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SOUND SOLUTIONS BASED ON SCIENTIFIC RESEARCH

EC DG Mare study

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

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Rome, 1 October 2008

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OBJECTIVES AND APPROACH OF THE STUDY

Provision of overview of main economic features of European maritime clusters, trends and policies

- Assessment of data from different sources (*Employment trends in all sectors related to the sea* (Ecotec), *Economic impact of maritime industries in Europe* (Policy Research), *Eurostat*, *Studies on behalf of the national cluster organisations, et cetera)*
- Mapping cluster strength in line with methodology European Cluster Observatory
- Desk and field research (Denmark, France, Germany, Italy, Norway, UK)

Assessment of the role of maritime cluster organisations

- Desk research and field research (Denmark, France, Germany, Italy, Norway, UK)
- Detailed inquiry amongst regional, national and European maritime cluster organisations

Timing of the study: May – October 2008

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SEA-RELATED SECTORS

In line with the EC's *Terms of Reference* the study distinguishes

- Area 1: Traditional maritime sectors*
- Area 2: Coastal (and marine) tourism and recreation
- Area 3: Fisheries
- Area 4: Exploitation of non-living sea resources
- Area 5: Other economic activities related to the oceans and seas that contribute to the well being of Europeans

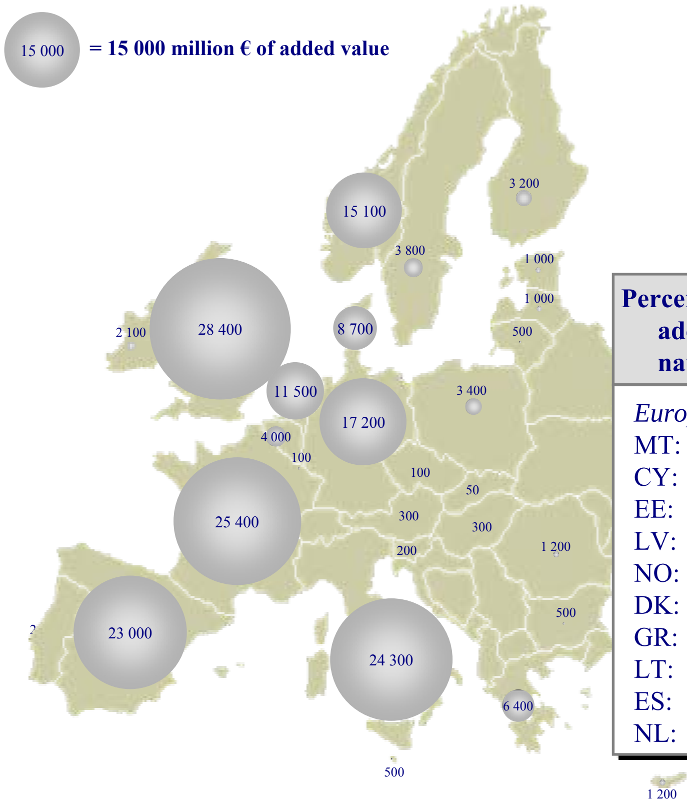
* In the study Economic impact of maritime industries in Europe, carried out by *Policy Research* on behalf of the EC, the fisheries sector was also included as part of the traditional maritime sectors; furthermore, differences exist per country with regard to the 'scope' of the maritime industry; the members of the European Network of Maritime Clusters regard eight sectors as part of the maritime cluster from a narrow perspective: shipping, shipbuilding, marine equipment, seaports, maritime services, yacht building, offshore services and fishing; three sectors could be added from a national, broader perspective: Navy and coastguard, inland navigation and maritime works

KEY FIGURES OF ALL EUROPEAN SEA-RELATED SECTORS

EU-27 + Norway

Added value

Direct (Σ direct) added value = 186 600 million €

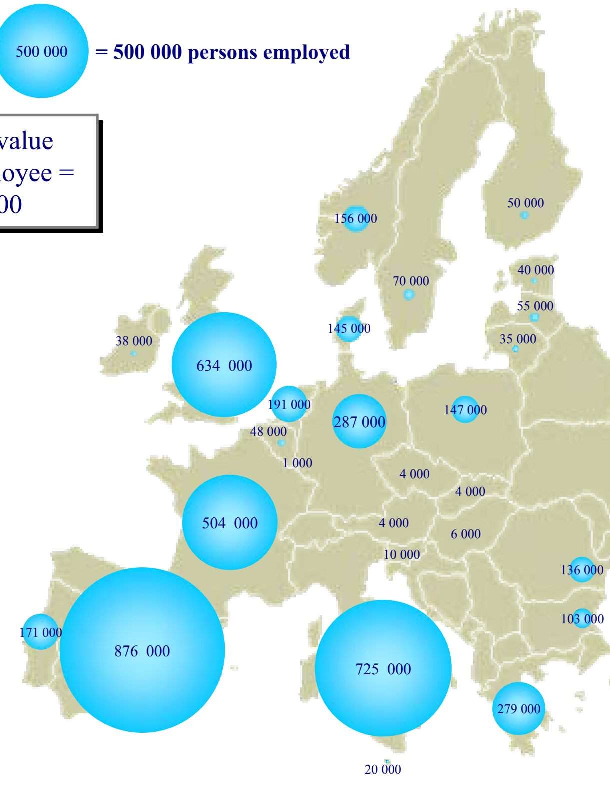


Percentage maritime added value in national GDP*	
Europe:	*1.65%*
MT:	11.36%
CY:	9.07%
EE:	8.83%
LV:	7.71%
NO:	6.23%
DK:	4.19%
GR:	3.24%
LT:	2.59%
ES:	2.53%
NL:	2.25%

