDIMAR at present time. Having a clear understanding of the current situation of the cluster is key to identify the challenges and opportunities of IDIMAR. This first session also permitted to ratify the preliminary findings and conclusions from the previous phases of the study.

### *Main element of consensus emerging on the presented findings*

The main elements of consensus are presented below:

- **IDIMAR – mission and objectives:** IDIMAR is a cluster focused on the promotion of the innovation in the sailing and nautical sector in the Balearic Islands;
- **Governance and actors in the cluster:** The initiative of creating the IDIMAR cluster derives from a private initiative based on public recommendation. More specifically, the Science and Technology plan 2009-2012 of the Balearic government identified a series of sectors for the development of clusters, among which the maritime sector;
- **Main cluster Maritime Economic Activities:** IDIMAR focused on the sailing and nautical-related activities. The Balearic Islands in general and IDIMAR in particular consider themselves as a pole of excellence in all aspects referring to the *man's relationship with the sea to generate business activity related to tourism*. “The Balearic Islands are the ‘Hollywood’ of the sailing and nautical sector”. Andy Halcón (PortBooker). Both the international and local demand of this industry is very high. The Mediterranean accounts for over 70% of global nautical tourism and the Balearic Islands attract around 25% of this percentage. There is also a local strong tradition of sailing and nautical sports in the region;
- The **potential for future development in the nautical and sailing industry is very high**. Moreover, this sector is seen as a transversal sector with a number of spill-overs and value-added activities such as other nautical sports and coastal tourism activities, also with a high potential of growth;
- IDIMAR and the region have important assets and **competitive advantages of IDIMAR** related with its strategic location and well-preserved natural environment, an important number of tourists and visitors, their knowledge, innovation and technology centres and other socio-cultural and intangibles assets.

### *Ratification of findings and additional information*

IDIMAR was classified as a ‘growing’ and ‘policy-based’ cluster with an average future development potential. This was confirmed during the focus group.

### *Key points of conclusion*

The focus group participants agreed on the uniqueness and important competitive advantages of the Balearic Islands to develop the nautical and sailing sector. There was also unanimity on the fact that the local and international demand of nautical and sailing services is very high and well consolidated.

## **Session 2: Future challenges and opportunities**

The objective of session 2 was to identify the main challenges and opportunities of IDIMAR in order to analyse its potential for future development. With this purpose, each participant was asked to name the 3 most relevant challenges and opportunities. After the discussion, the focus group agreed on the limited numbers of challenges and opportunities that are described below.

### *Challenges emerged from the discussion*

The participants in the focus group identified the following challenges:

- A disperse sector with a limited cooperation culture;
- The lack of a clear and straight-forward regulatory framework;
- Lack of sufficient funding to carry out innovation and RTD projects in the sector;
- Low levels of public private cooperation or PPPs;
- The education system needs to be further adapted to the needs of the sector and the market;
- The working relationship between the existing research institutes and the business community needs to be improved;
- Clear grounds for improvement in the relationship between the public authorities, the academy

and the private sector.

#### *Opportunities emerged from the discussion*

The participants to the focus group identified the following opportunities:

- Over 13 million visitors every year;
- Profit from the international character of the Balearic Islands;
- Very refuted and experienced port authorities;
- Some of the companies based in the region are leaders in certain nautical market segments;
- Profit from the nautical international events that happen throughout the year in the Balearic Islands;
- Existence of well-developed knowledge centres or research centres;
- Profit from the strategic geographical situation for nautical and sailing activities of the region;
- Lessons learnt from good practices developed by top firms in the hotel and accommodation sector;
- Growth potential of the cruise industry in the region.

#### *Key points of conclusion*

- Up to 7 challenges and 9 opportunities were identified in the framework of the focus group
- From these challenges and opportunities, there was consensus on the large potential growth of the sector and the IDIMAR cluster in the midterm.
- This potential growth will nevertheless be conditioned by three main issues:
  - a. A clearer and more accessible regulatory framework to make operations easier to carry out and to facilitate future investments in the sector;
  - b. Counterbalance the development of the sector with a very high respect to the environment, which is precisely the most prominent 'selling point' of the region;
  - c. Existence of an adequate work force that will bring excellence standards to the newly created services and products in the nautical and leisure sector.

#### *Challenges/opportunities to discuss in the governance Focus Group in Brussels*

1. The role of the public authorities, research centres and the business community in the development of the cluster;
2. The existence of a far too complex regulatory framework that sometimes presents some discrepancies can jeopardise operations and future investments in the sector;
3. Education, LLL and academia in the nautical and leisure industry.

#### **Session 3: Bringing about change**

##### *Elements to be addressed to bring change (e.g. lack of knowledge, access to finance, better governance, infrastructures, access to good practices)*

The session started with a brief presentation summarizing the main challenges and opportunities emerging from Session 2 discussions.

Participants were asked to formulate recommendations and policy actions that could be implemented to overcome those identified challenges and to profit at a maximum extent from the opportunities that could bring potential growth for the sector and the cluster:

1. Fiscal incentives for innovative based activities are necessary, at least at the embryonic stages of the project ideas and initiatives;
2. Existence of funding opportunities coming from the public sector;
3. Facilitate public private partnerships as the main way forward to bring innovation and excellence to the sector;
4. The draft RIS3 2014-2020 for the Balearic Islands, that will feed into the Priority Axis 1 on Innovation of the ERDF OP 2014-2020 does not prioritize the sea and the maritime economic

- activities, as it should have been expected;
5. Land a flagship Project in the region. A project that will bring visibility to the cluster and to the sector, making more attractive the participation in the cluster and also showing the actual benefits that bring innovation to the nautical sectors could eventually bring;
  6. Facilitate and encourage the entrance of business angels and risk capital funds in the sector;
  7. Create a reference pole between the clusters of Valencia, Catalonia, Balearic Islands, southern France and Western Italy on education and training on sea related careers (especially in the domain of nautical and leisure services);
  8. Create an integrated Mediterranean cluster structure to bring together all those associations that are working in the same field in the Mediterranean sea;
  9. Continue organising thematic seminars, conferences and exchanges in the field of innovation in the nautical and leisure services;
  10. Finally, and as a way of conclusion on concrete measures to bring about change, it was widely accepted that for the future of the cluster and of the sector, the most prominent role must be taken by the private sector. Entrepreneurs are the ones to lead the way and come up with new ideas to boost activity and innovation to the sector.

#### *Key and final messages emerging from the discussion*

In the final part of the focus group the participants were asked to provide final and key messages to the European Commission. The main messages were:

1. There is a lot of work to do in the field of innovation. In this sense, cooperation is key for improving the R&D standards of the nautical and sailing sector of the Balearic Islands. However, most of the participants agreed that some kind of funding support provided by the EU (also by the national and regional government) is required to improve and speed up the innovation process;
2. The participants to the focus group have the impression that the 'hard and traditional Blue economy sectors' lead by the northern European countries (shipbuilding, fishery, maritime transport...) have a higher weight than the 'soft maritime sectors' (coastal tourism, yachting, marinas, cruise industries in the which are more important in the southern countries) in the European Blue Agenda of the European Union;
3. Highly related with the previous message, the IDIMAR representatives suggested that the Balearic Islands could eventually be a good location to establish a European Agency to promote the nautical and coastal tourism (as it has been done in Galicia with the European Fisheries Control Agency - EFCA);
4. There was also a common request by the participants to harmonize and simplify the complex legislative environment. As already said before, the companies operating in the sector have to comply with regulation coming from 7 different levels of government that sometimes, according to the participants, are contradictory;  
*"With my car and my driving license I can travel around the whole Europe. Why cannot I do the same with my boat?"* Andy Halcón (PortBooker);
5. Finally, focus group participants claimed for a more fluent and smoother communication and relation with the European institutions.

## **6** *AgroBioFishing*

### **Introduction**

The focus group involved the AgroBiFishing research cluster (*'disretto tecnologico'*) based in Palermo and was held at the Palermo University premises, with the active participation of a variety of actors representing research institutions (University of Palermo, National Research Council), public administrations (Region of Palermo) and private entities (SME and workers in the fisheries sector). The research sector, hosting the focus group and leading the cluster, was particularly

active in terms of participation. The cluster is mainly active on non-maritime activities, but two out of six research projects are currently focussing on innovation in fishing and aquaculture. A full list of participants is provided as a separate section at the end of this Annex.

### *Discussion*

Before starting the discussion, each participant introduced himself by presenting the main activities of his organisation, its relation to the cluster, as well as a first key message/expectation to be taken into account in the development of the focus group. **Matteo Bocci** and **Valentina Patrini**, from Ecorys, opened the session with a presentation of the focus group objectives and a brief overview of the main findings from the background paper, to be tested in this framework.

**Mario Enea**, President of the Cluster, welcomed the invitees and presented the main characteristics and aims of the cluster and the sectors in which it operates. **Giuseppe Sanfilippo**, CEO of the cluster, complemented the presentation made by Mr. Enea with more specific information on the origins of the cluster, its structure, the typologies of actors involved and the legislative framework. **Dario Tornabene**, from the Programming Unit of the Region of Sicily, briefly explained the legislative and regulation framework related to the creation and functioning of clusters in the region. **Gianluca Fortino**, Quality Manager and R&D Coordinator of Acqua Azzurra S.p.A., presented the profile of this private company operating in the cluster and highlighted the added value deriving from the cooperation with the research sector.

**Antonio Mazzola**, Director of the Department of Earth and Sea Sciences (DiSTeM) of the University of Palermo, **Andrea Santulli**, Aquaculture expert of the University of Palermo and **Antonio Manganaro**, Aquaculture expert of the Department of Biological and Environmental Sciences of the University of Messina, highlighted some first information and specificities related to the research activities in the sector of aquaculture and the relation between the research actors and the private sector. **Marco Tramati**, Shipmaster, presented some first concerns on the need to take into account the local and territorial specificities for the development and regulation of the maritime economic activities on a national and EU scale. **Angelo La Mantia**, President of the “Consorzio di Gestione della pesca - Golfo di Termine Imerese”, **Salvatore Mazzola**, Director of the Institute for Coastal Marine Environment (IAMC) - National Research Council (CNR) and **Gualtiero Basilone**, Researcher in the same Institute, made a first reflection on the typologies of actors operating and competing in the maritime field in this part of the Mediterranean Sea.

### **Focus Group Session 1: Test Findings**

#### *Main element of consensus emerging on the presented findings*

Status of the cluster:

- The cluster has a maritime focus, but it is not exclusively a maritime cluster. It also develops other research and activities related to other agro-food sectors and products. Overall, maritime-related activities are quite relevant;
- Increasing commitment and participation of the private sector (interest shown also by an international company based in the Netherlands);
- Currently implementing 6 projects with EU financing, 2 of which have a maritime focus.

Main economic actors:

- The dialogue between research and private sectors has increased throughout the programming periods, with an increasing importance and recognition of the “distretto” (cluster) as a legal entity, since the 2007-2013 period;
- Increasing commitment of private companies in the cluster, which is seen as a strength and as a differentiating feature with respect to other ‘technological clusters’, normally characterized by a strong relevance and interest from the public sector.

Main maritime economic activities:

- Relevance of fishery, aquaculture and the agro-food sector;
- Applied and theoretical research starting from the private sector's demand;
- Exports represent the most dynamic and innovative part of these maritime activities.

Level of R&D investment:

- R&D is one of the pillars of the cluster, with a special relevance of innovative and experimental R&D activities enhancing the technological transfer between research actors and private companies.

Leadership in the cluster:

- Evolution and changes in the leadership of the cluster over time: in the initial phases, the cluster was promoted by the public sector and involved mainly research actors. If on one hand the research sector has maintained its central role in the development of the cluster, the importance and involvement of the public sector has gradually diminished, in parallel to an increasing role and participation of the private sector;
- The University of Palermo is mainly in charge of the governance of the cluster.

#### *Ratification of findings and additional information*

The status, activities and main characteristics of the cluster identified in previous research phases were confirmed.

#### *Key points of conclusion*

Importance of the development of applied research, starting from and taking into account the needs of the private and productive sector.

### **Focus Group Session 2: Future Challenges and Opportunities**

#### *Challenges emerged from the discussion*

- Despite the promotion made at regional level for the creation of the cluster, its actual foundation and launch took more than two years, due to strong administrative burdens, which still exist and hinder the smoothness of its activity;
- Participation of research actors is important, but a coordinated approach is lacking;
- Similarly, a lack of coordination between clusters at regional level is causing inefficiencies;
- Asymmetries exist with respect to the interests, collaboration and participation of research and private actors in the cluster, in terms of:
  - Time: the research sector operates in more diluted and broader timings with respect to the private sector and can more easily adapt to the 'slowness' and delays of financing;
  - Return of investments: researchers are more interested in the professional return (research career is mainly measured in terms of publications, while patenting and 'applied research' are not seen as equivalent to publications) while private companies seek an economic return; this is an important element and the cluster, after initial difficulties, has now put in place some protocols and agreements that allow clear identification of what can be disseminated and how for any research project;
  - Concreteness and usability of results: researchers are not necessarily interested in the actual/applied use of the research, whether enterprises need to ensure a tangible and measurable deliverable;
  - Publicity and communication: there is some relevant tension in the degree of use of the knowledge generated through the research, as researcher are prone to make the best dissemination of results, whilst businesses may need to protect results through property rights owned by the companies for commercial purposes (exclusivity rights);
  - Real/theoretical framework: companies need applied and market/product-oriented research, while the research sector needs to develop broader theoretical knowledge, not necessarily applicable or aiming to be applied in practice.
- Administrative and bureaucratic burdens (at all administrative levels) strongly hinder the

possibility to get financing in reasonable timescales – public funding for research is perceived as slow and not timely enough for the need of businesses (because the majority of enterprises are SMEs, the possibility to mobilise private funding is limited; the cluster is therefore mainly based on public funds and is not expected to gain greater private funding shares in the near future);

- A lack of coordination can be observed between the legal frameworks at different administrative levels. In fact, the national research regulations does not explicitly identify nor regulate clusters – but rather refers to ‘consortia of organisations’ – and is perceived as a limitation for their access to finance and implies cumbersome accounting requirements;
- Given the geographical position of the region, the collaboration with Libya, Tunisia, and Malta is fundamental, but it took at least 10 years to gain the necessary trust from Northern African actors operating in the research field, and often this cooperation is established on a case-by-case basis. A broader strategic alliance amongst all EU and non EU countries in the Central Mediterranean is seen as necessary for clusters and research bodies to identify areas for joint research initiatives, an option which in the current context is highly complicated, due to the large diversity of regulations, commercial priorities, and research needs across the sea-basin;
- Current differences existing between South-European and North-African countries’ regulations of maritime activities, implying unbalances in terms of competition and competitiveness of the countries, which results in different research needs amongst those;
- A recurring complaint is that of the lack of recognition perceived by the EU regulation in terms of the specificities of the Central Mediterranean ecosystem(s), when compared to the North EU basins. As a consequence, important barriers and restrictions imposed by the EU regulations are perceived as unfair and not enough tailored to the Mediterranean specificities, and resulting in unfair restrictions and limits for local economic and research potentials;
- Given most of the points above, the lack of a clear strategy on Central Mediterranean, as well as clear economic and research priorities in the context of maritime policy and Blue Growth, is therefore posing severe challenges to the local maritime economy.

#### *Opportunities emerged from the discussion*

- Potential role of the maritime economic activities over the total economic activities of the clusters. Regarding the development potentials and the expected trends, in the coming future these activities are expected to represent around 35% of the total economic activities developed by the cluster (20% aquaculture, with already existing involvement of the private sector; 10% fishery, with already existing involvement of the private sector; 5% transformation, with potential future involvement of the private sector);
- Importance to boost to innovation throughout the value chain in order to ensure a higher competitiveness of the cluster and its members. Here, maritime clusters can play a pivotal role in fostering innovation across the value chain in the local Blue Economy;
- Strong potential in the Sicilian region with respect to the production from aquaculture;
- The local character is one of the most prominent characteristics of the cluster, while its role and potential impact are much lower at an international level/EU scale;
- In terms of financing, the EU plays a fundamental role (for instance through Horizon 2020) for the cluster and the related research and the cluster intends to further exploit such potentials, possibly involving international research partners;
- After initial years aimed at identifying cooperation protocols amongst enterprises and researchers, there is an agreement now on how to identify joint research areas and how to best mitigate the ‘asymmetries’ identified as challenges above. This ensures a general confidence on the capacity of the cluster to grow and improve its efficiency and effectiveness.

#### *Challenges/opportunities to discuss in the governance focus group in Brussels*

- Relation between research and private actors (see above) and appropriate leadership;

- Need for a differentiation of the EU policy objectives, taking into account the geographical specificities of each sub-sea-basin and each regional context, as well as the existence of the neighbouring/North-African countries (i.e. specific sub-sea-basins EU strategies);
- Need for a higher support at regional and national level and for the recognition/harmonisation of clusters as legal entities able to get access to public funds: clusters activity should be supported and clusters should be recognised as eligible beneficiaries in public calls, programmes and initiatives;
- Higher cooperation between national and international research in order to better inform policy-makers and obtain a higher adaptation of policies to regional specificities.

### **Focus Group Session 2: Bringing About Change**

*Elements to be addressed to bring change (e.g. lack of knowledge, access to finance, better governance, infrastructures, access to good practices)*

- Geographical unbalances in terms of cooperation between actors around the Mediterranean. Non-homogeneous context for EU and non-EU Mediterranean countries, that creates unfair competition and hinders cooperation between actors and countries:
  - Geographical unbalances and important divide within the EU maritime policies, with a stronger role and influence of Northern EU countries;
  - Need to take into account the specificities of the Mediterranean sub-sea-basins, given the big differences existing between them in terms of available financial and natural resources, actors, strategies, supporting mechanisms, maritime economic activities, local needs;
- Need to face the increasing competition from non EU Mediterranean countries.

*Key recommendations emerging from the discussion (by relevant actors to be involved at the local/national and EU/International levels)*

- At EU level:
  - To develop policies/strategies/plans related to Central Mediterranean clusters, by putting together and covering the main common issues, such as: navigation, fishing, exploitation of resources, policy and management aspects,
  - To reduce administrative and bureaucratic burdens;
  - To introduce a certain relevance for basic research, and not 'just' applied research, as part of the research funding (e.g. ensuring that at least 10% of funds can be dedicated to basic research);
- At regional/national level, to promote:
  - Greater integration amongst relevant policies and coordination between maritime economic actors and clusters;
  - A higher alignment of the regional and national regulatory framework with the EU regulatory framework;
  - A higher attention to the territorial specificities, promoting cooperation between neighbouring countries;
- At research level, to pay a higher attention to the needs of the territory and find ways to assimilate applied research and patents to basic research and publications, when it comes to internal career path for researcher (in Academia mainly).

*Possible suggestions for good practices to be considered*

- European Territorial Cooperation Operational Programmes represents a positive tool and framework to foster cooperation between countries around the Mediterranean (see for instance the Italy-Malta Operational Programme).

*Suggestions to discuss in the governance focus group in Brussels*

- Need for further cluster policies?

- Which existing/potential EU initiatives could be used to support maritime clusters and maritime economic activities development?
- How to overtake the asymmetries that characterise research and private actors operating in the maritime sector?

## 7 Governance Focus Group

### Introduction

The Governance focus group was different from the previously presented focus groups, as it was not based on local clusters, but rather on the main findings of each previous local focus group. As such, it was hosted in the premises of Ecorys Brussels in a round-table format. A total of 15 participants attended the event, consisting of a unique mix of EU policy makers and practitioners. EC representatives came from DG MARE, DG RTD and DG ENTR. Local practitioners arrived from the sea-basins (Pôle Mer Méditerranée, Marine Cluster Bulgaria, IDIMAR, Friuli Venezia Giulia region) as well as cluster managers from other maritime regions (Bretagne, Västra Götalands region in Sweden). The format and agenda of this focus group therefore differs from the previous ones: three sessions were held to discuss challenges/opportunities for maritime clusters at the 'micro-level' (therefore within the cluster), 'meso-level' (at the broader regional/national/sea-basin level) and 'macro-level' (in relation to the support by the EU). A full list of participants is provided as a separate section at the end of this Annex.

### Discussion

**Jan Maarten de Vet** welcomed participants. **Matteo Bocci** introduced the aims and objectives of the meeting and the broad timeline of the study. **Luca Marangoni** of DG MARE provided a brief presentation of the Commission's perspective and linked it to its Blue Growth agenda. **Angel PUIG (IDIMAR)** set out the IDIMAR initiative, a Balearic cluster with focus on nautical tourism. **Luisa Poclén (Friuli-Veneto-Giulia region)** set out the relation between this region and the NAPA cluster.

**Wolfgang Hehn (DG ENTR)** referred to the long EC tradition to support shipbuilding and repair as well as more recently offshore, referred to the Leadership initiative and pointed out the need to find ground for cooperation in skills, training and research. **Nikos Pantalos (DG ENTR)** referred to the need to build on existing policies and tools, notably the EC Communication on World-class Clusters<sup>9</sup>. **Annamaria Zonno (DG RTD)** highlighted the former Regions of Knowledge initiative, and the opportunity to build on achievements through the new INTERREG Europe programme.

**Frédéric Suche (Régions Bretagne/Pays de la Loire/Poitou-Charentes)** emphasized the Atlantic Action Plan as an example of Smart Specialisation. **Floran Carré (Pôle Mer Méditerranée)** emphasised the fact that this maritime cluster organises its activities through six main sector pillars. **Anders Carlberg (Västra Götalands Region Cluster)** highlighted the importance of the IMP and referred to the development of the Swedish maritime cluster since 2006. **Ilze Soyanova (Marine Cluster Bulgaria)** highlighted the key activities taking place in and around Varna: ship repair, shipbrokers, shipping and two universities.

### Focus Group Session 1: Governance challenges at the Cluster-level

After a short introduction giving examples from the local focus groups held throughout the Mediterranean and the Black Sea, a number of video shots were displayed from the focus groups held in the sea-basins during the previous weeks. An open discussion between the focus group

<sup>9</sup> COM (2008)652 final/2 "Towards world-class clusters in the European Union: Implementing the broad-based innovation strategy"

participants then focused on the following key questions:

What is specific in the micro-level governance of maritime clusters compared to other clusters?

The triple helix approach (business, research and government) appears to be important for maritime clusters as well as for other clusters. Research centres can be essential, also for education purposes. They also tend to be more internationally organised. However, as became clear from the AgroBioFishing focus group video messages, aligning the interests of researchers with those from the private sector can be sometimes difficult.

A main challenge for maritime clusters is the lack of experience, as noted by IDIMAR – a challenge which extends to the management of innovation in Spain more broadly. This challenge was confirmed by the Varna representative, as such experience in Bulgaria is rare as well.

The Swedish experience was based on more public involvement; the rationale for public funding lies in the fact that cluster development is a longer term exercise, which cannot be only funded by the private sector which has a shorter term perspective. Typical for maritime clusters is its open nature, and absence of any 'walls' between vertical activities (opposed to traditional clusters which often have a strict sectorial outline).

Mr. Hehn emphasised the fact that clustering is about taking advantage of specific advantages. He stressed the importance of private leadership; as many of the public clusters set up earlier are no longer active or even existing. Mr. Carré then asked how cluster success can be defined. It was agreed that a public perspective leads to different answers (e.g. number of jobs created) than a private perspective (e.g. number of firms that have become a member or SMEs created).

A discussion then ensued about the dilemma between specialisation and a more diversified approach. IDIMAR is clearly focusing on nautical tourism, but recognises that once this strategic focus is established it can be extended to other activities along the value chain.

Mr. Hehn also emphasised the need to build critical mass, and participants agreed that such mass can be more difficult to find in maritime areas than elsewhere – hence a too specialised approach limits the ability to build critical mass. Indeed, it is for this reason that the Pôle Mer Méditerranée works deliberately with a broad set of 6 pillars, and seeking actively synergies among them. The Swedish Maritime Cluster experience confirmed that it is important to recognise the diversity of maritime activities, though all united by a maritime culture. This finding was confirmed by the Friuli Venezia Giulia region representative.

Do emerging/growing/mature clusters require different approaches? If yes, which and how can the transition be managed?

All participants agreed on the importance of building clusters gradually, and the need to do this on the basis of trust. Over time, bigger investments can be pooled – but only on a step-by-step basis.

To facilitate the set-up of a cluster specialisation on 1 or 2 core maritime economic activities (MEAs) is good, however when growing a cluster necessarily shall comprise a wider range of activities as well as MEAs (via spill-over effects). It was also stated that an initial impulse from the public side is needed, while when growing the cluster has to be sustained by the private sector.

Nikos Pantalos stressed the importance of a cluster organisation including a cluster manager, who can act as the face of the cluster.

Who should take the leadership amongst business, research, public bodies - and when/how?

Participants agreed that the public sector plays a more important role in the early stages, although the video material from Palermo demonstrated that this could also prevent private sector take-up. After all, setting up a new cluster entails a lot of risks, which are normally not taken by the private sector. However in subsequent stages, these risks become more manageable and the benefits of the cluster growth. The public sector remains important for developing the necessary infrastructure, however not necessarily for leading on it. The Pôle Mer Méditerranée works with a Board consisting of 26 members, from SMEs, research and chambers, with the government not being directly represented at Board level. IDIMAR is now a private entity, but based on public law.

Experiences and opinions depend on cultural backgrounds as well. The Swedish perspective led to an emphasis of the role of the public sector as typically the respective regional authority has the broadest perspective in terms of economic growth and benefits, while many other participants emphasised the essential role of private sector actors.

Whether led by the public or the private sector, all participants stressed that a cluster needs a formal cluster organisation (a legal body that represents the cluster) with preferably efficient lean management.

Mr. Pantalos also encouraged the use of the Cluster Observatory<sup>10</sup>, which provides a wealth of information. The consultants acknowledged the use of the Cluster Observatory in the broader study, but also pointed to some limitations for mapping maritime clusters. The related notion of cluster excellence leads to the need to promote the benchmarking clusters. Currently, over 500 clusters in Europe are considered excellent (bronze), while over 30 are considered gold. Some practitioners added that such benchmarking is also resource-intensive.

### **Focus Group Session 2: Governance challenges at the Regional/National/Sea Basin-level**

Again a short introduction giving examples and statements from the local focus groups held. The discussion shall be based on the following key questions:

How can trans-boundary collaboration in maritime clusters be facilitated? What can we learn from mainstream cluster policies?

Floran Carré (Pôle Mer Méditerranée) emphasised the fact that this maritime cluster has already collaborated with its French counterpart in Brittany from its inception. The cluster now also reaches out to Corsica and Languedoc-Rousillon regions.

Complementarities across value chains offer opportunities, especially for businesses. For example in the shipbuilding industry, it is noticeable that much manufacturing takes place in Northern Europe, while many of the ships (e.g. cruise ships) are sailing in the Mediterranean. Several cluster examples (including the Piraeus case) point to opportunities in ship repair and maintenance.

Participants agreed that business-to-business cooperation needs to focus on areas of common interest, for example international (non-EU) exhibits, export promotion, etc.

Most promising is considered cooperation in training and research fields.

Some clusters are also helping their members to obtain finance, by organising loans with banks.

