

SUBMARINER – TOWARDS A REGIONAL NETWORK TO STRENGTHEN THE ROLE OF BLUE BIOTECHNOLOGY WITHIN THE BALTIC SEA REGION

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The Baltic Sea Region faces enormous challenges including new installations, fishery declines, excessive nutrient input, the effects of climate change as well as demographic change. At the same time blue-green innovations and use combinations of new maritime and marine products and technologies may contribute to the creation of a bio-based economy stimulating blue growth also in disadvantaged coastal regions as well as improving the marine environment.

Overall awareness of the potential for innovative and sustainable uses of Baltic marine resources is still low. Thus the so-called ‘SUBMARINER compendium’ (Schultz-Zehden & Matczak, 2012) has been designed as to provide for the first time a comprehensive assessment of their potentials. Topics covered macroalgae harvesting & cultivation, mussel cultivation, reed harvesting, large-scale microalgae cultivation, blue biotechnology, wave energy, sustainable fish aquaculture and combinations of such uses with offshore windparks. For blue biotechnology the state-of-the-art within all Baltic Sea Region countries has been mapped, further applications evaluated, technical requirements defined, economic aspects considered and existing strategies analysed.

It has been shown that the marine organisms within the Baltic Sea show great potential for exploration with the added advantage of cost-efficient access under clear legal conditions. Research centres exist in almost all BSR countries with special expertise in all different Blue Biotechnology fields as well as in the operation of necessary equipment for biotechnology. Some investment is needed in order to develop sufficient upscaling of equipment and related quality assurance processes.

What is most needed, however, is a focused Baltic Sea wide strategy for the implementation of Blue Biotechnology, based on national strategies and being aligned with the EU level. Such pan-Baltic strategy should consider most urgent market needs and make use of complementarity of national strengths improving modalities of technology transfer, making better use of existing support technologies and platforms while strengthening application-oriented approaches and ensuring that blue biotechnology is truly blue and sustainable, i.e. to the benefit of the sea.

In addition to the pan-Baltic compendium, Norgenta, the life science agency of Hamburg and Schleswig-Holstein, developed a master plan for marine biotechnology in Schleswig-Holstein within the framework of the SUBMARINER project. Schleswig-Holstein, Germany’s northernmost federal state is known as the ‘land between the seas’. Its economy is closely linked to the North Sea and the Baltic Sea. Marine Biotechnology as a promising future technology is expected to become an integral part of it. To implement integrated maritime policy Schleswig-Holstein launched the initiative ‘Sea our Future’ already in 2004 and the so-called ‘Masterplan for Marine Biotechnology in Schleswig-Holstein’ (Klose *et al.*, 2013) will now be one part of it. But it may serve as a model for a long-term development strategy for other countries around the Baltic Sea Region as well. The process included identification of the main industrial topics and markets (nutraceuticals, renewable energy, functional food, active pharmaceutical ingredients, cosmetics, and aquaculture) as well as academic topics (marine genomics, marine microbial diversity, biologically active substances, biobanking, and biopolymers). An overview of products and services already on the market was conducted. In addition, stakeholder panels were put in place to participate in this process to develop ideas for future actions. Charged by the Cabinet of Schleswig-Holstein, the Ministry of Economic Affairs, Employment, Transport and Technology Schleswig-Holstein will generate an implementation concept until the end of summer 2013.

It is expected, that the recommendations of the SUBMARINER project formulated within its Roadmap 2020 to be published in summer 2013 will form the basis for new actions to be taken up by the future SUBMARINER flagship initiative, which has recently been approved under the revised European Union Strategy for the Baltic Sea Region.

References

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