Average value added/employee = € 39 000

Employment

Direct (Σ direct) employment = 4.78 million persons



Percentage maritime employment in national employment*	
Europe:	*2.25%*
MT:	13.51%
CY:	12.02%
NO:	6.85%
EE:	6.54%
GR:	6.39%
LV:	5.36%
DK:	5.26%
ES:	4.62%
BG:	3.46%
PT:	3.34%

* Top-10 countries in terms of share of maritime added value (and employment) in all sea-related Areas are listed; for other countries % share is well below 2.5% (and 3%)

Value added amounts to **186 600 million €** (of which 88% in the top-10 countries) and employment to **4.78 million persons** (of which 83% in the top-10 countries)

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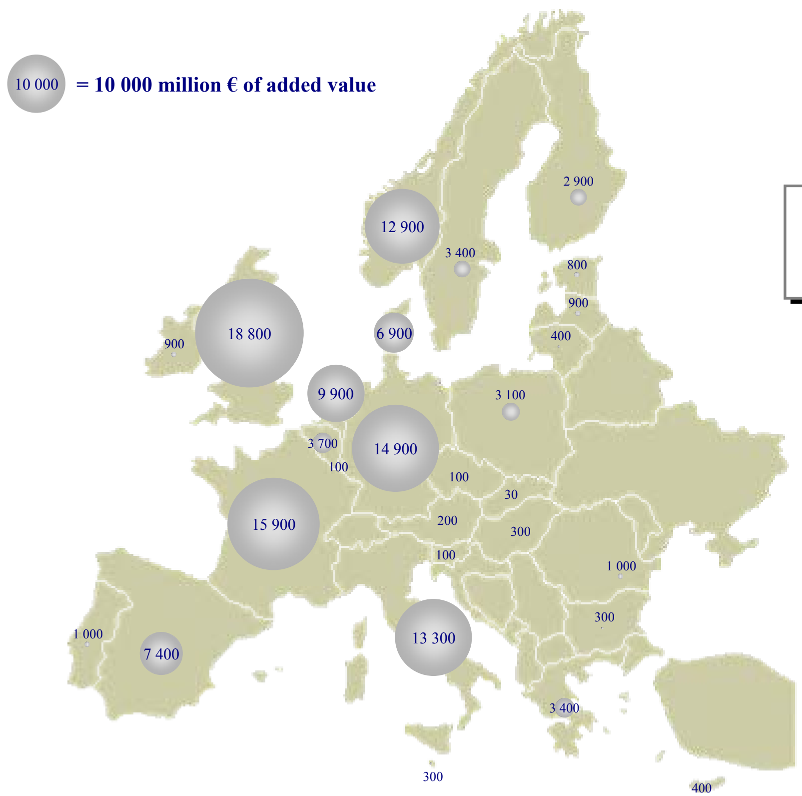
KEY FIGURES TRADITIONAL MARITIME SECTORS

EU-27 + Norway

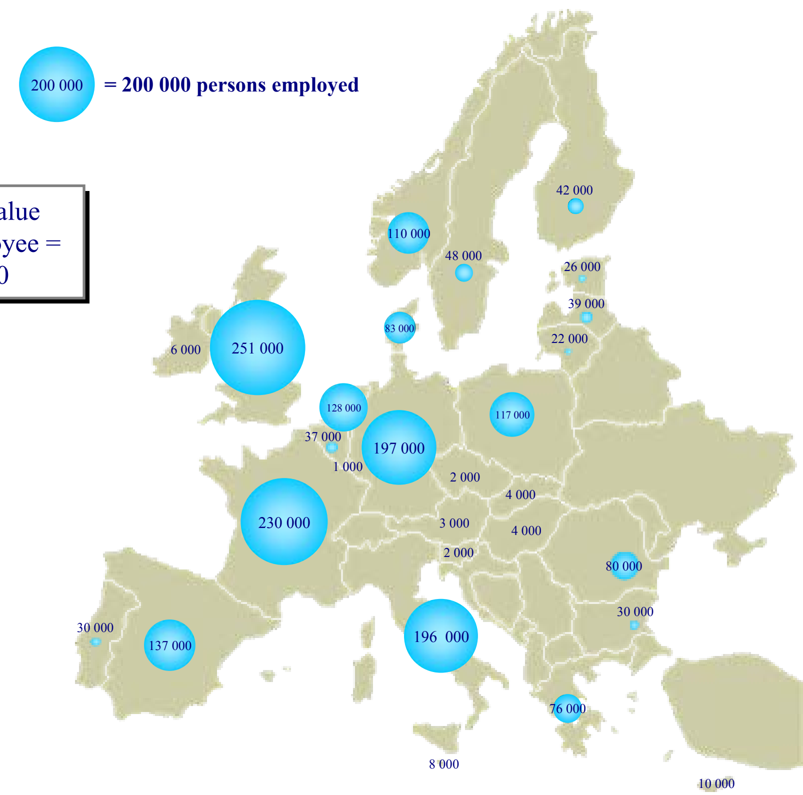
Added value

Direct (Σ direct) added value = 123 400 million €



Employment

Direct (Σ direct) employment = 1.92 million persons



Average value added/employee = € 64 400

Value added in **traditional maritime sectors** amounts to **123 400 million €** (87% in top-10 countries) and employment of **1.92 million persons** (80% in top-10 countries)

