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## The strategic importance of Cooperation in the development of the economy of the sea

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# **The strategic importance of Cooperation in the development of the economy of the sea**

## **The case of Portugal**

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### ***Abstract***

*As the need for growth and development increases, due to the necessary search for more new job opportunities for layers of society that are struggling to find work, greater attention has been placed on the level of added value generated by the internal resources. In the case of Portugal, one of the most important internal resources that have been looked at with greater attention is the sea. For the past 10 years, there has been greater awareness about activities associated with the sea; however, the implementation of new projects in the field has been considered low. In this context, the aim of this document is to analyse the status of cooperation in the Portuguese Economy of the Sea, including the breakdown of cooperation levels by each maritime sector (Universities/R&D Centres, Public Administration, Shipbuilding and Ship Repair/ Naval Maintenance industries, Maritime Transports, Ports, Logistics and Shipping industries, Fishing, Aquaculture and Fisheries industry, Entertainment, Sports, Tourism and Culture industries, Financial Entities, Municipalities) and the links between cooperation and the evolution of the sector.*

*The methodology followed is the description of the inquiries' results to Portuguese top managers of the economy of the sea and compilation of numeric data, based in the author' professional experience in maritime economy and entrepreneurship, namely in the writing of HELM – PwC Economy of the Sea Barometer (Portugal).*

**Keywords:** *sea economy; cooperation; Portugal.*

## **1. Introduction**

As the need for growth and development increases, due to the necessary search for more new job opportunities for layers of society that are struggling to find work, greater attention has been placed on the level of added value generated by internal resources. In the case of Portugal, with one of the biggest Exclusive Economic Zones in Europe, representing around 20 times the terrestrial size of the country, one of the most important internal resources that have been looked at with greater attention is the sea.

According to statistics published by the Portuguese Government (DGPM- Direção Geral de Políticas do Mar, 2014) the economy of the sea in Portugal, in 2010, represented about 2.5% of Portuguese Gross Added Value (3,700 million euros) and about 2.3% of total employment (109 thousand workers). Considering the Gross Added Value, Tourism (including coastal hospitality) is the industry that most contributes to the economy of the sea (1,450 million euros), followed by Maritime Transport, Ports and Logistics (1,360 million euros) and Fishing, Aquaculture and Fisheries Industries (760 million euros).

For the past 10 years, there has been growing awareness about the activities associated with the sea and a new vision, an integrated and holistic one, became the foundation for a new strategy towards the sea. This strategy aims to increase economic growth, to create new jobs and respect the environment. To succeed, an integrated and complete approach to the sea activities, calls for the cooperation development between all the players in this area. In this context, the aim of this document is to analyze the status of cooperation in the Portuguese Economy of the Sea, including the breakdown of cooperation levels by each sea sector (Universities/Research Centers, Public Administration, Shipbuilding and Ship Repair/ Naval Maintenance industries, Maritime Transports, Ports, Logistics and Shipping industries, Fishing, Aquaculture and Fisheries industry, Entertainment, Sports, Tourism and Culture industries, Financial Entities, Municipalities) and the links between cooperation and the evolution of the sector.

This paper consists of two main parts. The first respects to the results of a questionnaire (HELM – PwC Economy of the Sea Barometer, December 2014) on cooperation in the economy of the sea that was carried out among 50 representatives (top managers) from the sea industries, comprising individuals from all subsectors of the economy of the sea in Portugal. The second part covers specific aspects about cooperation and the evolution of some of the sea industries, namely Maritime Transport, Ports, Logistics and Shipping; Shipbuilding and Ship Maintenance/Repair; Entertainment, Sports, Tourism and Culture and Fishing, Aquaculture and Fisheries Industries.

## **2. The strategic importance of Cooperation in the development of the economy of the sea**

With an Exclusive Economic Zone about 20 times larger than its land area, with a request for extension of the continental shelf which will double the area of seabed under national responsibility, Portugal has a huge maritime dimension. However, this vast national resource is a complex system that, by its nature, frequently involves the management of high complexity projects, meaning that the future of the value creation process at sea will involve necessarily the development and implementation of projects with multiple stakeholders, requiring the change of attitudes, that until now were not even envisaged, many of them are behavioral. One of these attitudes is, without doubt, the Cooperation. Only with a sense of huge responsibility, teamwork and alignment between all entities of the sea, will Portugal be able to advance to higher levels of wealth creation through the sea. Although there is unanimity within the maritime community in relation to the importance of Cooperation for the future development of the maritime economy, most top managers and individuals who answered the survey found that, at present, the levels of cooperation among the various entities of the sea are relatively low.

