



APRIL 2019
State of Play
& Future Prospects



Baltic Blue Biotechnology Alliance

THE INNOVATION NETWORK
+ ACCELERATOR FOR BLUE
BIOTECH IN THE BALTICS



“ For the last 10 years BioMarine has been promoting the blue bio economy as a key driver for our societies. Our Global network works with regional clusters and associations to coordinate its actions and support regional blue bio economy. The SUBMARINER Network and its Baltic Blue Biotech Alliance have been one of the most dynamic outward-looking networks in Northern Europe bringing together industry, local governments and research ”

Pierre Erwes
BioMarine Executive Chairman



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The Baltic Blue Biotechnology Alliance is a flagship project of SUBMARINER Network for Blue Growth EEIG with originally 15 partners from 9 countries, led by the GEOMAR Helmholtz Centre for Ocean Research Kiel. The Alliance was initially funded by Interreg BSR (2016-2019) with an extension granted until 2021 to consolidate the network. As such it features as the dedicated Blue Biotechnology Working Group of the SUBMARINER Network.

FOREWORD



Dear reader,

In 2016, the Baltic Blue Biotechnology Alliance project has set sails to bring together actors in marine biotechnology from across the Baltic Sea Region (BSR) with the aim of bridging the gap between ideas and market-ready products in a transnational approach. After three exciting and busy years, we are proud, that a ground-breaking project, led by GEOMAR Helmholtz Centre for Ocean Research Kiel (GEOMAR), has developed into a functioning, unique, transnational biotech innovation network and an accelerator for blue biotech ideas.

The adventure started back in 2010 with GEOMAR's participation in a prequel project (SUBMARINER, INTERREG 2010-2013) and contribution to the resulting compendium. We were together, when the SUBMARINER Network, a flagship project of the EUSBSR, was founded in 2014, and in 2016, when the Baltic Blue Biotechnology Alliance was developed from an idea into a project with 26 participating partners from 8 countries (INTERREG 2016-2019).

For GEOMAR, the Alliance has been a unique journey. GEOMAR is one of the world's leading marine research institutes. We investigate natural processes of the seafloor and oceans, and their interactions with the atmosphere. Specifically at GEOMAR Centre for Marine Biotechnology (GEOMAR-Biotech), which is part of the Research Unit Marine Natural Products Chemistry, we analyse the potential of marine organisms in biodiscovery and biotechnology. In the Alliance, we have contributed our scientific expertise and joined forces with other research institutions, business and technology parks, companies and the SUBMARINER Network to actively support new blue biotechnology ideas and to create a unique, BSR-focused service offer for accelerating product development. Now, the Alliance represents a one-stop-shop in the BSR for blue biotech actors such as startups, small and medium enterprises (SMEs) and academic institutions to find support in taking their blue biotech ideas one step further.

With this brochure, we are proud to present our achievements and hope to inspire future partners to join our efforts and be part of the Baltic Blue Biotechnology Alliance.

Prof. Dr. Deniz Tasdemir

Director of GEOMAR Centre for Marine Biotechnology
Lead Partner | GEOMAR Helmholtz Centre for Ocean Research Kiel



Dear reader,

The Baltic Blue Biotechnology Alliance project, started in 2016, was the response to the "EU Sustainable Blue Growth Agenda for the Baltic Sea Region". Adopted by the European Commission in May 2014, the agenda provided the blueprint for harnessing the region's strengths to boost innovation and growth in its maritime area. Whilst it recognised the significant potential of blue biotechnology for the region, it showed at the same time that the sector was still immature. Actors, expertise and resources within R&D were scattered across the region, working in isolation, with hardly any tangible products on the market.

A more strategic approach for development across the Baltic Sea Region was needed.

Four years later, the Alliance has achieved this. By pooling the available national capabilities, it has not only enabled access for more than 25 startups, spin-offs and SMEs to the variety of facilities, resources and expertise available throughout the region and beyond. Most importantly, our systematic transnational science-business cooperative approach has led to many new product developments. They are evidence for the enormous business potential inherent not only within the specialised field of blue biotechnology, but also the wider sphere of the blue bioeconomy. Even more they also showcase the important contribution of this sector to the sustainable development of the Baltic Sea Region(s).