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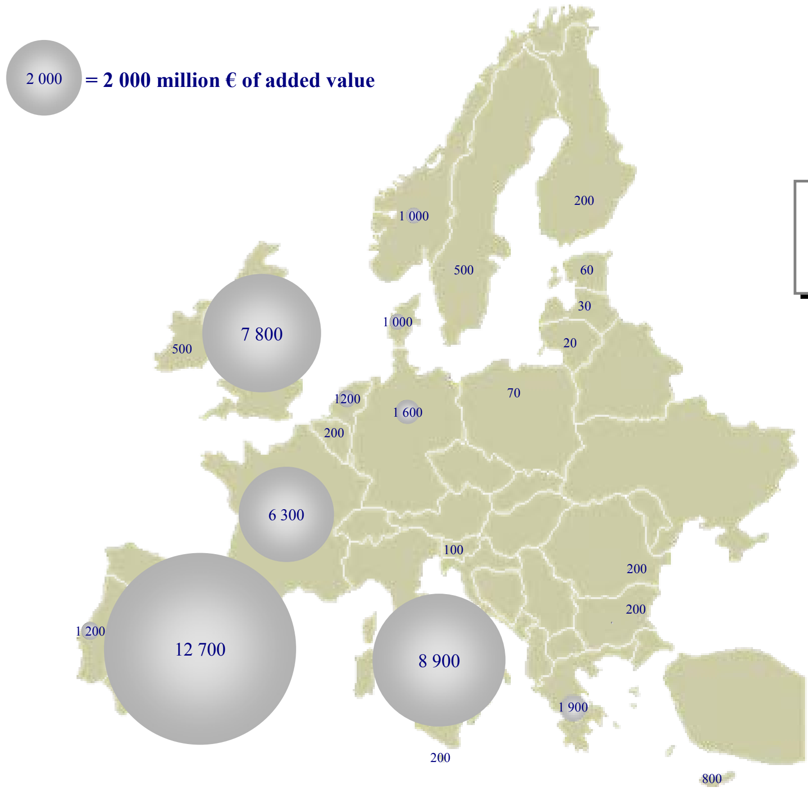
KEY FIGURES COASTAL (AND MARINE) TOURISM

EU-27 + Norway

Added value

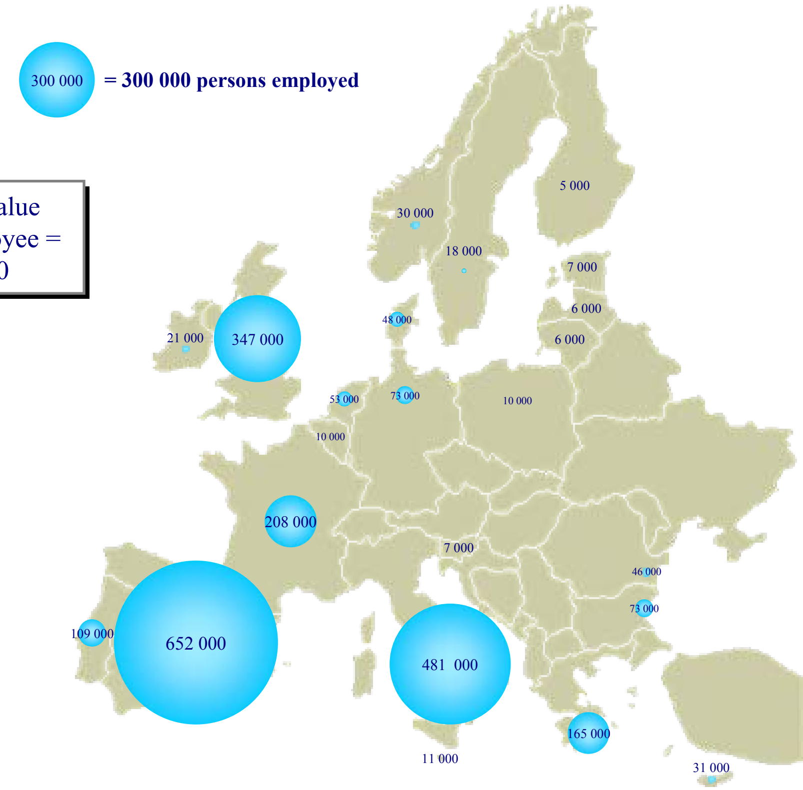
Direct (Σ direct) added value = 46 600 million €



Average value added/employee = € 19 300

Employment

Direct (Σ direct) employment = 2.42 million persons



Value added in **coastal and marine tourism** amounts to **46 600 million €** (93% in top-10 countries) and employment of **2.42 million persons** (91% in top-10 countries)

