THE MARITIME DIMENSION IN SMART SPECIALISATION STRATEGIES

Results and key messages

CONTEXT

The Sea holds strong potential for economic growth in Europe.

The European Union’s investment potential in this area is largely dependent on the mobilisation of regional policy, which is the EU’s main investment policy.

The CPMR has analysed this potential by looking at the maritime dimension of 112 Smart Specialisation Strategies (S3), which guide investments related to regional policy.

This paper summarises the results of the analysis, which show that there is strong potential for using regional policy to invest in the maritime economy, on certain themes in particular.

In addition, six interactive maps have been developed, which provide access to detailed information by Region and by theme.

The methodology used is described in the Appendix.
In brief

• The Sea is an important priority in the S3. It is a significant priority in 89 strategies, i.e. 80% of the 112 strategies analysed.

• It is present in the following themes:
  - Food, nutrition and health;
  - Tourism and leisure in coastal areas;
  - Managing marine and coastal areas;
  - Maritime transport;
  - Marine renewable energy, shipbuilding, advanced materials and manufacturing processes.
1. The Sea – an important priority in the S3

1.1. The Sea, a significant priority in the strategies analysed

A study of 112 specialisation strategies

The study carried out by the CPMR General Secretariat looked at 112 strategies from within the European Union and from Norway. The study also included Member States where the State is the level responsible for the strategy.

The diagram and map below show the four categories of strategy that were identified. The Sea is a priority in 89 strategies, i.e. 80% of the 112 strategies analysed.

Maritime Dimension of S3

- Dedicated maritime section: 33%
- Several sections include explicit references to maritime issues: 20%
- Small number of explicit maritime references: 22%
- No explicit references to maritime issues: 25%
Categories of strategy

- **Strategies with a specific maritime component (33% of the strategies).**
  
  **Focus on Brittany**
  Britanny’s S3 identifies seven areas of “strategic innovation”. The third of these focuses on “Maritime activities for blue growth”, which includes marine energies, marine mineral resources, biological resources and blue biotechnologies, ships of the future, and maritime safety and security.

- **Strategies which explicitly address maritime issues within numerous and important priorities (25% of the strategies).** This may be for example a transport component which includes elements on maritime transport or a food or natural resources component which included references to fisheries and/or aquaculture.
  
  **Focus on Mecklenburg-Vorpommern**
  Although Mecklenburg-Vorpommern’s S3 does not have a specific marine/maritime priority, the “Mobility” and “Sustainable production techniques and new materials, especially in engineering” priorities do have a very important maritime dimension. They include, for example, activities related to maritime transport, port logistics and maritime industries.

- **Strategies which address several maritime issues within important, although fewer, priorities (22% of the strategies).**
  
  **Focus on Veneto**
  Veneto has integrated the maritime dimension in its specialisation priority on “Smart manufacturing”. The aim is to develop innovation in the shipbuilding sector.

- **Regions whose strategy does not explicitly address maritime issues, but in which a link with the Sea can be inferred (20% of the strategies).** This is the case of strategies which have a bio-resources component which can be considered to include blue biotechnologies, even if this is not explicitly mentioned.
Focus on Västerbottens Län
Although the Region of Västerbottens Län does work on maritime issues, maritime and marine activities are not mentioned as such in the S3. However, they may be covered by broader priorities such as environmental technologies, which is likely to include technologies related to the marine environment.

Lastly, there is the special case, not represented on the map, of regions which have not included maritime issues in their S3 because they are addressed in other types of strategy documents.

Focus on Skåne
The current S3 of Region Skåne (Health, Smart Sustainable Cities, and Smart Materials) does not explicitly give priority to maritime economic activities. However, the Action Plan for Skåne’s Maritime Sector, adopted in 2015 by the Regional Development Council, deals with value chains in the shipping, ports and offshore wind sectors, and the yachting industry. The Action Plan emphasises the importance of working in accordance with the concepts of blue growth and smart specialisation.

