The role of Maritime Clusters to enhance the strength and development in European maritime sectors

Executive Summary
“Socio-economic studies in the field of the Integrated Maritime Policy for the European Union”

- The role of Maritime Clusters to enhance the strength and development in European maritime sectors – Executive summary
- Legal aspects of maritime monitoring & surveillance data – Summary report
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- Legal aspects of maritime spatial planning – Summary report

To be published:

- Economic costs of adaptation policies of coastal regions in the face of climate change
- Study on tourist facilities in port
- Legal aspects of shipping in Arctic
- EU role in international organisations

The Executive Summary and the study can be downloaded from the website: http://ec.europa.eu/maritimeaffairs/clusters_en.html#2

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The role of Maritime Clusters to enhance the strength and development in European maritime sectors

Executive Summary
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INTRODUCTION

In this ‘Executive Summary’ the overall results of the study ‘The role of Maritime Clusters to enhance the strength and development in maritime sectors’ are presented. The ‘Executive Summary’ summarises the detailed results provided in the ‘Report on results’, the ‘Annexes’, the ‘Background country reports’ and the ‘Overview of the applied research methodology’.

The ‘Executive Summary’ provides an overview of the main study objectives, of the deliverables resulting from this study and of the applied research approach.

The ‘Executive Summary’ includes an assessment of the structure and economic key figures of the maritime clusters in the European Union and Norway. This assessment is carried out by analysing existing employment data in the maritime sectors and Areas in the EU and by relating these employment data to the added value created.

On the basis of these employment and added value data, cluster strength is then measured in line with the methodology followed by the European Cluster Observatory’s Star Method. This Star Method attributes stars for employment and added value to European regions based on the indicators ‘size’, ‘specialisation’ and ‘focus’. However, the ‘specialisation’ star has been adapted because of correlation with the star for ‘focus’.

Also, the main trends and policies targeted at the European maritime sectors are analysed in this ‘Executive Summary’.

Finally, the ‘Executive Summary’ includes an analysis of the role of maritime cluster organisations in enhancing the strength and development in maritime sectors. This analysis is based on performed field research and information acquired through questionnaires. Conclusions are drawn and recommendations are made on the basis of SWOT-analyses and maritime cluster organisations’ good practices.
I. MAIN OBJECTIVES OF THE STUDY AND DELIVERABLES

The maritime industries throughout Europe contribute to the well-being of all Europeans. For example, the majority of the external trade of the European Union is transported by sea. The seas around Europe also provide a rich source of conventional and renewable energy generation. Europe’s coastal regions are home to maritime industrial activities, such as shipbuilding and among the world's top destination for tourists.1

Europe has an important maritime industry with a strong global position in many (sub) sectors. The question is how to maintain and strengthen the competitiveness of the maritime clusters even more. Over the last decade, in most Member States there has been increasing attention for the maritime sectors and, meanwhile, many countries and regions moved in the direction of having their maritime industries represented by a cluster organisation.

The main objective of the study is to enhance the exchange of knowledge and experience: knowledge on the size, specialisation and focus of the maritime sectors or clusters (mapping) and experience within the different cluster organisations. Ultimately, this may provide building blocks for evidence-based policy development in line with the Blue Paper and its aim to contribute to sustainable development and the competitiveness of the maritime sectors.

This study presents the following key results:

- An overview of European maritime clusters showing their main economic features;
- Assessment of success factors and the role of maritime clusters in maritime policy development.

The results of the study ‘The role of Maritime Clusters to enhance the strength and development of maritime sectors’ consist of five different reports:

- This ‘Executive summary’ summarises the main results of the study, paying attention to all aspects of the study, although not in full detail.

- The ‘Report on results’ consists of a written text focusing on the study’s main objectives. An overview is given of the structure and economic key figures of the maritime clusters in the EU and Norway, including information on the main trends and support measures. Also, the ‘Report on results’ includes an assessment of the role of maritime cluster organisations based on performed field research and questionnaires.

- The ‘Annexes’ show all details of the performed analyses and findings. This document consists of self-explanatory slides. The report shows all features of maritime clusters on a European level in terms of the economic indicators employment and added value and in terms of cluster organisations (e.g. main features, success factors).