What can be the role of sea-basin strategies (transnational level) vs. smart specialisation strategies (national/ regional level) in supporting maritime clusters?

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<sup>10</sup> [Http://www.clusterobservatory.eu/index.html](http://www.clusterobservatory.eu/index.html).

A coherent macro and meso-policy framework is vital for the development of maritime clusters (partly because it fosters relevant national policies). Smart specialisation strategies, as currently implemented under the Atlantic Action Plan, help much in the positioning of maritime clusters.

Such policies were felt to be missing in Bulgaria, where the national framework for maritime policy is not yet strongly developed – leaving actors on the ground in a vacuum. A similar absence was felt in the Balears, and even the Swedish representative confirmed that its national maritime policy is very recent, inspired by the EC's Integrated Maritime Policy.

Macro-regional strategies can help a lot as well. The Baltic Sea experience (the EUSBSR) has been positive and pioneering for stakeholders, while the more recent experience in the Adriatic-Ionian region (EUSAIR) has been positive as well. Such guidance was felt to be missing by representatives from the Western Mediterranean and Black Sea.

What are other instruments to support maritime clusters on the meso-level? Any specificity if compared to other activities in place for other type of clusters?

The European Network of Maritime Clusters allows for exchange on practices in cooperation with national governments. Its membership is staged, however, and focusing on the bundling of national experiences over regional one's.

### **Focus Group Session 3: Governance challenges at the EU-level**

Open discussion based on the following key questions:

How far sub-regional specificities can be addressed by EU policy/instruments?

Two types of initiatives need to be distinguished, namely regional cooperation (including that of sub-sea-basins) and business cooperation.

Macro-regional or sea-basin strategies have the potential to stir EU funding by setting themes and priorities (e.g. the current Horizon 2020 calls have been influenced by the Atlantic Action Plan).

How can good practices be identified and circulated across EU/Sea-Basins?

Maritime clusters can take part in mainstream cluster initiatives, such as those funded by Horizon 2020, COSME, etc. Especially the new INTERREG programmes, both transnational and 'Europe' (VC) offer opportunities. The new ESI Funds are an important instrument as well.

Participants raised however the fact that it is often difficult for clusters to participate in such programmes due to their legal status; as a private entity needs to comply with *de minimis* rules.

Cooperation and competition between Maritime Clusters

The European Network of Maritime Clusters allows for exchange on practices in cooperation.

Especially in the field of skills and competences cooperation is useful among EU maritime clusters. Programmes for supporting global marketing tend to be national (countries compete for exports and market shares).

A market place allowing matchmaking between supply and demand between maritime clusters across the EU would be good. Also a representation of DG MARE in the sea-basins was mentioned in order to increase its accessibility.

### **Conclusions**

Maritime clusters have a lot of commonalities with mainstream clusters, however they appear to be somewhat less specialised. Maritime clusters rather emphasise the need for an integrated approach

– allowing to reap benefits emerging from synergies across maritime economic activities. This integrated approach leads to a rationale for a public sector role with its specific form depending on the cultural background of the respective cluster. The public sector is often crucial at the starting stage, but private buy-in and leadership are essential to build success and sustainability. Leadership of (maritime) clusters is essential; formal cluster organisations and managers are therefore needed. A focus on excellence and benchmarking can help to promote professionalism.

Areas of cluster-wide cooperation include training and research, and the shortage of skills (above all those with a technical nature) makes this an ever more important competitiveness factor. Promoting the mobility of maritime skills (both across sectors and places) is therefore crucial.

Finding complementarities along the value chain is another angle towards maritime cluster cooperation. Prevent that competition between businesses blocks such cooperation.

A need for policy frameworks at all levels is clear: EU, sea-basin level, national and regional policies are all required and preferably aligned. Absence of such frameworks hampers cluster development. Macro-regional policies including sub-sea-basin strategies can provide an important framework for cooperation. A call for additional strategies was made, notably for the Western Mediterranean. Such strategies should be evidence-based – used on additional statistics on the nautical sector.

Participants agreed that it is vital to make full use of existing good practice exchange such as the European Network of Maritime Clusters and funding programmes (INTERREG Transnational and INTERREG Europe programmes).

### *List of participants*

#### **NAPA**

<b>Name</b>	<b>Organisation</b>
<b>Vojko Kocijan</b>	Port of Rijeka Authority (NAPA)
<b>Miha Kalčič</b>	Port of Koper (NAPA)
<b>Maša Čertalič</b>	Port of Koper (NAPA)
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<b>Mateja Dermastia</b>	PoliMaT Centre of Excellence, Slovenia
<b>Luca Marangoni</b>	DG MARE, European Commission
<b>Massino Breda</b>	DITENAVE (Distretto Tecnologico Navale e Nautico)
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<b>Klara Vidmar</b>	Municipality of Koper
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<b>Arturo Steffe</b>	Koper Maritime Administration
<b>Brian Shipman</b>	Lead consultant for the Adriatic-Ionian (Rapporteur)
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#### **PIRAEUS**

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<b>Mr. Athanasios Karlis</b>	Director of Strategic Planning, Piraeus Port Authority (OLP)
<b>Mr. George Vernikos</b>	Yachting entrepreneur, Hellenic Chamber of Shipping (Member of BOD)

<b>Mr. Michalis Pateras</b>	Ship-owner, Common Progress Co Na S.A.
<b>Mr. Apostolos Sigouras</b>	CEO, NAFSOLP SA (Naval Repairing Zone)
<b>Mr. Nicolaos Mavrikos</b>	Ship-supplier entrepreneur, Vice President Piraeus Chamber of Commerce & Industry
<b>Mr. Jason Lainos</b>	Piraeus Chamber of Commerce & Industry
<b>Dr. Thalassinos Eleftherios</b>	Head of the Jean Monnet Centre of Excellence on Shipping, Trade & Transport.
<b>Dr. Pardali Aggeliki</b>	Professor, Department of Maritime Studies, University of Piraeus
<b>Mrs. Fragiska Voumvaki</b>	Senior Economist, Department of Strategic Analysis, National Bank of Greece
<b>Dr. Agni Spilioti</b>	Director, Directorate of Research Programmes Support (GSRT)
<b>Mr. Christos Theophilou</b>	DG MARE, European Commission
<b>Mrs. Vali Lampridi</b>	Lead consultant, Moderator (LAMANS)
<b>Dr. George Triantaphyllidis</b>	Eastern Mediterranean Research Coordinator (LAMANS)
<b>Dr. Christos Lambridis</b>	Country Expert (LAMANS)
<b>Mr. Christos Theophilou</b>	DG MARE (observer)

### ***Marine Cluster Bulgaria***

<b>Name</b>	<b>Organisation</b>
<b>Mrs Ilze Atanasova</b>	<b>Representative of Marine Cluster Bulgaria</b>
<b>Mrs Hristina Vassileva</b>	<b>Representative of Cluster for maritime professionals</b>
<b>Mr Ivan Tabakov</b>	<b>Chairman of VARNA CHAMBER OF COMMERCE AND INDUSTRY</b>
<b>Mr Kristiyan Bogoev</b>	<b>General Secretary of the Municipality of Varna</b>
<b>Mr Matteo Bocci</b>	<b>Lead consultant, Moderator (Ecorys)</b>
<b>Mrs Radostina Tsvetanova</b>	<b>Country Expert, Moderator (Ecorys)</b>
<b>Mrs Bonka Karadjova</b>	<b>Country Expert (ECORYS)</b>
<b>Mr Svetoslav Stoyanov</b>	<b>DG MARE attended as an observer.</b>

### ***Pôle Mer Méditerranée***

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<b>Patrick Baraona</b>	Directeur du Pôle Mer Méditerranée
<b>Eve Garry</b>	Responsable à l'International du Pôle Mer Méditerranée
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### ***IDIMAR***

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<b>Joana Aina Campomar</b>	D.G. Universities and research
<b>Jaime Bagur</b>	Balearic Foundation of Innovation and Technology
<b>Beatriz Morales-Nin</b>	IMEDEA – Mediterranean Institute of Advanced Studies
<b>Enric Massutí</b>	IEO – Spanish Institute of Oceanography
<b>Gabriel García del Moral</b>	Chamber of Commerce
<b>Toni Tió</b>	Maritime Catalan Forum + Nautical Cluster of Barcelona
<b>Juan Carlos Rodríguez</b>	APEAM – Association of Maritime Economic Activities' Employers
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### ***AgroBioFishing***

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<b>Dario Tornabene</b>	Region of Sicily
<b>Gianluca Fortino</b>	Acqua Azzurra S.p.A.
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<b>Andrea Santulli</b>	University of Palermo
<b>Antonio Manganaro</b>	Dipartimento di Scienze Biologiche e Ambientali - Università di Messina
<b>Angelo La Mantia</b>	Consorzio di Gestione della pesca "Golfo di Termine Imerese"
<b>Marco Tramati</b>	Mazzara del Vallo ship-owner
<b>Salvatore Mazzola</b>	Institute for Coastal Marine Environment (IAMC) – National Research Council (CNR)
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### ***Governance***

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<b>Ms Annamaria Zonno</b>	EC, Directorate-General for Research and Innovation
<b>Ms Ilze Atanasova - Chairman</b>	Marine Cluster Bulgaria
<b>Mr Angel Puig - Director</b>	IDIMAR
<b>Mr Florian Carre</b>	Pôle Mer Méditerranée,

<b>Ms Luisa Pocolen</b>	Friuli-Venezia Giulia Region
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<b>Mr Luca Marangoni</b>	EC, Directorate-General for Maritime Affairs and Fisheries
<b>Ms Foteini Vernardaki</b>	EC, Directorate-General for Maritime Affairs and Fisheries
<b>Mr Alexandros Samaras</b>	EC, Directorate-General for Maritime Affairs and Fisheries
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### 1 The need for strategy: the Marine Cluster Bulgaria

#### Description of the cluster

The Marine Cluster Bulgaria was officially established in August 2007 in the city of Varna, in the southern part of the Bulgarian coast over the Black Sea. The aim of the organization is the promotion of good business relationships and prosperity of the Bulgarian maritime industry at home and abroad. The aim of the establishing the cluster was to unite different branches of the maritime industry and to foster cooperation.

Initially, the cluster was made up by six Small and Medium Enterprises from shipbuilding and ship repair, ship equipment, shipping and husbanding services, procurement and professional organizations: Bulgarian Association of Ship Brokers & Agents, Varna maritime Ltd., SENI Ltd., Commer Intl. Ltd., Marine Alliance (union of individuals engaged within the maritime business) and Swifty Services Ltd<sup>11</sup>. The founding companies of the cluster become acquainted with the organisation and the work of a Dutch cluster - Dutch Maritime Network. They were impressed by its organisation and way of operating and decided to follow the example and create a similar organisation with Bulgarian marine companies.

The Marine Cluster is registered as a non-profit association and its current members are SMEs working in the area of ship design, ship building, ship repair, ship supply, agency and logistic services, commodity control, ships chandlers, classification societies, underwriters, education and research institutions such as the Naval Academy "N. Y. Vaptsarov" and the Technical University of Varna. Among trade associations there are the Bulgarian Association of Ship Brokers and Agents (BASBA) and the Bulgarian Shipowner Association (BSA). Membership in the cluster is open to all legal entities, public and private institutions working in the area of the maritime industry.

The following organisations are the current members of the Marine Cluster Bulgaria:

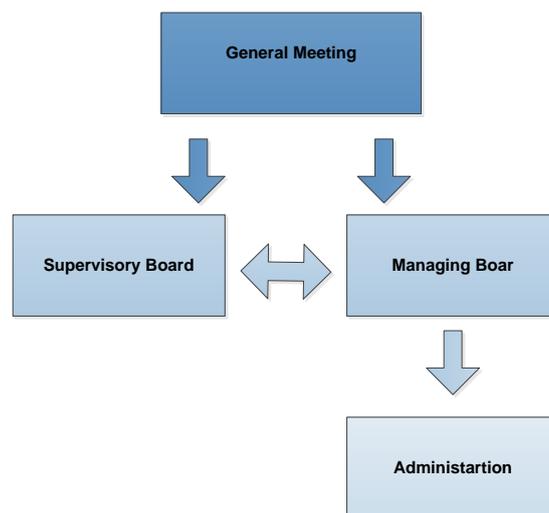
- Bulgarian Association of Ship Brokers & Agents
- N.Y. Vaptsarov Naval Academy
- Varna maritime Ltd.
- SENI Ltd.
- Sea Group. Ltd.
- Commer Intl. Ltd.
- Vllmar Control Ltd.
- Hydravlon-1 Ltd.
- "KM&D" Ltd.
- Marship Ltd.
- Marino consult Ltd.
- Navaltex Ltd.
- Smart design 2006 Ltd.
- The Industrial Association
- Technical University of Varna
- Bulgarian Register of Shipping
- Pan European
- Naviborn Ltd.
- Apolon Climate Engineering
- The Bulgarian Shipowner Association (BSA).

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<sup>11</sup> The last two are no longer members of the cluster.

The Marine Cluster Bulgaria has a horizontal structure, as there is no specific company leading the cluster and its activities. The cluster has the following management bodies:

- **General Meeting** (meets once in the year): it includes representatives of all members of the cluster and has the following main responsibilities: accepts and amends the organisational rules of the association; adopts internal regulations of the cluster; elects and dismisses members of the Managing Board; admits and expels members of the cluster; decides on participation in other organizations and companies; decides on the transformation or dissolution of the cluster; adopts the budget; decides on the amount of the membership fee or property contributions; and, accepts the Annual Report of the Managing Board;
- **The Managing Board** (the executive body of the cluster) consists of five to nine people, the number of members being determined by the General Meeting. The Board holds regular meetings at least once every three months to discuss the status and development of the cluster;
- **Supervisory Board**: consists of three members, elected by the General Meeting for a term of one year. The members of the Supervisory Board elect among themselves a chairman. This management body has to monitor the implementation of the decisions of the General Meeting and then work of the Managing Board and to control the financial and property status of the cluster. As administrative personnel, the cluster has one cluster coordinator, a secretary and two technical assistants.



The cluster is organised to focus on the following objectives:

- Create the conditions for the favourable development of the maritime industry in Bulgaria;
- Promote the cooperation of all branches to increase the competitiveness of the maritime sector in Bulgaria, including its promotion at the national and international levels;
- Support the integration of the national sector in existing international transport networks;
- Support all the members of the cluster in their operational activities and business development.

The following supporting activities are provided by the cluster:

- Establishment of a centre for information and development of strategic researches and surveys in the maritime transport sector;
- Development and elaboration of modern instruments for the systematic collection, procession, update and distribution of information in the area of the maritime industry;
- Research and development activities, innovation and entrepreneurship;

- Provision of legal support and consultations;
- Human resources development, educational activities, development of qualifications and retraining of production, management personnel working within the maritime sector;
- Cooperation with local and international organisations, clusters, institutes, qualification centres.

### *Dimension and performance*

The maritime sector includes three fields of operations:

- A first important area is the cooperation in the sectors of shipbuilding, marine construction (bridges, canals etc.) and maritime services – transportation by sea, ship repairing, shipping services, brokerage etc.;
- A second important growing area is marine tourism (up to 10 km from the coast);
- An additional third area is that of fishing, marine aquaculture and the extraction of raw materials from the sea.

Marine Cluster Bulgaria is operating mainly within the first field of the maritime industry.

The members of the cluster employed 2,882 people in 2012, representing 19.98% of the total employed workforce in the maritime industry in Bulgaria. The cluster as a whole has a turnover of over 312 million BGN (approx. €160 million) for 2011 which represents a substantial part (35.72%) of the overall turnover in the maritime industry for 2011, amounting to over 873 million BGN (over € 448 million).

The turnover that the cluster invested in innovation is defined by the received project financing, amounting to € 00,000 for the period 2011 and 2012.

According to the Report for Global Competitiveness 2012-2013<sup>12</sup>, Bulgaria is ranked 62<sup>nd</sup> out of 144 states. Despite of the fact that the general index of competitiveness of the country is increased from 4.16 in 2011 to 4.27 in 2012 (and the country rises up with 12 positions), Bulgaria continues to occupy a low position vis-à-vis other EU countries. According to the latest research of the European Innovation Union (2013)<sup>13</sup>, Bulgaria falls within the group of 'timid innovators', whose performance is lower than 50% of the average level of the EU-27<sup>14</sup>. The low performance is explained in terms of the limited quality and capacity of innovation of the national economic system. If we consider the Global Index for Competitiveness, for example, in 2012 Bulgaria scored<sup>15</sup> 97 in 'business excellence' and 92 for 'innovation'<sup>16</sup>.

<sup>12</sup> The Global Competitiveness Report 2012-2013, Klaus Schwab, World Economic Forum, [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2012-13.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf).

<sup>13</sup> Innovation Union Scoreboard 2013, [http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013\\_en.pdf](http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf).

<sup>14</sup> The measurement framework used in the Innovation Union Scoreboard distinguishes between 3 main types of indicators and 8 innovation dimensions, capturing in total 25 different indicators. Member States are analyzed by the defined innovation dimensions and indicators and based on their average innovation performance are put into four performance groups. The performance of Innovation leaders is 20% or more above that of the EU27; of Innovation followers it is less than 20% above but more than 10% below that of the EU27; of Moderate innovators it is less than 10% below but more than 50% below that of the EU27; and for Modest innovators it is below 50% that of the EU27.

<sup>15</sup> The Global Competitiveness Report (GCR) is a yearly report published by the World Economic Forum. Since 2004, the Global Competitiveness Report ranks countries based on the Global Competitiveness Index, developed by Xavier Sala-i-Martin and Elsa V. Artadi. The Global Competitiveness Index integrates the macroeconomic and the micro/business aspects of competitiveness into a single index. The report for 2012 – 2013 features a record number of 144 economies and the ranking is made among these countries.

<sup>16</sup> As the main reasons for the low degree of utilization of the innovation potential can be indicated the low level of expenses for scientific researches and innovations (especially in the private sector); the unsatisfactory quality of the scientific production; the low level of coordination between the main elements in the triangle of knowledge – science, universities, business; the lack of interest on behalf of the scientific media to solve the problems of the industry; the lack of motivation among the young people to do science and scientific studies; low rate of protection of the intellectual labour; weak coordination between the policy in the field of protection of the rights of intellectual ownership, the innovative policy, the policy for small and medium-sized enterprises, the policy for entrepreneurship, the policy for the science and technologies; the lack of accredited laboratories for standardization and control; ineffective mechanisms for generation, sharing and applying of innovative technologies and knowledge among small and medium size enterprises etc.

All the problems highlighted above clearly affect the initiatives of Bulgarian enterprises in the area of innovation and R&D, as they typically undertake and start activities in this area only with external financing or with project funding. This context has a negative effect on the maritime sector as well, but unfortunately the cluster itself is not so active in fostering innovation so far, as there is lack of resources for such activities amongst the associates. The members of the cluster are the generators of innovation ideas, they are proposing their concepts to the Managing Board and if the idea is approved and accepted the cluster team starts searching for partners and available funding.

And yet, the Marine Cluster Bulgaria has acted to identify and ensure some available EU grants aimed at financing innovation ideas of members. For example, it has implemented the project “Founding of a high-tech educational centre for professional training in the fields of marine logistics and trading operations” under the PHARE programme. The project is implemented with the Technical University of Varna and the following project activities have been accomplished:

- A high-tech educational centre for professional training in the fields of marine logistics and trading operations was established. This centre is unique and so far the only one in Bulgaria. It is situated in the Technical University of Varna. The core activity is the implementation of innovative learning method ‘Supply chain simulator’, allowing simultaneous direct dialogue, execution and monitoring of the performance of individual contracts and the entire transport chain, as well as making specific management decisions by each operator depending on the development of the specific contract and transportation in general. The simulator is used for educational purposes as well as for modelling, evaluation and control of work on projects for organization of specific transport chains in liner and tramp shipping;
- A strategy for the development of the Marine Cluster Bulgaria, as well as the optimization of common business management and coordination was elaborated. The strategy defined the strategic and mid-term goals of the organization:

**Strategic objectives (long-term):**

1. Providing rapid and sustainable economic growth and stability in the maritime industry by creating a favourable business environment to attract investment and create initiatives based primarily on innovation for increasing the competitiveness and improve the access to markets and services;
2. Mobilizing and enhancing the quality of human potential and reach of European levels of employment, income and quality of life for people employed in the maritime industry;
3. Successful integration of the maritime cluster in the European structures and Bulgarian maritime industry in the European Economic Area Sea.

**Development priorities for development (mid-term):**

1. Institutional strengthening of the Marine Cluster Bulgaria by attracting new members, improving management, communication and cooperation between enterprises and organizations in the marine industry, regional and central authorities;
2. Increasing the competitiveness of the companies in the Marine Cluster Bulgaria and the entire maritime industry through training, exchange of best practices and know-how, introduction of new organizational, product, market and technological solutions.
3. Integration of the Marine Cluster Bulgaria in the European and worldwide network of maritime clusters; enhancing participation in international projects and programs.

*Key achievements/challenges so far*

The Marine Cluster Bulgaria has ensured quite a set of achievements so far in different areas of activity. Particularly, it has been very active in the visibility of the cluster concept and the cluster role within the economic life of the country – specifically in the maritime economy. Some successes in this field are:

- Organisation of the International Congress "Blue Growth in the Black Sea region – perspectives and opportunities" (the focus of the forum was the role of the maritime clusters for increasing the competitiveness of the industry and to be shared experience with leading Maritime clusters in Europe);
- Organization of 'Days' of marine clusters in Bulgaria each year;
- Funding of an education simulator developed under the project "*Founding of a high-tech educational centre for professional training in the fields of marine logistics and trading operations*".

The Marine Cluster Bulgaria acknowledges, as one of its biggest successes, the organization of a dedicated Bulgarian National Stand on key international exhibitions. The participation and rent of stand in international exhibitions is very expensive for small enterprises from Bulgaria and in the same time it is very important for them to promote their products and services on international forums as the maritime industry is mainly export oriented. Also, the Marine Cluster Bulgaria has won a project aimed at promoting "*sustainable development and creating a favourable business environment for the effective functioning of the Marine Cluster Bulgaria*". The project was ensured financing for the participation of the members of the cluster in three international exhibitions in the marine industry with an information stand. The participation in the exhibitions contributed to the promotion of the activities of the companies, supported finding new clients and built partnerships and collaborations.

Marine Cluster Bulgaria participated in the following international exhibitions:

- **Posidonia 2012:** In the period 4-8 June 2012 in Piraeus, Greece was held an international exhibition in the maritime industry "Posidonia 2012". In Metropolitan Expo Centre on an area of 45,000 square meters stands were located 1870 exhibitors from 87 countries, including a stand of the Marine Cluster Bulgaria;
- **SMM 2012 Hamburg – 25<sup>th</sup> International Fair Hamburg for shipbuilding, machinery and marine technology** carried out in September 2012: 2100 exhibitors were present in an exhibition area of 90 000 square meters. More than 50 000 were trade visitors, including a number of international delegations, representatives of different governments and participants from the scientific community;
- **The International WorkBoat Show:** In December 2012 in New Orleans (USA) was held the International WorkBoat Show, which is the largest commercial marine exhibition in North America. Its purpose is to serve the people and companies operating in the coastal zone, inland and offshore waters.

All cluster members having taken part to the exhibition were very satisfied with the achieved results. The initiative to take part in international exhibitions and forums is being pursued still and is financed by the cluster members.

Another important achievement is the creation of a collective trademark which is a key point in the marketing strategy of the Marine Cluster Bulgaria. The trademark can be used by members of the cluster and constitutes proof of identification for the quality of the proposed services and products. To register a trademark in Bulgaria, a request should be submitted to the Bulgarian Patent Office. The international registration of a trade mark is dependent of the basic registration of the mark within the country of origin. The validity of the international registration is 20 years with a possibility to be prolonged. To register a trademark in other countries, a separate procedure needs to be followed, which includes the application in front of the relevant national and international organizations, namely:

- A request to the national patent office of the country in which you want to register a trademark;

- A request to the European Patent Office for the registration of a trademark valid throughout the European Union, according to the adopted European Convention on trademarks;
- A request to the International Intellectual Property Organization for registering international trademark to the appropriate international agreements.

#### *Additional contextual data/information*

The Marine Cluster Bulgaria is member of the Association of Business Clusters in Bulgaria, the Bulgarian Industrial Capital Association and the European Network of Maritime Clusters (ENMC). The most significant benefits from the participation in the ENMC is access to information. The membership in the network gave opportunity to establish contacts with similar organisations, to see how these are situated within the economic and legislative framework of their respective countries, how they are working, how other members deal with national and local authorities, how they build relations within their cluster. The participation within the ENMC allowed companies within the Marine Cluster Bulgaria to establish business relations and contacts with firms from other clusters and to explore possibilities for trade activities.

The Marine Cluster Bulgaria has very good working relations and cooperation with the members of the Associations of Business Clusters in Bulgaria. They are partnering and sharing lessons learned and good practices. Together with other members, they Cluster has initiated strategic relations with the Ministry of Economy and Energy and is regularly consulted for future initiatives and developments in the field of cluster policy and cluster support.

More difficult is the establishment of connections with the Ministry of Transport. Also more engagement and support is expected from local authorities, notably the Municipality of Varna. One of the ambitions of the cluster is to establish closer relations with the Port of Varna.

#### *Trajectories and potentials for the future*

Bulgaria is a small economy. The maritime industry is concentrated around two main activities: marine and river transport. Since autumn 2008, the Bulgarian maritime industry has been hit by the global economic crisis. The reduced sea transportation led to the shrinking of activities related to shipbuilding and ship repairing, cargo handling, shipping activities and ship supply by an average of 15-25%. The interviewed representative of the Marine Cluster Bulgaria said they are not expecting any substantial changes in the economic situation in the next five years.

Within such context, the cluster has the ambition of growing as an organisation, by increasing the number of the members, the number of the employed staff and the volume of the turnover. One of the strongest economic advantages of the cluster is its diversification of economic activities. One of the future aims is the attraction of new companies from different branches and sectors across the Blue Economy, which will contribute to the further diversification of the cluster economic activities.

Under the PHARE project "*Founding of a high-tech educational centre for professional training in the fields of marine logistics and trading operations*"; the Marine Cluster Bulgaria has elaborated a Strategy for the Cluster Development. This being said, the interviewed representative of the Marine Cluster specified that it is still difficult for the cluster management to make projections and long-term plans. As a consequence, the strategy is still under implementation, with the implementation currently focussing on mid-term goals, such as:

- Exchange of experiences and best practices with clusters and members of the European Network of Maritime Clusters (ENMC);
- Participation in annual meetings of the ENMC;
- Participation in the EU European Maritime Days;
- Organization of "Days of Marine Cluster";

- Creation an intranet and database for searching and offering job vacancies in the marine industry;
- Evaluation of the strategic capacity of the Maritime Industry in Bulgaria in terms of employment, turnover, market share, and growth rate;
- Receiving the patent for the collective trademark.

Additionally, in terms of long-term perspective, the cluster is considering the idea of promoting one single national marine cluster with bigger influence over the development of both maritime and cluster policy. One single national cluster means a cluster that will unite all the existing maritime clusters in Bulgaria. This is a very challenging idea and it is not clear how will be accepted by the other clusters from the region.