The following questionnaire (included in HELM – PwC Economy of the Sea Barometer, 2014) was carried out among 50 representatives (top managers) from the sea, comprising all subsectors of the economy of the sea in Portugal.

Questionnaire results:

Question 1 - What is the importance that you attribute to cooperation between stakeholders for the economy of the sea development?

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<u>Very Important</u>	<u>96%</u>
<u>Important</u>	<u>4%</u>
<u>Not Important</u>	<u>0%</u>

Source: HELM – PwC Economy of the Sea Barometer, 2014.

Question 2 - At present, how do you grade the cooperation between entities and stakeholders of the economy of the sea in general?

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<u>High Cooperation</u>	<u>2%</u>
<u>Reasonable Cooperation</u>	<u>35%</u>
<u>Low Cooperation</u>	<u>63%</u>

Source: HELM – PwC Economy of the Sea Barometer, 2014.

Question 3 - At present, how would you grade the cooperation between the following entities and stakeholders from the economy of the sea?

	Weak	Medium	High
Cooperation between different National Universities/Research Centers?	31%	58%	11%
Cooperation between National Universities/ Research Centers and Universities/Research Centers of other countries?	32%	50%	18%
Cooperation between Companies of the Maritime Transports, Ports, Logistics and Shipping industries?	42%	42%	16%
Cooperation between Companies of Fishing, Aquaculture and Fisheries industry?	43%	43%	14%
Cooperation between Companies of the Shipbuilding and Ship Repair/Naval Maintenance industries?	50%	38%	12%
Cooperation between Portugal and other Maritime States?	51%	44%	5%
Cooperation between Companies of the Entertainment, Sports, Tourism and Culture industries?	54%	42%	4%
Cooperation between Municipalities?	55%	39%	6%
Cooperation between different Universities/ Research Centers and Companies?	60%	38%	2%
Cooperation between Public Administration and Companies?	65%	33%	2%
Cooperation between the different Economy of the Sea industries?	66%	32%	2%
Cooperation between different Public Administration Departments?	74%	23%	3%
Cooperation between Financial Entities and Companies?	78%	20%	2%

Source: HELM – PwC Economy of the Sea Barometer, 2014.

The interviewees were asked to put forward suggestions for strengthening the cooperation between the different players involved in the economy of the sea. As such, the following general ideas were suggested:

- The Government needs to create favorable contexts for the cooperation between the various departments of the State, between the State and the private sector and between states. In particular, more productive meetings of all forums designed to increase cooperation should be done, such as ICMA (Inter-ministerial Commission for Maritime Affairs);
- Institutional culture of openness and leadership geared towards cooperation and action;
- Enhance the “clusterization” of economy of the sea;
- Create financial incentives that positively discriminate for cooperation between the various agents of the maritime economy;
- Establishment of working groups of the various subsectors with well-defined objectives and goals, aimed at achieving measurable results;
- Greater promotion/communication of the advantages that together may encourage cooperative attitudes;
- Organization of regular meetings with the participation of companies, universities/ research centers and public administration, aimed at exchanging experience and mutual understanding;
- Greater cooperation between national and international entities, seeking to replicate cases of international success in Portugal;
- Implementation of various projects to give incentive to cooperation projects;



- More involvement and collaborative efforts of all entities of the sea in the appropriate forums, as well as being more demanding;
- The establishment of strategic and interactive networks among related sectors of the economy of the sea;
- The strengthening of cooperation involves the generation of trust; and, to build trust, the roles of each entity of the maritime economy must be understood, preventing unfair competition;
- The role of the entities responsible for the “clusterization” of the maritime economy should be more active and balanced between all the entities that make up the economy of the sea (universities, companies, the State and civil society);
- Greater dissemination of knowledge of the possible implementation collaborative models, providing for the dissemination and sharing of knowledge available to safeguard intellectual property rights and protection of the knowledge of each partner;
- More knowledge sharing;
- Greater integration of the various maritime associations, avoiding duplication and increasing the critical mass and the structure of each association to carry out its purposes;
- Leaders of the maritime economy must listen to the experience of local maritime communities;
- More informal contacts between players from the economy of the sea;
- Strengthening communication between local, regional and national authorities;
- Widespread dissemination of success stories/ cooperation models;

- Neither deify, nor ostracize sectors;
- Promotion of consortium projects for the economy of the sea;
- Establishment of pilot projects aimed the strengthening of cooperation;
- Promotion of internal and external strategic alliances for the medium and long term.