With this brochure, we wish to introduce you to the rich world of current blue biotech and economy developments and opportunities throughout the Baltic Sea Region; And, we also aim to motivate you to become part of the Alliance of blue bioeconomy actors, which has gathered under the roof of the SUBMARINER network, as well as sponsor our work to further advance and accelerate the next generation of products, services and research.

Enjoy the read, get inspired and join us in our continued efforts towards a healthy blue-green environment and economy throughout the Baltic Sea Region.

Angela Schultz-Zehden

Managing Director
SUBMARINER Network for Blue Growth EEIG

SUBMARINER NETWORK

The leading network hub for blue bioeconomy in the Baltics

The SUBMARINER Network for Blue Growth EEIG, a flagship umbrella project of the EU Strategy for the Baltic Sea Region, was established in 2013. Since then it has developed into the leading transnational hub in the Baltics for promoting sustainable and innovative uses of marine resources. The Network is a unique platform that brings together authorities, research and innovation actors -both public and private- across the Baltic Sea Region, integrating perspectives from local to transnational scale and different scientific and economic spheres.

In 2012, blue biotechnology was one of the upcoming blue sectors chosen to be covered in the SUBMARINER Compendium, which provided, for the first time, a comprehensive assessment of the potential for innovative and sustainable uses of Baltic marine resources. By showing the state of knowledge, available expertise and technologies, natural resources, and political support available throughout the region at that time, the Compendium served as the baseline for the set of actions laid out in the subsequent SUBMARINER Roadmap (2014), which has ever since provided the framework for the activities pursued by the SUBMARINER Network.

Blue Biotechnology was one of the four focus areas highlighted in the EU Baltic Blue Growth Agenda, adopted by the European Commission in 2014. In the same year, the SUBMARINER Network became operational as a European Economic Interest Grouping. Whilst the Baltic Blue Growth Agenda provided the political strategic background, the SUBMARINER Roadmap translated this into a concrete plan-of-action. Together with its members, the newly formed SUBMARINER secretariat used this as the framework to develop a whole series of coherent, targeted and complementary projects. The Baltic Blue Biotechnology Alliance, Smart Blue Regions and Baltic Blue Growth were the first out of the numerous SUBMARINER Network projects subsequently developed and approved using various funding programmes, which embody the actions gathered in the Roadmap.

Fast-track to 2019, the SUBMARINER Network has 12 projects on board and new thematic Working Groups. Based on the experience gathered within these initiatives as well as taking into account new developments and topics, such as marine litter, an update of the SUBMARINER Compendium and Roadmap is scheduled for 2020.

“Participation in the Alliance project has been an inspiration and shown how Interreg projects can be tailored to serve as “fast track” for SMEs needing analysis for i.e. proof of concept. Furthermore, in order to help local valorisation of blue economy building on knowledge and experiences around the Baltic, Guldborgsund Municipality has joined the SUBMARINER Flagship Network”

Mette Jørgensen

BIOFISK (BioEconomy Hotspot – Guldborgsund), Case Owner

A SUPERCLUSTER WITH TRANSNATIONAL OUTREACH ACROSS BLUE BIOECONOMY SECTORS

The SUBMARINER Network operates across the project spheres and thematic areas. This means that the SUBMARINER Network projects don't operate “in silos”, rather they are embedded in a blue thematic mega-cluster that fosters and nourishes opportunities for exchange and cross-linkages among actors, ideas, data and knowledge.

As an example from the Baltic Blue Biotechnology Alliance, when the *BIOME* case was looking for a new supplier of blue mussel shells, the SUBMARINER Network reached out to transnational partners (mussel farmers) from the Baltic Blue Growth project (also funded by INTERREG BSR) to identify potential providers of additional raw material (blue mussel shells).

Furthermore, the SUBMARINER Network analysed Research and Development capacities across the Baltic Sea Region within blue biotechnology and its wider innovation ecosystem in blue bioeconomy. This resulted in development of R&D themes agenda and a list of recommendations for overcoming innovation barriers in the Baltic Sea Region. The work has been fully aligned with the ERA-NET MBT strategy roadmap and was also shared with the EU Commission's Blue Bioeconomy Forum that designed the Blue Bioeconomy Strategy for Europe.

SUB MARINER

Since its founding in 2014, the SUBMARINER Network family has been continuously growing. It currently has 28 network members, representing all Baltic Sea Region countries. The network includes public and private institutions as well as companies and reaches out to many more actors both within and beyond our project partnerships.