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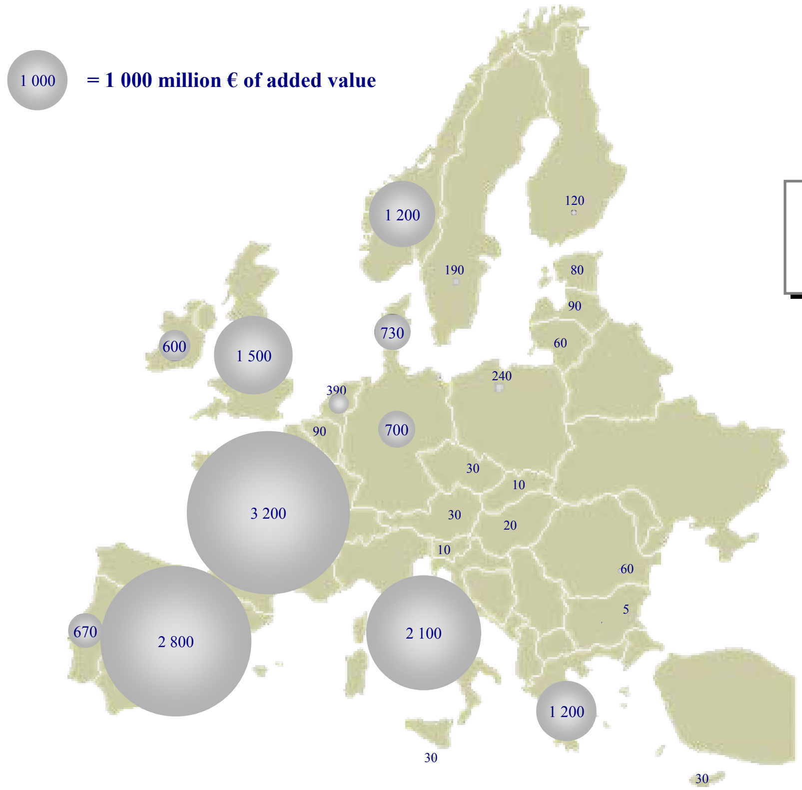
KEY FIGURES FISHERIES

EU-27 + Norway

Added value

Direct (Σ direct) added value = 16 200 million €



Average value added/employee = € 36 600

Employment

Direct (Σ direct) employment = 444 000 persons

Value added in **fisheries** amounts to **16 200 million €** (90% in the top-10 countries) and employment of **444 000 persons** (85% in top-10 countries)

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Main objectives of the study

Overview of maritime clusters, trends and policies

- Definition of sea-related sectors
- Key figures European maritime cluster
- ***Determination of cluster strength***
- Main trends and policies in the maritime sectors

Assessment of the role of maritime cluster organisations

Conclusions and recommendations

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DETERMINATION OF CLUSTER STRENGTH

‘Star Method’ à la European Cluster Observatory (adapted)

- ***Size***: Top-10 percentile of employment (or value added) in an Area (cluster) in all observed regions*
- ***Specialisation*****: Top-10 percentile of Specialisation Index in an Area (cluster) in all observed regions
- ***Focus***: Top-10 percentile of share of employment (or value added) in an Area (cluster) in comparison to total employment (or added value) in a region

In addition, *Policy Research* studied the financial relationships within a cluster and gave an overview of leader firms per country

* The Nomenclature of Territorial Units for Statistics (NUTS) provides a single uniform breakdown of territorial units for the production of regional statistics for the European Union. The NUTS is a three-level hierarchical classification: NUTS 1, NUTS 2 and NUTS 3. The analysis in this study focuses on the 157 NUTS 2 regions (0.8 to 1.5 million inhabitants).

** In the methodology developed and used so far by the Stockholm School of Economics the specialisation star has been defined differently; as there appeared to be a strong (linear) correlation between the specialisation and focus star in that methodology, *Policy Research* proposed an alternative specialisation star, which has been discussed extensively with the European Commission - DG Enterprise & Industry; the Specialisation Index is measured as the sum of the squared sector shares within a cluster

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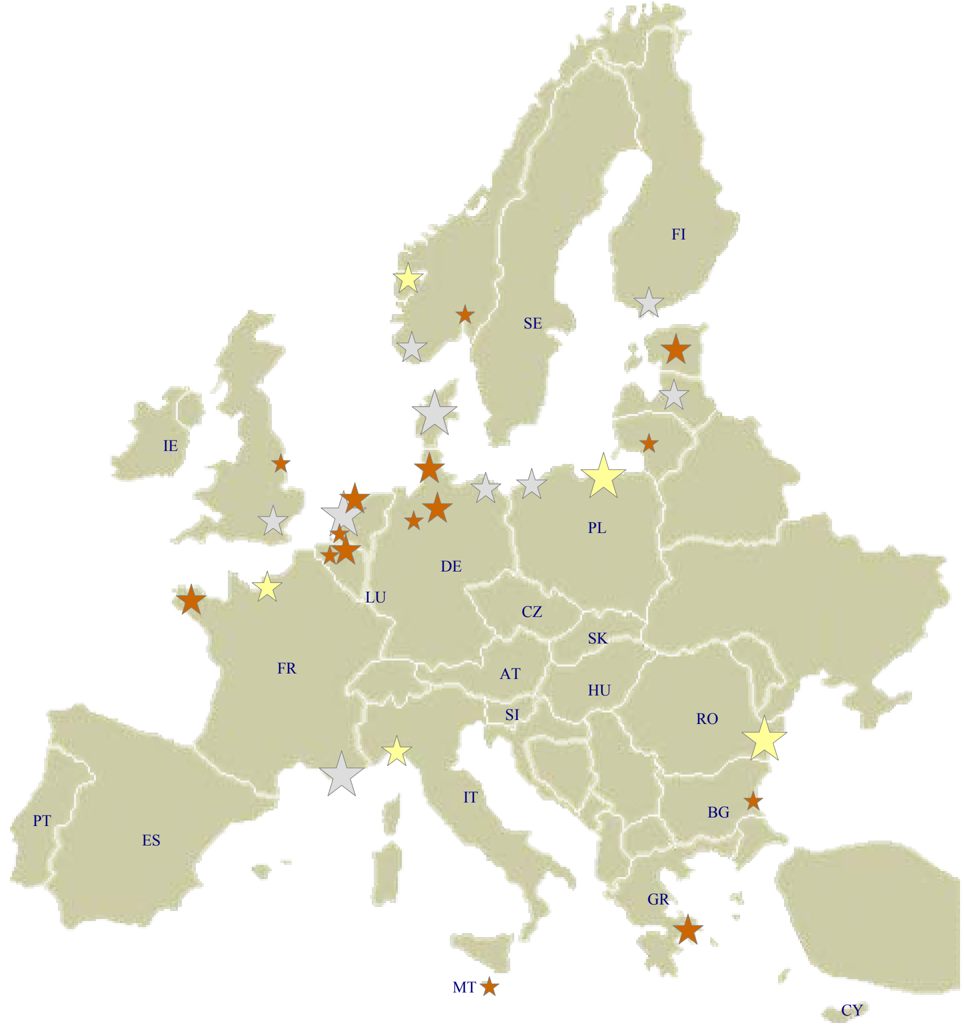
CLUSTER STRENGTH TRADITIONAL MARITIME SECTORS