• In separate ‘Background country reports’ additional insights are provided on the national and regional (NUTS II) maritime clusters, including economic key figures, leader firms, financial inter-sector relations and national maritime trends and policies.\(^2\)

• Finally, a document provides a detailed ‘Overview of the applied research methodology’.

II. Research Approach

The study ‘The role of maritime clusters to enhance the strength and development in maritime sectors’ includes an economic inventory in which maritime sectors are divided into clusters (or Areas\(^3\)) in order to focus on developing a European cross-cutting policy approach for the sea-related sectors (combining offshore and coastal activities):

- Area 1: "Traditional" maritime sectors (shipping, shipbuilding, marine equipment, maritime services, recreational boating, seaports, offshore supply\(^4\), Navy, inland navigation, maritime works and marine aggregates);
- Area 2: Coastal (and marine) tourism and recreation (coastal tourism and cruise tourism);
- Area 3: Fisheries (fishing, fish processing, aquaculture).

The economic inventory gives an overview of the absolute economic value, in terms of employment, production value and added value of the maritime clusters. The production value of a sector is defined by the turnover of a sector minus the intermediate purchases within that sector. The production value consists of intermediate purchases in other sectors (domestic and import) and added value.

With regard to maritime employment, data from the study ‘Employment trends in all sectors related to the sea or using sea resources’ (Ecotec, 2006) have been assessed and reviewed in order to obtain comparable economic indicators for all EU Member States and Norway. The assessment and review of the employment-data is mainly based upon additional desk research and Policy Research’s expertise and know-how. Because of differences in definitions, there are some differences between the figures in this study and the figures originating from national maritime cluster organisations (see also Annex 4).\(^5\) Based upon these employment data, added value and production value in the maritime sectors have been analysed using Eurostat’s data on added value and production value per person employed in sectors with comparable NACE-codes.\(^6\)

\(^2\) Information on leader firms and financial inter-relations available on demand.

\(^3\) Detailed definitions of these Areas and sectors, see ‘Overview of the applied research methodology’.

\(^4\) This includes activities related to the conventional and renewable energy generation.

\(^5\) The main differences in the employment figures between this study’s figures and country-figures occur in the following sectors: shipping: EU resident seafarers only; shipbuilding: including yacht building (in line with Policy Research (2001) – Economic impact of the maritime industries in Europe); recreational boating: excluding yacht building (but services included); fisheries: including fish processing (in line with statistics in LEI (2006) – Employment in the fisheries sector); coastal tourism: tourism within 10 km from the coast; Navy, inland navigation and maritime works are included.

\(^6\) See ‘Overview of the applied research methodology’ and ‘Annexes’ for more details.
After analysing the production value, added value and employment figures throughout the European
Union and Norway in the abovementioned Areas, the clusters have been mapped in line with the
European Cluster Observatory’s Star Method. The European Cluster Observatory shows the extent to
which clusters have achieved specialised critical mass by employing measures of the three indicators
size, specialisation and focus. These three strength indicators reflect whether the cluster has reached
’specialised critical mass’ to develop positive spill-overs and linkages. Based on these indicators in
terms of added value or employment regions receive 0, 1, 2 or 3 ‘stars’ depending on how many of the
below criteria are met:

- **Size**: if added value or employment reaches a sufficient share of total European employment, it is
more likely that meaningful economic effects of clusters will be present. The ‘size’ measure shows
whether a cluster is in the top 10% of all clusters in Europe within the same cluster category in
terms of added value or the number of employees. Those in the top 10% will receive a star.

- **Specialisation**: if a region is more specialised in a specific cluster category than the overall
economy across all regions, this is likely to be an indication that the economic effects of the
regional cluster have been strong enough to attract related economic activity from other regions to
this location, and that spill-overs and linkages will be stronger. The ‘specialisation’ measure
compares the overall squared sector share of European regions in a cluster. If a region is in the
European top 10%, it receives a star.

- **Focus**: if a cluster accounts for a larger share of a region’s overall employment, it is more likely
that spill-over effects and linkages will actually occur instead of being drowned in the economic
interaction of other parts of the regional economy. The ‘focus’ measure shows the extent to which
the regional economy is focused upon the industries comprising the cluster category. This measure
relates employment in the cluster to total employment in the region. The top 10% of clusters which
account for the largest proportion of their region’s total employment receive a star.