The establishment of cooperation with other clusters from the Black sea-basin is also one of the goals of the Marine Cluster Bulgaria for the next five years. The representative of the cluster explained during the focus group meeting that they tried to start a dialogue with clusters from Romania and Ukraine but without success. The barriers to such collaborations are explored in the following section.

### *Barriers hindering the clusters' potentials*

As already mentioned, the Marine Cluster Bulgaria is operating within a difficult economic environment. Working in the maritime sector is a challenge, as it is not one of the priority sectors in the Bulgarian economy. Also, clusters are not well recognised and developed by national policies as strong economic factors for innovation. The two elements together are therefore a challenge for the Marine Cluster.

The Marine Cluster Bulgaria is classified as growing cluster according to the mapping of 117 maritime clusters in the Mediterranean and the Black Sea. As a growing cluster, it suffers from the lack of public support and therefore has limited influence on both public and private sectors. It also has limited access to resources and is mainly using support programmes and project funding for extending its activities.

The barriers hindering the cluster's potential have to be classified as both 'external barriers', outside the domain of action of the cluster, and 'internal barriers' which could be removed by the cluster.

The following external problems affect the full development of the cluster:

- The enduring global crisis has caused a drop in the activities within the maritime sector and substantial job cuts, and it is therefore very difficult for the companies from the sector to overcome the financial problems and to provide funds for investment and innovation activities;
- There are no statistics and analysis for the maritime sector in Bulgaria, which implies that national authorities do not have evidence to develop a clear vision for the development of this sector, and there is lack of strategic views to outline the national priorities for the Blue Economy (including maritime, fluvial and port industry);
- The port management is very centralised and entirely in the hand of the national authorities, a factor that influences negatively the development of the maritime businesses (due to lack of regional autonomy and limited empowerment of local actors);
- There is no coordination among institutions responsible for the maritime sector and the cluster policy, as the Ministry of Transport is in charge of development the maritime industry and the Ministry of Economy and Energy leads the cluster support in the country, whilst both institutions have to establish better dialogue between them;
- A lack of cluster policy and cluster development strategy (particularly when it comes to the maritime economy in Bulgaria), which creates difficulties for the proper focusing and

management of the funding schemes for clusters. In practice there is no common understanding on what a cluster is, no cluster definition, no proper criteria for the funding of the clusters in different stages of their development, nor indicators to be used to monitor progress on cluster performance;

- The port of Varna is not included in any major transport corridors and the Danube Bridge 2 construction hinders the port development. Danube Bridge 2 is the longest bridge over the river Danube and it became an important cross-point of the connections between Bulgaria and Europe. At the same time the main impact of the bridge will be shifting the traffic to the west part of the country and it will raise the influence of Sofia and Belgrade as 'transfer poles' and will diminish the passage of goods through the Varna port;
- Tourism development problems are encountered in Bulgaria (as elsewhere), as the active season in Bulgaria is still short (four months at the most) and not enough diversification of services and visitors have been promoted to sustain tourism activities throughout the year (and serve as a booster for the local Blue Economy).

The development of relations with maritime clusters from the neighbourhood countries in the Black Sea-basin is another challenging task which hinders the Marine Cluster development. In fact, although two of the Black Sea countries - Bulgaria and Romania - are members of the EU, there is a lack of initiative for common activities within the Black Sea region (an aspect which may be overcome once a common Black Sea Maritime Strategy<sup>17</sup> is in place and as the Romania Maritime Cluster<sup>18</sup> becomes more active in the years to come). EU funding and support programmes and their strategies and priorities differ from country to country. For example Bulgaria and Romania receive financing from the Structural Funds, Turkey from the Instrument for Pre-accession Assistance (IPA) and Ukraine from the European Neighbourhood and Partnership Instrument (ENPI).

All these difficulties hamper the creation of stable relations between the clusters and other possible partners across the Black Sea-basin. Although the current instability of the whole area due to the Crimea crisis may prevent collaboration in the short-term, collaboration between Romania and Bulgaria could still be more efficiently supported by EU policy. Now more than ever is therefore necessary to further elaborate and agree a common strategy, which will outline the future priorities in the development of the Black Sea region and will create grounds for cooperation activities.

Also as organization of private companies, the Marine Cluster faces the problems of all Bulgarian enterprises, and notably difficulties in access to financing, low rate of business internationalization, low rate of innovation, high rate of energy and resource consumption of the production process, export of raw materials and goods with relatively low added value.

The internal factors are:

- A horizontal organization with not identified leader organization of the cluster. In order to be speed up the development of the cluster there is a need of strong promoter/leader (driving force), which will search for more opportunities and will push up the enlargement of both cluster activities and cluster members;
- The cluster also needs to work on development of their influence and lobbying in front of the local and national authorities.

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<sup>17</sup> [Http://ec.europa.eu/maritimeaffairs/policy/sea\\_basins/black\\_sea/projects\\_en.htm](http://ec.europa.eu/maritimeaffairs/policy/sea_basins/black_sea/projects_en.htm).

<sup>18</sup> The Romania Maritime Cluster has been admittedly "relatively inactive" in the past years.

### *Solutions to address the barriers*

The Marine Cluster Bulgaria has already started activities to overcome the existing barriers and to find solutions for the encountered difficulties.

Regarding the National Maritime Strategy, after numerous requests by different stakeholders, the national authorities are now considering the idea for inclusion of the maritime sector in the priority sectors, development of national maritime policy and the relevant strategic documents.

Through the Association of the Business clusters are established good relations with the Ministry of Economy and Energy and currently representatives of the association are participating in the Working Group responsible for the elaboration of the Operational programme “Innovation and Competitiveness” 2014 – 2020 which will provide funding and support for the cluster development in the next seven years. The particular activities for support of clusters will be defined based on preliminary analysis and classification of the existing and newly created clusters in certain categories as per the stage of development (for instance, developed, developing and newly created).

The interviewed cluster representative thinks that if they manage to attract representative of the state (for example Varna Port) as cluster member this will strengthen the positions of the cluster and will give it more opportunities for influencing over the national policies and strategies. Marine Cluster Bulgaria has been already in contact with the Varna Port authorities regarding future partnership and cooperation.

### *Lessons for other similar clusters*

- A clear lesson is the need for a robust policy framework at the national level. This has to be actively backed by a strong political vision and action plan from central institutions (national as well as sea-basin level), so to provide adequate resources and interventions aimed at renovating local infrastructures, providing support to local start-ups and boosting the broad local maritime economy;
- A key practical lesson emerging from this case study is that, in the absence of broader policy initiatives, cluster organisations are essential for the local maritime economy to support the needed exchange of good practices and sharing of experience through dedicated forums, meetings and seminars at the national and international level;
- The role of a bottom-up cluster organisation such as the Bulgaria Maritime Cluster (one promoted by public and private maritime organisations in Varna), has in fact proven essential to gather existing local maritime bodies and companies and trigger greater cooperation and shared resources. This has resulted in innovative training projects promoted by local private companies, as well as joint lobbying and visibility of the local maritime sector towards national and EU-level policy makers;
- A further lesson emerging from the Bulgarian case study is that of the essential role of EU policy and programmes in supporting bottom-up initiatives to gain international visibility amongst potential peer organisations, and to exchange practices with other similar bodies in the Black Sea and other EU sea-basins;
- Further efforts are needed for the elaboration and acceptance of the Black Sea strategy as an agreement ‘on paper’ to an actual enabling policy framework which could sustain and boost local bottom-up initiatives;
- The programming and implementation of such a maritime strategy document in the Black Sea is rather complicated, as not all neighbouring countries are EU Member States – making the coordination of the priority actions and funding a difficult process.

### **Description of the cluster**

A catalyst for cooperative projects, the Pôle Mer Méditerranée fosters the collaboration and integration of local maritime skills, competencies and expertise. By bringing together around 250 key local actors, the Pôle is a key enabler of innovative products and services that contribute to enhancing the competitiveness and innovativeness of the Var department territorial offer, at the regional, national and international levels.

The maritime sector is deeply embedded in the Var department, with the bay of Toulon as its focal point. Since the sixteenth century, Toulon has been the historical base of the French Navy in the Mediterranean. Today, Toulon is still the first European military port and the first naval defence base in the Mediterranean, with around 26,000 military and civil-related jobs, six submarines and 37 buildings.

### *Three 'shipyard' cities*

As a consequence, the naval and most notably the shipbuilding sectors have been enshrined in the urban landscapes as well as in the population's mentalities. Until 1966, the province of Toulon hosts three important shipyards situated in La Ciotat, La Seyne-sur-mer and in Port-de-Bouc. In total, the three shipyards covered a total area of 87 acres and have directly employed - at their zenith - 13,800 people, which have in turn contributed to the creation of an indirect employment for 25,000 people. The three shipyards launched around 1,050 large ships and have in the meanwhile contributed to shaping the cities they were installed in. Shipbuilding has required an abundant and diversified workforce. Meanwhile, the development of labour cities promoted by employers' organisations has reduced the differences and disconnections between the confined space of enterprises and the public space.

### *A changing economic situation*

Nonetheless, between 1966 and 1989, the three shipyards have been forced to shut down, one after the other. The reason is believed to be found in the changing role the French central state has played in the development of the shipbuilding industry, at times considered strategically important. One could go back to Louis XIV to see how the development of a strong merchant navy was considered fundamental to face international competition while ensuring the international influence of France in the world. With the increasingly high spreading of iron hulls during the second half of the XIX century, French shipyards began to become more expensive than their foreign homologues. Nevertheless, successive national governments refused to allow the disappearance of such a strategic sector and therefore continued providing funds and support. Special laws provided public subsidies to those ship owners who order new vessels from French shipyards. Financially supported, the sector grows substantially in terms of production outputs from 223,000 grt (gross registered tonnes) in 1951 to 522,000 grt in 1980. However, the shipyards do not succeed in approaching international prices. In 1959, the White Paper on Shipbuilding called for an in-depth restructuring of the sector which cost too much to public finances and which production capacity was found to be beyond its actual needs.

At that time, all three shipyards presented clear shortcomings:

- The Seyne-sur-Mer shipyard relied too much on navy-related markets. While in 1962 France announced the end of its military programme, the shipyard consecrated 22% of its production to the navy;
- The shipyards in La Ciotat had not sufficiently diversified their activities. 95% of their activities focused on shipbuilding, with no department dedicated to ship repair;

- As for Port-de-Bouc, their infrastructure had barely changed since the 1950s, although their order book would remain full until 1964.

The three shipyards responded to their respective challenges in different manners: diversification (La Seyne-sur-Mer), improved equipment to better respond to demand (La Ciotat), and business concentration (Port-de-Bouc). The Port-de-Bouc shipyards finally closed after having been bought by La Ciotat. The remaining two shipyards continued working until the 1973 oil shock led to a new restructuring of the sector. French shipbuilding is then concentrated around two centres: a first one including the Atlantic shipyards (Saint-Nazaire, most notably) and a second one bringing together Dunkerque, La Ciotat and La Seyne (under the name of Normed). With too high differences in profitability levels of the different sites, the operation is considered as a failure. Not insensitive to the then liberal ideology coming from the other side of the Channel, in 1986 the Chirac Government announced its decision to end its support to the shipyard sector. Without any state aid, Normed files for bankruptcy on 30<sup>th</sup> June 1986. In La Seyne-sur-Mer, the definitive closure of installations is announced on 28<sup>th</sup> February 1989. In September and December 1987, the last two ships are launched in La Ciotat.

After the closure of the shipyards, the cities were vacated by workers. The real estate sector experienced an unprecedented crisis, while health services record an uptake in the cases of depression.

#### *The Var department: a concentration of maritime competences*

Despite the rapid decline of the shipyard sector, the territory has remained embedded with valuable competences. Such fertile ground, developed throughout the decades, has allowed skills and know how to prove their adaptability, improve their resilience and finally to reapply themselves into new areas of application.

The definitive closure of the last two shipyards marks the beginning of a reconversion phase. With the support of the French government and of European funds, the area around the port of Toulon enters into a new phase in which its competences are reinvested into a diversified set of sectors, all of which strongly benefit from the proximity to the sea. A good example is the industrial site of Seyne-sur-Mer: after readopting its original name CNIM (Constructions navales et industrielles de la Méditerranée), the area has reconverted itself into mechanical engineering, environmental protection and energy production<sup>19</sup>. The following maritime activities can now be distinguished:

Maintenance and naval services:

- A value chain relying on high value added jobs;
- Operators specialised in the conception and maintenance of military, research and commercial vessels;
- Two shipyards.

Yachting and marinas:

- A strategic and ever-growing market in the heart of the Mediterranean Sea: 72% growth in yachts in 10 years. 65% of worldwide yachts transit in the summertime;
- Several professional networks to support the sector in the whole region, notably the Riviera Yachting Network situated in the Var department. The network brings together around 100 professionals specialised in the maintenance, reparation and refuelling of yachts;
- Four shipyards.

<sup>19</sup> Constructions navales et industrielles de la Méditerranée (Normed), Centre des Archives du Monde du Travail, available : [http://www.archivesnationales.culture.gouv.fr/camt/fr/egf/donnees\\_efg/1988\\_005+1988\\_006+1988\\_008/1988\\_006\\_271-379\\_CNIM\\_INV.pdf](http://www.archivesnationales.culture.gouv.fr/camt/fr/egf/donnees_efg/1988_005+1988_006+1988_008/1988_006_271-379_CNIM_INV.pdf).

Exploitation of marine energy resources

- Several SMEs in the Var department have developed specific competencies in the area of exploitation of fossil resources and are currently opening up to renewable marine energies;
- Key infrastructure such as the Génie Océanique FIRST basin allows for scientific and technical essays.

Exploitation and valorisation of marine biological resources

- Fisheries: 220 fishing boats and 300 seamen;
- Fish farming: six farming areas producing around 450 tonnes of fish per year;
- Mussel farming: seven artisanal exploitations producing around 150 tonnes of mussels per year.

### *Training, education and research infrastructure*

In order to be competitive and innovative, a local economy must synchronise and embed the competencies that the territory can offer. However, highly qualified skills and expertise can only be made available if education and training facilities are available and connected with the needs and the realities of its territory.

The Var's broad panel of training and research centres includes:

- Toulon-Var University (USTV);
- Paris Institute of Mechanics (SUPMECA Toulon);
- School of Business and Technology (ESCT);
- Institute of Electronics and Digital Technology (ISEN);
- Toulon and Var Institute of Engineering Sciences (ISITV);
- European Design Institute (EID);
- Mediterranean Quality Institute (IMQ);
- Institute of Maritime Trades (IPFM);
- The School of Business and Technology (ESCT) and European Design Institute (EID) are part of Euromed Toulon.

### *Research and experimentation centres*

The Provence-Alpes-Côte d'Azur is home to numerous large public research organisations specializing in marine science and technology, environmental technologies, biotechnologies, materials, etc.

Key centres are<sup>20</sup>:

- IFREMER Méditerranée;
- LISMMA – Research laboratory for the engineering of mechanical systems ;
- LSEET – Laboratoire de Sondages Électromagnétiques de l'Environnement, part of the Mediterranean Institute of Oceanography;
- IM2NP – Institute for research and education in materials, microelectronics and nanosciences;
- MAPIEM – part of the Toulon University, MAPIEM deals with polymers and heterogeneous materials with a polymer matrix (coatings, composites ...), with specific functionalities related to the marine environment (resistance to aggressive environments, corrosion protection , anti-fouling properties, hydrodynamic drag reduction ...);
- PROTEE PROcessus de Transferts et d'Échanges dans l'Environnement;
- SNC – Complex Naval Systems – Joint Laboratory Toulon University and DCNS;

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<sup>20</sup> Var accueil investisseurs – Agence de promotion et de développement économique du Var, La Filière économie maritime dans le Var.

- I3M – Research laboratory specialised in media and information, sustainable development, socio-economic systems and territories;
- CPT – Centre for theoretical physics.

#### *The Technopôle de la Mer*

Currently under construction, the Technopôle de la Mer<sup>21</sup> is aimed to become one of Toulon's flagship maritime initiatives. It will mainly focus on maritime safety and security and sustainable development for sea and coastlines. An important part of the Technopôle will be dedicated to the Pôle Mer Méditerranée.

The main objective for the Technopôle de la Mer will be to support the development of innovative companies, laboratories and research centres around five strategic fields:

- Maritime safety and security;
- Marine biological resources;
- Marine energy resources;
- Environment and coastal development;
- Naval and yachting.

#### *The concept of "Pôles de compétitivité"*

France's 'competitiveness clusters' (Pôles de compétitivité<sup>22</sup>) were first introduced with the 2005 Finance Act with the aim to boost French industrial competitiveness. The main objective of such national cluster policy was to make the French economy more competitive, fight against relocations, create jobs, and create private-public synergies. After a specific public tender launched between 2004 and 2005, 66 out of 105 projects were retained. The funding comes in various forms including research and development grants and relief on specific tax and social charges.

In 2010, one could count 71 clusters divided into three categories: seven 'global' clusters, 11 'global vocation' clusters, and 53 'national' clusters. In total, 9 000 researchers work on around 1000 projects. Since 2005, 889 R&D projects have received €1.7 bn in public sector financing, of which €1.1 bn was provided by the State. These projects, amounting to some €4.4 bn in R&D expenditure, involving nearly 15,000 researchers.

The goal of the French competitiveness clusters is to build on synergies and innovative, collaborative projects in order to give partner firms the chance to become first in their fields, both in France and abroad. The role of competitiveness clusters is to boost the competitiveness of the French economy and to help develop growth and jobs in key markets, by:

- Accelerating innovation efforts;
- Providing support for high-tech and creative activities, primarily industrial, in the various regions of France;
- Improving the attractiveness of France via greater international visibility;
- Cluster strategy: each cluster draws up a five-year strategic plan based on the shared vision of various participants. This allows the cluster to :
  - Establish partnerships between participants with recognized, complementary skills;
  - Set up collaborative R&D projects, as well as structuring projects such as innovation platforms that can benefit from public subsidies;
  - Promote an overall environment that fosters both innovation and growth among the cluster's members. This is done by providing leadership, exchange and support for members in areas such as private funding for firms, industrial property, forward-looking

<sup>21</sup> <http://www.tpm-agglo.fr/entreprises/article/l-innovation-coeur-de-mediterranee>

<sup>22</sup> [http://competitivite.gouv.fr/documents/commun/Documentation\\_poles/brochures\\_poles/anglais/brochure-ang-internet.pdf](http://competitivite.gouv.fr/documents/commun/Documentation_poles/brochures_poles/anglais/brochure-ang-internet.pdf)

management of jobs and needs for new skills and qualifications, developing international technological partnerships, regional synergies, etc.

Resulting from local initiatives, competitiveness clusters are currently active in most activity sectors. These include emerging technologies (nanotechnology, biotechnology, eco-technology, etc.) as well as more mature sectors (automotive, aerospace, etc.).

#### *Establishment of the Pôle Mer Méditerranée*

Founded in 2005 with the then name of 'Pôle Mer PACA', the Pôle Mer Méditerranée has been one of the selected clusters by the French Government. The Pôle Mer Méditerranée was awarded the label of 'pôle à vocation mondiale', therefore stressing the aim to further develop globally and to foster trans-boundary synergies. The initiative to establish such a pole had been taken by the DCNS and a group of businesses and regional research institutes (IFREMER, Thalès, ECA, CNIM, and Université du Sud Toulon Var). Another maritime cluster was awarded the same status on the same occasion, the Pôle Mer Bretagne, with which the Pôle Mer Méditerranée has established a strategic partnership since.

Despite being part of a broader cluster initiative encompassing several sectors, the Pôle is mainly the result of a local initiative aiming at stimulating traditional territorial specialisations of the Toulon area and boosting traditional maritime economic activities (shipbuilding, ship maintenance, reconversion, ship repair). Through innovation the cluster supports the re-qualification of mature activities and thus the creation of added value along traditional maritime value chains.

#### *Cluster governance*

The Pôle Mer Méditerranée's governance<sup>23</sup> is made up by the following bodies:

- The Interregional Coordination and Steering Committee is the consultation and coordination tool between the two maritime clusters, Pôle Mer Bretagne and Pôle Mer Méditerranée;
- The Strategic Orientation Committee is the body which facilitates contacts of the Pôle Mer Méditerranée with its environment at the regional institutional level;
- The Steering Committee constitutes the decision-making body of the cluster; it is responsible for elaborating the cluster's strategy and undertaking its operational implementation;
- The Board reinforces links between the Engineering and Animation Team and the Steering Committee; it is comprised of four members: the president of the Pôle Mer Méditerranée and three vice-presidents representing each college. The Director of the pôle also participates in the board meetings;
- The Engineering and Animation Team is in charge of the elaboration and the implementation of the operational budget, as well as of its associated activity programme;
- The Scientific Committee draws together personalities from the R&D world. It provides an opinion upon the request of the President, or the Engineering and Animation Team, on strategy, projects or any other issues falling under its competences;
- The Funders' Committee, made up of regional state representative authorities and all funding partners, provides an opinion regarding additional funding for a project, as a complement to possible funding from the Single Inter-ministerial Fund (FUI).

#### *The partnership with the Pôle Mer Bretagne*

There are similarities between the key development trajectories and main sectors of the Pôle Mer Méditerranée and the Pôle Mer Bretagne. This observation has led the two clusters to establish specific collaboration mechanisms to reach a higher critical mass, to prevent overlaps and engage in projects beyond the European level. Such collaboration occurs at two different levels:

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<sup>23</sup> Pôle Mer Méditerranée website: <http://en.polemermediterranee.com/Pole-Mer-PACA/Governance>.

- A monthly meeting is held between the two engineering teams of the two pôles, with the aim of exchanging information, increase national and international efficiency and avoiding duplication. Regarding projects, non confidential information is shared relating to innovation, market competition, the consortium and budget. The pôle which is implementing a project provides the other pôle with an analysis of its main strengths and weaknesses. The other pôle then provides an opinion on the non-redundancy of the project with its own projects and possibly additional advice or expertise;
- A steering committee, also in charge of interregional coordination, and consisting of the two pôles' directors and their teams, meets once every month. Its role is to decide over the non-redundancy of projects and to give a green light to the actual development of the project, hence allowing for labelling.

The dynamics of their collaborative projects allows both clusters to adjust but also to strengthen their strategic position. Moreover, the collaboration mechanisms developed by the Pôle Mer Méditerranée and the Pôle Mer Bretagne confirms the willingness of the two clusters to be the spare-heading of the Integrated Maritime Policy. By developing innovative the Poles proved by their results and innovative projects between themes, the inherent cross the shared environment that is the Sea was an engine of maritime economic development beyond traditional channels.

#### *Towards policy diversification*

The Pôle Mer Méditerranée has created what are known as 'federating programmes' based on six areas of excellence and on value chains with high development potential. The federating programmes address strategic and R&D challenges, integrating regional actors and global markets.

Themes/Sectors	Federating Programmes	Labelled projects	Financed Projects	Total Budget
Maritime security and safety	Marine protection	18%	22%	Labelled projects: €538.4 M
	Prevention of environmental risks			
Ships and nautical industry	'Navires du futur'	18%	17%	
Marine energy and mineral resources	Deep-offshore	14%	11%	
	Ocean renewable energy			
Marine biological resources	Blue biotechnologies	19%	21%	
	Aquaculture			
Environment and coastal management	Coastline water management	31%	30%	Financed projects: €390.4 M
	Services to the marine environment			
Ports, infrastructure and maritime transport	Recent	Recent	Recent	

Source: Maison de l'Emploi Toulon Provence Méditerranée

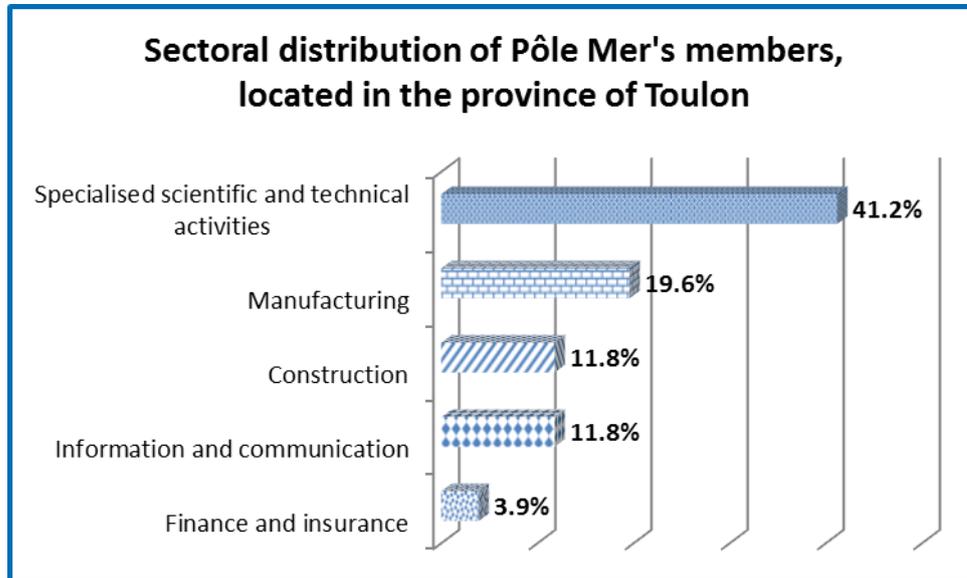
#### *From territorial rooting to the international scene*

The network is made up by the following actors:

- 168 SMEs;
- 80 larger business groups and companies;
- 73 research and training organisations;
- 33 members of the 'ecosystem' of the Pôle like professional bodies, consultants, and banks.

The Pôle Mer is very much rooted along the PACA region coastline, notably in the province of Toulon. On the territory of the Toulon province, around 51 companies are members of the Pôle Mer:

- 75% of them are located in La Seyne-sur-Mer, La Garde and Toulon;
- 69% are head offices.



Source: Maison de l'Emploi Toulon Provence Méditerranée

Moreover, the Pôle Mer develops and implements actions in partnership with other local clusters such as Pégase, CapEnergies, Optitec, another competitiveness cluster PASS (Perfumes, Aromas, Scents and Savours), and the Riviera Yachting Network.

This is done by supporting businesses and particularly SMEs in different forms, such as: organisation of export missions, participation in international fairs, grouping of complementary businesses around the same export project or investment. Indeed, increasing the export turnover of the Pôle's SMEs is one of the priority objectives of the maritime cluster. A representative in Brussels has been appointed to facilitate the access to EU R&D programmes, to help the pôles' members to become leaders or partners in European programmes.

To meet its international ambitions, the Pôle has implemented since 2006 a strategy of openness towards foreign countries, the first ones being the countries in the Mediterranean basin. Moreover, the Pôle Mer Méditerranée is co-signatory – together with the Pôle Mer Bretagne – of several partnership agreements<sup>24</sup>:

- The Marine South East cluster (United Kingdom);
- The Schleswig Holstein maritime cluster (Germany);
- The Quebec maritime *créneau*;
- The Liguria district for maritime technologies (Italy);
- The Franco-Norwegian foundation;
- l'Océanopôle de Tan Tan (Morocco) ;
- The ONIP (Brazil);
- The San Diego Maritime Alliance Cluster (USA).