*Cluster strength with respect to **employment** (EU-27 + Norway)*

Golden, silver or bronze star regions (size, specialisation and focus)			
Maritime employment (< 25 000)	Maritime employment (25 000-50 000)	Maritime employment (> 50 000)	
★	★	★	Bronze
★	★	★	Silver
★	★	★	Gold



Golden-star regions in the traditional maritime sectors are Sud-Est (Ro), Pomorskie (Pl), Liguria (It), Haute-Normandie (Fr) and Vestlandet (No)

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CLUSTER STRENGTH TRADITIONAL MARITIME SECTORS

*Cluster strength with respect to **value added** (EU-27 + Norway)*

Golden, silver or bronze star regions (size, specialisation and focus)			
Maritime added value (< € 2 billion)	Maritime added value (€ 2 - 3 billion)	Maritime added value (> € 3 billion)	
			Bronze
			Silver
			Gold

In terms of value added North-West Europe hosts most of the golden and silver star regions

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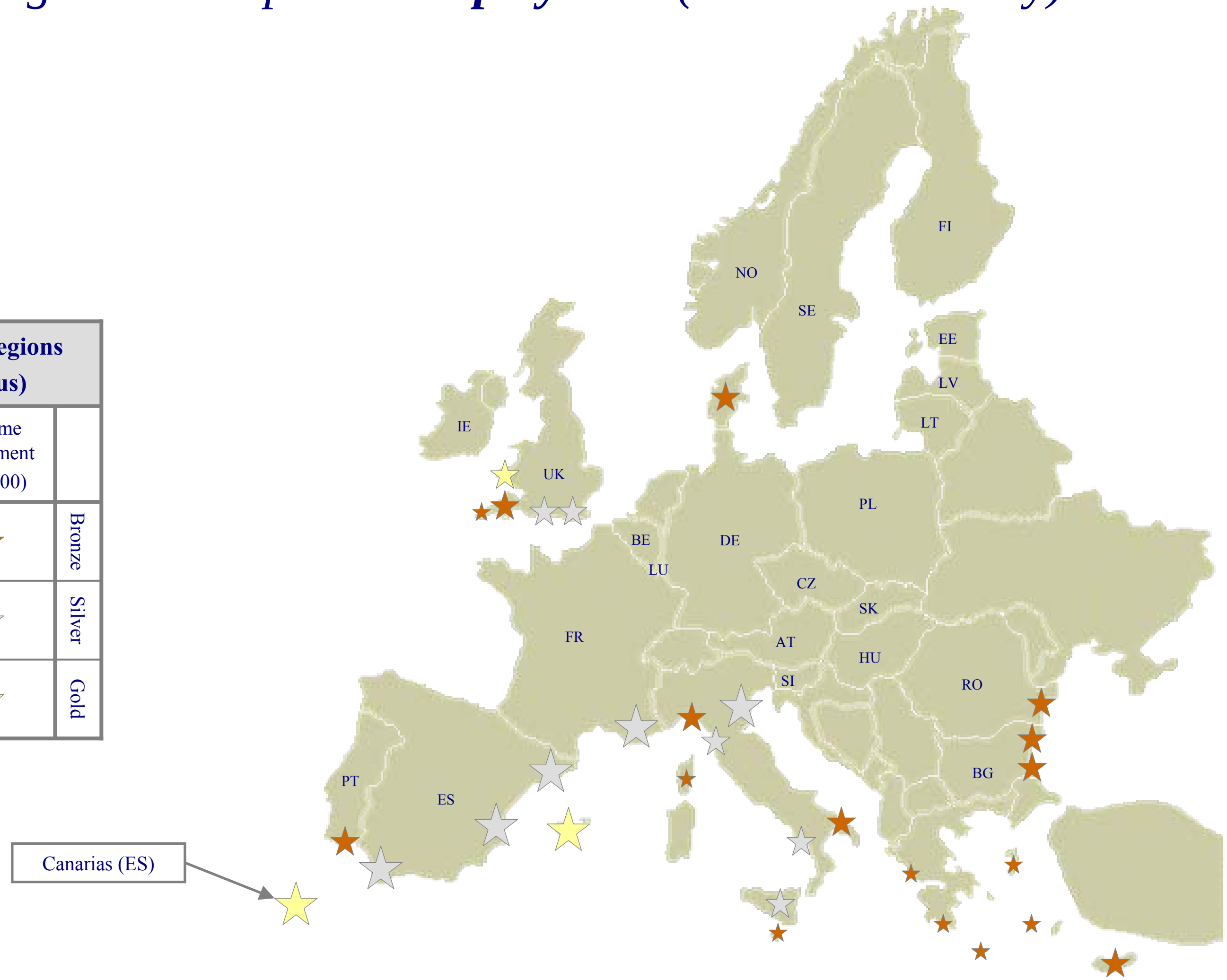
CLUSTER STRENGTH COASTAL (AND MARINE) TOURISM