Based upon exterior field research in Denmark, France, Germany, Italy, Norway and the UK the
success factors and best practices of cluster organisations have been assessed. More than 40 European
sector experts (from cluster organisations, sector associations, research institutions, government and
companies) were interviewed in this field research. Also, questionnaires were sent to the main
European, national and regional cluster, sector and platform organisations to analyse the role of
maritime cluster organisations in enhancing the strength and development of maritime clusters.

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7 www.europeanclusterobservatory.eu
8 *Policy Research* has adapted the European Cluster Observatory’s Star Method with regard to the star for ‘specialisation’,
because this star is correlated with the ‘focus’-star. Detailed information regarding the correlation of ‘focus’ and
‘specialisation’ and the calculation of the new star for ‘specialisation’ is provided in the report ‘Overview of the applied
research methodology’.
III. OVERVIEW OF MARITIME CLUSTERS, TRENDS AND POLICIES

III.1. ECONOMIC OVERVIEW OF THE EUROPEAN MARITIME CLUSTERS

European maritime sectors have a strong position in the world. For example, European ship owners control almost 40% of the world fleet, European shipbuilders are world leaders in terms of turnover and innovation, European dredging companies have 80% market share of the open market and Europeans dominate the emerging market for offshore renewable energy:

The direct production value in all the sea-related areas in the EU Member States and Norway amounts to about €450 billion, consisting of 58% intermediate purchases and 42% added value. Thus, the direct European added value in all the sea-related sectors amounts to €186.8 billion. The added value is the sum of the labour costs, depreciations and result (profit or loss). The sum of the added value of all sectors in a country provides the Gross Domestic Product (GDP) of that nation. Consequently, the sum of all European nations’ GDP’s gives the European Gross Domestic Product. With an added value of €186.8 billion, the sea-related sectors have a share of 1.65% in the European GDP. Although this study focuses on the direct impact of maritime clusters – excluding indirect and induced effects, the role of a maritime cluster surpasses its own economic impact; in addition, it plays a key role in facilitating the functioning of the entire economy, e.g. by means of maritime transport facilitating international trade, and in generating indirect effects through purchases in the value chain.

The European maritime sectors generate 2.25% of total European employment. About 4.78 million persons are directly employed in the maritime sectors. Added value per person employed amounts to an average of €39,000 in all the European maritime sectors. Figure 1 provides an overview of maritime employment and added value in the EU Member States and Norway.

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10 In the study Economic impact of maritime industries in Europe (2001; figures for 1997), the value added of sea-related sectors in EU-15 was also analysed. After correction for inflation and when comparing the same maritime sectors (Navy and coastguard, marine aggregates and coastal tourism were not included in the 2001-study), the total direct value added has increased by some 30% in 2006 when compared to 1997 (growth in all sectors involved).
11 The study Policy Research (2001) – Economic Impact of the Maritime Industries in Europe, which focused on economic analysis of the traditional maritime sectors in 15 Member States and Norway, found that for every euro direct added value, €0.59 indirect added value was realised. Translating this ratio to the €186.8 billion added value in all sea-related Areas in the current study would result in an indirect value of about €110 billion. This figure is a rough estimate of the actual indirect economic effects – giving a first idea on the size of these effects – and should be treated as such.
The main sea-related sectors within Europe in terms of employment are coastal tourism, Navy, marine equipment, shipping, seaports and shipbuilding. In terms of added value and production value the largest sector is coastal tourism followed by shipping, seaports, marine equipment, Navy and shipbuilding. Although inland navigation and maritime works do not have a dominant share in the total sea-related sectors, these sectors do have world leading market positions in their areas of expertise (e.g. Belgium, France, Germany and the Netherlands). Figure 2 provides an overview of the added value in all the maritime sectors (all Areas) in the European Union and Norway.
Figure 3 provides an overview of the stars awarded to regions based on the employment and added value in the traditional maritime sectors (Area 1). Most stars for employment and added value in these sectors are located in Northern and Western Europe, more specifically in the Hamburg-Le Havre Range. Stars for added value in the traditional maritime sectors shift more towards western regions when compared to stars for employment. The main reason for this trend is the higher added value per person achieved in western European countries.