ROADMAP 2013

Roadmap setting out vision and defining necessary actions to reach this vision.



THE IDEA 2010

The project SUBMARINER (2010-2013) assessed, for the first time, the potential for innovative and sustainable uses of Baltic marine resources. It developed the idea for the network.

COMPENDIUM 2020

Compendium assessing potential topics for innovative and sustainable uses of marine resources in the Baltic Sea Region. Compendium and Roadmap to be updated in 2020.

NETWORK 2014

Foundation of the SUBMARINER Network for Blue Growth EEIG

MARINER NETWORK

2017 SUBNET CONFERENCE DECLARATION

The SUBMARINER Network Conference "Better off Blue", hosted in Berlin in September 2017, marked another milestone.

2016 ROADMAP STATUS REPORT

2019 Submariner Network Working Groups

OUR VISION 2030

The Baltic Sea Region – a biobased innovation showcase

Improve human well-being

A smart Baltic Sea Region – making use of blue-green combined solutions

PROJECTS 2016 - 2021

Our ongoing actions cover a variety of cross-cutting thematic areas:

Baltic Blue Biotechnology Alliance
Advancing marine bio-based product development

Alliance+
Operationalising the innovation platform and mentoring programme for Blue Biotech SMEs

InnoAquaTech
Cross-border development and transfer of innovative and sustainable aquaculture technologies

Baltic Blue Growth
Initiating full scale mussel farming in the Baltic Sea

Baltic RIM
Baltic Sea Region Integrated Maritime Cultural Heritage Management

Smart Blue Regions
Smart Specialisation (S3) and Blue Growth in the Baltic Sea Region

GRASS
Capacity building of public authorities on supporting macro-algae production and use

Capacity4MSP Platform
Strengthening the capacity of MSP stakeholders and decision makers

MUSES
Exploring opportunities for Multi-Use in European Seas, incl. the scope for innovation and Blue Growth potential

UNITED
Demonstrating Multi-Use in the Atlantic, North and Baltic Sea

Blue Generation
Inspiring and engaging with young people to pursue a sustainable career within Blue economy sectors

Blue Platform
Capitalisation on transnational blue bio economy project findings and capacity building

BALTIC BLUE BIOTECH ALLIANCE: WHO WE ARE & WHAT WE DO

Our objective is to accelerate the development of blue biotechnology products by creating integrated, transnational value chains

The Baltic Blue Biotechnology Alliance is a consortium of research and technology institutes, technology parks and innovation companies, all members of the SUBMARINER Network. We possess and can apply the knowledge to facilitate product development for entrepreneurial endeavours in blue biotechnology. Also, together with Startups and SMEs (small and medium-sized enterprises, that we call "cases"), we have created a functional ecosystem of actors, that takes advantage from constantly evolving, demand-driven support within blue biotechnology.

The SUBMARINER Network secretariat offers its members opportunities for networking, cooperation and promotion via an accessible address book of actors, workshops, matchmaking events, and ongoing search and training of new cases and mentors. Members can also reach out and advertise their cooperation requests via our newsletter and website.

On top of that, the Alliance collectively responds to user needs by matching them with services, facilities and expertise to take their idea to the next level. Members offer tailored services to each other on demand basis. We identify and mobilise the right partners to advance a project, and to create and respond to the necessary business, organisational and legal conditions for a project to be realised through transnational product development, regardless of the stage of development. In the last three years, cases within the Alliance have spanned from bioprospecting to R&D, upscaling and commercialisation.

Alliance members have a unique portfolio of support services to offer in line with their expertise, interests and capacities, such as:



Communication & lobbying: Promotion of "cases" at our own pitching and matchmaking events, as well as promotion to external sister Alliances and accelerator programmes outside the Baltic Sea Region



Scientific & technical support: Access to top-level expertise and know-how as well as infrastructure and lab equipment



Access to biological resources: "One-stop-info-shop" on biological resources present within the Alliance and guidance on how to access them



Legal advice: Initial expert advice on diverse legal issues, ranging from Intellectual Property Rights (IPR), to product safety standards and certifications



Business development: Core business development services consisting of unique tools, guidelines and tailor-made solutions on business plan development, access to market analysis data, advice on financing and marketing strategies



Project development: New funding opportunities and creation of suitable consortia, research and innovation projects

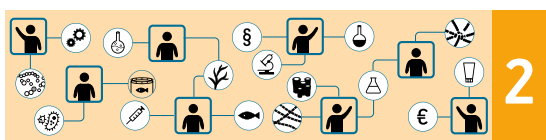


Mentoring & coaching: All enrolled cases (Startups and SMEs) receive guidance from experts to increase their business potential.