<sup>24</sup> <http://www.polemermediterranee.com/International/Strategie-internationale>

## Trajectories and future objectives

The development of a sustainable maritime economy will be the Pôle's strategic objective for 2013-2018<sup>25</sup> and will be implemented through the three following strategic axes:

- Become one of the main levers to the Integrated Maritime Policy by conveying and deploying national policies at the regional level;
- Become a reference actor in the area of maritime affairs, while enhancing the visibility of the territory and its members through the 'Pôle Mer' label; at the same time, consolidate the Pôle's leadership position in the Mediterranean basin, while focusing on a business-oriented strategy to support its members;
- Become an enabler for business competitiveness through the structuring and coordination of value chains.

For the period 2013-2015, the Pôle has decided to focus on the following 5 themes:

- Innovation;
- Training;
- The internationalisation of enterprises;
- The support to SME development;
- The governance and the ecosystem of the Pôle.

The new territories to which the Pôle Mer Méditerranée has expanded its geographical coverage provide new yet complementary specificities to those already developed in the past (Corse, Languedoc-Roussillon). Each territory can then provide new insights into the maritime economy, while contributing to the development and implementation of the Pôle's strategy. In the near future, the Pôle Mer Méditerranée wishes to further strengthen its territorial rooting by linking up with innovative projects such as the Technopole de la Mer, which is also based on the Urban Community of Toulon Provence Méditerranée.

Below some further details are provided regarding three strategic objectives the Pôle wishes to pursue within the next few years.

### *Strengthening competences*

As presented in the previous sections, the PACA region offers a large set of training and education opportunities in the area of maritime affairs. This is also because regional enterprises are constantly searching for new talents in maritime affairs. The guarantee of professional opportunities in the region is the condition *sine qua non* to attract and keep motivated and smart students on the territory.

One of the objectives of the Pôle Mer Méditerranée is to enhance the training activities available on its territory and to ensure their alignment with the actual needs of its member enterprises. By doing so, it aims at strengthening regional competences and expertise and to successfully attract new students towards future innovative maritime sectors. The maritime cluster does so by contributing to the precise identification of professional profiles which are needed in the short to medium terms by its enterprises as well as by the implementation of specific training programs. In this context, the Pôle actively collaborates with the region's schools and institutes and creates linkages between its businesses and SMEs and the local education and training institutions.

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<sup>25</sup> <http://www.polemermediterranee.com/Pole-Mer-Med/Missions-enjeux>

### *Increasing international reach*

At the European level, and with the aim to reinforce innovation and research capacities in Europe, the Pôle Mer Méditerranée wishes to organise a European network of innovative maritime clusters. On the other side, the cluster considers to strengthen its presence in the Mediterranean area, notably by deepening relations with the Maghreb countries, Egypt and Turkey. The focus group held in La Seyne-sur-Mer with training and business participants from Morocco has been an occasion to reinforce the idea that countries in the Mediterranean area share the same interest in innovative projects on common issues such as maritime security and environmental protection. The Pôle Mer Méditerranée plans to fulfil such aims through the signing of partnership agreements, the participation to European programmes such as Horizon 2020, as well as through exchanges on methodological issues<sup>26</sup>.

### *Contribute to the development of a sustainable and competitive regional economic offer*

SME's needs and trajectories are not all the same. In order to successfully support its SME membership base, the Pôle Mer Méditerranée needs to provide a diversified set of actions and initiatives. These can range from various support actions for export purposes, working groups, sharing of information and exchange of best practices. Most importantly, the Pôle Mer provides support opportunities for SMEs and businesses to engage in European programmes such as Europe 2020.

### **Potential barriers for future development and solutions**

The Pôle Mer Méditerranée is showing very strong potential for future growth if measured in terms of regional, national and international reach as well as sector diversification. However, there are certain issues that could in the future act as a barrier to the successful and sustainable development of the cluster itself, as well as of its members. International competitiveness, training, qualified skills and access to the job market have been identified among the most critical challenges which the maritime cluster has to address.

#### **1) Capture the competencies needed for future maritime economic activities**

Competency development is seen to be one of the crucial advantages of cluster development. It provides spill-overs and externalities that can be reaped at cluster level, thus providing a competitive advantage for all economic actors in the cluster. The use, development and adaptation of competencies is therefore crucial when evolving and exploiting a maritime cluster. One of the lessons learned from the decline of the shipyard sector has been the need to reinvest existing maritime competences into a diversified set of maritime economic activities. Today, the issue of employment and qualifications should be focused on activities in which there is still room for enhanced competitiveness vis-à-vis other global actors.

#### **2) Develop trans-boundary cooperation in the areas of education, training and competency development**

In the future, education, training and skills development should be organised within and between maritime clusters to improve the much-needed (specialised) human know-how. In this light, opportunities brought through trans-boundary (especially transnational and international) cooperation initiatives should also include education issues and the sharing of best practices in the area of competency development. For instance, the technological transfer between Europe and its southern neighbours could ensure their future existence of European businesses in the medium and long term.

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<sup>26</sup> <http://www.polemermediterranee.com/International/Europe>

### 3) Connect and integrate existing maritime value chains

There is a need to overcome challenges such as the seasonal nature of some activities (i.e. yachting maintenance, ship repairing) and the dependence from few work providers. Opportunities can arise from connection and integration of existing maritime value chains and spill-over effects to new maritime economic activities.

#### Lessons learned

The experiences gained in the Pôle Mer Méditerranée in the field of competency development have a high transferability potential and lessons learned which could be shared include the following:

- 1) *The importance of using existing competencies to new maritime applications.* Competencies can successfully survive the decline of a primary sector if these are reinvested into a diversified set of activities and integrated along different value chains by placing the territory, its natural endowments and its existing infrastructure at its centre. Blue Growth synergies can take place across policies (EU, national, regional), maritime economic activities, and key actors (maritime clusters, businesses, training institutes).
- 2) *A local initiative reinforced by an ad hoc national policy.* The national cluster policy initiative has been key to support the foundation of the Pôle Mer Méditerranée. However, this would not have happened without the already existing collaboration between a group of businesses and regional research institutes and with the key support of local and regional public bodies.
- 3) *Maritime clusters can reinforce the growth potential of maritime economic activities.* The establishment of appropriate inter-linkages amongst local players (including in particular the research & innovation stakeholders) has reinforced the growth potential of the regional economic offer. Indeed, strong local and regional involvement has focused on maritime activities for which there is still room for enhanced competitiveness vis-à-vis other global actors.
- 4) *The role a cluster can play in stimulating territorial specialisations.* Despite being part of a broader cluster initiative encompassing several sectors, the Pôle is mainly the result of a local initiative aiming at stimulating traditional territorial specializations of the Toulon area and boosting traditional maritime economic activities (shipbuilding, ship maintenance, reconversion, ship repair). Through innovation the cluster supports the re-qualification of mature activities and thus the creation of added value along traditional maritime value chains.
- 5) *Fostering an integrated approach to competency building.* On its territory, the Pôle Mer Méditerranée actively contributes to the identification and optimisation of competency matches in terms of offer and demand, by linking its member businesses and SMEs to local education and training institutes as well as by 'labelling' training courses.

### Description of the cluster

NAPA, the North Adriatic Port Association, was formed in 2009. In a Declaration of Intent, the Ports of Venice, Trieste and Ravenna in Italy, and Koper in Slovenia, agreed to cooperate in order to define a common operative strategy based on the excellences of each port. Under a Memorandum of Understanding, signed by the four original member ports, NAPA agreed to promote the improvement of a Baltic- Adriatic corridor, and to allow the NAPA ports to become a major European logistic platform for traffic from Far East to Central Europe.

The vision of NAPA is: *“The NAPA will form a European logistics platform, in particular with regard to servicing the markets of the Far East as well as Central and Eastern Europe.”*

In 2010, the Rijeka Port Authority from Croatia joined the NAPA cluster, whilst Ravenna Port Authority resigned from NAPA in 2013. The current cluster membership now comprises the four ports of Venice, Trieste, Koper and Rijeka, geographically grouped at the northern tip of the Adriatic in an arc of less than 200 kms from east to west, crossing the borders of Italy, Slovenia and Croatia. The combined NAPA seaports currently handle more than 100 million tonnes of water-borne cargo are handled in every year<sup>27</sup>. The cargo consists mainly of general cargo, cars, ores and minerals, fossil fuels chemicals, in addition to 1.8 million TEU<sup>28</sup> containers.

This is NAPA’s own perception of the cluster: *“The four entities combine their strengths in order to promote the Northern Adriatic route and present themselves as an alternative to the North-European ports. In addition, the association anticipates cooperation in the development of maritime and hinterland connections, visits from cruise lines, environmental protection, safety and information technology. The ports of NAPA will also invest efforts into the coordinated planning of road, rail and maritime infrastructure, as well as the harmonisation of regulations and procedures in the field of port service provision.”* www.portsofnapa.com

Geography is the first key to understanding the formation of the NAPA cluster. In fact, the geography of container trade between Europe and the rest of the world is characterised by a switch in relative terms away from transatlantic trade and towards the Far East. At the same time, the ongoing integration of Central and Eastern European countries into the European Union has switched the centre of gravity of inland containerised trade in Europe to the south and east. The NAPA ports, joined in a single cluster, aim at providing the cheapest maritime route from the Far East via the Suez Canal to Europe, with a distance that is about 2,000 kilometres shorter than other North-European ports. The NAPA cluster is also located on, or close to, three of the main corridors of the TEN-T “Core Network”: the Scandinavia – Mediterranean, the Mediterranean, and the Adriatic – Baltic, therefore providing links to 500 million European consumers and large commercial and industrial hubs, such as Vienna, Munich and Milan.

The second key to understanding the formation of the NAPA cluster is the removal of border restrictions, following EU enlargement in the region. Firstly, through the accession of Slovenia and, most recently, the entry of Croatia into the European Union in 2013 leading to the end of customs formalities between Italy, Croatia and Slovenia (and therefore the rest of the European Union). Secondly, the development of additional rail freight services from Koper, Rijeka and Trieste to

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<sup>27</sup> “NAPA Market Study on the potential capacity of the North Adriatic port system in the container sector”, MDS Transmodal Ltd, December 2011.

<sup>28</sup> TUE (twenty-foot equivalent unit): standard unit for describing a ship's cargo carrying capacity, or a shipping terminal's cargo handling capacity.

Central and Eastern Europe, southern Germany and Austria reinforcing NAPA's combined competitive position.

NAPA'S key stated principle is one of "*Coopetition*" (sic), meaning to cooperate internationally, whilst competing internally. In addition to exploiting the geographic position of the North Adriatic especially for the Far East markets via Suez Canal, the perceived wider benefits of the cooperation as a cluster include:

- Providing a viable alternative to the established Northern European Ports such as Rotterdam, Antwerp and Hamburg;
- Reducing inland infrastructures burdens through the sharing of logistical services and construction;
- Supporting balanced North-South regional development;
- Reducing the environmental impact of shipping by reducing overall shipping distances from the east compared to the northern and other European ports, allowing operators to reduce their carbon dioxide emissions per TEU transported.

Currently, the cluster operates a rotating presidency, with a governing General Assembly meeting annually. Key servicing roles are allocated to individual port members, specifically:

- Koper and Rijeka - promotion, lobby and marketing;
- Trieste - administration and legal affairs;
- Venice - studies and project development.

A key aspect of this cluster is that it does not operate a central secretariat and divides tasks between members according to skills and capacity, using existing staff. This pragmatic approach has enabled the cluster to develop quickly in their priority areas in the relatively short time since it was formed. Cluster management is funded within existing port budgets, and by a pooling of existing resources. The current range of cluster activities to date relating to their strategic priorities includes:

- Joint marketing at International fairs around the world but with a focus on the developing markets in the east;
- EU projects across a range of programmes;
- Studies & activities including marketing studies and memoranda of understanding with other regions or organisations.

These priorities are closely related to the underlying motivation of the cluster – as a strategic collaboration to reposition the ports on a global and European scale, in competition with some of the world's largest ports in northern Europe. This ambitious motivation is important in understanding the specific nature and drivers of the NAPA cluster, and distinguishes it from many other maritime clusters that are primarily focused on improving competitiveness on a more localised scale or within a specific sector.

However, in addition to joint international promotion, EU projects and studies, funded by existing port budgets either individually by the individual ports or by combining investment, carried out by NAPA illustrate a maturing understanding of the benefits of cluster collaboration. The "ITS Multi-port Adriatic Gateway" project implemented under the EU's TEN-T Motorways of the Sea programme illustrates a deepening of cluster interrelations and potential inter-dependency. The NAPA partners ambition is to establish a common internet-based network capable of integrating all the transport community members, to exchange data on shipping lines and vessels with the objective of coordinating, integrating and promoting a 'Single Window' to reduce transaction costs and turnaround times. In order to achieve this, the NAPA ports agreed to develop a study and pilot action focused on the deployment of common ICT solutions.

The EU funded projects; INWAPO<sup>29</sup> (CENTRAL EUROPE Cooperation Programme co-financed by the ERDF), NAPADRAG (TEN-T Programme), SAFEPORT (Seventh Framework Programme)<sup>30</sup> and others are further evidence of this deepening collaboration. INWAPO, for example, seeks to develop the unexploited potential of waterborne transport in central Europe and to achieve better inter-modality of inland and sea ports. The project will focus on three main systems of waterways: the Northern Adriatic ports, the Danube river ports and the Czech and Polish inland waterways (Elbe, Vistula and Oder systems), with an extension towards Baltic ports. The project NAPADRAG consists of shared infrastructural dredging in the ports of Koper and Venice to improve their nautical accessibility and capacity to allow the berthing of larger container vessels and help increase container traffic. SAFEPORT, co-financed by ERDF, promotes the development of strategies and common plans to eliminate and reduce environmental risks in the ports of Ravenna, Chioggia, Venice, Monfalcone, Nogarò, Trieste and Koper.

The strategic geographic location of the cluster in relation to the TEN-T transport network, its cross-border location, its potential role in promoting balanced regional development, and its potential benefits to Blue Growth have meant that the cluster's cooperative actions meet a wide range of EU objectives and priorities. The attractiveness of the NAPA ports to such EU funding would be far less as individual applicants. This competitive advantage has been an important driver in bringing the ports together and providing an additional and 'deeper' motivation for clustering than joint marketing alone. Thus, EU funding has been used constructively as a 'tool' to support the cluster's infrastructure and development objectives, but not as a source of core-funding to support or pump-prime the underlying collaboration.

### Trajectories and potentials for the future

NAPA is a relatively new cluster at five years, and is still evolving its governance structures and membership. For these reasons it has been categorised as 'maturing'. The cluster has set ambitious targets for future development, including a strategic master plan.

#### *NAPA's Strategic Master Plan*<sup>31</sup>

As recently as December 2013 NAPA agreed to define a new Strategic Master Plan. The plan identifies infrastructure priorities and needs in a common proposal to present to EU Institutions and to Member States.

NAPA sees the removal of border restrictions in the North Adriatic through EU enlargement, their strategic location of the North-South and East-West European "Core Corridors", and the shift in global trade towards the east as historic opportunities best exploited by speaking as a 'single voice' - improving not only the volume and value of trade, but also their operating efficiency. The Master Plan's first objective is: "*To exploit the unique historical opportunity to make our voice heard and to be ready to become the core ports network as the European network requires*".

The scale of growth envisaged is considerable, involving a tripling in the volume of containers handled by 2030, from 1.8 to 5.9 million TEUs<sup>32</sup>.

*"This is to be considered as an achievable target only if the North Adriatic Ports will exploit its full geographic potential, assuming the full coverage of a 300-degree potential market, in a range between 300 and 500 kilometres from the ideal Centre of the North Adriatic Sea, from Rome to Sarajevo, via Milan, Lyon, Basel, Monaco, Vienna, Budapest, Ljubljana, Zagreb and Belgrade. The*

<sup>29</sup> [www.inwapo-project.eu](http://www.inwapo-project.eu).

<sup>30</sup> [www.safeportproject.com](http://www.safeportproject.com).

<sup>31</sup> <http://www.portsofnapa.com/>.

<sup>32</sup> "NAPA Market Study on the potential capacity of the North Adriatic port system in the container sector", MDS Transmodal Ltd, December 2011.

*pre-condition needed for this scenario is that the North Adriatic Ports reach an infrastructure and efficiency levels as high as to make it profitable for ocean going vessel to call both the Eastern North Adriatic ports and the Western ones”.*

Having originated as primarily a joint marketing venture, the Master Plan’s proposes much deeper collaboration including infrastructure, environmental efficiency, ICT sharing, projects and studies.

NAPA agreed to ratify the *“sharing and the mutual support of all infrastructural projects of each port”*. This agreement is all the more remarkable as this partnership involves four individual port entities, located in 3 countries. Potentially it vastly increases the value and efficiency of capital investment and its support from national and EU funds.

The cluster aim to reduce emissions and to create efficient and sustainable logistic chains, NAPA ports will apply for EU grants to address common environmental challenges at NAPA level, within the framework of the “Europe 2020 Strategy” (e.g. use of alternative fuels and LNG).

In order to harmonize ports regulations and services, NAPA Ports will continue to study and create new ICT solutions. The goal is to create a useful network and a single gateway to enter in Europe from South: *“NAPA are four docks of one port”*.

NAPA members will promote common proposals for EU grants towards studies and scientific analyses on key issues in the NAPA ports’ development and organizational framework.

NAPA ports will jointly support and sponsor NAPA to potential markets, so to exploit the full potential of being recognized by international shippers and logistic operators as a valid southern multiport gateway to/from European market; and a follow up studies on competitive markets for the North Adriatic gateway.

#### *Action Plan and the “Coordinated Ports Development Plan”*

In 2013 NAPA agreed an Action Plan for the period 2014-2020 prioritising:

1. Sustainable And Competitive Seaborne Transport:
  - The deployment of new technologies and innovation in port and maritime transport;
  - The promotion and use of alternative fuels and propulsion (LNG, cold ironing etc.);
  - The development of Motorways of the Sea;
2. Vessel Traffic Monitoring and Information Systems (e.g. Single Window) Infrastructure.

Additionally, the NAPA ports have agreed a Coordinated Ports Development Plan, harmonising and mutually supporting through a NAPA MoU in 2103 key infrastructure development *“on the understanding that the success of one port is the success of all NAPA ports”*. The MoU also agrees to fully exploit the potential of NAPA Ports as Gateway of the Core Network Corridors Mediterranean and Baltic-Adriatic Corridor NAPA by investing in the full deployment of the rail connections, *“especially the so called ‘last miles’ and the removal of bottlenecks”*.

#### *Cluster Membership*

Although NAPA has no specific stated ambition with regard to membership, the cluster has recently accepted the Northern Adriatic ports of Monfalcone and Chioggia as members, bringing the number of ports to six, and has recognised that other ports in the TEN-T Core or Comprehensive network may wish to associate.

NAPA also recognise the potential for wider sectoral membership from research & innovation, logistics, and wider employment.

NAPA's strategic ambitions are therefore clear. However, in considering the future potential of NAPA has a cluster there are other areas of potential to be considered.

*1. Widening membership beyond the 'fence' and embedding in the local economy*

Numerically in terms of members, the NAPA cluster is very small and is currently limited to statutory port authorities, with the exception of Koper, which is a public limited company. However, this disguises the complexity and diversity of the port operations and commercial engagement within the ports. Venice Port for example contains 127 separate commercial concessioner operators.

The diversity of cargos is reflected in separate concessions and profit centres in the ports. Koper, for example, includes general cargo, container and RO-RO, cars, dry bulk cargo and energy. The ports themselves are multi Maritime Economic Activity (MEAs) clusters, and the NAPA cluster could be seen as an agglomeration of clusters. However, this diversity largely takes place 'behind the fence' within the port boundaries, and the potential for penetration of the cluster into their wider local hinterland remains largely unexplored.

In considering such an expansion the key linkages are better considered under the category of logistics rather than solely as MEAs. In practice the ports are major drivers of their immediate local economies. The port of Koper for example drives a logistics sector of considerable importance to the Coast-Karst statistical region of Slovenia within which it is located. In 2011 the logistics sector contribution in the region was estimated at:

Coast-Karst Region: Logistics

Value added:

Transportation and storage services	27.3%
Industry	20.4%
Wholesale and retail trade; repair of motor vehicles	16.3%

No of employees:

Transportation and storage services	20.6%
Industry	20.8%
Wholesale and retail trade; repair of motor vehicles	14.0%

Thus the port's economic 'spill-over' into the local economy is considerable and includes a wide range of SMEs and micro-businesses. At the opposite end of the scale, Venice as a major cruise port has a major interdependence with the nearby regional Marco Polo airport for the transfer of passengers.

*2. Links to R&D and Training providers*

At the Focus Group meeting it was accepted that NAPA's links to the research sector are currently under-developed. This contrasted starkly with the DITENAVE shipbuilding cluster from the Veneto region within which the combined R&D and training institutions make up the majority of cluster members (59%).

Among the benefits of long-term cluster collaboration are multiple and could include:

- Increase in the level of innovation (R&D investment, hi-tech services, identification of new markets);
- Increase in the capacity to absorb EU funds;
- Increase in the level of trans-boundary cooperation (joint R&D projects, commercial and technical cooperation agreements, shared resources and common infrastructures);

- Tailored training for the sector and security of skilled labour.

If the NAPA ports are to fully realise their ambition, this collaboration would seem to be a logical development either as a 'cluster-light' with informal, non-contractual relationships with research and training institutes, or deeper collaborations in long-term partnerships.

One example of this latter approach is the Erasmus Smart Port Rotterdam in which the Erasmus University, Rotterdam has bundled its maritime and port-related research and education into the Erasmus Smart Port Rotterdam, an interfaculty centre of excellence. A central element in the Smart Port initiative is the appointment of so-called 'Port Professors' at each of the four participating schools responsible for building cooperation with other faculties and a high quality network with relevant stakeholders from the academic and business world. NAPA as a cluster has made only a limited foray into this range of activity through support for the Master in PEM (Port Economics and Management) at the University of Venice.

### 3. *Cross-border cooperation*

NAPA has amply demonstrated the success of cross-border cooperation, and in a very short space of time following the progressive EU enlargement in the Adriatic region. The cluster is well placed geographically and institutionally to further benefit in current and future EU programmes.

Currently, the NAPA cluster lies within a number of eligible areas for European Territorial Cooperation (ETC) Programme 2014-2020. ETC is one of the goals of Cohesion policy and supports joint actions and policy exchanges between national, regional and local actors from different Member States and financed from the Structural Funds, mostly the European Regional Development Fund (ERDF).

Cross-Border - the regions to be supported will be the NUTS level 3 regions of the Union along all internal and external land borders, and all NUTS level 3 regions of the Union along maritime borders separated by a maximum of 150 km. Under the 2007-2013 programmes the eligible areas included:

- Italy-Slovenia includes the Italian regions of Trieste, Gorizia, Udine, Venezia, Rovigo, Padova, Ferrara and Ravenna and Slovenian regions Goriška, Obalno-Kraška and Gorenjska;
- Slovenia-Croatia for 14 Slovenian and Croatian regions that lie along their common border;
- Adriatic IPA (Instrument for Pre-Accession Assistance) includes regions of the Adriatic including Italy, Slovenia, Croatia and Greece, plus the candidate/potential states of Albania, Bosnia and Herzegovina and Montenegro.

Cross-border cooperation is aimed to tackle common challenges identified in border regions. Those relevant to NAPA include: poor accessibility, especially in relation to ICT connectivity and transport infrastructure, declining local industries, an inappropriate business environment, low levels of research and innovation and take-up of ICT, environmental pollution, risk prevention, the growth potential in border areas (development of cross-border research and innovation facilities and clusters, cross-border labour market integration).

Transnational – the Commission will adopt the list of transnational areas to receive support, broken down by cooperation programme and covering NUTS level 2 regions while ensuring the continuity of such cooperation in larger coherent areas based on previous programmes. The previous programme (2007-2013) included:

- Mediterranean – including the relevant Italian regions of Friuli-Venezia Giulia and Veneto, Slovenia and Croatia;

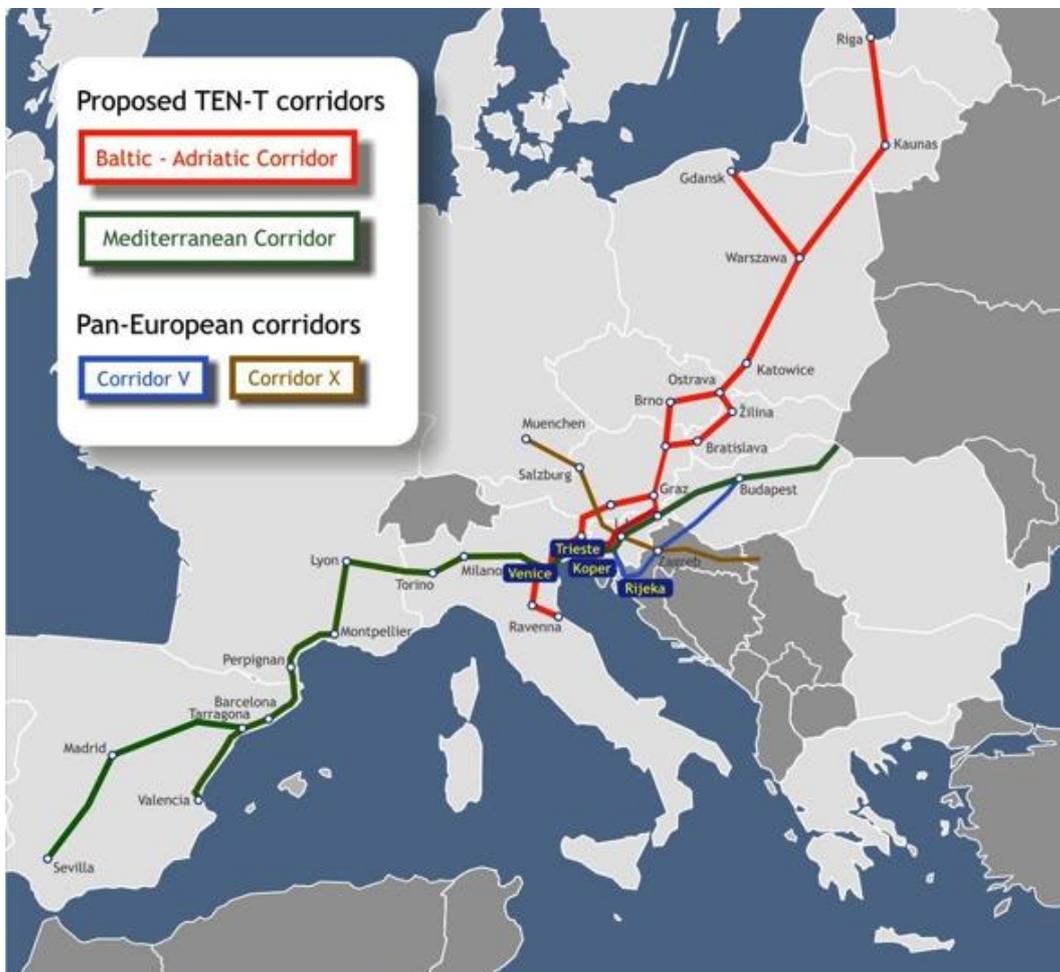
- South East Europe - including the relevant Italian regions of Friuli-Venezia Giulia and Veneto, Slovenia and Croatia.