*Cluster strength with respect to **employment** (EU-27 + Norway)*

Golden, silver or bronze star regions (size, specialisation and focus)			
Maritime employment (< 25 000)	Maritime employment (25 000-50 000)	Maritime employment (> 50 000)	
★	★	★	Bronze
☆	☆	☆	Silver
☆	☆	☆	Gold



Most golden and silver star regions in coastal (and marine) tourism are situated in the South-West Mediterranean

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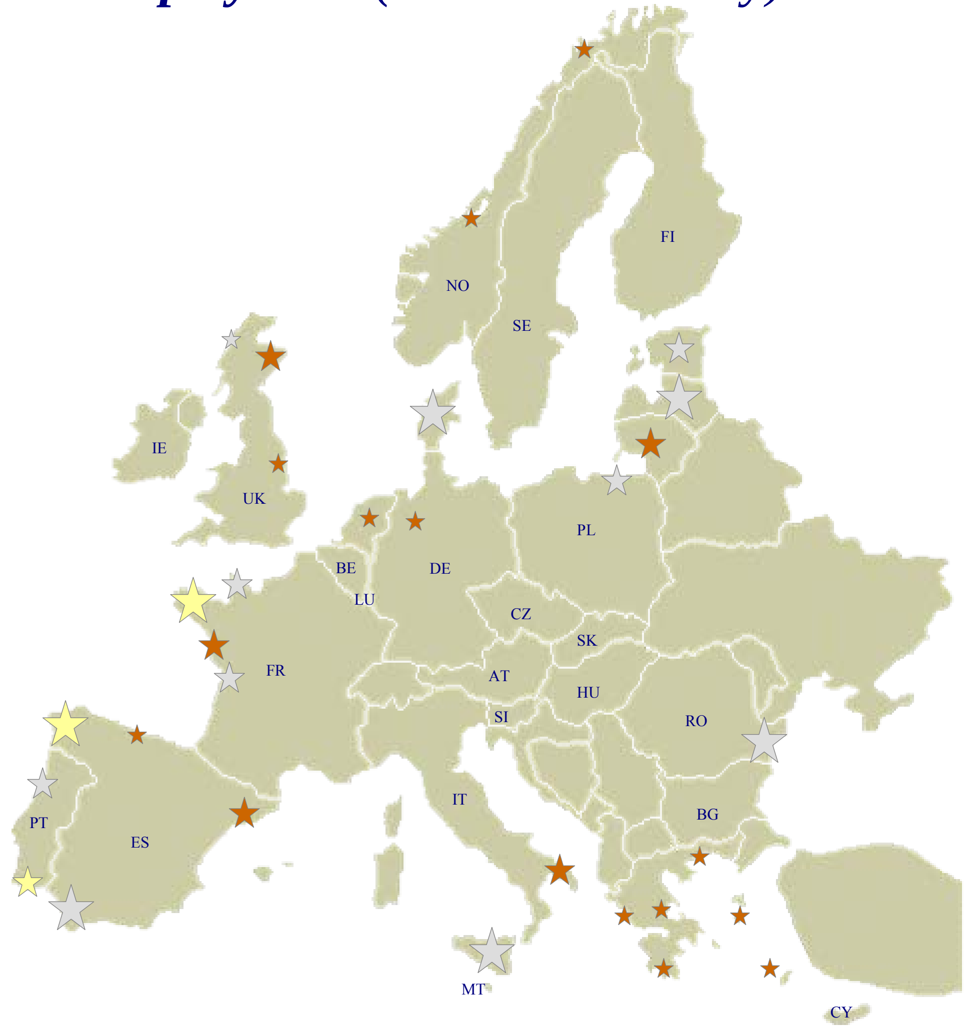
CLUSTER STRENGTH FISHERIES SECTOR

*Cluster strength with respect to **employment** (EU-27 + Norway)*

Golden, silver or bronze star regions (size, specialisation and focus)			
Maritime employment (< 5 000)	Maritime employment (5 000-10 000)	Maritime employment (> 10 000)	
★	★	★	Bronze
★	★	★	Silver
★	★	★	Gold



Golden star regions in fisheries in terms of employment are Galicia (Es), Bretagne (Fr) and Algarve (Pt)

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MAIN TRENDS

European maritime cross-sector trends

- Increasing worldwide competition, in particular from Asia (e.g. Singapore, Dubai)
- Increasing public awareness of the importance of maritime sectors
- Recognition of difficulties with regard to recruitment
- Increasing focus on Research, Development and Innovation

Specific maritime sector trends

- Shipping sector: growth sector, captured in EU (EU-policy)
- Maritime manufacturing: interaction on ‘advanced’ technological products
- Seaports and marine services: technological focus on processes
- Fisheries: cumbersome position in which most companies operate + ageing of the fleet

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MAIN POLICIES

European maritime policy

- Green Paper on a Future Maritime Policy for the European Union (2006) and The Integrated Maritime Policy package (Blue Book*, 2007)
- State Aid Guidelines on Maritime Transport (latest revision in 2004)
- Motorways of the Seas: introducing new intermodal maritime-based logistics chains in Europe
- Support for innovation (DG Enterprise and Industry)
- European Common Fisheries Policy

