Sea Natural Resource Potential for Blue Growth Policy Implementation in Baltic Sea Region

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Abstract. The goal of the research is to investigate and to identify effective Blue RIS3 implementation measures and best practices in the six participating Baltic Sea regions and to synthesize the findings in one research paper. The analysis aims at finding important aspects and conditions for future Blue Growth and RIS3 implementation in Baltic Sea. This research lead to answering question – how to sustainably and in the smart way use Baltic Sea natural resources to create smart and economically growing region within European Union.

1. Introduction

Research and innovation strategies for smart specialisation (RIS3) are a new policy instrument introduced by the European Union (EU). Countries and regions that want to invest EU Structural Funds into research & innovation (R&I) in the new programming period 2014 – 2020 are bound by their RIS3. The purpose of smart specialisation and RIS3 process is to identify areas of the economy where the potential for growth and the value added are above average and where a competitive advantage can be achieved by investing in R&D. The growth areas that are selected in the course of smart specialisation identification process are prioritised at EU, national and regional level.

Furthermore, “Blue Growth”, initiated by DG MARE, is also a relatively new concept. Whereas traditional maritime activities such as shipping and fishery have been targeted by European, national and regional policies for decades, there is still only a limited base of experience of proven policy measures when it comes to blue biotechnology/blue life science, maritime surveillance/technology or new propulsion technologies based on marine energy resources.

According to high level “Baltic Sea Conference 2013 – Blue Growth, Sustainability and Water Industries”, it’s been agreed, that “growth and a healthy environment are not competing objectives. On the contrary, in a holistic and longterm perspective there are important synergies between them. Notably, the development and deployment of innovative technologies that strengthen the sustainability of maritime, coastal, and offshore activities should form the basis for Blue Growth in the Baltic” [1]. According to this – in this research it is assumed that, each project or activity is horizontally evaluated in terms of its impact on marine ecology.

The goal of this research is to investigate and to identify successful methods and approaches in the Baltic Sea region, which stimulate Blue Growth, and to synthesize the findings in one transnational analysis document.

The analysis will cover the following Blue Growth sectors - Machinery & Technology, Life Science & Blue Medicine, including SPA and coastal tourism, and Energy.

Research territory - Ida-Viru County (Estonia), Riga Planning Region (Latvia), Pomorskie Region (Poland), Skåne County (Sweden), Schleswig-Holstein Region (Germany).
2. Measures and Best Practices Identified
In total, 30 measures were identified in research territories. Based on the provided information, 17 of the measures were selected for further analysis. Since many of the measures were very similar, the objective of selecting measures was to select ones that can demonstrate the broad variety of different measures. The table below shows the selected measures as grouped in four different thematic groups - Research and Development (R&D), Business Support (BS), Tourism and Infrastructure.

Table 1. Implementation measures that were identified in research territories.

| Thematic axis: | Skåne County | Pomorskie Region | Schleswig-Holstein Region | South-West Finland | Riga Planning Region | Ida-Viru County |
|----------------|--------------|------------------|---------------------------|-------------------|---------------------|----------------|
| R&D            | (M1) Promoting models, knowledge and methods for needs-driven and market-based development and innovation | (M2) Industrial research and development work carried out by the company | (M3) Expansion through innovation – Support Grant | (M6) Developing renewable energy and energy-efficient solutions | (M9) Promote private sector investment in R&D (Support for new product and technology development within competence centres) | (M14) R&D program for smart specialization in growth areas |
| BS             | (M4) Cluster development / funding | (M7) Developing research, competence and innovation clusters that draw from regional strengths (research) | (M8) Creating new business activities | (M10) Facilitate availability of funding for enterprises for the development of business in various stages of development, and promote the formation of new enterprises (Regional business incubators) | (M15) Development of regional competence centres |
|                | (M5) Competence Centre | | | | | |


###ross and Development

Out of the seventeen chosen measures, the primary objective of six measures is related to Research and Development, therefore, for the purpose of further analysis, they have been grouped together. Five out of six measures are financial, while one includes both financial and methodological aspects. Since measure objectives and planned results are similar, measures are relatively comparable, however a key dissimilarity is more than thousand-fold difference in amount of allocated funding, i.e., allocated funding ranges from 0.6 million euros to 1.9 billion euros.

| Thematic axis: | Skåne County | Pomorskie Region | Schleswig-Holstein Region | South-West Finland | Riga Planning Region | Ida-Viru County |
|---------------|--------------|------------------|--------------------------|-------------------|---------------------|----------------|
| **Tourism**   |              |                  | (M11) Promote regional development by promoting sustainable development of cultural and natural heritage of international importance and the related services | (M16) Development of tourist attractions of international interest and their supporting infrastructure |         |
| **Infrastructure** |              |                  | (M12) Upgrade VET institutions by ensuring compliance of the learning environment to the development of industries of national economy, and improve the availability of vocational education | (M17) Activities for physical, economic and social recovery of under-utilized urban sites |         |
| **Promote competitiveness of SMEs and development of new ideas in manufacturing industry by ensuring availability of industrial infrastructure** |              |                  | | |         |         |

2.1. Research and Development

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While low level of awareness as has been suggested as weakness for three of the measures, availability of information through different sources has been identified as a strength for the measure with the largest funding allocation. Furthermore, sufficiency of funding as a strength has been identified as strength for two measures with total funding allocation of over 50 million euros, while insufficient funding has been identified as a weakness for one of the measures with less than 20-million-euro budget. While number of grants/supports given are the most common planned results among the five measures, complementary private investment and number of companies cooperating with research centres has been set as additional planned results for a number of measures.