### 3. Maritime industries cooperation and economic evolution

In this section we are going to cover specific aspects about cooperation and the economic evolution of some maritime industries, namely Maritime Transport, Ports, Logistics and Shipping; Shipbuilding and Ship Maintenance/Repair; Entertainment, Sports, Tourism and Culture and Fishing, Aquaculture and Fisheries Industries.

As we can see in the table below, the results of the Cooperation questionnaire to the maritime industries presents levels above average, compared to the other sectors / entities analyzed. However, as expressed in the previous section of this paper, the overall results confirm that the level of cooperation among Portuguese maritime stakeholders is low. So it is possible to say that in relative / comparable terms between industries, these industries, particularly Transports, Ports, Logistics and Shipping industries and Fishing, Aquaculture and Fisheries industries are in the top of the ranking in terms of cooperation, considering the respondents opinion.

	Weak	Medium	High
Cooperation between Companies of the Maritime Transports, Ports, Logistics and Shipping industries?	42%	42%	16%
Cooperation between Companies of Fishing, Aquaculture and Fisheries industry?	43%	43%	14%
Cooperation between Companies of the Shipbuilding and Ship Repair/Naval Maintenance industries?	50%	38%	12%
Cooperation between Companies of the Entertainment, Sports, Tourism and Culture industries?	54%	42%	4%

Source: HELM – PwC Economy of the Sea Barometer, 2014.

To measure the evolution of the economy of the sea industries we are going to use the PwC Economy of the Sea Indexes.

The PwC Economy of the Sea Indexes (base 100 as at 31 December 2008), included in the HELM – PwC Economy of the Sea Barometer were created based on a selection of several variables (e.g. average monthly movements of containers, value of exports of fishery products at constant prices, cruise passenger movements in the main Portuguese ports) that were considered relevant for the subsectors with major impact on the economy of the sea in Portugal.

### 3.1. Maritime Transport, Ports, Logistics and Shipping

The majority of the respondents (58%) rated the level of cooperation between Companies of the Maritime Transports, Ports, Logistics and Shipping industries as “Medium” or “High”. This is a good result compared with other entities / industries results.

	Weak	Medium	High
Cooperation between Companies of the Maritime Transports, Ports, Logistics and Shipping industries?	42%	42%	16%

Source: HELM – PwC Economy of the Sea Barometer, 2014.

When we analyze the evolution, in the period 2008 – 2013, of containers’ (58% increase) and goods’ (18% growth) movement in the Portuguese ports, one finds large increases in the activity,

Note that the reduction of ships is in line with the international trend of increase of ships’ size and reduction of number of ships. At the present, the average size of the ship that arrives to the ports is bigger than in the past.

PwC Economy of the Sea Indexes (HELM)	2008	2009	2010	2011	2012	2013
Average monthly movements of ships	100.00	93.90	99.30	96.30	87.20	89.70
Average monthly movements of goods	100.00	93.20	99.40	101.80	102.60	118.70
Average monthly movements of containers	100.00	96.80	110.10	120.30	128.00	158.10

Source: HELM – PwC Economy of the Sea Barometer, 2014.

These results clearly show that there are signs of a direct relation between Cooperation and evolution of the economic activity in the “Maritime Transport, Ports, Logistics and Shipping” industries.

### 3.2 Fishing, Aquaculture and Fisheries Industries

The majority of the respondents (57%) rated the level of cooperation between Companies of the Fishing, Aquaculture and Fisheries industries as “Medium” or “High”. This is a good result compared with other entities / industries results.

	Weak	Medium	High
Cooperation between Companies of Fishing, Aquaculture and Fisheries industry?	43%	43%	14%

Source: HELM – PwC Economy of the Sea Barometer, 2014.

When we analyze the evolution of the Portuguese fishery products’ exports value (constant prices) - 43% growth - we also find large increases in the activity, in the 2008 – 2013 period.

Note that the reduction of the value of fish landed (constant prices) is related with the measures of environmental sustainability of fish stocks and consequent reduction of captures.

(constant prices)

PwC Economy of the Sea Indexes (HELM)	2008	2009	2010	2011	2012	2013
Value of fish landed	100.00	89.30	91.70	91.30	88.40	80.40
Domestic production of aquaculture	100.00	77.90	103.00	115.10	129.20	98.70
Value of exports of fishery products	100.00	96.40	129.60	145.40	138.90	143.80

Source: HELM – PwC Economy of the Sea Barometer, 2014.