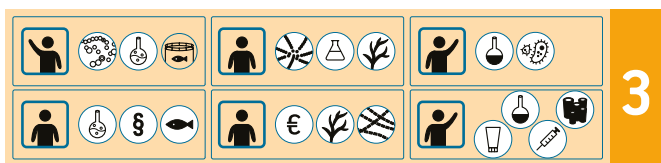
A 3 year project that achieved matching end-users to the services, the facilities and the experts that enable them to take their product idea to the next level.



1



2



3

“ The Baltic Blue Biotechnology Alliance was our first contact with foreign experts when we founded the startup. It helped us to start building the strong network we have today ”

Valmar Kasuk
Vetik, Estonia, Case Owner

MENTORING PROGRAMME FOR CASES

26 selected cases have already received mentoring support from early stage bioprospecting, to upscaling and commercialisation

What makes the Alliance unique is our dedicated mentoring programme for client cases. "Newcomers" are assigned to a mentor, who conducts an **initial assessment** of the respective scientific, technical and business potential and related needs, introduces the various **possibilities of support** offered by the Alliance and acts as a mediator between the case owner and the other members.

Currently, 17 individual mentors have offered their guidance to cases, all experts in the blue biotech sector, working in R&D institutes, technology parks or in SMEs and Startups. They offer a broad spectrum of expertise, matching the needs of cases from bioprospecting to proof of principle, to upscaling and market launch.

During the mentoring process, a **strategy** is developed for **case advancement**, including constant assessment and potential adjustments of the developed strategy, in agreement between mentors and case owners. On many occasions, case owners have been advised to change focus in the strategy plan, e.g. investigate other market applications or technologies. Communication is managed jointly by the two parties and is supervised by the Alliance Mentors' Forum.

The fact that veteran case owners evolve into mentors reveals the co-operative spirit and added value of the Alliance. They eventually join the Alliance and facilitate **transnational cross-case collaborations**. We have examples of three cases that provided mentoring to 12 other Alliance cases.

After initial evaluation of the business potential of a case, the mentor jointly with the case owner define the vision and needs, which are then articulated as service requests to the Alliance. Mentors often also act as direct service providers to their cases. In addition, the Alliance Mentors' Forum further assists, to identify the right service provider for a case.

The **Alliance Mentors' Forum** is a key structure developed within the Alliance, pivotal to its operational success in regard to mentoring and service provision. The Mentors' Forum meets occasionally mainly in form of telephone conferences and all mentors participate in a bottom up approach, coordinated by the Lead Partner (GEOMAR). The purpose of the forum is multifold: it enables mentors to participate and exchange views by sharing case progress, to discuss and find joint solutions for challenges encountered during case implementation, as well as to announce events and circulate news, or to ask for expertise among the consortium to match service requests articulated by case owners. Whenever a service cannot be delivered by the assigned mentors, mentors reach out to the forum to address a service request and search for other service providers.



Vetik
Photo courtesy of Vetik

RECRUITMENT PROCESS

3-steps process for a 365-days case recruitment



Step 1

Blue Detectives actively promote the Baltic Blue Biotechnology Alliance. They are dedicated to locating and recruiting new cases and partners, among differential blue biotech innovation ecosystems e.g. universities, startup communities, conferences, accelerator programs in the Baltic Sea Region.

Step 2

Applicants with a blue bioeconomy-related innovative idea can apply to the Alliance to the **365 open-call** for ideas. National contact points are local ambassadors of the Alliance in Baltic countries, accessible by both new applicants and other interested actors. A multinational panel of interdisciplinary Alliance experts (entrepreneurs, business consultants, scientists) evaluates the applications based on these criteria: relevance to the Baltic Sea Region, sustainability, feasibility, market potential and matching of applicants' needs to the competences of Alliance project partners. An idea can be submitted at any stage of the product development chain, from early stage bioprospecting to a prototyped technology needing upscaling or commercialisation.