Transnational cooperation should aim to strengthen cooperation by means of actions conducive to integrated territorial development linked to the Union's cohesion policy priorities, and should also include maritime cross-border cooperation not covered by cross-border cooperation programmes.

The new European infrastructure policy will put in place a Europe-wide transport network across all Member States, connected to neighbouring countries and the rest of the world, to promote growth and competitiveness.

The new policy triples EU financing to €26 billion for transport in the period 2014 – 2020, at the same time it refocuses transport financing on a tightly defined core network. The core network will form the backbone for transportation in Europe's Single Market.

NAPA is strategically located on two Core Network Corridors:



The Baltic-Adriatic Corridor extends from the Polish ports Gdansk and Gdynia and from Szczecin and Swinoujscie via Czech Republic or Slovakia and through eastern Austria to the Slovenian port of Koper and to the Italian ports of Trieste, Venice and Ravenna. It covers rail, road, airports, ports and RRT's.

The Mediterranean Corridor links the Iberian ports of Algeciras, Cartagena, Valencia, Tarragona and Barcelona through Southern France, with link to Marseille, and Lyon to Northern Italy, Slovenia

and a branch via Croatia to Hungary and the Ukrainian border. It covers rail and road, airports, ports, RRT's and, in Northern Italy, also the Po river inland waterway.

Venice, Trieste, Koper are identified as potential projects for financing from the "Connecting Europe Facility" for port interconnections and the further development of multi-modal platforms.

The TEN-T programme seeks enhanced multimodality on improved rail, inland waterways and maritime infrastructure, as well as innovative technologies in the field of transport to induce modal shift, reduce congestion on road, cut emissions and polluting gases, and boost transport safety and security. These objectives dovetail perfectly with the NAPA strategic objectives.

### Potential Barriers for Future Development

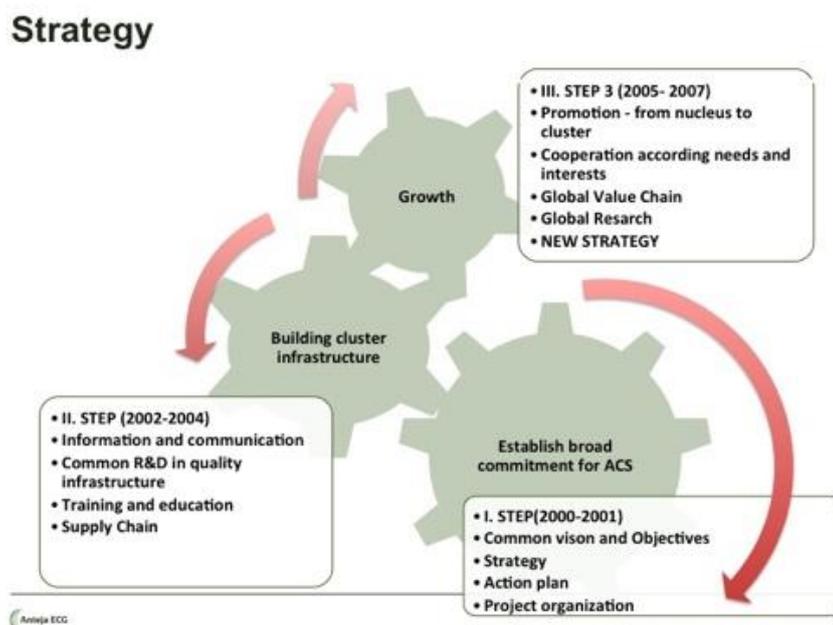
NAPA is showing very strong potential for future growth if measured in terms of port volumes and efficiency. However, as a cluster there are a number of areas that could act as barriers to the development of an integrated cluster rather than a loose confederation in terms of its membership, diversity and range of activities.

The NAPA cluster is at a relatively 'emerging' early stage in its development and, in identifying both potential opportunities and barriers to future growth, the comparison with a successful 'mature' cluster is proposed as a template through which to identify a potential future trajectory for NAPA.

The Automotive Cluster Slovenia, formed in 2000 and presented at the Koper Focus Group, has been recognised example of good practice (Best Cluster Management EU Award, 2006) is used as the comparator model.

Based on the original mapping of the automotive sector in Slovenia, a 3 step strategy was developed and followed from initiation in 2000 through to maturity in by 2007.

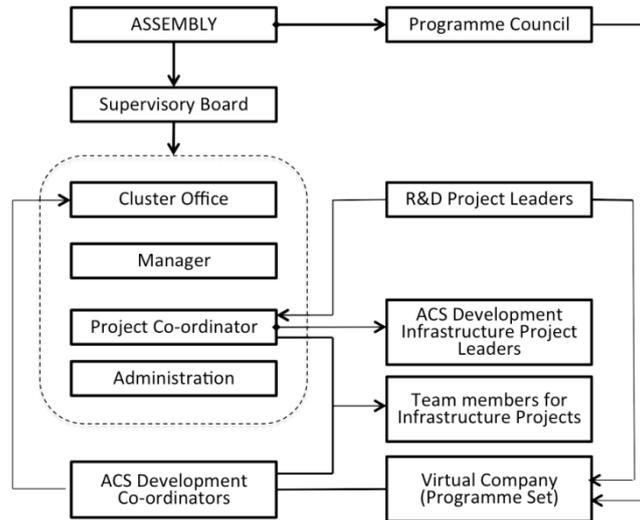
### *The Automotive Cluster Slovenia (ACS) Strategy 2000-2007*



The ACS Strategy is based on a comprehensive mapping of companies, universities, research and training institutions, service providers, and support organizations. NAPA has not carried out such a mapping and benchmarking exercise.

Using the ACS 3 steps illustrates key stages NAPA could follow to develop as a mature cluster.

*Step 1: Establish Broad Commitment for the Cluster: Mapping and Organisational Structure*



- Common Vision and Objectives - NAPA have agreed a common vision and objectives, a strategy and organisation;
- Strategy – NAPA agreed a comprehensive strategy and vision in 2013;
- Action Plan – the NAPA Strategy does identify a number of common actions and this is translated into a 2014-2020 Action Plan and Coordinated Ports Development Plan described above;
- Organisation and Governance - NAPA currently lacks the central organisational structure, cluster administration, project management and other tasks being shared between partners. The central organisation of ACS on the other hand provides a single point of access, project management and coordination. The current NAPA procedure is to rotate the presidency annually around the members, along with core secretariat duties. Whilst this is a valuable method of ensuring a democratic decision-making, it could impact negatively on continuity and capacity as the cluster matures.

*Step 2: Building Cluster Infrastructure*

- Information and Communication – this an area in which NAPA is very strong, having an outward facing marketing focus and developing common ICT platforms along with regular meetings and a rotating Presidency;
- Common R&D – this is recognised as a potential weakness by NAPA itself, and the cluster has yet to develop a common training and education strategy, along with the institutional partnerships necessary to deliver it. The ports sector is a fast developing one as technological and market conditions evolve rapidly. The size of ships, for example, is increasing dramatically with the introduction of 400 metre “Triple E” container ships ("Triple E" - "Economy of scale, Energy efficient and environmentally improved"). Environmental standards in port operation and in areas such as capital and maintenance dredging are becoming ever more stringent. Global market conditions are also evolving rapidly as discussed above. The cluster will need to continually innovate to provide hi-tech services, efficiency and respond to new market conditions;

- Supply Chain - although NAPA differs from ACS as a logistics rather than a manufacturing cluster, the importance of the wider supply chain is illustrated by the data for economic penetration in the Karst-Coast region presented earlier.

### *Step 3: Growth*

- Promotion from Nucleus to Cluster – NAPA is relatively narrowly focussed in terms of its promotion as a cluster, focussing on global positioning rather than local expansion within the sector or related maritime economic or logistical activities. The ports depend on a complex land-based logistics supply-chain and services within the wider northern Adriatic regions, with potential benefits based on the ‘Coopetition’ principle on which NAPA is based;
- Cooperation According to Needs and Interests – existing NAPA partners collaborate effectively on a needs and interest basis;
- Global Value Chain and Global Research – Through the MDS Transmodal study on the NAPA’s container market potential referred to above, NAPA has clearly identified a global value chain and global research, having a clear idea of target market, future market trends and technologies. NAPA have clearly recognised the need to cooperate on scale to respond to the agglomeration of shipping companies and the size of vessels. The key points identified include:
  - Trade growth & larger ships at all European ports;
  - Deeper water facilities at NAPA ports & competitive market to attract more direct calls;
  - Longer trains for inland distribution from all European ports;
  - Predicting:
  - Total growth of 227% for North Adriatic ports compared to 66% market growth to reach 5.9 MTEU
  - North Adriatic share increases from 5.5% to 11.3%

From the above analysis the NAPA cluster is well-placed to move into a more mature stage, in particular by addressing the key areas identified above.

In summary, key areas for NAPA to develop as a cluster include:

- Centralised governance - NAPA currently lacks the centralised organisational structure; such a centre could provide a single point of access, project management and coordination;
- Development of common R&D – this is recognised as a potential weakness by NAPA itself, and the cluster has yet to develop a common training and education strategy;
- Promotion from Nucleus to Cluster – widening the focus on global marketing to include local expansion within the sector or related maritime economic or logistical activities.

### *Market Transition*

A concern to some partners is the risk to the future intensity of cooperation posed by potential privatisations of some members. As outlined above, Venice, Trieste and Rijeka ports are public authorities, Koper, as a public limited company is the only exception. The transition of statutory ports into the private sector through sector reform is recognised as an issue, and some preparatory research of the UK experience has been undertaken.

Although the experience of clustering to date has clearly demonstrated the value of the cluster to global competitiveness, the ports sector has been subject to increased agglomeration of ownership by global players who may not share the cluster values.

### **Solutions to overcome barriers**

Although NAPA has a very clear vision and strategy and an action plan, it lacks a business plan specifying in detail how this is to be achieved. Should NAPA agree to extend and deepening the cluster, a business plan could also provide an important vehicle.

Cluster Business Plan - There are many templates for business plans, but such a plan for NAPA could consist of the following:

- Description of the cluster, setting out the core concept of the cluster, its USP, key partners and targets. Also describing its legal, constitutional form;
- Mapping of potential cluster membership and strategic partnerships;
- Goals and objectives of the cluster (quantitative and qualitative) and important milestones;
- Planned investment, R&D, education and training and strategic investment projects;
- Governance, organisation and management including the management structure, procedures, governance principles, organisation chart etc.;
- Marketing analysis and strategy;
- Financial analysis setting out the operational plan for the next 5 year period, cost structures and cash flows, investment planning and finance needs;
- Opportunities and threats and future scenarios.

Regional and local government – given the cross-border nature of NAPA and its strategic ambitions, the role of national and regional governments in creating and enabling environment is critical. The development and management structures for the forthcoming ETC programmes should recognise NAPA as a key player in achieving the programme objectives.

The inter-governmental Permanent Forum of Dialogue and Cooperation between Italy, Slovenia and Croatia recognises the importance of support for NAPA.

At their meeting in 2013, Italian Prime Minister, Enrico Letta, declared: *“with regard to the North Adriatic ports we wish to cooperate and overcome an unproductive and meaningless competition and contrast among our ports that are very important, but if we compare them with our competitors from China and Korea clearly dimension forces our ports to cooperate and we want cooperation among the ports of North Adriatic”*.

The EU Strategy for the Adriatic-Ionian Region (EUSAIR) the macro-regional strategy to support cooperation among eight countries in the Adriatic and Ionian region is seen as a potential vehicle for supporting NAPA's objectives. The cluster's objectives fit closely with the objective of EUSAIR, namely to promote sustainable economic and social prosperity of the Region through growth and jobs creation, by improving its attractiveness, competitiveness and connectivity, while preserving the environment and ensuring a healthy and balanced marine and coastal ecosystems. In particular, NAPA's objectives are aligned with three of EUSAIR's four pillars:

- Driving innovative maritime and marine growth;
- Connecting the region (transport and energy);
- Preserving, protecting and improving the quality of the environment.

Given the scale of operations and maritime traffic based on the NAPA ports, NAP will also be key player in the Strategy. The NAPA cluster is however heavily focussed on just three adjoining countries, and the achievement of its strategic objective would create a massive centre of gravity in the northern Adriatic. Extending the benefits or lessons of the cluster to the wider sea-basin is a matter for the Strategy to consider.

### **Lessons for other clusters/sub-sea-basins**

NAPA's key message to other sea-basins is as a 'multi-port gateway' operating on a cross-border basis. NAPA is looking to challenge the very top tier of ports in Europe, however the lessons of 'Coopetition' potentially apply to ports operating at medium and smaller scales, and to ports in

areas on other global trade routes, such as the Black Sea, the Baltic, or even the northern Arctic routes as they develop. NAPA as a 'multi-port gateway' is a model response to a period of transition in the nature of European ports, their cargo, their governance, and a potential model in responding to the following in particular:

- The growth of economic centres in eastern and central Europe, the Nordic triangle and the Iberian Peninsula competing with Europe's traditional economic heartland is opening possibilities for new load centres and inland transport corridors;
- The Europe-Far East trade is becoming the most important international trade route. The growth of the Far-East has reoriented the focus of many container ports towards the east. This implied a shift from the Atlantic to the Suez route, opening opportunities for the Mediterranean to play a more important role in accommodating international trade flows;
- The deployment of large and super container vessels of up to 15 000 TEU and more, mainly deployed on the Europe-Far East route. Such vessel developments have increased infrastructure and dredging pressures on European terminal ports, and on port turnaround times;
- The consolidation of logistics service providers, shipping lines and terminal operators. This has led to powerful global terminal networks, carrier groups and third-party logistics service providers (3PL). This process was further enhanced by vertical integration strategies of market players and the emergence of megacarriers. As a result European seaports increasingly have to deal with clients with strong bargaining power with regard to terminal operations;
- The European port system has witnessed significant advances in inland transportation. Modal shifts and 'co-modality' policies have been implemented aimed at stimulating the use of inland waterways, rail and short-sea shipping;
- Major changes in port governance as port and harbour authorities around Europe have changed their status via commercialisation, corporatisation and privatisation processes;
- Finally, ports need to comply with ever higher environmental regulatory requirements (e.g. the EC's Birds and Habitats Directives and the Water Framework Directive), safety and security (e.g. the ISPS code). Ports must demonstrate a high level of environmental performance in order to continue to operate.

In this new environment, stand-alone ports are isolated as both the hinterland and maritime traffic is highly contested, and neighbouring ports vie for the same cargo flows. 'Multi-port gateways' such as NAPA are able to exploit the complementarity and competitiveness among the ports concerned, along with the communality in hinterland connectivity.

NAPA is seen as a model of such a Multi-Port Gateway and has already been used as a model for the potential Multi-Port Gateway Black Sea West. Based on the example of NAPA the possible benefits of cooperation between participating ports in the west Black Sea are seen as:

- Joint international presence in the region and the ports;
- Common strategic goals in international competition;
- Development of common technical standards;
- Joint procurement;
- Joint presence at trade fairs;
- Through these activities results in high savings potential;
- Expansion of the specific strengths of each partner;
- Response of the funding for joint activities EUSDR;
- Common organization of the land and river transport links (Hinterland connections);
- MPBS supports the development plans of its individual members;
- A strong partner for the surrounding regions.

### Description of the cluster

Greece is a maritime nation with Europe's longest coastline and more than 2,500 islands. Maritime sectors traditionally played a very important role in Greek economy. The birth of the Piraeus Maritime Cluster is attributed to the Greek-owned shipping companies (the Greek merchant fleet is among the biggest globally). Piraeus is characterized as a **mature, place based, informal** cluster in the sense that there is no established governance for its management. This does not negate the very important role played by individual stakeholders, operating in maritime sectors and their supporting services. However, there is a lack of the institutional form that will plan actions and policies that will leverage the synergies and help to disseminate knowledge by increasing the total added value. The leadership involves professional, public and semi-public bodies according to their power of influence. In this context, the ship owners, professional bodies, the Piraeus Container Terminal (PCT; the local subsidiary of China's COSCO Pacific), the Port Authority of Piraeus (PPA) and the Ministry of Mercantile Marine are the key players. Research bodies do not play an important role in the leadership of the cluster.

At the beginning of 1960's the number of shipping companies located at Piraeus increased rapidly due to the implementation of favourable tax and labour regulation and legislation (Laws 89/67 and 375/68) but also due to large number of small, Greek 'one-ship companies' that chose Piraeus as their operation centre<sup>33</sup>, attracting at the same time other supportive activities, marine layers, banks with marine financing departments, marine consultants, marine equipment and ship-suppliers, marine academies. In parallel, the port itself has developed its own activities. Important milestones are the construction of big port projects and the establishment of Piraeus Port Authority back in 1924-1930. In 1959, the first passenger terminal was inaugurated and following the global trend for the containerization of merchant transportation, the first container terminal started to be constructed in 1978 and in 1986 its expansion was completed.

Evolution of head offices of Greek-owned shipping companies 1914-1990

Head offices	1914	1938	1958	1975	1990
Piraeus	62%	96%	18%	34%	66%
London	9%	1%	45%	39%	22%
Istanbul	14%	/	/	/	/
New York	/	/	37%	18%	7%
Other locations	15%	3%	/	9%	5%

Source: Charlaftis19961

The main economic activities (MEA) identified include Deep sea shipping, Short sea shipping, Passenger ferry services, Cruise tourism and Catching fish for human consumption. Additional MEAs include shipbuilding/ship repair (in stagnant phase), Yachting and Marinas.

### Dimension and performance

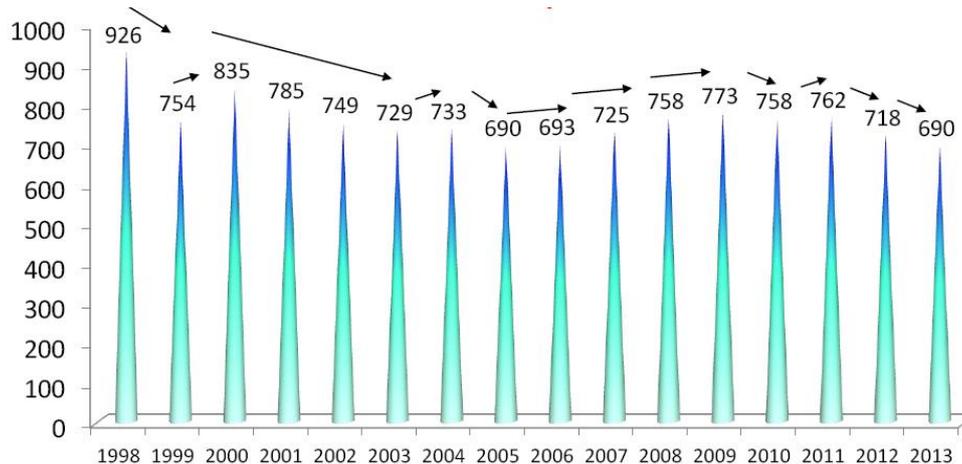
There is no single official record enlisting companies established in Piraeus<sup>4</sup>. From the available literature, the employment in the cluster, direct and indirect, is significant as the estimated number of enterprises involved is about 2,900 resulting to an estimate of 37,700 direct jobs in the private sector and about 10,000 for the public sector (it includes the employees of the Ministry of Merchant Marine and Coast Guard, the Port Authority of Piraeus, the Greek shipping register and the General

<sup>33</sup> Charlaftis G. (1996) 'History of Greek-owned shipping. The making of an international tramp fleet, 1830 to the present day' London, Routledge, 1996.

Directorate of Fisheries). The estimated number of enterprises is as follows (based on Picasa et al., 2009<sup>34</sup> and Petrofina Research 2013<sup>35</sup>):

- Greek shipping cluster core - 690 firms: It consists of owners and operators of mostly bulk carriers and oil tankers. Of the 773 companies operated in 2009 in the core of the cluster, the four biggest players have a market share of only 19%. The market is therefore highly competitive, with a multitude of small, family-owned firms. A large number of shipping firms operate subsidiaries in London and/or New York, where they mainly perform financial activities, taking advantage of the strength of the financial cluster in these two cities. A few companies though maintain their headquarters in these cities, with the vast majority being based in Piraeus;
- Is a large concentration of technical offices or individual brand firms specializing in technical consultancy, ship design and surveying in Piraeus. **Maritime services - over 1200 firms:** There In total, there are at least 168 marine consulting firms active in the greater area of Piraeus, mostly addressing the demand created by shipping companies located in the area. Maritime service firms include ship brokers and agents (290 firms), specialized legal services (big firms and individual lawyers, counting over 100 lawyers in the core area of Piraeus), specialized finance (over 210 banks and firms specializing in financial services for the maritime sector in Piraeus, including local banks and firms as well as international institutions, most prominently Royal Bank of Scotland and HSBC), underwriters and maritime insurance firms, as well as port security operators;

Evolution of the Greek shipping companies.



October 2013

PETROFIN RESEARCH ©

Source: Petrofin Research 2013

- Maritime equipment and suppliers – under 600 firms: This group of companies includes ship equipment manufacturers and spare parts suppliers (400 firms) as well as machinery and engine repair firms (160)<sup>2</sup>. A number of firms produce spare parts locally, though most act as agents of international manufacturers, coordinating the delivery of spare parts in international ports. This cluster also includes companies directly engaged in ship repairs and other engineering activities. These activities are international in scope as missions of engineering and shipping specialists are sent to designated ports worldwide. Approximately 450 companies active in ship repair occupy about 5,000 employees<sup>36</sup>. Despite the prosperous years in the

<sup>34</sup> Lorenza Icaza, Sandro Marzo, Tatiana Popa, Ussal Sahbaz and George Saravelos, 2009. The Greek Shipping Cluster, Harvard Business School, Microeconomics of Competitiveness, [http://www.isc.hbs.edu/pdf/Student\\_Projects/Greece\\_Shipping\\_2010.pdf](http://www.isc.hbs.edu/pdf/Student_Projects/Greece_Shipping_2010.pdf).

<sup>35</sup> See: [http://www.petrofin.gr/Upload/1stdPart-2013-Petrofin\\_Research-GreekCompanyStatistics.pdf#page=1&zoom=auto,0,696](http://www.petrofin.gr/Upload/1stdPart-2013-Petrofin_Research-GreekCompanyStatistics.pdf#page=1&zoom=auto,0,696).

<sup>36</sup> Pardali A., Kounoupas E., Lainos I. Regional Development through port-maritime cluster formulation in the wider Piraeus area: Innovation and extroversion as an antidote to crisis. [http://www.pcci.gr/evepimages/E17\\_F2770.PiraeusPortcluster.pdf](http://www.pcci.gr/evepimages/E17_F2770.PiraeusPortcluster.pdf).

past, all these facilities are today under-utilised, suffering from a long lasting crisis and the above figures must be read with caution.

- The Port also serves Container transportation, Passengers ferries, cruise tourism and a car terminal. It seems that Piraeus cluster is a bi-polar maritime cluster where Shipping companies and Port are the main tiers, around which other nodes of the value chain are attracted and have developed intense interdependencies.

The Strategy and Economic Research Division of the National bank of Greece estimated the total value added of the broader maritime cluster of Piraeus to be €4.2 billion (excluding cruise)<sup>37,38</sup>. The shipping sector has a value added of €2.2 billion whereas the container handling offers about €0.4 billion to the Greek economy<sup>6</sup>. The cruise sector's annual revenues reached €605 million in 2011<sup>39</sup>. If Piraeus and Greece will manage to achieve its targets in transit containers (1 million TEUs/year), the value of the cluster will increase to €9.3 billion (plus €5.1 billion) in the next 5-10 years (without the cruise sector).

### *Key achievements/challenges so far*

Greece is considered as one of the leading shipping nations on a global scale with 3,695 vessels of total 244,850,578 deadweight tonnage (DWT), ranking 1st in the world DWT with 15.17%<sup>40</sup>. Two thirds of the fleet is operated from the greater area of Piraeus<sup>2</sup>.

In container transportation, the Port of Piraeus has shown signs of decline in the previous decade, but the strategic alliance with the Chinese COSCO in recent years, revitalized the potential for future development, overthrowing the past bleak prospects. The port's growth is primarily due to Piraeus Container Terminal (PCT), the local subsidiary of China's COSCO Pacific, which handled 2.52 m TEU last year (2013) at its concession terminals II and III. With the 0.6 m TEU handled at the Piraeus Port Authority (PPA)'s terminal I, the 2013 total is 3.164 m TEU, making Greece's largest port the fastest growing in the world. The Piraeus port ranked 3<sup>rd</sup> in 2013 in terms of TEU in the Mediterranean<sup>41</sup>, behind the Spanish ports of Valencia (ranked 1<sup>st</sup> with 4.46 million TEU) and Algeciras (2<sup>nd</sup> with 4.1 million TEU) and it is estimated that it will be the busiest and biggest container terminal in the Mediterranean by 2016<sup>9,42</sup>. This will be achieved through a new promoted Agreement between PPA and PCT, which will almost double the capacity.

So far, transshipment is the primary driver for Piraeus' impressive dynamics during the past three years, as it accounts for 75% of the port's container traffic<sup>6</sup>. A new railway track, with a length of 17 km, now connects the commercial port of PPA with Thriasian freight centre of OSE SA and the national rail network. This links the port with trains to offer cargo-train shipping, the so-called 'block trains', and can increase Piraeus's cargo handling capacity by 60 per cent, allowing the transshipment traffic to increase by two thirds over the next seven years to an annual 6.2 million TEUs and leave room for transit traffic<sup>43</sup>. A major challenge and a significant untapped potential is the utilisation of the geographic position as a gateway for transit traffic (mainly Piraeus and Thessaloniki) that could reach 1.2 million TEUs in 2015, from only 45,000 TEUs in 2012, as the

<sup>37</sup> Fragiska Voumvaki, Focus Group discussion for Piraeus, 5/2/2014.

<sup>38</sup> Mylonas, P., Voumvaki, F., Savva, M. and Koutouzou, A., April 2013. Container ports: an engine of growth. Sectoral Report, National Bank of Greece. [http://www.nbg.gr/wps/wcm/connect/dd91476f-c573-49cc-abc5-9298c02e32a8/Container\\_Ports\\_2013.pdf?MOD=AJPERES](http://www.nbg.gr/wps/wcm/connect/dd91476f-c573-49cc-abc5-9298c02e32a8/Container_Ports_2013.pdf?MOD=AJPERES).

<sup>39</sup> Mylonas, P., Voumvaki, F., Savva, M. and Koutouzou, A., August 2012. Cruise: a sector with potential revenues of 2 billion€. National Bank of Greece. <https://www.nbg.gr/wps/portal/el/THE-GROUP/Press-Office/E-spot/Reports/content/Reports/cruise-el-2012>.

<sup>40</sup> UNCTAD Review of maritime transport 2013 ([http://unctad.org/en/publicationslibrary/rmt2013\\_en.pdf](http://unctad.org/en/publicationslibrary/rmt2013_en.pdf)).