Figure 3: Star Method applied with regard to added value and employment in the traditional maritime sectors (Area 1)

Source: Policy Research Corporation
Figure 4 shows the stars that are awarded for added value and employment in coastal (and marine) tourism and recreation (Area 2). Compared to the stars for Area 1, the stars in Area 2 are more located in southern European regions. In this Area, there is no significant difference between stars for added value and employment.

Figure 4: Star Method applied with regard to added value and employment in coastal (and marine) tourism and recreation (Area 2)

Source: Policy Research Corporation
Figure 5 gives an overview of the stars awarded to regions based on employment and added value in fisheries (Area 3).

Figure 5: Star Method applied with regard to added value and employment in fisheries (Area 3)

III.2. MAIN TRENDS AND POLICIES IN THE MARITIME SECTORS

The overview of trends and policies is mainly based upon literature and the performed field research. The most important trends and policies are provided in this paragraph. More in-depth information concerning trends and policies in the European maritime sectors is provided in the report ‘Study results’ and in the ‘Background country reports’.

The main cluster trends which have been analysed are the following:
- Increase in Research, Development and Innovation (RDI-activities);
- Difficulties with regard to recruitment;
- Limited public awareness of the importance of maritime sectors;
- Sustainable development.

Source: Policy Research Corporation

**In this chapter the main trends and policies are provided. More trends in the maritime sectors are available in Annex 7.**
At European level, policy focuses on ensuring a strong competitive position in the world. In this respect, the European Commission develops measures to improve competitiveness and innovation, under its policies for industry, innovation transport, shipbuilding, regional development or research.

National maritime policies are in line with European trends and policies. National maritime policies in general focus on the stimulation of RDI, the increasing intake of personnel and improvement of education, the promotion of the maritime cluster and the implementation of the State Aid Guidelines on Maritime Transport. In certain countries, maritime cluster development is actively supported.

IV. ASSESSMENT OF THE ROLE OF MARITIME CLUSTER ORGANISATIONS

IV.1. MAIN CHARACTERISTICS OF MARITIME CLUSTER ORGANISATIONS

Clustering is not a goal in itself, but may be beneficial because of its link with economic prosperity: regions with a higher rate of employment in industries that belong to strong clusters appear generally more prosperous (higher GDP per capita). Key aspects and benefits of clustering are related to encouraging innovation, specialisation and outsourcing:\(^\text{13}\):

The main cluster benefits can be achieved through cluster activities, such as:

- Promotion campaigns;
- Economic reports on the maritime cluster;
- Structural cooperation between cluster organisations and knowledge institutions;
- Specific (government) support programs;
- Platforms to exchange best practices.

Cluster organisations are a relatively new concept. Most maritime cluster organisations were founded during the last 15 years. These maritime cluster organisations are defined as organisations that aim to enhance the strength of their maritime cluster.

By definition, all maritime cluster organisations capture more than one maritime sector. Maritime cluster organisations represent almost every traditional maritime sector – although in practice this does not (yet) always seem the case – except for the sectors that only answer a broader definition of maritime sectors, such as Navy and coastguard, inland navigation and maritime works. The sectors fisheries and coastal (and marine) tourism and recreation are sometimes represented by the national cluster organisations although less frequent than the traditional maritime sectors.

There are different approaches to developing maritime cluster organisations, firstly, as regards the initiative to establish a cluster. This initiative can be taken top-down – resulting in government induced organisations – or induced by leader firms and/or sector associations (bottom-up). Figure 6 provides an overview of the main characteristics of top-down and bottom-up cluster organisations.

However, regardless the initiator of a cluster organisation, maritime cluster organisations are mostly historically established (and regionally grown) based upon the specific needs of the cluster and its participants and upon the country’s culture. The main goal in establishing these cluster organisations is the installation of a structure that provides clear solutions for cluster-issues (e.g. labour market and innovation). The organisational structure of these organisations is influenced by traditions, history, culture, governmental structure and driving sectors. Basically, cluster-issues need to be handled within the cluster organisations through the following two key elements:

- Transparency and communication/dialogue, both horizontally and vertically, on the mission, structure and activities of the cluster organisation;
- The presence of leading individuals within the cluster organisation who can raise enthusiasm and set up clear actions in view of a clear and supported vision.