Step 3

Selected applicants are invited to present their idea during an organised **pitching event** to an expert panel. The success rate for becoming part of the Alliance is >50% and new cases are encouraged to apply, regardless of their country of origin.



Department of Seaweed (DoS)

Based in Finland | UN Sustainable Development Goals (SDGs): 7, 8, 9, 12, 14

show CASE

A transdisciplinary platform for the exploration of seaweed as a sustainable resource material for art and design. It is a broad, transparent and collaborative institution that does research and design, encompassing all types. of algae: from macroalgae to phytoplankton.

Treating seaweed as a sustainable resource of the future and gathering experts from different fields who work with seaweed as a biomaterial is the main goal of the platform. Besides the concrete research and development of algae as a creative material - as a possible replacement for leather, textile, wood, paper and plastic - *DoS* creates future scenarios, gained from a network of participants from different disciplines in science, justice, crafts, politics, philosophy.

The Alliance support to the *DoS* case included a two-dimensional offer. The SUBMARINER Network helped with the general development of the business strategy and helped to identify other experts interested in the creative use of seaweed. It also helps *DoS* in identifying suitable partners with whom they can organise joint awareness raising events that present algae as material around the Baltic Sea Region (BSR). *DoS* jointly with their primary mentor KTH have organised and facilitated two events in Sweden and Finland that included exhibitions, workshops and lectures on algae and their use as material. Collaboration has been very successful and both aim to continue activities also in other Baltic Sea countries. Moreover, *DoS* obtained seaweed from the Baltic Sea delivered by the case *KosterAlg*, further highlighting the importance of cross-case collaboration.

Mentors: Royal Institute of Technology in Stockholm (KTH), SUBMARINER Network

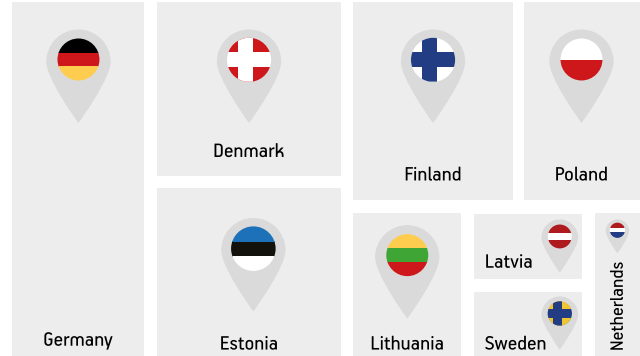
A GLIMPSE OF ALLIANCE CASES

The Blue bioeconomy cases manifest strong transnationality and transdisciplinarity

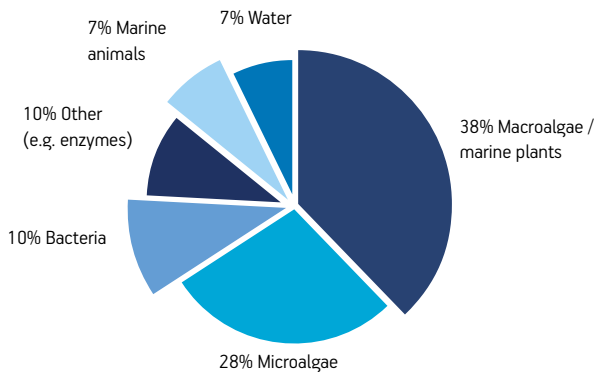
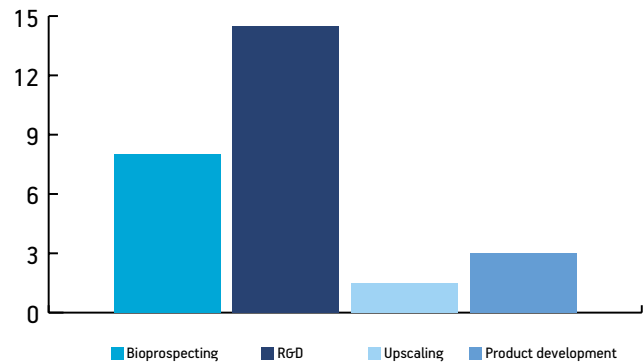
17 Alliance cases were companies
5 cases were research institutes
and 4 cases were other organisation types
(municipalities, innovation teams and platforms)

Our cases originate from all around the **Baltic Sea Region**, with one case coming even from the Netherlands, partnering with Baltic Sea Region institutions. This highlights the success of the recruitment strategy and the plethora of innovative Blue Biotech ideas also in a small country like Estonia.