<sup>41</sup> Ilias Bellos, 'Piraeus Port Becomes Med's Third Biggest in Container Traffic', Ekathimerini, 29 January 2014, [http://www.ekathimerini.com/4dcgi/\\_w\\_articles\\_wsite2\\_1\\_29/01/2014\\_536928](http://www.ekathimerini.com/4dcgi/_w_articles_wsite2_1_29/01/2014_536928).

<sup>42</sup> <http://greece.greekreporter.com/2014/01/30/piraeus-fastest-growing-port-in-2013/>.

<sup>43</sup> In transit, the port is used as a gateway for cargo to reach its final destination using the country's land transport network. It should be noted that the transit sector offers far more revenue and value added to the Greek economy than the transshipment sector (about 4.5 times more per TEU), as it also creates the corresponding land freight transport business (source NBG, 2013, see footnote No.6).

appropriate investment in land transport is now almost completed. It should be noted that the transit sector offers far more revenue and value added to the Greek economy than the transshipment sector (about 4.5 times more per TEU), as it also creates the corresponding land freight transport business. The PCT-Hewlett Packard (HP)-TRAINOSE deal for the transportation of HP products through the Piraeus terminal is finally about to be put into action, albeit on a pilot basis<sup>44</sup>. HP products will load in Shenzhen, China and reach through Piraeus their final destination, Kutna Hora at the Czech Republic, in 22 days. In comparison to the alternative routes currently in operation, the new multimodal transport route will be one week shorter for the delivery of HP cargo. The success of this new opportunity will highly depend on the ability of quick upgrading and inefficiency solving of railway network.

A network of non-maritime companies (mostly manufacturers and to a smaller degree logistics and other supporting activities) operates in the wider area around the port of Piraeus. The wider industry and logistics complex of the Thriasio area currently generates value added of about €1.9 billion<sup>6</sup>. A real challenge exists here to promote the Thriasio area as a regional logistic centre (hub) – as prescribed by COSCO's strategy up to now - which will enhance the value added of the maritime cluster of Piraeus.

Another success story for Piraeus is its car terminal from which about 450,000 cars loaded/unloaded during 2012-2013 from Japan, South Korea and India (PPA data<sup>45</sup>). In 2013, 448,682 cars (386,865 transit and 61,817 for the local market) were handled<sup>46</sup>, posting an increase of 7.4% in traffic from 2011, and a rise of 62.3% from 2009.

Passenger services: Piraeus connects the vast number of Aegean islands and Crete with mainland, contributing in the territorial cohesion of the Country. It had a throughput volume of about 20 million passengers per year until 2011, 18 million passengers in 2012 and 15.4 million in 2013<sup>47</sup>.

Cruise tourism. Greece is trying to secure its position among the Mediterranean competitors (Italy and Spain). After a sharp decline in cruise passenger arrivals at Greek ports in 2011 resulting in Greece falling from first in 2009 to third in 2011, passenger arrivals increased by nearly 7% in 2011 to 4.8 million cruise passengers and remained virtually unchanged in 2012. Piraeus, Santorini, Mykonos and Rhodes were the leading destination ports. Piraeus ranked 4<sup>th</sup> in 2012 with 1,199,000 passengers<sup>48</sup>. The trend of cruise tourism towards new destinations in the Eastern Mediterranean and Black Sea region further strengthens the prospects of Piraeus for future development.

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<sup>44</sup> Alexandra Kassimi, "Trainose finally implements deal with Hewlett Packard", [http://www.ekathimerini.com/4dcgi/\\_w\\_articles\\_wsite2\\_1\\_19/02/2014\\_537534](http://www.ekathimerini.com/4dcgi/_w_articles_wsite2_1_19/02/2014_537534).

<sup>45</sup> See: <http://www.olp.gr/en/services/car-terminal>.

<sup>46</sup> See: <http://www.olp.gr/en/services/car-terminal/item/622-productivity-%E2%80%93-statistics>.

<sup>47</sup> See: PPA statistics <http://www.olp.gr/en/stats>.

<sup>48</sup> Cruise Lines International Association (CLIA) Europe Economic Impact Report 2013.

<http://www.europeancruisecouncil.com/content/CLIA%20Europe%20Economic%20Impact%20Report%202013%20Edition.pdf>.

Leading cruise ports in 2012. Thousands of passengers					Piraeus Cruise tourists	2009	2010	2011	2012	2013
Port	Revenue Passengers, 2012				Home porting	415.260 (20%)	426.147 (23%)	454.284 (18%)	329.168 (16%)	
	Embarking	Disembarking	Port Call	Total						
Mediterranean Top ten										
Civitavecchia	460	460	1,270	2,190	Transit	1.612.746 (80%)	1.438.510 (77%)	2.063.087 (82%)	1.737.757 (84%)	
Barcelona	608	608	1,049	2,049						
Venice	722	722	332	1,776						
Piraeus	165	165	869	1,199						
Naples	80	80	1,030	1,190						
Livorno	27	28	983	1,038						
Palma Majorca	233	233	519	985						
Dubrovnik	7	7	937	951						
Santorini	0	0	839	839						
Savona	323	316	171	810						
Total					Total	2.028.006	1.864.657	2.517.371	2.066.925	2.296.457

Source: CLIA Europe Economic Impact Report 2013<sup>16</sup>

The challenges for the Piraeus cruise tourism include the increase in the share of home porting versus port-of-call passengers.

### Latest developments

- In March 2013, Hewlett Packard (HP) decided to relocate a major part of its distribution activities from Rotterdam to Piraeus. It did so through a deal with COSCO and Trainose (Greece's national railway subsidiary). HP will use Piraeus as the main ocean-freight gateway for South, Central and Eastern Europe, and North Africa and some parts of Middle East. Products up to 20,000 TEUs will be shipped from China to Piraeus and reshipped from Piraeus to Mediterranean ports and Black Sea ports and through rail transport to the Balkans, Hungary and the Czech Republic;
- The Greek Government has set up the Hellenic Republic Asset Development Fund (HRADF) which has as a mission to maximize revenues for the Government from the development and/or sale of public bodies and assets<sup>49</sup>. This includes the privatization of the PPA and the terms of the international tender process for the sale of 67% of PPA approved and an Expression of Interest (EOI) launched on March 5, 2014 expecting offers by April 28<sup>th</sup><sup>50</sup>. All the opposition parties are against the selling of PPA's shares, proposing the concession mode, but there is strong evidence that the project will move ahead;
- On 28<sup>th</sup> of March 2014 a new agreement saw daylight between ZTE Telecommunications and COSCO according to which ZTE, a very strong player in World telecommunication industry is going to use Thriasion Park as its distributive centre and a maintenance unit will be established during the next three years and probably an assembly unit later.

### Trajectories and potentials for the future

The Piraeus cluster is in the middle of a major transition towards a new ownership form in the Port operation and management. Although the intentions of the new owner are still unknown, future developments need to focus further on its strengths, to build on its achievements so far and to create good framework conditions increasing the cohesion among stakeholders and public actors. In this perspective:

- It is essential to ensure growth potential for existing maritime industries. The maritime tradition is an invaluable asset with imperative need to preserve. Though the Piraeus cluster consists of mainly traditional maritime sectors there is lot of room for adding more value in the existing economic base, through diversification and innovative policies;
- The gateway function of Piraeus is central to any future strategy. The favourable geographical

<sup>49</sup> See: <http://www.hradf.com>.

<sup>50</sup> See: <http://www.hradf.com/uploads/files/20140305-eoi-olp-en1.pdf>.

positioning of Piraeus, the increased embeddedness of ports in the supply chains, switching hinterland modes and carriers strategy are advantages to be exploited further;

- Tourism is a driving force for the Greek economy and cruise tourism a steady growing industry for which Greece is well endowed with excellent climate conditions, short distances (quite essential feature for cruise companies due to oil costs) and rich cultural sources.

Based on the above, a case can be made for focusing on five overarching objectives: a) Strengthen the role of Piraeus as gate to the Balkans and central EU (from transshipment to transit); b) Provide added value to the car terminal; c) Boost the role of Piraeus as cruise port (also taking advantage of new international low cost airlines); d) Seize investment opportunities for ship repair (taking advantage of the new environmental regulations) in Perama Naval Repairing Zone (PNRZ) e) Focus on shipping companies, a Greek success story):

### *Evolving Piraeus from transshipment to transit*

The efforts of the Piraeus cluster to stimulate demand for sea and rail transport near the crossroads of three continents go into the right direction as they maximise the place-based advantage of Greece. Proximity of Piraeus to Suez, the point of entry for Asian products to Europe, and its rail interconnection with the national and continental networks, saves some six days for products on their way to Central Europe. The containerisation trend is towards mega-vessels due to economies of scale with main cost factor the fuel price. In this aspect every hour earned in duration of the journey is of paramount importance. Therefore Piraeus was an apparent choice to serve the incoming Asian trade towards Europe and that explains the investment of COSCO. Already one of the world's busiest passenger ports, in 2013 Piraeus became the Mediterranean's third largest container port and is one of the fastest growing ports in the world. Aiming to become by 2016 Mediterranean's top port, it envisages expansion of the container capacity. According to international estimates, one ton of port throughput is on average associated with US\$ 100 of economic value added, and an increase of one million tons of port throughput is associated with an increase in employment in the port region of 300 jobs in the short term<sup>51</sup>.

Distance of Piraeus port from other ports.

	DISTANCE	HOURS
THESSALONIKI	252	11
ISTANBUL	352	15
PORT SAID	593	25
ASHDOD	657	27
CONSTANZA	548	23
KOPER	835	35
GENOA	972	41
MARSAXLOKK	517	22
NOVOROSIYSK	808	34
GIBRALTAR	1481	65

Source: Piraeus Port Authority.

Recent evolutions show an increasing number of Asian conglomerates expressing their interest to make Piraeus a European transit hub. And not only Asian companies, but also Hewlett Packard and others such as IKEA come to the same conclusion.

<sup>51</sup> OECD The competitiveness of Global Port-cities, a synthesis report, edit by Merck, O.

It should be noted that the transit sector offers far more revenue and value added to the Greek economy than the transshipment sector (about 4.5 times more per TEU), as it also creates the corresponding land freight transport business. The NBG's report forecasts that international container traffic may increase further and this potential growth would entail an additional 0.5 million TEU per year in transshipment and 0.9 million TEU per year in transit. More importantly, the aforementioned increase in revenue would create about 9 000 new jobs (based on each sector's labour productivity) by 2015<sup>6</sup>;

#### *Provide added value to the car terminal*

PPA has dynamically expanded work in the area of car transportation (car terminal), making Piraeus an international car terminal hub in the Mediterranean, with a total capacity of handling 600 000 movements annually. The demand for transit vehicles in the Eastern Mediterranean and North Africa places Piraeus in the centre of developments. The list of port customers now includes all major Asian companies and many European car industries. Piraeus has competitive advantage towards other East Mediterranean car terminals. North Africa terminals have no sufficient depth, there are unfavourable climate conditions (sandy winds) and high damage rates. Even Turkey uses Piraeus for its car exports<sup>52</sup>. In the years after 2010, Piraeus has managed to record positive growth rates in car handling despite the financial crisis, during a period when rival terminals in Italy either ceased operating (Gioia Tauro) or recorded a decline (Livorno)<sup>53</sup>.

The challenge for Piraeus is not just about the loading or unloading of cars. Piraeus can adopt practices used by other car terminals, such as Zeebrugge in Belgium. Such practices include technical interventions like optional extras being fitted, waxed or de-waxed, painted, and adaptation to the needs of end buyers in logistic centres certified by the automotive industry<sup>54</sup>. The development of this activity could certainly add value to the Piraeus car terminal as it will diversify the services offered and create demand for ancillary services in the broad automotive sector.

#### *Boosting the role of Piraeus as cruise port*

Cruise is one of the most dynamic shipping sectors offering a variety of itineraries through the use of different ports. A cruise port is, in principle, interested in being a homeport for one or more cruise companies. This is due to the high economic impact of this status for the port and the port related city. Three sources act as income generators: (a) the cruise companies themselves; (b) the cruise passengers and (c) the vessels crews<sup>55</sup>. It has been recently estimated that a cruise passenger spends six to seven times more money in the homeport than in a port-of-call, whereas every €1 million in expenditures by the cruise industry creates €2.3 million in business output and 22 jobs (GP Wild and BREA, 2007<sup>56</sup>). Though Piraeus appears in the CLIA Europe report 2013 as the fourth Mediterranean home port<sup>16</sup>, the relevant figure actually combines port-of-call visitors as well as home port passengers. As Table 2 in section 1 shows, only 16% of Piraeus cruise tourists are home porting (2012 data).

Stepping up the role of home port would have a huge impact in the revenues as the average consumption of home port passengers are €600 versus €80 for port-of-call tourists attributed to both passengers and cruise lines (see Fig. 2). This difference in added value consists from the part of passengers in accommodation, food, and airfares, transportation in general, sightseeing and tourist items. By contrast, passenger visits to ports-of-call are of short duration (4 to 6 hours) and average spending per passenger is around €60, mainly concerning food, tourist items,

<sup>52</sup> Interview with PPA officer.

<sup>53</sup> See: [http://www.ekathimerini.com/4Dcqi/4dcqi/ w\\_articles\\_wsite2\\_1\\_29/01/2014\\_536928](http://www.ekathimerini.com/4Dcqi/4dcqi/ w_articles_wsite2_1_29/01/2014_536928).

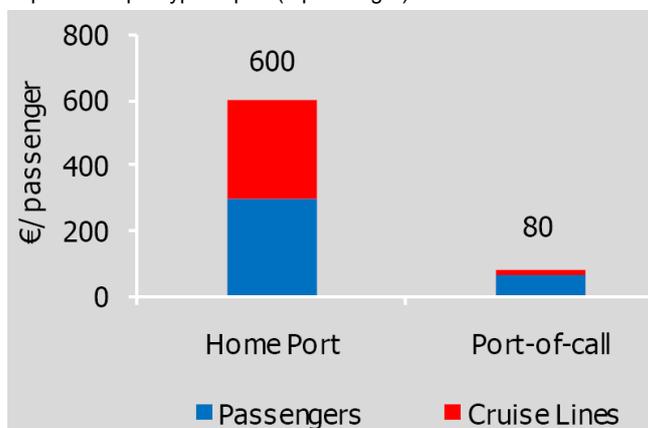
<sup>54</sup> See: <http://www.automotivesupplychain.org/features/130/79/Zeebrugge-still-top-of-the-tree/>.

<sup>55</sup> Lekakou, M., B., Pallis, A., A., Vaggelas, G., K., (2009). "An analysis of cruise industry's selection criteria". Paper presented at the International Association of maritime Economists Conference, 24-26 June 2009, Copenhagen.

<sup>56</sup> Cited in footnote 23.

transportation and sightseeing<sup>7</sup>. Cruise lines usually use home ports as their base for the provision of fuel, food and other equipment and where they carry out the bulk of ship repairs. In a scenario that 2/3 of the passengers that visit Greece start from Greek ports, the international increase of tourists could bring revenues of €2 billion in 2016 from € 0.6 billion in 2011<sup>7</sup>.

Expenditure per type of port (€/passenger)



Source: NBG, 2012<sup>7</sup>

Piraeus satisfies many of the home port selection criteria<sup>57</sup>, its proximity to Athens' touristic and cultural attractions being one of them. Recent increase in Athens International airport's connectivity and enrichment with low cost airlines enhance this possibility. Piraeus now has adequate infrastructure (a berth allocation system since 2012, 11 berths for cruise ships, and a new passenger terminal). Still missing however is fast access to the metro station, as the Piraeus Municipality blocked the plans for a monorail<sup>58</sup>.

#### *Investment opportunities for ship repair (taking advantage of new environmental regulations)*

West of the Piraeus port, an area of over 300 acres is devoted to ship building and repairing activities in PNRZ. Despite the prosperous years in the past, all these facilities are today underutilised suffering from a long lasting crisis. The strategy for PNRZ is implemented through a subsidiary of PPP, NAFSOLP S.A. which is mandated to create a strategic institution for the PNRZ, and prove that the sophisticated and much afflicted shipbuilding zone may again become creative<sup>59</sup>. The best is to make smart use of the growth potential related to environmental challenges.

This stems from the fact that a series of international regulations will soon be coming into force, including the new rules forbidding waste water and rubbish from being dumped in the sea and the introduction of ballast water management systems. Such new regulations are contained in the IMO and MARPOL Convention Annex VI, 'Regulations for the prevention of air pollution from ships'. These regulations drive systems using Liquefied Natural Gas (LNG) or dual engine systems in new ships. For existing ships it is more a matter of treating exhaust gases after treatment using exhaust scrubbers and water ballast treatment systems. As 4,000 ships operate in the Mediterranean, it is up to the PNRZ to attract investments and utilise the added value and its know-how favourably. An average cost for installing scrubbers is US\$2 million, for water ballast treatment systems US\$1 million and at least US\$3 million for LNG. The task is quite difficult as the Zone is not cost competitive. However its advantages are the know-how for sophisticated repair works, shorter repair time (if not disturbed by trade union strikes), and better climate conditions which permit open

<sup>57</sup> See: footnote 22.

<sup>58</sup> See: <http://www.informare.it/news/gennews/2012/20120019-Scontro-frontale-Autorita-Portuale-Comune-Pireouk.asp>.

<sup>59</sup> See <http://www.nazo.gr>.

air repair works all year around. Revitalisation of the ship repair zone in a competitive base is essential for shipping and cruise sectors.

In addition, some of the companies in PNRZ can materialise and implement novel ideas leading to diversification of their activities and include thoughts such as a Floating Wind Turbine<sup>60</sup>, an unsinkable platform<sup>61</sup> or a hybrid catamaran<sup>62</sup>. These products could contribute to the revitalisation of the PNRZ, but further funding of these efforts is required in order to allow their commercial production.

#### *Focus on shipping companies*

There is no Piraeus Maritime cluster without the Greek shipping companies. The objective here is twofold. First to create a supportive environment so as to keep them in Piraeus, and second to try to expand the contribution of shipping companies to the Greek economy, either by using them to attract more supportive activities, or by increasing the share of Greek maritime industry supplies. The latter though seems rather optimistic.

In Piraeus, due to the informal cluster operation, the role of the Government is still central in governance aspects. For the moment it seems that each MEA has its own strategy which is structured after time consuming procedures and dialogue of public, semi-public and private stakeholders. The strategy involves both specialisation and diversification activities but with most prominent ones the efforts for diversification towards activities that can add value to the strong points of the Greek maritime activities. These strategies have all common points especially on efforts for structural reforms (privatisation and liberalisation of the economy). Structural reforms in the maritime port sector - whether prompted by the need to increase efficiency or required in the framework of a financial assistance programme to a MS in difficulties (such as Greece) - is clearly leading to a move away from the service port model (state-owned) towards participation of private operators.

The diversification towards new activities involves the creation of new multimodal transshipment cluster and hub that will act as a logistic and regional distribution centre<sup>63</sup>. This will include not only port and railway gateways, but also assembly logistics in specifically allocated parks within the country. It may develop also to light manufacturing logistics<sup>31</sup>. The March 2013 deal between COSCO's PCT, and Hewlett Packard (HP), which will see 20,000 HP containers per year moved through Piraeus, to be distributed by rail and air to central and eastern Europe, as well as the March 2014 deal between COSCO's PCT and ZTE, has garnered hope that other companies will look at creating similar distribution hubs in Greece. There is a plan to create a duty free zone for assembly and finishing products to boost such business, using PCT, and foreign investment in the country is beginning to arrive. IKEA, Dell, LG, Samsung and Lenovo are among those that are thought to have expressed an interest in a similar deal as HP, but are reportedly waiting to find out how HP progresses<sup>31</sup>.

#### **Potential barriers for future development**

The Focus Group discussion and the following interviews revealed a number of serious barriers for the full development of the cluster:

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<sup>60</sup> See: <http://nikitasnikitakos.weebly.com/desalination-floating-unit.html>.

<sup>61</sup> See: <http://www.atioltd.com/brochures/UNFLOP-WWT-PWT-MARESINAP-BREAKWATER-General%20Presentation-latest.pdf>.

<sup>62</sup> See:

<http://www.nazo.gr/english/images/stories/News/PresentationMarineTech%20Summit2013/Hybrid%20Catamaran%20Marvin%20Greece%20Busan%20September%202011.pdf>.

<sup>63</sup> Alex Lennane, 'Hewlett Packard-COSCO Deal Spurs Optimism in Greek Logistics', 7 November 2013, <http://theloadstar.co.uk/hewlett-packard-COSCO-deal-spurs-optimism-in-greek-logistics/>.

### *Red tape, legal and institutional framework*

- Bureaucracy results in lack of action or delays in action by the central Government that led to lost opportunities for the Piraeus cluster and lack of state continuity for the policies of the maritime sectors;
- Although a number of structural reforms have been achieved<sup>64</sup>, including labour market reforms and business environment reforms, there are still some drawbacks. For instance, the Law 41/50/2013 has been into force since 28<sup>th</sup> of April 2013, but has so far not been implemented. It is a law that under Article 43 foresees the creation of the “Independent Supervisory Authority”, to ensure supervision of the port service charges levied by operators and possible market distortions in port operation. This is an instrument necessary in the route for port privatization. Accordingly, with the provisions of Articles 39 and 40, the “Attica Port System” must be created, i.e. the merging of the Attica ports (Piraeus port with Elefsina, Rafina and Lavrio). This delay postpones the reform of the Greek port system part of which is the creation of Central Port Networks. Another example is the recent attempt of the Greek state to transform a voluntary contribution of financial aid given by the ship owners to help government in this troublesome economic situation to an obligatory one;

### *Working relations and working conditions*

Trade Unions especially of port workers and ship repair workers are internationally very strong. Piraeus trade unions continuously opposed to any reform, mainly privatization of the port, leading to malfunction of operational activities. Ship repair workers bare a part of the blame for the languishing activity in naval repair zone. Arbitrary behaviour by ship repair workers, discourages ship owners from delegating their ships’ repair and maintenance to Piraeus and prefer other shipyards in Turkey and Black Sea. Even today, when the sector of ship repair faces perhaps the worst recession rates, trade unionists show an uncompromising attitude. In this way they cancel their competence advantages of a creative know how and faster work completion than their competitors in nearby countries. Revitalization of the PNRZ is blocked by such an attitude. On the opposite side stands COSCO’s labour model which by keeping the permanent workers below the 300 (using temporary workers from a subcontractor), skips the formation of labour union. It is worthwhile mentioning that initial fears that COSCO’s investment would create a China Town in Piraeus have been dashed: out of 297 permanent workers only 6 are Chinese and none so from the temporary workers.

### *Spatial congestion*

The full expansion of activities described in section 2 may be limited by adequate space. There are already some thoughts and plans for relocating some of the port activities.

### *Barriers specific to cruise development*

The cruise industry is an oligopoly and the market power is retained by cruise companies while ports have to fulfil cruise companies requirements in order to be a destination and even better a home port.

Industry’s representatives complained about unreasonable increases in fees and levies imposed on cruise ships<sup>65</sup>. The truth is that Piraeus has average prices; it is cheaper than Barcelona, Civitavecchia, and Istanbul and more expensive compared to Ephesus and Venice. In addition Piraeus is among the most profitable ports in the Mediterranean for cruise operators<sup>66</sup>. Though Piraeus with the new investment plan of PPA has upgraded its cruise infrastructure and port services, the satellite ports-of-call in Greek territory lack sufficient infrastructure. The same holds

<sup>64</sup> See Greek National Reforms Programme 2013 [http://ec.europa.eu/europe2020/pdf/nd/nrp2013\\_greece\\_en.pdf](http://ec.europa.eu/europe2020/pdf/nd/nrp2013_greece_en.pdf).

<sup>65</sup> Neil Palomba, 2012, See: [http://www.europeancruisecouncil.com/content/NP-%20Posidonia%20Forum\\_FINAL.pdf](http://www.europeancruisecouncil.com/content/NP-%20Posidonia%20Forum_FINAL.pdf).

<sup>66</sup> Interview with Mr. Athanasios Karlis, Director of Strategic Planning, Piraeus Port Authority, 14 March 2014.

true for berth allocation. In many Greek ports berth assignments follow a first-come-first-served basis and this is not accepted by the cruise industry.

Cruise operators point to the lack of a common cruise port policy throughout Greek ports, including common port and services tariff philosophy, berthing and security standards (that leads us again to the delays in activating the law mentioned at the beginning of this section).

#### *Market power of the new owner of port management*

Though it is not a barrier as such, the market power of COSCO is expected to enhance Piraeus competitiveness. The need is clearly felt to adapt to the new ownership structure and restore balances in doing business.

#### *Absence of ship repair limits the cluster's value*

Ship repair is vital because it has both forward and backward linkages and can form a cluster or sub-cluster by itself. Apart from the Perama Zone, Shistos Park, industries form a geographical concentration of suppliers for marine industries.

### **Solutions to overcome these barriers**

- Strategic alliances are key to boosting the clusters value. COSCO's arrival can be seen as a successful example. The same model can be expanded to cruise tourism due to the oligopoly nature of the industry. In other words, cruise terminals can be operated by cruise companies with long-term concession contracts;
- Working peace. The Piraeus cluster suffered a lot from working battles which hurt in the past cruise industry, passenger ferries and above all shipbuilding/repair industry. There are signs though that such extreme behaviours are losing the necessary social acceptance or tolerance. Furthermore, the oncoming privatisation of the Piraeus Port Authority limits the margins for this kind of behaviour. Therefore it is the right time to lay the foundation for a consensus platform;
- New spatial planning of port facilities in order to permit the full expansion of activities; alignment of port and city planning; possible relocation of some port activities to avoid possible congestion;
- Guaranteeing the support of local population possibly by addressing negative impacts, including environmental, land use, and traffic impacts. Though this does not stem from the analysis, it is widely accepted in the literature that such support is a condition ensuring clusters sustainable development;
- Finding niche markets and/or subcontracting for ship repair industry. This solution has meaning only if the working framework of this sector adapt to today's conditions;
- Institutionalization of the cluster. All the above mentioned solutions need an 'incubator' with a nutritive environment for policy compromises and complementarities' discovery. The weaker participants (such as those from ship repair) can also benefit from a stronger voice in their search for market opportunities and collaborations, and funding for their innovations. Though from the Focus Group the desire for participation of private stakeholders in the governance body was almost unanimous, the change in ownership regime of PPA may call for public sector involvement.