**Figure 6 : Classification of maritime cluster organisations (top-down vs. bottom-up)**

<table>
<thead>
<tr>
<th>Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOP-DOWN</strong></td>
</tr>
<tr>
<td>E.g. Germany</td>
</tr>
<tr>
<td><strong>BOTTOM-UP</strong></td>
</tr>
<tr>
<td>E.g. Maritimt Forum in Norway</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOP-DOWN</strong></td>
</tr>
<tr>
<td>- Government induced and/or supported</td>
</tr>
<tr>
<td>- Holistic and cluster-wide approach</td>
</tr>
<tr>
<td>- Focus on long-term strategy and policy:</td>
</tr>
<tr>
<td>- Economy (e.g. level playing field and growth)</td>
</tr>
<tr>
<td>- Education and recruitment</td>
</tr>
<tr>
<td>- Research, development and innovation</td>
</tr>
<tr>
<td>- Export</td>
</tr>
<tr>
<td>- Common interest (e.g. environment and safety)</td>
</tr>
<tr>
<td>- Focus on professionalism and cooperation/integration of maritime sectors</td>
</tr>
<tr>
<td><strong>BOTTOM-UP</strong></td>
</tr>
<tr>
<td>- Induced and/or supported by strong leader firms and/or sector associations</td>
</tr>
<tr>
<td>- Limited cluster approach based on supporting companies and sector associations</td>
</tr>
<tr>
<td>- Focus on short-term benefits:</td>
</tr>
<tr>
<td>- Rules and regulation</td>
</tr>
<tr>
<td>- Tax regime</td>
</tr>
<tr>
<td>- Labour market and job promotion</td>
</tr>
<tr>
<td>- Innovation project support</td>
</tr>
<tr>
<td>- Export support</td>
</tr>
<tr>
<td>- Focus on operational problems</td>
</tr>
</tbody>
</table>

*Source: Policy Research Corporation*

Maritime cluster organisations exist at different geographical levels, focusing on an international and/or European, a national, a regional (incl. cross-border) or a local level. Policy (initiatives) and actions are consequently translated to European, national and regional levels, although not in a uniform manner.

Furthermore, cluster organisations differ from each other by the organisation and/or associations that financially contribute to the cluster organisations. Also, significant differences exist between the level of the budgets that top-down and bottom-up cluster organisations receive. Top-down maritime cluster fund their activities with government budgets. The budgets of top-down maritime cluster organisations are far higher than those of bottom-up maritime cluster organisations, because they

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14 See Annex 10 for the main similarities and differences between national and regional cluster organisations; in the same Annex an overview of the main European, national and regional maritime cluster organisations is provided.
include the overall budgets of the government administration and RDI and/or maritime education programs as well. Bottom-up cluster organisations are mostly funded by private means, mainly membership contributions. Although the impact/success of actions of cluster organisations is only limitedly evaluated on project-basis, these organisations are indirectly evaluated through (the continuation of) these membership contributions. In general, the main budget components for both national and regional cluster organisations are projects and studies, policy and framework and, data and information sharing. Important topics covered are labour, innovation and research, image building and marketing, and environmental performance.

In Figure 7 an overview is presented of the main differences and similarities between national and regional maritime cluster organisations.