These results show that there are signs of a direct relation between Cooperation and evolution of economic activity in the “Fishing, Aquaculture and Fisheries” industries.

### 3.3. Entertainment, Sports, Tourism and Culture

The majority of the respondents (54%) rated the level of cooperation between Companies of the Entertainment, Sports, Tourism and Culture as “Weak”. This is a result that puts these industries in the middle of the cooperation ranking considering the opinion of the respondents.

	Weak	Medium	High
Cooperation between Companies of the Entertainment, Sports, Tourism and Culture industries?	54%	42%	4%

Source: HELM – PwC Economy of the Sea Barometer, 2014.

When we analyze the evolution of the passengers (31.5% growth) and cruise stop-overs (13.8% growth) in the main Portuguese ports we find major growth, in the period 2008 – 2013.

PwC Economy of the Sea Indexes (HELM)	2008	2009	2010	2011	2012	2013
Cruise passenger movements in the main Portuguese ports (Leixões, Lisboa, Portimão, Azores and Madeira)	100.00	104.10	117.70	134.90	145.20	131.50
Number of cruise stop-overs in main Portuguese ports (Leixões, Lisboa, Portimão, Azores and Madeira)	100.00	96.40	102.10	114.30	119.00	113.80
Gross revenue of tourism establishments (Algarve, Madeira and Azores) (constant prices)	100.00	89.30	87.00	89.30	87.70	92.40
Number of clients in tourism establishments (Algarve, Madeira and Azores)	100.00	92.60	94.20	98.50	97.90	102.40

Source: HELM – PwC Economy of the Sea Barometer, 2014.

These results show that despite the average result obtained in the Cooperation questionnaire, the results in terms of the evolution of activity in cruises is very positive. As cruises activity is closely linked with ports activities, the good performance of ports also explains the evolution of cruises in Portugal.

### 3.4. Shipbuilding and Ship Maintenance/Repair

About 50% of the respondents rated the level of cooperation between Companies of the Shipbuilding and Ship Maintenance/Repair as “Weak”. This is not a very good result compared with other entities / industries results. One may classify it in general it as an average result.

	Weak	Medium	High
Cooperation between Companies of the Shipbuilding and Ship Repair/Naval Maintenance industries?	50%	38%	12%

Source: HELM – PwC Economy of the Sea Barometer, 2014.

When we analyze the evolution of the Gross Revenue of ship maintenance and repair of AIN companies (constant prices) (48.2% decrease) and Gross revenue of shipbuilding of AIN companies (constant prices) (86.1% decrease) we find huge decreases in the activity, in the period 2008 – 2013.

PwC Economy of the Sea Indexes (HELM)	2008	2009	2010	2011	2012	2013
Gross revenue of ship maintenance and repair of AIN members (constant prices)	100.00	83.90	71.60	50.20	46.70	51.80
Gross revenue of shipbuilding of AIN members (constant prices)	100.00	42.10	23.50	18.90	39.00	13.90

Source: HELM – PwC Economy of the Sea Barometer, 2014.

These results show that there are signs of a direct relation between Cooperation and evolution of economic activity in Shipbuilding and Ship Maintenance/Repair.

#### **4. Conclusions**

To succeed, an integrated and holistic approach to the maritime activities needs the development of Cooperation between all the players in this area.

Although there is unanimity within the maritime community in relation to the importance of cooperation for the future development of the maritime economy, most top managers and individuals who answered the survey found that, at present, the levels of cooperation among the various entities are relatively low.

Cooperation between different Public Administration Departments and Cooperation between Financial Entities and Companies are the entities and sectors with the lowest position in the cooperation ranking based in the respondent's opinion.

Respondents believe that it is possible to develop Cooperation in the economy of the sea and have given suggestions for strengthening the cooperation between the different players, such as: (i) the Government needs to create favourable contexts for the cooperation between the various departments of the State, between the State and the private sector and between states; (ii) the role of the entities responsible for the "clusterization" of the maritime economy should be more active and balanced between all the entities that make up the economy of the sea (universities, companies, the State and civil society); (iii) strengthening communication between local, regional and national authorities and (iv) institutional culture of openness and leadership geared towards cooperation and action.

When we analyze the evolution of some economy of the sea industries, namely Maritime Transport, Ports, Logistics and Shipping; Shipbuilding and Ship Maintenance/Repair; Entertainment, Sports, Tourism and Culture and Fishing, Aquaculture and Fisheries Industries and compare with the Cooperation results, we find that there are signs of a direct relation between Cooperation and economic growth.



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