Size of boxes in the graph on the right correspond to the number of cases from a country of origin.



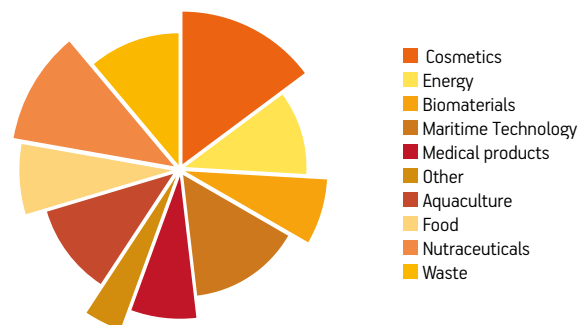
Cases enrolled in the Alliance are across all **stages of the value chain**, from bioprospecting to full commercialisation. Most cases are at earlier stages of the product development chain, reflecting the "blue detectives" recruitment environment.



Regarding **biological resources** in product development, most cases used different Baltic macroalgae (38%) and microalgae (28%) as biological resource, both knowingly featuring valuable ingredients (e.g. phlorotannins, phycoerythrin or fucoidan in macroalgae, and omega-3-fatty acids in microalgae) with high biotechnological application potential. With respect to circular economy concepts, 3 cases have focused on the development of products using biomass generally considered as waste: *BIOFISK* and *Movable Biogas Factory* used beachcast consisting of macroalgae and seagrass, while *Biome* used mussel shells.

Cases have targeted a broad spectrum of **market applications**, from food and food supplements, to healthcare, bioremediation, materials and energy.

Cases received tailor-made services categorised by type. Beyond the mentoring support that all 26 cases received, the most frequently provided types of support were **communication** and lobbying (22 cases) and **scientific/technical support** (20 cases). This shows the high need for scientifically sound data and proven concepts for advancing blue biotechnology product development in the BSR. This was followed by **business support** (17 cases) and **promotion** of the cases on different types of events (13 cases). The least frequently requested support category was legal support (7 cases).



On average, each case received 4 different support categories.

High-potential sustainability cases joined the mentoring programme

Sustainability was key for accepting cases for the mentoring programme. As it is a hard-to-measure criterion, it was assessed with respect to the mode of acquisition of the biological resources used for product development (e.g. cultivation, licensed wild harvest). All case owners strived for partners to ensure sustainably harvested bioresources. Moreover, mentors often carried out sustainability and feasibility assessments in the frame of case implementation, e.g. with respect to energy input in the forms of light and heat needed for microalgae cultivation in relation to the expected revenues.

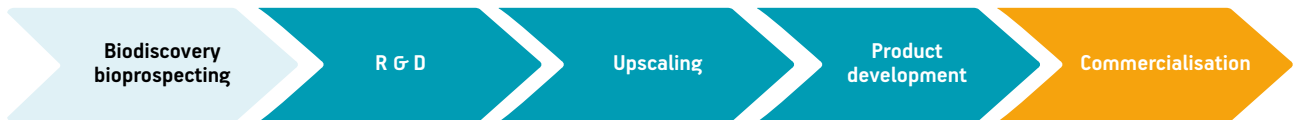
Each case was categorised according to the **UN Sustainable Development Goals (SDGs)**, displayed in a corresponding matrix.

On average, each case contributed to 4 SDGs.

Measured and meaningful progress in product development chain

Each case is assessed based on the product development stage via a simplified value chain. This assessment is repeated at the end of the mentoring process in order to evaluate progress made. On average, following the Alliance support, cases advanced one step in their product development, while two cases advanced 3 steps and two others 2 steps.

This is an average calculated over all cases; since 5 different cohorts of cases were recruited, the progress differed among cohorts due to several factors, i.e. establishment of the mentoring programme and process, type of support, implementation and documentation, legal hurdles for implementation, intensity of collaboration. **Most cases have progressed either from Bioprospecting to R&D stages or from R&D to Upscaling stages.** This demonstrates the type of cases the Alliance has recruited, as well as the **strength and unique value proposition of the Alliance service offer.**



Simplified value chain used for assessing the product development stage of cases applying to the Alliance

All cases contributed to more than one SDG revealing sustainability as a top priority for the Alliance



Size of boxes corresponds to the number of Alliance cases supporting the UN SDGs

Our cases find the right partner to take their project to the next level

More than half of our cases have closed **partnership agreements** with suitable partners across their value chain, within as well as outside the Alliance network.