Main national maritime policies

- Implementation of the State Aid Guidelines on Maritime Transport
- Promotion of the maritime cluster
- Increase intake of personnel and improve education
- Stimulation of RDI

* The vision document (Blue Book) was accompanied by a detailed Action Plan including recommendations on among others: regulatory obstacles, collective learning, maritime spatial planning, marine observation and data network, development of multisector clusters, strengthening employment, ports policy

EU-level: increasing focus on integrated maritime *cluster* policy

National level: awareness of importance of maritime clusters increases; maritime policy is usually *sector*-focused

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ARCHETYPES OF CLUSTER ORGANISATIONS

Development of maritime clusters

Initiative

TOP-DOWN

E.g. Germany

COMBINATION PLAY

E.g. Dutch Maritime Network

BOTTOM-UP

E.g. Maritimt Forum in Norway

Characteristics

Top-down:

- Government induced and/or supported
- Holistic and cluster wide approach
- Focus on long-term strategy and policy:
  - Economy (e.g. level playing field and growth)
  - Education and recruitment
  - Research, development and innovation
  - Export
  - Common interest (e.g. environment and safety)
- Focus on professionalism and cooperation/integration of maritime sectors

Bottom-up:

- Induced and/or supported by strong leader firms and/or sector associations
- Limited cluster approach based on supporting companies and sector associations
- Focus on short-term benefits:
  - Rules and regulation
  - Tax regime
  - Labour market and job promotion
  - Innovation project support
  - Export support
- Focus on operational problems

Cluster organisations can be initiated by the government, by companies and/or sector or by a combination of the two

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MAIN CHARACTERISTICS OF MARITIME CLUSTER ORGANISATIONS

Key characteristics of national and regional maritime cluster organisations

Sector participation	The sectors in the narrow definition of the maritime cluster (shipping, shipbuilding, marine equipment, seaports, maritime services, recreational boating and Navy) participate most in the cluster organisations
Sector represen-tation	Cluster organisations indicate that they (are eager to) capture most sectors, although in practice this sometimes seems not (yet) the case
Reasons for establishment	Main reasons for establishing a maritime cluster organisation are to increase competitiveness, to promote maritime sectors, and to improve coordination within the cluster
(Level of) resources	National as well as regional government induced cluster organisations have the largest budgets (mainly public means); bottom-up organisations are mainly financed with private funding

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SWOT-ANALYSIS OF NATIONAL **TOP-DOWN** INITIATED CLUSTER ORGANISATIONS

Strengths

- **Focus on long term strategy and policy**
- Increasing the growth of all sectors within the cluster
- Strong focus on RDI
- Ability to create a level playing field (through legislation)
- **High budgets to finance activities**
- Positively influence common interests (e.g. environment and legislation)

Weaknesses

- Difficult to define to which cluster(s) a sector belongs (e.g. ports: logistics or maritime cluster)
- ⇒ Not always clear which interests are at stake or how they can be aligned with other (maritime) sector interests
- **Continuous balancing between interests of *cluster* organisations and *sector* associations requires constant interaction**
- ⇒ Surplus value of cluster organisations needs to be proved constantly
- ⇒ Widespread variety of interests leads to a focus on universal, softer themes

Opportunities

- Increasing cooperation on European level to discuss best practices and lessons learned
- **Maritime sectors could take the initiative (or be invited) to establish a single-point-of-entry to increase structural interactions with the government**
- Involvement of sector opinion in the structural evaluation of cluster organisation's activities

Threats

- Lack of an integrated cluster approach (several ministries involved without in-depth cooperation)
- **Limited sector involvement could lead to suboptimal maritime cluster policy**
- Focussing too much on long-term benefits for the maritime sectors may hamper or conflict with the clusters' companies short term interests

National top-down organisations focus on increasing competitiveness and on strategy of the maritime cluster by balancing sectors' needs

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SWOT-ANALYSIS OF NATIONAL **BOTTOM-UP** INITIATED CLUSTER ORGANISATIONS

Strengths	**Weaknesses**
– Cluster awareness contributes to enhancing business efficiency and opportunities – **Focus on operational problems** – Structural evaluation of the cluster organisations by the sector (e.g. membership contribution) – Ability to act as single-point-of-entry to the government to discuss (often short-term) sectors' interests (e.g. tax and regulation) – Organisation of events (e.g. to promote working in the cluster)	– **Differences in sector interests can lead to a difficult decision-making process within cluster organisations, often resulting in a rather narrow focus on softer themes (e.g. promotion)** – **Unbalanced protection of company/sector interests:** ⇒ Limited *cluster* approach: in many cases, not all members or supporting companies and sector (associations) have the same weight and influence within a cluster organisations ⇒ Strong impact of largest contributing members in the decision-making process could lead to an imbalance in the protection of (all) interests – Limited focus on strategy and long-term growth of the involved sectors and the cluster as a whole

Opportunities	**Threats**
– Increasing cooperation on European level to discuss good practices and lessons learned – **Increase government involvement (and budget) in the cluster organisation to improve mutual understanding and fine-tune policy making** – Focus on longer term maritime sector benefits (strategy and growth)	– **Too narrow (*local) focus* may lead to the suboptimal functioning of a maritime cluster organisation** – Insufficient attention for the role of (relatively) smaller sectors and companies within the maritime cluster

National bottom-up organisations often focus on softer and short-term operational issues from a narrow scope