2.2. Business Support
Out of the seventeen chosen measures, the objectives of six measures are either directly related to increasing business activity through business support institutions or indirectly, through development of such institutions as competence centres, clusters and business incubators. All of the measures are of financial type. Allocated funding for the measures ranges from 0.4 million euros to 25.8 million euros. A common theme that appears is cooperation among various stakeholders. According to the analysis matrices, measures that support various business support institutions not only support the creation and development of companies and business coaching but also facilitate the communication between companies, academia and public sector including the politics. Another common theme among the analysis matrices is long term survival of the business support institutions. These institutions are dependent on public funding, thus their long term success without identified measures might be a challenge. Finally, the difficulty to recruit people with relevant competences to the cluster organisations/competence centres was also mentioned.

2.3. Tourism
There are two measures in the selection that are directly related to the development of tourism in the coastal areas. For both measures the total funding is close to 40 million euros. While the support method for one of the measures is call for projects and strategies of municipalities, the other measure two stage open application. There are two common themes found in matrices and SWOT analyses of the two measures: one - key expected results of the development of tourism is increased demand for local businesses, two – possible synergies with other projects and measures.

2.4. Infrastructure
Three measures out of the selected sample are related to the development of infrastructure. They are all financial measures and funding for them ranges from 8.3 million euros to 105 million euros. For two of the measures the main recipients are local government while for the third – vocational educational institutions. One of the measures has an open application round, while two have calls based on development strategies.

3. Measures and Best Practices that are Most Relevant form Implementation in Baltic Sea Region
In the management and process section collaborative projects and platforms, as well as business support and development institutions and platforms (often mixed) that contribute to the overall goal, such as (P4) Pomorskie Smart Specialisation's (PSSs) Boards (4 boards, one per PSS),
(P15) Turku Future Technologies,
(P1) Competence Academy Tourism (CAT),
(P10) Maritime Cluster Northern Germany,
(P13) GEOMAR Biotech, National Competence Centre Marine Aquaculture, Centre Industrial Biotechnology, Fraunhofer EMB;
(P7) Scale UP instrument of the “Start In Poland” program;
(P14) Bastu accelerating concept.
were chosen by the regions as the most times feasible, i.e., chosen the most times, thus they are the most suitable practices for further analysis and are essential for further research and knowledge sharing. Business innovations (such as Fish feed from wood) were often seen as a singular project, thus not
among the most popular, but they are remarkable examples and experiences that could be taken into account in further research. Most of the examples (16 examples) are related to the implementation of various support centres, platforms, and management approaches for promoting Blue Growth. A strategic approach to the availability of funding for the implementation of various business and infrastructure projects (5 examples) also plays an important role among the good practices. For Blue Growth, according to the practices summarized by the project partners, there is also the development of coastal tourism concepts (2 examples) and port development (1 example).

A visualisation of the most commonly mentioned sectors that are affected by the analysed measures and best practices is available below:

![Figure 1. Sectors that are affected by the analysed measures and best practices.](image)

All examples of good practice offered by the project partners are characterized by an integrated approach to entrepreneurship, management and science institutions that have a positive impact on different sectors of the economy, as well as opportunities for developing existing and new business areas. Analysing the content of positively affected business sectors, it appears that good practices have a primary positive impact on the maritime sector, which in turn has a positive impact on the shipping industry, including service providers, ports, port logistics, shipbuilding, ship repair and related industries, as well as offshore business.

4. Conclusions

**Success of Blue Growth.** It can be concluded that the success of the Blue Growth concept in every region is highly dependent on the efforts made by local, regional and national authorities, the effectiveness of supporting agencies and the awareness raising for existing and new entrepreneurs. All involved parties and institutions should continue the development of the created instruments with the objective of achieving the common objectives of the European Union and increasing the competitiveness of the whole BSR.

**Measures.** In general, analysed measures offer great opportunities for the development of both regions and enterprises. In most of the evaluated regions, however, measures are not specifically dedicated to Blue Growth. There are clear differences in relation to the volume of finance, the scale of projects and the way of supporting planning initiatives - starting with the calls of proposals, strategies, and provision of methodology. There are also different approaches how the target groups are reached - directly (open calls) or indirectly via close project calls, infrastructure development and investments in research for scientific institutions.
The main challenges raised in the surveys were related to support tool openness towards its beneficiaries, complication of project calls, long term policy planning, sustainability of newly established companies and marketing of new/innovative products as well as of complementarity of new business to already existing industries.

Best practices. The numerous examples of best practices found in this research clearly illustrate the great diversity and broad impact of Blue Growth approaches.

Several best practices have shown that growth of coastal economies is not only based on the resources of the sea itself (such as mussels and fish), but also on the efficient use of coastal special areas (for example, tourism and health).

Economic sectors. Growth of coastal economies has an impact on a wide range of industries, including food, tourism and health sectors, as well as in higher education and science. Furthermore, numerous examples have shown the importance of cooperation among different sectors.

When implementing future projects and activities, it is essential to assess their impact on marine ecology in order to maintain sustainability and balance between sustainability factors.

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