1.2. The S3, reflecting the reality of the maritime economy

The S3 are a reflection of the economic interactions between maritime sectors, which constitute the reality of the maritime economy. These strategies therefore also represent a legitimate basis for guiding investment under programmes such as Horizon 2020. The different types of economic interactions reflected in the S3 include:

● Cooperation between different activities within the same value chain. This could be for example interactions around the value chains related to the food sector.

Focus on Murcia
Aquaculture is a component of the “Agrifood” priority of Murcia’s S3, which deals with the development of species such as tuna. Blue biotechnologies are expected to play a key role in supporting the development of the sector.

● Economic cooperation between value chains in the maritime economy and value chains in other fields.

Focus on Cantabria
Advanced materials and marine technologies are among the priorities of Cantabria’s S3. The Region believes this will help boost activities such as offshore energy, underwater mining, offshore aquaculture, and maritime services to offshore facilities.

Marine engineering is another priority in Cantabria’s S3. This involves supporting the development of the region’s potential in emerging sectors such as “the blue economy, offshore systems, the control of resources and the prediction of coastal phenomena”.

Focus on Bremen
The objective of Bremen’s S3 is to extend maritime and underwater technologies to new markets such as robotics, aquaculture, and expertise on marine renewable energies other than wind energy.

This approach also encompasses the DFKI (German Centre for Artificial Intelligence) which contributes, in cooperation with private enterprises, to the components on marine technology such as underwater vehicles.

The S3 also underlines the need to develop research on climate interfaces, marine research, space technology, exploration, maritime logistics, biodiversity, and coastal zone management.
• **The integration of the maritime economy in trans-regional cooperation.** The Regions are also interested in developing their strategy in the framework of exchanges with other territories. This is the case for example with the north German Länder (Niedersachsen, Hamburg, Bremen, Schleswig-Holstein, Mecklenburg-Vorpommern) which have partnerships involving the Maritime Cluster Northern Germany, or the west of France (strong links between Normandy, Pays de la Loire and Brittany).

**Focus on Noord Nederland**

More than one-third of Holland’s onshore wind turbines are located in this Region, and its ports are an economic activity base for the construction and maintenance of offshore wind farms. This specialisation guides investment in ports, infrastructure, training and innovation. It is linked in the S3 to the Region’s close collaboration with Niedersachsen, Scotland and Norway on wind energy storage.

• **The strategies support pan-European initiatives.** In this way, the Regions support initiatives conducted by various stakeholders involved in Europe-wide projects.

**Focus on the European Marine Biological Resource Centre**

The Regions (Brittany, Galicia and the Azores for example) point to the presence on their territory of marine biological stations that are members of the EMBRC research infrastructure as being a significant asset. The S3 of Basse Normandie Region mentions the need for cooperation with the Biological Station in Roscoff, Brittany.

### 2. A whole palette of maritime activities

A wide range of maritime sectors are identified in the S3 and cover the whole palette of activities offered by the Sea. These activities have been grouped under five main thematic headings. More specific areas of specialisation are indicated under each of the headings.
2.1. Food, nutrition and health

This first category covers all the activities which concern the exploitation of marine living resources. These range from capture (fishing) to consumption, and include aquaculture, processing, marine biotechnologies and marine-related health products.

- **Fisheries.** This sector is associated with a strong potential for innovation in activities related to capture (selectivity, new gear, exploitation of new species), processing (new fisheries products) and marketing (communication, traceability).

  Some regions have also made it a priority to build safer and cleaner fishing boats.

  **Focus on the Peloponnese**
  In this Region’s S3, fishing, fish farming and restocking are an important component of the Processing/Industry priority. Activities related to fishing, fish and seafood are also included under the food products priority.

  **Focus on the Azores**
  The Azores identify fisheries as a major strategic priority. The aim of the projects developed in the context of the S3 is to enhance the value of fisheries products. This includes "research and development of new processing, storage and packaging methods which will increase the sales value of fisheries products", the development of new "alternative" fisheries products, the setting-up of a “strategic monitoring of fisheries products” and the development of systems to ensure “traceability throughout the supply chain”. Projects developed under the MAR3 priority will aim to “promote the link between fisheries, the sea and other priority sectors”.