**Figure 7 : Differences between and similarities of national and regional maritime cluster organisations**

<table>
<thead>
<tr>
<th>National maritime cluster organisation</th>
<th>Regional maritime cluster organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Origin</strong> : Mainly established after 1990 by small group of strong promoters (often located within Shipowner ’ s offices)</td>
<td><strong>Origin</strong> : Mainly established after 2000 by sectoral and thematic groups (of companies) reflecting the regional situations and interests</td>
</tr>
<tr>
<td><strong>Purpose</strong> :</td>
<td><strong>Purpose</strong> :</td>
</tr>
<tr>
<td>- Bottom-up: Generate volume to improve lobbying position</td>
<td>- Bottom-up: Direct interest of local industry</td>
</tr>
<tr>
<td>- Top-down: Create platform to enhance integrated maritime cluster policy</td>
<td>- Top-down: Focus on regional development and innovation</td>
</tr>
<tr>
<td><strong>Main topics covered</strong> : Labour, exchange of know-how, innovation and research, image building, environment and, public affairs</td>
<td><strong>Main topics covered</strong> : Innovation and research, exchange of know-how and, business development</td>
</tr>
<tr>
<td><strong>Finance</strong> :</td>
<td><strong>Finance</strong> :</td>
</tr>
<tr>
<td>- Bottom-up: Limited funding, basically for management and communications (additional activities often require additional member funding)</td>
<td>- Bottom-up: Limited funding, increasingly depending on project financing</td>
</tr>
<tr>
<td>- Top-down: High budgets, mainly for RDI programs</td>
<td>- Top-down: High budget, mainly for regional development</td>
</tr>
<tr>
<td><strong>Size</strong> :</td>
<td><strong>Size</strong> :</td>
</tr>
<tr>
<td>- Bottom-up: Limited size (2 -4 fte)</td>
<td>- Bottom-up: Limited size (1 -2 fte)</td>
</tr>
<tr>
<td>- Top-down: Division of ministry</td>
<td>- Top-down: Part of development agency or technology centre</td>
</tr>
<tr>
<td><strong>Scope</strong> : Capture almost every traditional maritime sector that is active in the country</td>
<td><strong>Scope</strong> : Capture almost every traditional maritime sector that is active in the region</td>
</tr>
<tr>
<td><strong>Cooperation</strong> :</td>
<td><strong>Cooperation</strong> :</td>
</tr>
<tr>
<td>- Cluster organisations: European national clusters and regional clusters</td>
<td>- Cluster organisations: national cluster and regional clusters</td>
</tr>
<tr>
<td>- Non-cluster organisations: Private companies, sector associations, government and research institutions</td>
<td>- Non-cluster organisations: Private companies, sector associations, government and research institutions</td>
</tr>
<tr>
<td><strong>Statistical monitoring</strong> : Almost always statistically monitored by external organisation</td>
<td><strong>Statistical monitoring</strong> : Almost always statistically monitored (sometimes by regional cluster organisation itself)</td>
</tr>
</tbody>
</table>

*Source : Policy Research Corporation*

Maritime cluster organisations cooperate on different levels. Transnational cooperation between national organisations – in Area 1 – mainly takes place at EU level through the European Network of Maritime Clusters (ENMC), although bilateral contacts with other national and regional maritime cluster organisations and with sector associations are quite frequent. Regional maritime cluster organisations mainly cooperate with other regional and national cluster and sector associations. Cooperation focuses on meetings/events, data and information sharing, exchange of lessons learned and best practices, policy initiatives, projects/studies, and publicity & promotion.
Besides cluster organisations that provide a platform for all companies in sectors that are related to each other, sector associations\textsuperscript{15} link all companies and/or organisations within a specific sector. Consequently, cluster organisations and sector associations complement each other. In this respect, sector associations often join a cluster organisation to team up with other sector associations and companies in order to cooperate on the realisation of common interests.

**IV.2. THE LINK BETWEEN CLUSTER POLICIES AND SECTOR PERFORMANCE**

In particular development policies – aiming at creating, mobilising or strengthening a particular cluster category resulting in specific sectoral cluster initiatives – focus specifically on clusters and clustering. This policy focus is welcomed by the private sector, since over 68\% of companies working in a cluster-like environment agree that public authorities have a fundamental or important role to play to support the cluster. Despite the fact that clustering and cluster policy are currently receiving significant attention, the cluster policy area is still at an early stage. Reasons for this are that the use of cluster policy only started in the period 1990-1994 and that around half of the countries used cluster policy for the first time in the period from the year 2000 until today\textsuperscript{16}.

The effect of cluster policies on sector performance has, up until today, proven very difficult to measure. Reason for this difficulty is the early stage of development of cluster policies, but also the difficulty to measure the impact of cluster policies and programmes as most of their effects are only indirect and affected by many other factors. These elements make it difficult to establish clear causal links between cluster policies and programmes and their (potential) impact. Moreover, only very few cluster organisations (as in the maritime sectors) measure or assess the impact of their activities on the functioning of their clusters. Nevertheless, cluster organisations are structurally evaluated by their members with implications on membership contributions.

**IV.3. SWOT-ANALYSIS OF MARITIME CLUSTER ORGANISATIONS\textsuperscript{17}**

The SWOT-analysis of maritime cluster organisations distinguishes the strengths, weaknesses, opportunities and threats of top-down clusters and of bottom-up clusters\textsuperscript{18}.