OVERVIEW OF THE MAIN BENEFITS OF CLUSTER ORGANISATIONS

1 **Increase in efficiency**	Companies can operate with a higher level of efficiency drawing on more specialised assets and suppliers with shorter reaction times than they would be able to in isolation ⇨ **Increase internal and external communication on maritime cluster through *promotion* to enhance possibilities to cooperate efficiently**
2 **Increase in level of business formations**	Start-ups are more reliant on external suppliers and partners, all of which they find in a cluster, which may reduce the costs of failure as entrepreneurs can fall back on local employment opportunities in the many other companies in the same field ⇨ **Focus in maritime cluster organisation on education, training and the labour market**
3 **Higher level of innovation**	Knowledge spillovers and the close interaction with customers and other companies create more new ideas and provide intense pressure to innovate while the cluster environment lowers the cost of experimenting ⇨ **Focus in maritime clusters on RDI**

Source: Policy Research based upon Europe Innova and Oxford Research (2008) – Cluster policy in Europe

Benefits of cluster organisations are mainly the increase of efficiency within the cluster, the increase in number of business formations and the higher level of innovation

GOOD PRACTICES OF NATIONAL MARITIME CLUSTER ORGANISATIONS BASED UPON MAIN CROSS-SECTOR TRENDS

	Cluster benefit	*Approach*	*Main initiatives*	*Sector involvement*
1	**Promotion** of the maritime cluster	Mainly project-based approach	– Promotion campaigns through websites, videos and presentations – **Report on economic importance of the cluster** – Organising promotion events	Almost all sectors are involved in these initiatives
2	Focus in maritime cluster organisation on **education, training and the labour market****	Project-based and structural approach	– **Platforms to exchange best practices** – Recruitment campaigns and fairs – Programs in cooperation with universities and professors	Almost all sectors are involved in these initiatives with leading roles for shipping and shipbuilding industry
3	Focus in maritime clusters on **RDI**	Project-based approach based upon (high budget) government support programs and structural approach	– On (governmental) project basis – **Structural cooperation with RDI-institutes and universities** – Platforms to exchange best practices	Almost all sectors are involved in these initiatives with leading roles for shipbuilding, marine equipment, offshore supply and shipping

Cluster organisations focus on promotion, stimulation of education, training and labour market and, improving research, development and innovation (RDI)

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A PUBLIC-PRIVATE INTEGRATED MARITIME CLUSTER ORGANISATION AS GOOD PRACTICE

Structure

A public-private integrated cluster organisation captures maritime stakeholders with logical links/relations* (i.e. government and sectors represented by trade associations, private persons on personal title and/or companies) as initiator or as member of that organisation (on the basis of equality relations)

Main benefits of a public-private integrated maritime cluster organisation:

- Well-structured discussion between government and sector
- Cluster-wide approach
- Focus on long-term growth and development as well as on (often short-term) sectors' interests
- Ability to create a level playing field (through legislation)
- Sector involvement in the evaluation of the cluster organisation (through membership contribution)
- Improved communication (horizontally and vertically)

* Sectors that have limited logical links and/or relations with other maritime sectors experience limited cluster benefits

Public-private integrated cluster organisations capture all relevant maritime stake-holders in order to have well-structured discussions between government and sector

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CONCLUSIONS

Maritime clusters, trends and policies

Facts and figures

- **4.8 million people** employed / value added of about **186.6 billion euros**
  - *Traditional maritime sectors* account for 66% of value added / 40% of employment
  - *Coastal (and marine) tourism* account for 25% of value added / 50% of employment
  - *Fisheries (and other sectors)* cover the remaining 9% of value added / 10% of employment
- European maritime sectors are clustered in about 10 countries: NW Europe for traditional sectors and SW Europe for coastal tourism as well as fisheries

Trends

- Increased public awareness of the importance of maritime sectors and focus on RDI and employment issues

Policies

- EU-level: increasing focus on integrated (marine and) maritime *cluster* policy
- National level: awareness of importance of maritime clusters increases; maritime policy is usually *sector*-focused

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CONCLUSIONS

Role of maritime cluster organisations

All European countries with a maritime cluster have access to that cluster through a maritime cluster organisation

Policy (initiatives) and actions are translated to European, national and regional level, although not in a uniform manner

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

Top-down and bottom-up initiated clusters focus in general on same content

Topics of cluster organisations are mostly softer topics (e.g. innovation and labour market); in top-down maritime cluster more opportunities are created for strategical issues through the availability of funding

Limited direct evaluation of impact/success of the actions of cluster organisations on project-basis, but indirectly through the evaluation of maritime cluster organisations and the impact on financing (membership contributions)

In principal, any organisation concept can do the job; nevertheless, organisations that are able to capture 'best' of both worlds seem most natural to balance public and private interests

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RECOMMENDATIONS

- Increased effort to build a permanent database on economic facts and figures
  - Clear understanding of difficulties with respect to data collection (Eurostat data not detailed enough)
  - Work towards a monitoring system in which national cluster organisations play a key role
  - Organise a round table (Ministers) to discuss and launch such an initiative
- Clear-cut approach from EC with respect to maritime cluster
  - Communication of importance and strength of maritime cluster (cf. integration of results in website European Cluster Observatory)
- Strategy towards future role of European, national and regional maritime cluster organisations
  - Approach towards monitoring the economic importance of the maritime cluster
  - Platform to exchange best practices in the field of labour market (recruitment/education)
  - Where possible, integration of marine and maritime affairs (cf. marine environment)
  - Investigate ways to strengthen RDI (cf. Maritime **K**nowledge and **I**nformation **C**ommunity)

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SOUND SOLUTIONS BASED ON SCIENTIFIC RESEARCH

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