- **Aquaculture.** This sector is associated with a very strong potential for innovation and growth in terms of fish farming methods (infrastructure, veterinary treatments, application of biotechnologies) and specialisation in high added value species or in the processing sector.
Focus on Andalusia
Andalusia cites aquaculture in its S3 under the third challenge of the “Research and innovation in the food industry” priority. The aim is to boost the food industry by leveraging “the exploitation of marine resources, particularly in aquaculture”, and developing projects that will trigger a process of modernisation of the existing system and businesses. Under the line of action entitled “Making the most of new economic opportunities in the blue and green economy”, aquaculture is identified as an activity with strong growth potential. The projects will lead to improvements in the system of exploitation and will address technological issues related to the need to adapt to changing environments. The S3 also want to make blue biotechnologies a driving force in the adjustment of the aquaculture industry.

- **Blue biotechnologies.** This sector is considered to have a potential for growth. It is addressed in a number of S3, often in association with fisheries and aquaculture, as a key enabling technology (KET).

Focus on Schleswig-Holstein
The “Life sciences” area of specialisation in the S3 includes a priority entitled “Further develop the potential of marine biotechnology”. Biomedical technologies are identified as key technologies in this area. To support the development of these technologies, Schleswig-Holstein wants to support interfaces between traditional biotechnology engineering and materials, especially the use of nanomaterials. The “Marine Biotechnology Schleswig-Holstein” plan brings together strategic action plans for the future development of the interface between biotechnology and the maritime industry.

2.2. Managing maritime and coastal space

This second category covers activities related to the protection and conservation of the marine environment, or to the integrated management of coastal zones.
• Conservation of the marine and coastal environment
Several Regions identify the protection of marine ecosystems in their S3. This is addressed through the observation of ecosystems, innovations in industry via the greening of vessels, tourism, and pollution treatment technologies.

  Focus on Västra Götaland
Marine management is the common denominator among the sectors covered by the Västra Götaland maritime cluster, since the good functioning of ecosystems is a pre-requisite for the sustainable development of maritime activities.

• Protecting coastal areas and combating erosion. For the coastal territories, the issue is how to combat the effects of climate change on the coasts.

  Focus on Calabria
Calabria’s S3 underlines the need for a better knowledge of the phenomena and of the territory, in order to improve the capacity to assess and prevent impacts and risks. It highlights the assessment of physiographic units in order to identify areas which are at greatest risk of coastal erosion.

2.3. Maritime transport
This category includes transport activities as well as port activities and maritime safety.

• Maritime transport and port logistics. This theme is associated with the development of other maritime activities, in particular cruise tourism. The ports need to respond to the demands arising from the development of new activities at sea, such as marine energies, while continuing to fulfil their traditional roles.

  Focus on the Balearic Islands
In the Balearic Islands, maritime transport is an intensive commercial activity on account of the movement of passengers. The RIS3 aims to develop this sector by promoting cruises and travel by sea between the islands and the continent and with other Mediterranean destinations. The ports are mentioned as key players in the tourism and transport sectors.
2.4. Marine renewable energies, shipbuilding, advanced materials & manufacturing processes

This category, which brings together the largest number of regions, encompasses the maritime industries. It covers marine renewable energies including offshore wind energy, shipbuilding, advanced materials and manufacturing processes.

- **Marine renewable energies.** This sector includes the development of offshore wind energy, which has a high profile in the S3.

  **Focus on Norte**
  Norte Region believes that offshore wind energy is the renewable energy form with the greatest growth potential. The RIS3 also underlines that floating structures offer the traditional shipbuilding industries an opportunity for diversification.
  Norte’s S3 points out that manufacturing knowledge in the maritime transport industry is closely linked to nanotechnology, the production of energy, and even the design of structures for aquaculture, as well as to the design of specialised vessels for the installation and maintenance of structures.

- **Diversification and specialisation by shipyards.** This diversification is a response to more stringent environmental norms, demands for a safe and clean maritime transport system, and the opening-up of new markets as a result of the emergence of activities responding to new needs such as marine renewable energies.