The main strength of top-down maritime cluster organisations is their focus on a long term strategy based upon high budgets to finance their activities. One of the identified weaknesses of top-down cluster organisations is the challenge that is caused by the continuous balancing process between the interests of cluster organisations and those of sector associations, requiring continuous interaction. As a result of the widespread variety of interests, this often leads to a focus on more universal, softer themes. An opportunity for top-down cluster organisations is that cluster organisations could take the initiative (or be invited) to establish a single-point-of-entry to increase structural interactions between the maritime cluster and the government. A possible threat for top-down clusters is the limited

\textsuperscript{15} Annex II analyses the main similarities and differences between maritime cluster organisations and sector associations.
\textsuperscript{17} A more detailed SWOT-analysis is provided in the ‘Report on results’.
\textsuperscript{18} Main characteristics of top-down and bottom-up maritime cluster organisations are provided in Paragraph IV.1.
structural sector involvement which may lead to focusing too much on long-term benefits for the maritime sectors that may hamper or conflict with the clusters’ companies short term interests.

The main strength of bottom-up cluster organisations is the enhancement of business efficiency and opportunities. This strength goes hand in hand with a strong focus on finding solutions for operational problems. A weakness of bottom-up clusters concerns coping with the differences in sector interests, sometimes leading to a difficult decision-making progress within the cluster organisations. This difference in sector interests often results in a rather narrow focus on softer themes (e.g. promotion). One of the opportunities for bottom-up clusters is that bottom-up cluster organisations take the initiative to increase the government involvement (and budget) in the cluster organisation to improve mutual understanding and fine-tune policy making. The main threat for cluster organisations is that the too narrow local focus may lead to the suboptimal functioning of a maritime cluster organisation.

IV.4. RECOMMENDATIONS REGARDING THE ROLE OF MARITIME CLUSTER ORGANISATIONS

- A continuous effort to build a permanent database on economic facts and figures to work towards a monitoring system in which national maritime cluster organisations play a key role;
- A clear-cut approach from the European Commission with respect to maritime clusters; this implies that the importance and the strength of maritime clusters is well communicated (e.g. by integrating this study’s results in the website of the Cluster Observatory);
- A strategy towards a future role of European, national and regional maritime cluster organisations. In this respect a platform could be installed to exchange best practices in the field of labour market;
- Integration of marine and maritime affairs;
- Methods to strengthen RDI need further investigation;
- Maritime cluster organisations should take a pivot role in industrial involvement in environmental protection and sustainability;
- In case the government does not take the initiative to set up a maritime cluster organisation, or does not provide incentives to do so, the industry is recommended to undertake own initiative to set up coordinated action if they wish to develop cluster activities. The main goal in establishing a maritime cluster organisation is the installation of a structure that provides clear solutions for cluster-issues (e.g. labour market and innovation) taking into account key elements such as transparency and communication and the presence of leading individuals.
V. CONCLUSIONS

The maritime sectors in Europe account for about 4.8 million persons employed and generate a production value of circa € 450 billion and an added value of € 186.8 billion. The main sea-related sectors in terms of employment, added value and production value are coastal tourism, shipping, shipbuilding, Navy and marine equipment. Star-regions in the traditional maritime sectors are mostly spread over north-western Europe.

The main cross-sector trends and policies on national and European level in the maritime sectors focus on the promotion of the maritime cluster (e.g. labour market and image), the improvement of education and training and, the stimulation of research, development and innovation. Moreover, a shift from sector policy to cluster policy is slowly taking place.

The main differences between the characteristics of maritime cluster organisations are based upon the following areas: the initiative (top-down vs. bottom-up), budget resources and geographical scope. However, there is no organisational concept for setting up cluster organisations that intrinsically excels, because much depends on the local conditions (e.g. presence of sectors and regional spread of sectors) and the practical elaboration of activities and topics. Topics of cluster organisations concern mostly softer issues (e.g. innovation and labour market).

The main benefits of (maritime) clusters are the increase in efficiency, the increased level of business formations and, the higher level of research, development and innovation. These benefits can be optimised by cluster organisations through activities and initiatives, e.g. promotion campaigns, structural cooperation between cluster organisations and knowledge institutions, specific (government) support programs and platforms to exchange best practices.

The main recommendations regarding the role of maritime cluster organisations are to build a permanent database on economic facts and figures, to have a clear-cut approach from the European Commission with respect to maritime clusters, and to formulate a strategy towards the future role of maritime cluster organisations.