### **Lessons for other clusters**

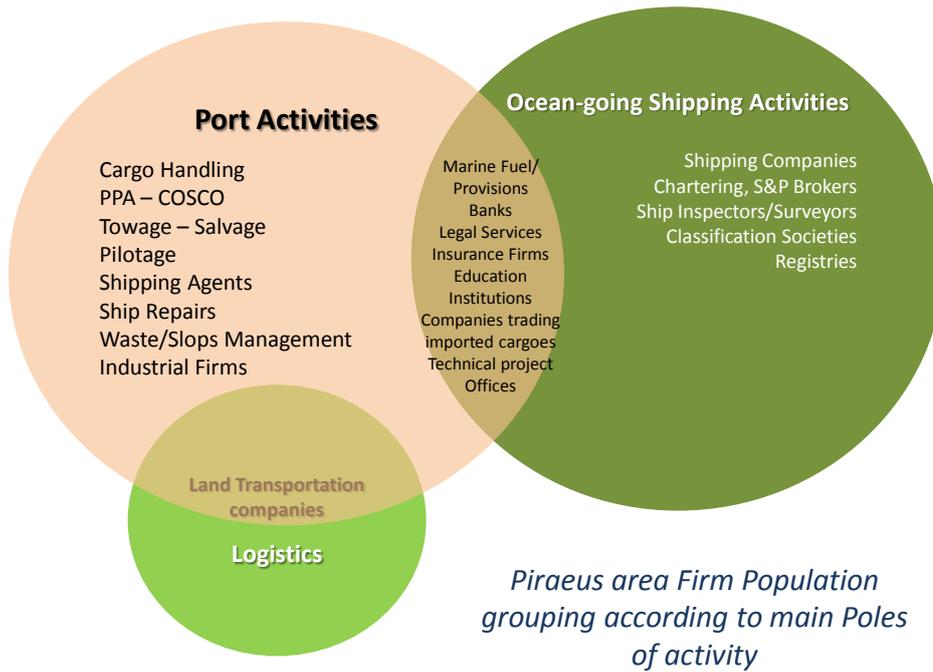
- Mature clusters rooted in port cities mature clusters cannot abandon their developed multiple activities. Instead, they have to base their future potentials primarily on increasing the value of the existing sectors, which form their economic base;
- Full exploitation of competitive advantages that each cluster possess, it is the more secure way to future development. Therefore if the cluster is not an R&D generator it is better to count on transfer from more developed hubs, or to participate in (international) research networks. If

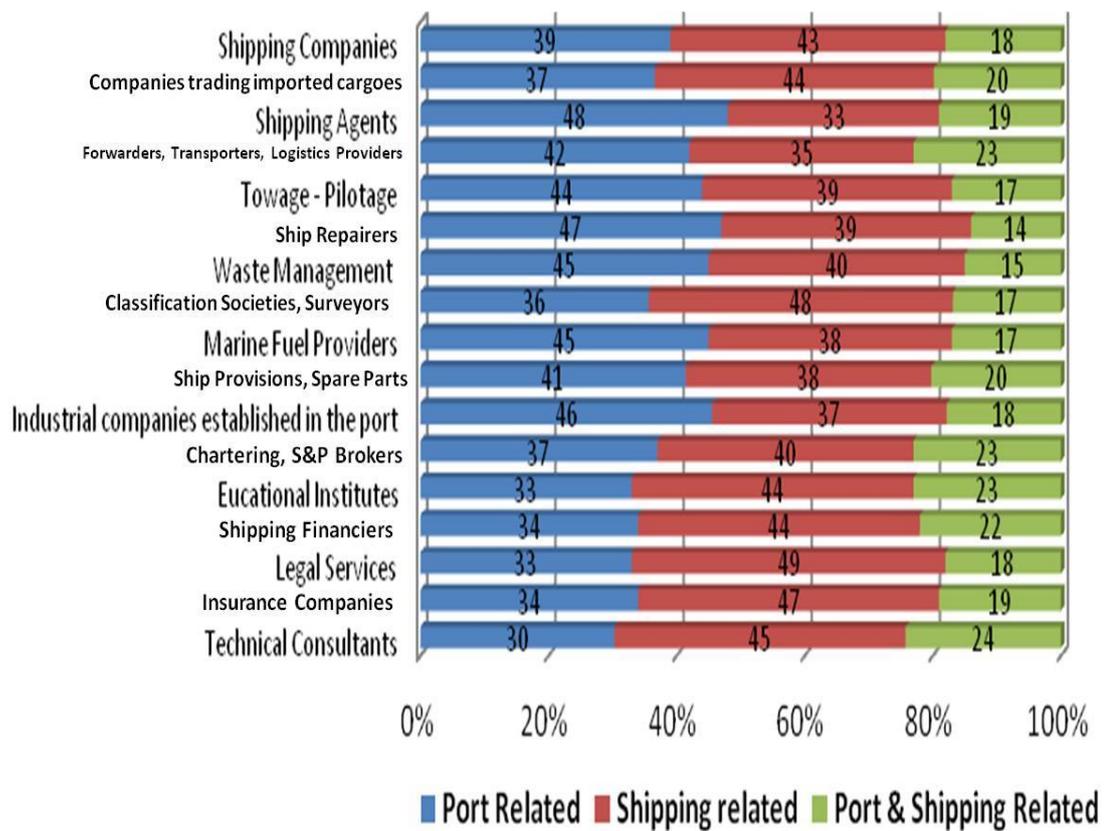
there is a field of novelty, even a limited one like the Perama zone, financial support is needed;

- Communication of best practices is of primary importance, but presupposes a better activation of European relevant networks and mobility to participate from the cluster's part;
- A stable policy framework is a *sine qua non* condition for the development of the cluster;
- Adopting strategic alliances with global key players for operational efficiency and expansion;
- Institutionalisation of the cluster is essential for political synthesis of sometimes diverge interests of various stakeholders, and operational effectiveness.

*Visual position of various pillars*

Strength of association of activities with each of the cluster poles.



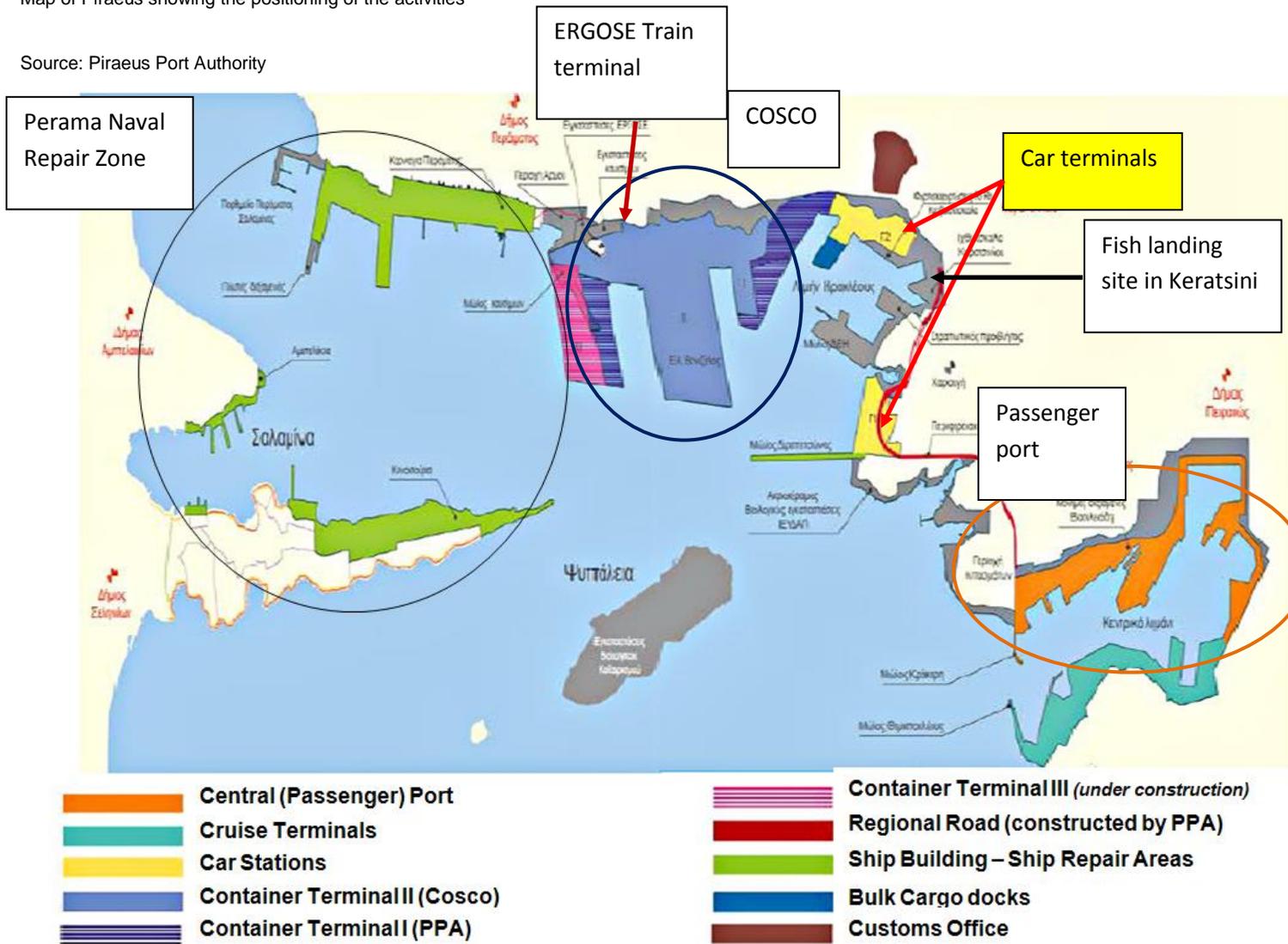


Source: Pardali A., Kounoupas E., Lainos I. Regional Development through port-maritime cluster formulation in the wider Piraeus area: Innovation and extroversion as an antidote to crisis.  
[http://www.pcci.gr/evepimages/E17\\_F2770.PiraeusPortcluster.pdf](http://www.pcci.gr/evepimages/E17_F2770.PiraeusPortcluster.pdf).

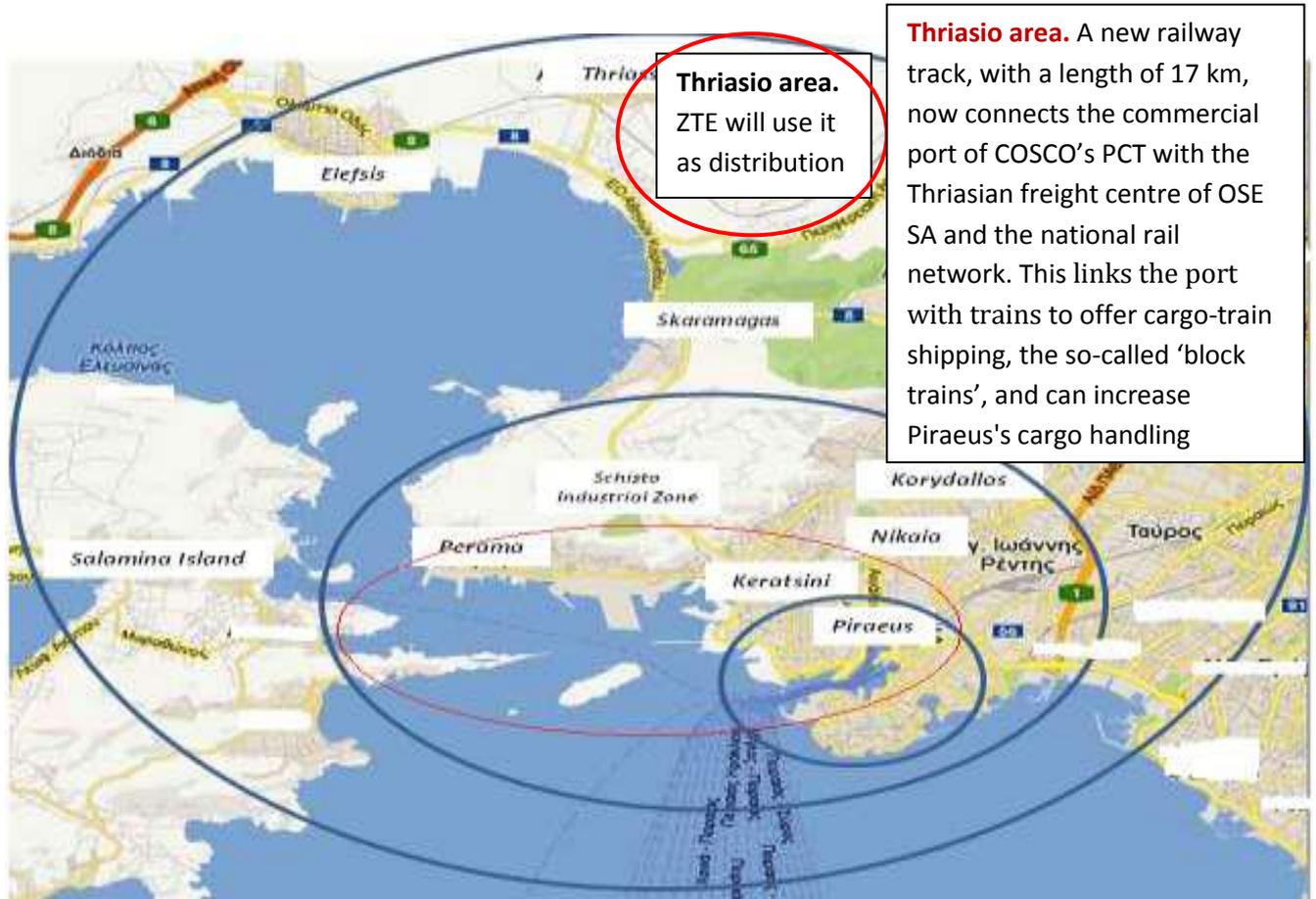
Maps of Piraeus showing the positioning of the activities

Map of Piraeus showing the positioning of the activities

Source: Piraeus Port Authority



Piraeus port facilities spatial allocation in Piraeus and neighbouring municipalities.

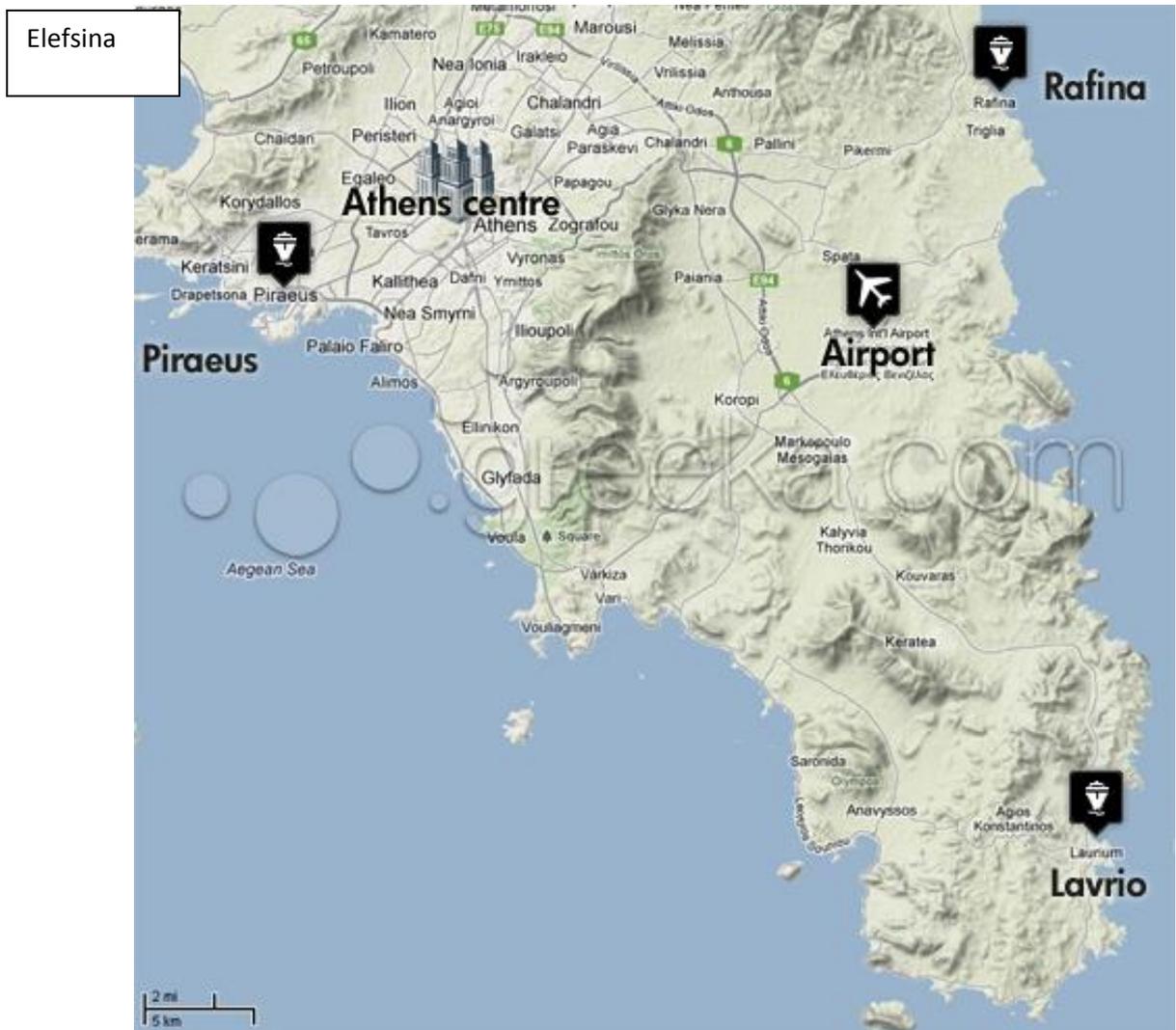


Source: Pardali A., Kounoupas E., Lainos I. Regional Development through port-maritime cluster formulation in the wider Piraeus area: Innovation and extroversion as an antidote to crisis. [http://www.pcci.gr/evpimages/E17\\_F2770.PiraeusPortcluster.pdf](http://www.pcci.gr/evpimages/E17_F2770.PiraeusPortcluster.pdf)

*Map of Attica showing the positions of Piraeus, Elefsina, Rafina and Lavrio ports.*

The ports of Rafina and Lavrio could relief some of the passenger traffic towards the Aegean islands (denoted with orange colour in Fig. 4). With Law 41/50/2013 (articles 39 and 40), the “Attica Port System” must be created, i.e. the merging of the Attica ports (Piraeus port with Elefsina, Rafina and Lavrio).

Piraeus port with Elefsina, Rafina and Lavrio



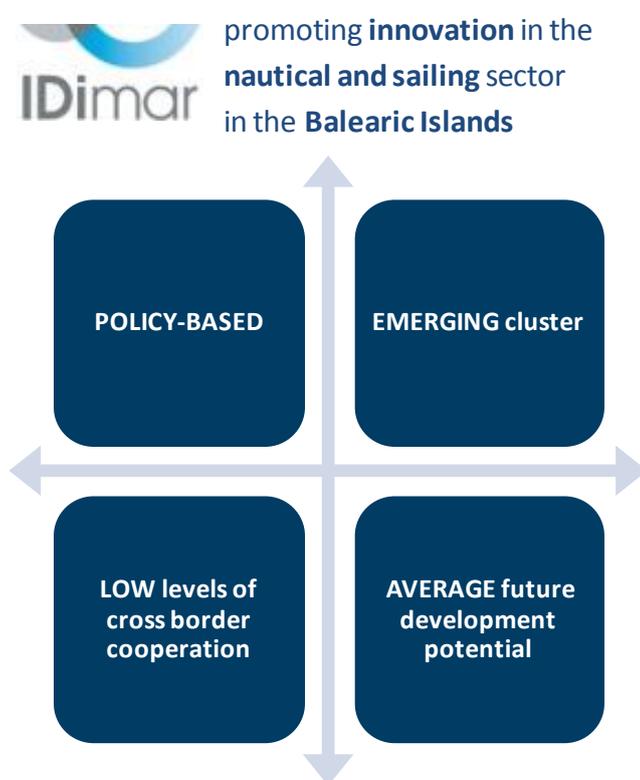


#### 4 Making best use of strong local potentials: the case of IDIMAR

##### Description of the cluster

IDIMAR is an initiative that aims to bring together organisations operating in the maritime sector in the Balearic Islands, in order to drive innovation and business development in the sector. Considered as a policy-based cluster<sup>67</sup>, it was set up and constituted as a non-for-profit organisation. It was launched in response to a growing demand of support from local companies and under the auspices of the regional Government. Founded in 2009, it started its activities in 2010 and, as many other sectors and initiatives in the whole of Spain, it has faced severe financing problems during 2012. Therefore, five years after its establishment the cluster is still considered to be in an emerging phase. The cluster is built on important assets and competitive advantages, allowing for an expected future development potential to materialise in the midterm. Moreover, the cluster is seen as a transversal sector with a number of spill-overs and value-added activities such as other nautical sports and coastal tourism activities, also with a high potential of growth.

Main features of the cluster



Source: Ecorys

##### *Innovation, the 'raison d'être' of IDIMAR*

IDIMAR is a cluster focused on the promotion of innovation in the sailing and nautical sector of the Balearic Islands. The sector is in fact fragmented and composed of a large number of established associations, actors and stakeholders, responsible for lobbying and representing the interests of individual companies the sector. In this context, and in order to develop at full extent, IDIMAR still needs to find its own market niche. Given the fragmentation of the local economy in what respects nautical and sailing services and products, IDIMAR's main objective is to become a central and useful tool for innovation in the Balearic Islands region sea-related industry, and a driver force to foster and promote its culture of innovation. IDIMAR perceives itself as an effective instrument to be

<sup>67</sup> Policy based clusters are the outcome of national, regional or local policies and initiatives aiming at the cooperation of various actors across several places.

used by its members, in order to develop new to the market products, services and processes, aimed at creating added value and improving the competitiveness of the sector.

#### *Main cluster's Maritime Economic Activities*

IDIMAR's focus on a wide array of activities is related to what can be defined as: "the *man's relationship with the sea to generate business*", therefore activities related to tourism, sailing and other nautical-related activities.<sup>68</sup> On these areas, the Balearic Islands can be considered an international outstanding region in, in particular for marinas and mega yachts, including mega yacht repair and hibernation. While the Mediterranean accounts for over 70% of global nautical tourism, the region attracts around 25% of that market share<sup>69</sup>. At Spanish level, its importance is also remarkable. The Balearic Islands are the first Spanish region in terms of nautical sports facilities with a total of 94 installations representing 20.9% of the Spanish facilities. The region also has 36 facilities representing 12.5% of total Spanish marinas and 19,111 moorings which counts for 15.3% of total moorings in Spain. This corresponds to an average of 55 inhabitants and 461 tourists per mooring<sup>70</sup>.

#### *IDIMAR still in an emerging phase*

Five years after its foundation, IDIMAR is still in an emerging phase. The financing problems the cluster has had to gone through, the fact that the cluster has not been successful in the R&D&I European projects submitted together with the challenges and barriers that will be described in this report (see Section 3), have hindered the further development of the cluster. Moreover, IDIMAR shares important features with other EU emerging clusters: i) an important role of universities and research centres; ii) lack of public support; iii) limited influence over the public and private sector behaviour; and iv) limited impact in the creation of employment and SMEs.

#### *IDIMAR is a policy-based cluster with low levels of cooperation structures*

IDIMAR is considered as a policy-based cluster since; a) it is the outcome of regional policies and initiatives and b) it aims at the cooperation of various actors across several places.

Relative to the first point, the initiative of creating the IDIMAR cluster derives from a private led initiative made by a number of companies of the nautical and sailing sector and it was also based on a recommendation coming from the regional government. More specifically, the Science and Technology plan 2009-2012 of the Balearic Government<sup>71</sup> has identified a series of sectors for the development of clusters, among which could be found the marine sector. From that Plan, six clusters, including IDIMAR, were established and associated in the Balearic Intercluster Networks. Currently, only 5 clusters are still operating in the region. The regional Government provided those six clusters with a working space where they all are located (Parcbit) and with individual grants. In particular, €190,000 were allocated to IDIMAR. The new Science, Technology, Innovation and Entrepreneurship Plan 2013-2017<sup>72</sup> still supports the cluster initiative although with a very limited budget.

Secondly, it is undeniable that IDIMAR was initiated with the aim of promoting and facilitating cooperation among the triple helix stakeholder scheme in order to promote, improve and increase the innovation levels and standards of the nautical and sailing sectors. However, the patterns of

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<sup>68</sup> Mainly referring to: Repair and refit, selling and renting of recreational boats (including super yachting), management of nautical sports facilities and organization of nautical sport events .

<sup>69</sup> Turismo Marítimo y Costero, Visión del sector náutico en las Islas Baleares, AENB (Asociación de Empresas Náuticas de Baleares).

<sup>70</sup> Feports: <http://www.feports-cv.org/esp/actividades/docs/OfertaNautica10.pdf>.

<sup>71</sup> Pla de Ciència, Tecnologia i Innovació de les Illes Balears 2009-2012

[http://publicacions.balearsfaciencia.org/dades/20archivo\\_1.pdf](http://publicacions.balearsfaciencia.org/dades/20archivo_1.pdf).

<sup>72</sup> Pla de Ciència, Tecnologia, Innovació i Emprenedoria de les Illes Balears 2013-2017  
<http://www.caib.es/govern/archivo.do?id=1684025> .

cooperation between the different actors are still not sufficiently established. It must be recognised that the cluster has made an important effort in laying the foundations for the different actors to cooperate. However, currently this cooperation is still being constructed and collaboration still needs to be strengthened. Moreover, although collaboration with other clusters does exist, both with regional and local administrations (mainly with Catalonia and Valencia in Spain), this collaboration is mainly focused on the joint submission of project proposals to relevant European Calls and it still presents clear grounds for improvement.

### Dimension and performance

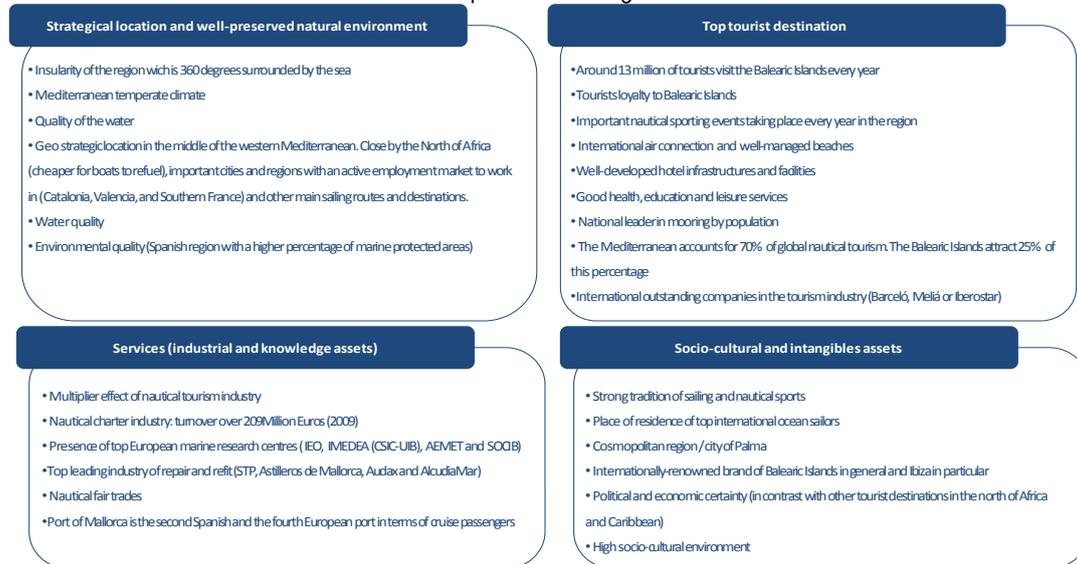
#### Assets and competitive advantages

The Balearic Islands are a top reference destination in terms of nautical and sailing activities. But in order to size and analyse the performance of the sector, there is an important challenge to provide quantitative data. As far as the sector is concerned, according to the Focus Group participants neither IDIMAR, nor any other institution operating in the field can present a full accurate and realistic 'picture' of the nautical sector in the Balearic Islands. There is a lack of updated data on the actual figures of the sector on basic indicators such as the GDP that the nautical sector represents to the region, the number of firms working in the sector or the number of employees or the associations that exist. This lack of objective verifiable data represents a real challenge for any future effort to make in order to grow and create more jobs in the sector. It also illustrates that the sector is not united and that cooperation still needs to be enhanced.