  **Focus on Pays de la Loire**
  Pays de la Loire’s “Maritime industries: shipbuilding and new energies” priority aims to develop the “ship of the future”. It is also a case of providing support to the “stakeholders in the shipbuilding and ship repair industry as they move towards new markets such as floating structures and ships designed specifically for the installation and maintenance of offshore structures”, and of promoting the development of recreational craft with a positive environmental impact. “The emergence and dissemination of advanced production technologies to transform industry” is also one of the six smart specialisation priorities in the region. The “optimisation of production systems, including the dissemination of advanced production technologies” is also one of the major challenges for the shipbuilding industry.
Emerging activities: exploitation of mineral resources, floating structures.

Focus on Lisbon
The RIS3 underlines the need for better knowledge of the potential in those maritime sectors in which Portugal has an economic competence, i.e. exploration and research, extraction and processing technologies, and related environmental issues.

2.5. Tourism and leisure in coastal areas

Tourism in general is an important priority for the maritime and coastal Regions. Some of them make explicit reference to the maritime dimension of this activity.

● Maritime and coastal tourism. The issues addressed include seeking innovative solutions to questions such as the seasonal nature of this kind of tourism, adapting the local offering to an international client base, developing ICT strategies, or ensuring that maritime and coastal tourism activities are compatible with the conservation of ecosystems.

Focus on Varsinais-Suomi
Varsinais-Suomi’s S3 identifies the archipelago and the sea as major assets for the development of tourism in the region. It aims to design a “sustainable concept of leisure, offering vibrant archipelago experiences all year round”.

● Exploiting maritime heritage. The Regions concerned underline the importance of their coastal environments and the promotion of their maritime cultural heritage.

Focus on Crete
Cultural tourism is one of the four pillars of the RIS3. It aims to enable the development of “specific forms of tourism”, in particular cruise and diving tourism, as well as different forms of maritime tourism. The Region also wants to promote alternative forms of tourism, especially related to diving.
- **Specific maritime recreational activities.** This involves specialisation in niche activities, the development of which may be related to the wealth and diversity of marine fauna, the existence of exceptional diving sites on account of the presence of underwater archaeological remains, or specific geographical conditions which make certain water sports possible (surfing for example).

  **Focus on Languedoc-Roussillon (Occitanie)**
  One of the ambitions of the RIS3 is to "develop innovative solutions in the recreational activities sector".
  The RIS3 identifies the niche sport of kitesurfing as having the potential to contribute to the economic specialisation of its territory. Through this priority, the Region seeks to develop "an integrated offer of innovative products and services related to the Kitesurf industry".

**RECOMMENDATIONS**

This study has given rise to the following recommendations:

- Pursue the implementation of the current programming on the basis of the S3 priorities, and encourage exchanges between the maritime Regions and stakeholders. Any efforts the European Commission can make to support the networking of the Regions’ S3 in the maritime sector are welcome.

- Consider the S3 as sources of inspiration for other EU policies, such as the Horizon 2020 work programme or the ESIF plan. A more direct link with the S3 is one way of ensuring that EU investment is more coherent and in phase with the maritime economy in the regions.

- Consider the Sea as a key area for EU investment in the preparation of the future EU policies after 2020.
This appendix answers the following questions on the methodology:

- Why carry out this mapping exercise?
- What does the mapping show? What doesn’t it show?
- Which strategies are represented?
- Will this mapping change?
- What data is used?
- How were the thematic categories determined?
- What is the link between the thematic categories used and the Key Enabling Technologies identified at European level?

1. Why carry out this mapping exercise?
The objectives of this mapping exercise are to:

- Give the CPMR everything it needs to influence the debate on the implementation and evolution of European policies;
- Facilitate collaboration at European level between Regions and/or between socio-economic players, in the form of European projects where appropriate. The CPMR is involved in several projects on smart specialisation and blue growth strategies.

2. What does the mapping show? What doesn’t it show?

This mapping shows the maritime dimension of smart specialisation strategies in Europe. The mapping includes 6 maps that highlight Regions whose strategies contain details relating to the following topics:

- The sea, in a cross-cutting way. 4 groups of Regions were distinguished:
  - Regions whose strategy includes a dedicated maritime section;
  - Regions whose strategy has no dedicated maritime section, but where several major non-marine sections include explicit references to maritime issues. This may for instance concern sections on transport that include details on shipping, or sections about food or natural resources which include references to fisheries and aquaculture;
  - Regions whose strategy includes a maritime dimension included in a smaller number of maritime-related sections;
  - Regions whose strategy includes no explicit references to maritime issues, but where links with the sea might be assumed. This concerns for example strategies with a section on bio-resources, which might be considered to include new blue biotechnologies, without them actually being mentioned.
• Food, Nutrition and Health
• Tourism and recreation in coastal areas
• Management of marine and coastal areas
• Maritime transport
• Marine renewable energies, shipbuilding, advanced materials and manufacturing processes.

Factsheets available for the Regions contain details on the content of smart specialisation strategies in the aforementioned areas, and the main stakeholders involved.

However, the map does not provide an overview of the maritime economy of Europe’s regions as a whole. Smart specialisation strategies focus on some parts of this economy. They do therefore cover an often significant part the maritime economy, but not all of it.

3. Which strategies are shown?
The strategies shown are those of the regions and Member States of the European Union and Norway. For Norway, the documents used are similar to smart specialisation strategies (e.g. economic, innovation or research strategies).

The map does not represent the strategies of non-coastal regions or states. Nevertheless, even though the maritime economy is largely concentrated in coastal areas, some maritime business activities exist in certain non-coastal areas (e.g. maritime technologies in non-coastal German Länder). At this stage, the elements relating to these aspects in the S3 are not tangible enough to be shown, but this may change in the future.

4. Will this mapping change?
The mapping is designed to evolve through discussions with the Regions on:

• The future development of smart specialisation strategies;
• Information to feed into the content of the regional factsheets, mainly with regard to the key stakeholders in each of the Regions or countries, and how they work together across the European territory;
• The link between the content of smart specialisation strategies and the programming of ESI funds.

5. What data is used?
This mapping has been produced on the basis of:

• Information extracted from regional or national smart specialisation strategies, or equivalent documents where no smart specialisation strategies exist.
• Interviews conducted with the Regions to interpret and validate the information.

6. How were the thematic categories determined?
The categories used correspond to areas of activity where strong economic interactions can be seen between certain maritime sectors in the Regions.
For example:

<table>
<thead>
<tr>
<th>Category selected for the mapping</th>
<th>Examples of relevant maritime sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, nutrition and health</td>
<td>Fishing, aquaculture, biotechnology, health and wellness</td>
</tr>
<tr>
<td>Tourism and recreation in coastal areas</td>
<td>Maritime and coastal tourism, water sports</td>
</tr>
<tr>
<td>Management of marine and coastal areas</td>
<td>Marine environment, Integrated Coastal Management and Maritime Spatial Planning</td>
</tr>
<tr>
<td>Maritime transport</td>
<td>Shipping, port logistics, maritime safety</td>
</tr>
<tr>
<td>Marine renewable energies, shipbuilding, advanced materials and manufacturing processes</td>
<td>Marine energy (ocean energy and offshore wind energy), shipbuilding, oil &amp; gas</td>
</tr>
</tbody>
</table>

ICTs are not selected as a category due to their highly cross-cutting nature.

7. What is the link between the thematic categories used and the “Key Enabling Technologies” identified at European level?

KETs are a group of six technologies identified at European level: micro and nano-electronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies. They have applications in many industries and are of significant economic interest. There is a European strategy to support KETs.

KETs identified at European level are included in the categories that have been used for mapping the maritime dimension of smart specialisation strategies:

- “Industrial Biotechnology” is included in the category “Food, Nutrition and Health” and also in the category “Marine renewable energies, shipbuilding, advanced materials and manufacturing processes”;
- “Advanced materials and advanced manufacturing technologies” are included in the category “Marine renewable energies, shipbuilding, advanced materials and manufacturing processes”.
The Conference of Peripheral Maritime Regions (CPMR) brings together some 160 Regions from 25 States from the European Union and beyond

Representing about 200 million people, the CPMR campaigns in favour of a more balanced development of the European territory.

It operates both as a think tank and as a lobby group for Regions. It focuses mainly on social, economic and territorial cohesion, maritime policies and accessibility.

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