In this context, only a qualitative description of the dimension and performance of the sector can be provided.

The figure below summarizes the main assets and competitive advantages of the region's nautical sector:

#### Balearic Islands' nautical sector: assets and competitive advantages



Source: Ecorys based on the Focus Group conclusion and the "Assets of the Sea" Dossier, IDIMAR

### **Complex institutional framework and lack of driver companies**

The Balearic sailing and nautical sector is still 'dispersed' that still is lacking a tradition of cooperation and where a lot remains to be done in terms of joining efforts and tackling common problems with joint solutions. A certain level of rivalry and competition among regional organizations devoted to promote and foster the sailing and nautical sector can be also observed. In this respect, it is important to mention the Asociación de Instalaciones Náuticas y Deportivas de Balears (ANADE), the nautical employer's federation, and the Balearic Islands Maritime Cluster (Cluster Maritim de les Illes Balears), which is focused on lobbying rather than on innovation.

The lack of driver companies (i.e. global or international with local headquarters or significant local corporate presence, committed to boost economic growth in the local Balearic economy) in the cluster is another proof of the sector dispersion, together with the very early ('emerging') stage of the cluster. And yet, there are some clear potentials identified. On the one hand, well-established and high performance sailing and nautical companies in the region have not been attracted by the cluster yet, and which could take the lead and act as catalyser in the whole process, paving the way for the sector and for the rest of the SMEs working in the field. Some of these companies, such as Mallorca's Port Authority or Mallorca's Astilleros (shipbuilders) are involved in other various business environments and business models and, in this respect, the actual challenge will be to come up with attractive and feasible ideas to bring them on board and act as leaders to bring dynamism to the value chain. On the other hand, the role in the development of the sector of Balearic world leading companies, acting in the tourism and leisure sectors (i.e. Barceló, Meliá or Iberostar) could be further strengthened.

For all the above, IDIMAR still have a limited influence over the public and private sector behaviour – although it also shows some great potentials. Unfortunately, IDIMAR's presence and visibility at EU level is also scarce, due to limited political lobbying from Balears institutions, both at Spanish national level and at EU level.

IDIMAR is governed by the General Assembly and the Executive Board formed by private member companies. It similarly has Work Committees where the necessary actions for the development of new strategic technologies and their application is considered and agreed upon. The technical office of the cluster was composed by one Director, one office and communication manager, 2 project managers as well as 2 external companies responsible for the legal and financial matters. However, during 2012, the team was reduced due to financial problems. Nowadays there is one director and one project manager who are responsible for the day-to-day management of the cluster<sup>73</sup>.

### **Overview of IDIMAR members**

Regarding the private companies, the vast majority of enterprises, both in the cluster and in the region, are micro SMEs. There are no large enterprises in the cluster, since one of the requirements for companies to be members is to be established in the region, and there are no large enterprises meeting this requirement. However, there are large important companies operating in the region (i.e. the ferry and shipping companies Trasmediterranea<sup>74</sup> and Balearia<sup>75</sup>). In order to include them in the cluster, the requirements related to the membership of the cluster are being revised to also accept as members non-local companies operating in the Balearic region.

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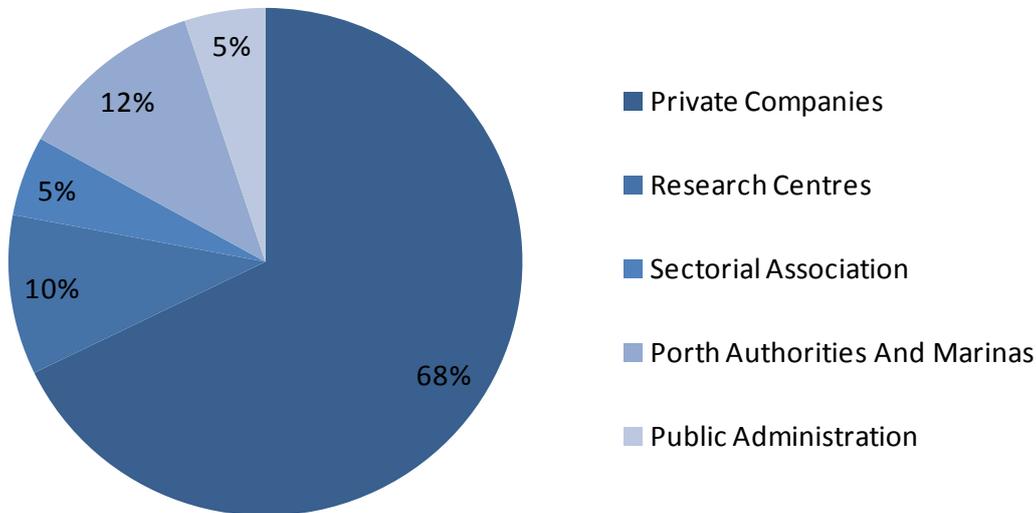
<sup>73</sup> Interview with IDIMAR's general Director.

<sup>74</sup> Trasmediterranea website: <http://www.trasmediterranea.es/en>.

<sup>75</sup> Balearia website: [https://www.balearia.com/wps/portal/comercial/home\\_en?resetPortlet=true](https://www.balearia.com/wps/portal/comercial/home_en?resetPortlet=true).

As a cluster, IDIMAR counts currently 59 members including private companies, research, innovation and technology centres, public institutions, port authorities and marinas and sectorial associations distributed as shown in the following figure 2.

Overview of IDIMAR members



Source: IDIMAR

#### Economic performance of the IDIMAR members

No quantitative data are available to describe the economic performance of IDIMAR members. However, the regional GDP drop of 4% that took place from 2008 to 2013<sup>76</sup> shows the severity of the crisis which has deeply affected the Balearic economy and its SMEs. The important and unique competitive advantages of the Islands have strengthened the sector and have allowed a relatively high performance of its SMEs. However, the actual economic crisis and financial crunch have revealed important weaknesses and lack of competitiveness of those SMEs. The answer for the SMEs who are suffering the negative consequences of the crisis should be to improve their competitiveness and increase their levels of innovation. Innovation in IDIMAR is understood not only as launching new products and services to the market but also developing new processes.

#### Investment in innovation

The level of R&D investment in the cluster varies depending on the actors. While the level of R&D is very high as far as the research centres are concerned, in general terms the level of innovation within the companies is low - although the region counts some successful initiatives and companies who have developed innovative and technological solutions and services (for example, an SME which is member of the clusters, Portbooker, has developed software developments that introduce new features for the management of marinas and moorings<sup>77</sup>). The main reasons behind this fact are: i) the composition of the sector (made up by micro-family SMEs<sup>78</sup> and freelancers geographically isolated with limited financial and professional means to invest and develop R&D; ii) the cuts in public budgets devoted to promote innovation, iii) the lack of venture capital funds or hedge funds in the region to finance new ideas and foster innovation, as well as iv) the weak relationship between the triple helix actor to promote innovation solutions.

<sup>76</sup> INE:

<http://www.ine.es/jaxi/menu.do?jsessionid=0DCB522044BD7848CD215E2CFF4BC7BD.jaxi03?type=pcaxis&path=%2Ft35%2Fp010&file=inebase&N=&L=0>.

<sup>77</sup> Portbooker website: <http://www.portbooker.com/>.

<sup>78</sup> According to the regional government, in 2009 there were 642 companies operating in the nautical sector, from which 65% corresponded to self-employed and 25,7% to companies with less than 5 employees. There were only 50 companies with more than 50 employees. Source: Turismo Marítimo y Costero, Visión del sector náutico en las Islas Baleares, AENB (Asociación de Empresas Náuticas de Baleares).

In this context, IDIMAR wants to play an active role in supporting the industry in improving and increasing its level of innovation through cooperation. IDIMAR wants to make the best use of the vast experience gained over the years by the region in the nautical sector to create new and innovative processes and business models and promote a new management culture based on innovation. At this respect, IDIMAR seeks to enhance cooperation between the actors to jointly develop new products, services and business processes. In particular, it organizes creativity workshops and other related events to contribute generating new ideas and projects and it submits project to relevant European calls for proposals (mainly related with R&D).

#### *Key achievements / challenges so far*

The key achievements reached so far have to be understood in terms of boosting and drawing together the sailing and nautical sector. The sailing and nautical sectors are very important in terms of number of visitors (932,831 in 2011) and turnover generated (expenditure of €933,358 in 2011)<sup>79</sup>, however it is not unified neither well-coordinated. It is composed by a large number of actors and organisations lacking a tradition of joint and common cooperation. This lack of cooperation exacerbates when it comes to undertake joint efforts to promote innovation and to develop and create new products and services.

At this point in time, the main achievement of IDIMAR has been the setting up of mechanisms to encourage the sea-related actors to work together with the ultimate goal of designing and launching new products and services to the market. With this aim, the main effort has been put to participate and submit an important number of R&D&I projects proposals to various programmes at national and EU level. In 2012, 21 project proposals were submitted but a very limited return was obtained (€73,796 was awarded<sup>80</sup>). Other activities like events and trainings have been also carried out including (in 2012), 21 events, one workshop on public calls for proposals with 27 participants and one workshop on innovation and technology transfer<sup>81</sup>. Promotion and communication activities and campaigns have also been carried out in order to reach the expected critical mass (around 60 members).

#### **Trajectories and potentials for the future**

##### *Where to get in the next 5 to 10 years*

The Balearic Islands counts with a great potential for future growth of its tourism industry, particularly of the sailing and nautical sector. This potential is based on the main assets and competitive advantages described in the previous section, as well as on the following opportunities:

- Over 13 million visitors every year: Opportunity to profit from a very well developed and established tourism industry that attracts a huge number of visitors every year. The creation of new services or the enhancement of existing one in the sector will find a large number of potential users and customers;
- Profit from the cosmopolitan character of the Balearic Islands: Most of those 13 million visitors come from outside of Spain. This means that, in order to be able to host such a large number of tourists, the region has the necessary infrastructure, airports and accommodation facilities. In this way, and if 'the market' is already in the region, this makes the Balearic Islands the perfect scenario to carry out demonstration projects, testing, pilot initiatives, etc. In other words, innovation can find in the Balearic Islands the perfect environment to demonstrate and test its developments;

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<sup>79</sup> Tourism expenditure survey (EGATUR) Institute of Tourism Studies (IET).

<sup>80</sup> 2012 Activities report, IDIMAR.

<sup>81</sup> Ibid .

- Very reputed nautical companies and experienced port authorities: potential for increasing the involvement of APB (Balearic Port Authority) and Iles Balearics Ports (IPB) in the activities of the cluster as they can bring a wealth of experience, good practices and success stories;
- Profit from the nautical international events that happen throughout the year in the Balearic Islands: The region is already on the map, it is considered a world player and a reference in the sector and top companies and sportsmen come to the Balearic Islands every year. This is clearly an opportunity for growth as professional and personal relationships already exist;
- Existence of well-developed Knowledge and Research centres: Opportunity arising from the high concentration of research centres in a reduced geographical area (IEO<sup>82</sup>, IMEDEA (CSIC-UIB)<sup>83</sup>, AEMET<sup>84</sup> and SOCIB<sup>85</sup>). Although they are mainly focused on the marine environment research, especially for the sustainability of the resources and the marine environment, they are very well established knowledge centres that represent an opportunity for the future growth of the cluster;
- Profit from the strategic geographical situation for nautical and sailing activities of the region: The region is in the geographical centre of southern France, Eastern Spain, Northern Africa and to the West of the islands of Corsica and Sardinia;
- Lessons learnt from good practices developed by top firms in the hotel and accommodation sector: World class Balearic companies such as Iberostar, Meliá and Barceló can be considered top references for leisure and luxury hotels. These companies have been in business for the last 50 years and some aspects of their know-how, lessons learnt and good practices could be applied to the cluster in what respects environmental policy, luxury services and efficient human resources management;
- Growth potential of the cruise industry in the region: The Western Mediterranean ports are highly ranked in the cruise tourism industry. In this respect, in terms of cruise passengers, the Port of Mallorca is the second Spanish port, the fifth European port (after the ports of Barcelona, Civitavecchia and Venetia (Italy), Southampton (UK) and Piraeus (Greece) as well as the 16<sup>th</sup> at international level. This is clearly an opportunity to develop not only the cruise industry but also related nautical and sailing activities.

Thus, the objective of the region is to capitalise and make best use of its strong local tourism industry sector to boost top quality coastal and nautical services. In this context, the ambition of IDIMAR in the next 5 to 10 years is to be considered as an intelligence gathering platform to promote the development and launching of new to the market products, services, solutions and processes in the coastal and nautical tourism sector and therefore contribute to the achievement of Balearic leadership in the nautical and sailing industry.

#### *How it expects to get there?*

With this objective in mind, at present, IDIMAR, at the time of writing, is immersed in the process of developing its new Strategic Plan 2014-2016 and a number of working groups are being held to identify IDIMAR's main strengths and assets, weaknesses and opportunities in order to set the strategic objectives and the specialization patterns of the cluster. The drafting of the Plan is aligned with the main regional and European strategies such as the regional Innovation, Technology and Entrepreneurship Plan 2013-2017<sup>86</sup>, the RIS3 strategy<sup>87</sup> and the EU2020 initiative<sup>88</sup>.

<sup>82</sup> IEO website: <http://www.ba.ieo.es/>.

<sup>83</sup> IMEDEA website: <http://www.imedea.uib.es/?lang=ca>.

<sup>84</sup> AEMET website: <http://www.aemet.es/es/portada>.

<sup>85</sup> SOCIB website: <http://www.socib.es/>.

<sup>86</sup> Pla de Ciència, Tecnologia, Innovació i Emprenedoria de les Illes Balears 2013-2017 <http://www.caib.es/govern/archivo.do?id=1684025>.

<sup>87</sup> RIS3 in the Balearic Islands: <http://www.ris3balears.org/>.

<sup>88</sup> EU2020 strategy: [http://ec.europa.eu/europe2020/index\\_en.htm](http://ec.europa.eu/europe2020/index_en.htm).

In the framework of this process, IDIMAR is also analysing and discussing its future model of organization. In this respect, IDIMAR is clear about the fact that it does not expect to act as an employer's association, and neither as a lobby organisation, since there are already very well established organisations in the region pursuing this objective. On the contrary, the opportunity for IDIMAR is to become an organisation that brings together and promotes cooperation between public, private and research institutions in terms of greater knowledge, innovation and internationalisation of the sector.

Secondly, a process of specialization can be also observed from the Second Strategic Plan 2014-2016 which is currently under preparation. While the first Strategic Plan covered a wide range of maritime economic activities, the second Strategic Plan will focus on the sailing and nautical activities which have proved to be the sector where the region counts with the most important competitive advantages as well as with higher opportunities of future development.

Finally, and related to the number of members, once reached the minimum target number of members that had been set for the cluster (60 members), the future strategy will be not to try to bring in a large number of new members, but to attract only those actors and organisations who are really interested in working together. The aim is to cooperate with them and jointly promote innovation and launch new products and services to the market.

### Potential barriers for future development

The main external and internal barriers that hinder the future development of the cluster are presented in the figure below:

Overview of IDIMAR's barriers

External
Lack of a clear and straight-forward Regulatory framework
Lack of sufficient funding to carry out innovation and R&D&I projects in the sector
Internal
Disperse sector with a limited cooperation culture
Low levels of public private cooperation or PPPs
Limited cooperation between the triple helix actors in terms of innovation development
The education system needs to be further adapted to the needs of the sector and the market

Source: Ecorys based on Focus Group conclusions

#### External barriers

##### Lack of a clear and straightforward regulatory framework

The sector suffers from a complex and to a certain extent unclear legislative environment. Thus, in order to certify its nautical and sailing products and services, a company needs to comply with legal requirements coming from six different tiers of government namely the EU level, the central government (including the National Merchant Navy Institution, the Customs Agency and the Finance Ministry), the regional government, the Consell Insular (Mallorca's island government) and the actual City Council.

This situation makes the legal framework sometimes difficult to understand, and makes the sector more bureaucratic and limits its flexibility, therefore reducing the competitiveness of the local companies operating in the sector by contrast with others. Such a complex institutional setting may

also discourage foreign companies and potential investors to bring resources and establish themselves in the region. The navigation and mooring of boats as well as international sailing and nautical events in the regions might be adversely affected too.

#### **Lack of sufficient funding to carry out innovation and R&D&I innovation in the sector**

There is an inadequate financing ecosystem and a scarce level of resources available to support innovative activities in the nautical and sailing sector in the Balearic Islands, compared to other areas in Spain.

On one hand, and in the case of public funding, the field of action of the local and regional development agencies, which could to a certain extent support projects, is very limited. There is also evidence of deficiencies in attracting European resources. The reasons for this are twofold: i) firstly, due to the financial crisis context, the Balearic public institutions are not in a position of providing the matching funding required to participate in European projects; ii) secondly, even if the sector through IDIMAR has tried to bid for projects and has participated in various calls for proposals both at national and EU level, they have not been yet successful due to the hard competition encountered.

On the other hand, there are not yet strong venture private capital funds or hedge funds capable to finance new ideas to impulse innovative actions in the sector -although positive steps are being taken in this direction with the recent launch of BANIB<sup>89</sup>, the first Business Angels Network of the region to finance innovative projects and ideas.

As a result, the total R&D expenditure level in the Balearic Islands as % of regional GDP (0.7%) is below the Spanish rates (1.28%). The regional business expenditure rate on R&D is 0.05% compared to the Spanish average of 0.36%<sup>90</sup>.

#### *Internal barriers*

##### **A dispersed sector with a limited cooperation culture**

The sailing and marina sector is still a 'dispersed' sector that lacks a tradition of cooperation and where a lot remains to be done in terms of joining efforts and tackling common problems with joint solutions. As already mentioned, there is a large number of actors and stakeholders operating in the same area with similar objectives and this represents a real challenge for any future efforts to grow and create more jobs in the sector. The fact of having two maritime clusters in the region makes explicit the lack of cohesion and cooperation of the sector.

##### **Low levels of public private cooperation**

The level of Public Private Partnership is still too modest and enlarging the scope of the cooperation with the private sector remains a very important and fundamental challenge.

On one hand, there are well-established and high performing companies in the region that have not been attracted yet to take the lead, and act as possible catalyser in the whole process, paving the way for the sector and for the rest of the SMEs working in the field. Some of these companies, such as Mallorca's Port Authority or Mallorca's Astilleros (shipbuilders), are indeed involved in other various business environments and business models; but the actual challenge is to come up with attractive and feasible ideas to bring them on board and act as leaders to bring dynamism to the value chain.

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<sup>89</sup> BANIB website: <http://www.banib.es/> .

<sup>90</sup> [Report of peer Review Discussion on Smart Specialisation Balearic Islands, Spain, http://www.ris3balears.org/wp-content/uploads/2013/07/Baleares-Peer-Review-Report-.pdf](http://www.ris3balears.org/wp-content/uploads/2013/07/Baleares-Peer-Review-Report-.pdf).

On the other hand, this inadequate level of participation of the private sector does not only refer to this lack of leadership, but also to their plain involvement in the activities of the sector. World leading companies in the tourism and leisure sectors which have an origin in the Balearic Islands and which were founded by locals, such as Barceló, Meliá or Iberostar, should have a role to play in any attempt to be done for the development of the sector.

#### **Limited cooperation between the triple helix actors in terms of innovation and development**

There is a limited interaction between the public and private sector and the research actors and centres in the Balearic Islands. There is a need for the research institutes to better communicate their remit and scope of activities to the business community and, vice versa, a need for the business community to explain better their needs. In principle, the objective of the research centres is to carry out high profile research for midterm scenarios whilst the business community often comes to them asking for research services related to the market that could be considered more the subject of a consultancy work than a research project of one of these centres.

There are therefore, clear grounds for improvement in the relationship between the public authorities, the academy and the private sector and the working relationship between these three actors needs to be enhanced.

In this respect, the IDIMAR cluster is clearly playing an important role on this but interaction still depends on external factors such as Calls for Proposals (forming partnerships to bid for projects) or the organisation of training seminars.

There is still a need to go further in the culture of cooperation between the three set of actors and involve the top management of the firms and academia with the public authorities and government decision makers.

#### **The education system needs to be further adapted to the needs of the sector and the market**

There is a lack of an appropriate and well-developed education offer to young people on sea related activities, including nautical and leisure services. There are neither specialized University Degrees (as they exist in other regions such as Catalonia or Andalucia) nor VET programmes specific for this sector. Related with the last point, a National Reference VET Centre was established in Maó (Menorca) although to date, the results have not been satisfactory. The lack of English language knowledge and skills is also an important challenge that needs to be addressed.

As a result of all the above, there is a partial mismatch between the offer and demand of professional profiles that is even more severe in the case of the luxury and top yachting industry. This industry and its type of clients request excellent performance and high level job profiles that are not available in the region at present, so this qualified staff needs to be found and recruited in foreign countries. Therefore, there is still room to grow in a sector that shows high added value and high remuneration careers.

#### **Solutions to overcome these barriers**

The figure below proposes a number of measures and initiatives to address the barriers identified in the previous section.

## Solutions to address IDIMAR's barriers

External	
Lack of a clear and straight-forward Regulatory framework	Improve interinstitutional coordination
Lack of sufficient funding to carry out innovation and R&D&I	<ul style="list-style-type: none"> <li>• Fiscal Incentives</li> <li>• Increasing public budgets</li> <li>• Opportunities emerging from the next 2014-2020 EU programming period</li> <li>• Enhancing the role of Business Angels Networks</li> </ul>
Internal	
The education system needs to be further adapted to the needs of the sector	<ul style="list-style-type: none"> <li>• Enhancing the dual training system</li> <li>• West-Mediterranean pole of reference on se-related education and training on careers</li> </ul>
Disperse sector with a limited cooperation culture	<ul style="list-style-type: none"> <li>• Enhance the role of IDIMAR as an innovation facilitator</li> <li>• Enhance PPP initiatives</li> <li>• Create an integrated Mediterranean cluster structure</li> </ul>
Low levels of public private cooperation or PPPs	
Limited cooperation between the triple helix actors	

Source: Ecorys based on Focus Group conclusions

First, and in order to improve the regulatory framework and making it more clear and straight-forward, it would be necessary to increase the coordination and cooperation between all levels of the public institutions with competences in this field. The participation and involvement of the private companies in this coordination framework, would be also desirable.

Secondly, a number of actions could be implemented in order to increase the amount of funds available to finance innovative actions and projects. On one hand, and as far as the public sector is concerned, fiscal incentives for innovative based activities are necessary, at least at the embryonic stages of the project ideas and initiatives. Moreover, and even though it is widely accepted that in the current economic situation it is difficult to access public funds to carry out new projects, there is a shared view that some sort of funding support should be provided from the government, mainly in the framework of the new 2014-2020 programming period. On the other hand, the entrance of business angels and risk capital funds in the sector should be facilitated and encouraged. In this respect, the recently launched first Business Angels Network of the region to finance innovative projects and ideas is highly valued – even though the capacity to invest of this Network is still limited.

Next, the dual training system combining apprenticeships in private companies and vocational education at vocational centres should be intensified in order to address the mismatch between the offer and demand of professional profiles providing the right job profiles to meet the requirements of the very high demanding luxury and top yachting industry. Here, there should be an active involvement from the public sector, the private companies and the education community to jointly design, develop and implement new VET programmes adequate to the market needs. Another action to address this barrier at a broader extent could be the creation of a pole between the clusters of Valencia, Catalonia, Balearic Islands, southern France and Western Italy on education and training on sea related careers (especially in the domain of nautical and leisure services).

Finally, IDIMAR should continue promoting and enhancing the cooperation between the triple helix actors. Although IDIMAR has already made an important effort to laying the foundations for these different actors to cooperate, the challenge now is to reinforce a culture of cooperation and make it happen in a more natural manner. In this respect, IDIMAR should place itself as a key innovation facilitator for the sector. With this purpose it should continue organising thematic seminars, conferences and exchanges in the field of innovation in the nautical and leisure services and facilitating public private partnerships as the main way forward to bring innovation and excellence to the sector. Another important initiative would be to enhance transnational cooperation by promoting

the development of an integrated Mediterranean cluster structure to bring together all those associations that are working in the same field in the Mediterranean Sea.

From the above, it is clear that IDIMAR itself as well as the public and private sector and the research centres should be actively involved in designing and implementing the right actions to address the challenges and barriers and thus allowing a high development of the sector. However, it is widely accepted that for the future of the cluster and of the sector, the most prominent role must be taken by the private sector: entrepreneurs are the ones to lead the way and come up with new ideas to boost activity and innovation to the sector.

### **Lessons learned for other similar clusters**

#### *Main lessons emerging and the possible gains for specific sectorial players across EU*

Although IDIMAR is still in an emerging phase, the cluster has undergone a complex process devoted to set its mission, objectives and cluster's positioning strategy. From this experience, some key lessons learnt can be extracted and be transferred to other emerging clusters sharing common features:

- IDIMAR has found its own market niche and *raison d'être* in a disperse environment composed by a number of organizations aimed at promoting and supporting the sector. As a matter of fact, there were at the time important and very-well established employers and sectorial associations devoted to lobby and representing the interests of the sector. In this context, IDIMAR has been successful in finding its own space, the promotion of a culture of innovation that has differentiated itself from the already established organisations. The objective of IDIMAR is therefore not to bring together the whole sector *per se* but to put together those relevant sea-related actors who want to cooperate and work together to develop new products, services and processes to create added value and improve competitiveness;
- Strong focus on innovation: one of the key elements necessary for the development of the sector. In the context of the current economic and financial crisis, the companies have to make an extra effort to promote innovation (launching new products and services to the market but also develop new processes) and improve and increase their competitiveness in order to operate in an increasingly competitive environment. However, this requirement for companies to increase the investment in R&D comes along with credit restrictions and a decrease of public funds devoted to such project. Moreover, the existing cooperation in the Balearic Islands between the public, private and research organisations is still too weak. In this respect, initiatives as IDIMAR are essential for promoting innovation and thus improving the competitiveness and development of the region;
- High degree of specialization in sailing and nautical activities where the region counts with important assets and competitive advantages. Therefore, one of the lessons learnt that can be extracted from the IDIMAR experience is to capitalise and make best use of its strong tourism industry and its strong position as a pole of excellence and an outstanding cosmopolitan area in terms of sailing and nautical-related activities sector.

#### *Key insights and recommendations to be taken at the EU level*

The key recommendations to be taken at the EU level are:

- Find a balance between the 'hard and traditional maritime sectors' lead by the northern countries (shipbuilding, fishery, maritime transport...) and the 'soft maritime sectors' (coastal tourism, yachting, marinas, cruise industries) which are more important in the southern countries;
- Create a reference pole and a cooperation structure in the Mediterranean sea-basin to bring together all those associations that are working in the same field.



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