Mentors and service providers benefit from the interaction with the cases, as it couples science with society and economy, by creating value to people with novel impactful ideas. The Alliance is an important support mechanism for spin-offs of participating R&D institutes, universities, incubators & business parks. At the same time, it provides the basis for the future clients of the participating accelerators & financing bodies as well as business development, legal & marketing advisors.

Moreover, with its placement service and training programmes it offers support in skill development and recruitment for future staff members and provides substantial added value to the individual clusters and regions. It fosters sustainable development and business growth in both the urban and rural areas, attracting talents and resources and increases value of investments.

Transnational dimension with sustainable collaboration bonds

The Alliance has succeeded to form a sustainable network connecting Blue Biotechnology actors across the triple helix on a transnational scale. On average, **3,5 transnational connections/collaborations were made per case** throughout the mentoring programme of the Alliance. Most international connections were realised by the cases *Hoekmine* (NL), *Biome* (LT), *SFTec* (FL) and *Movable Biogas Factory* (FL).



interviews

QUESTIONS TO A SELECTION OF ALLIANCE MENTORS



Mariann Nolvak
Tartu Biotechnology
Park, Estonia

What value does the Alliance bring to you?

For us in Tartu Biotechnology Park, collaborating with the Alliance and "pure blue" companies, scientists and business support organisations, brings valuable experience. In our everyday work we are more "generalists" but after close collaboration with all Alliance partners we have now more knowledge of the sector and a broader network to support Estonian companies in the field. We value the format of pitching events as a useful and effective tool to select most promising ideas.

Matchmaking is the most crucial thing to do when aiming to build a blue community with a pool of collaboration opportunities. We can see a very important role of national blue detectives working in two directions – introducing the Alliance opportunities to blue biotechnology actors in our own country and vice versa introducing local blue biotech actors to the Alliance partners to encourage and facilitate potential collaboration. In our case this has also worked well.

How does your region benefit from the Alliance work?

In Estonia we managed to involve many stakeholder groups (SMEs, scientists, ministries, local authorities etc.) in the circle of the Alliance. It is a small country with limited resources and opportunities. The Alliance is a fast track to right knowledge, to right contacts and partners.

The Alliance has served as the flagship initiative in Estonia to showcase how it is possible to bring blue biotechnology solutions to market and show that the sector exists in our country although in small scale.

Our cases *Furcella* and *Vetik* have received a lot of attention thanks to their participation in the Alliance mentoring programme both in Estonia and abroad. In Estonia, it is very important to show success stories to inspire others to act and also show that blue biotechnology is just not only a niche but a real market with real business opportunities.

What new partners are still needed in the Alliance?

We have proven that our tools and methodology work. So, joining the Alliance is actually joining a really working collaboration and not just another European project. We have knowledge and expertise already involved in many different levels, so we can cover a wide range of collaboration forms. In the Alliance it is somehow balanced – you bring in your knowledge, experiences, resources and you also receive back from it – new collaborations, broader networks, useful tools etc.

What message would you give to other actors working for blue Biotechnology and/or blue bioeconomy in the BSR? Why should they join too?

Look at our cases! If you would like really to make things happen, join us.

LET'S TALK ABOUT ACHIEVEMENTS



3 cases have reached their dream and launched a new product

showCASES



Baltic Probiotics

Founded in 2013 | Based in Latvia
SDGs: 8, 12, 14

An SME that has launched two new products containing a cocktail of probiotics, beneficial microorganisms, enzymes, antioxidants and sugars, to improve animal digestion system and boost the immune system of fish in aquaculture tanks. One newly developed product aims to improve water quality and hinder the spread of harmful bacteria, the other aims to improve fish health and digestion. As the second aquaculture product also improves water quality, in combination these two products may prevent the excess use of antibiotics since they are an environmentally friendly, natural asset to promote health of aquacultured fish and prevent diseases.

Baltic Probiotics received support on product testing and upscaling from their mentor, Coastal Research and Planning Institute (CORPI) in Klaipeda, Lithuania. The *Baltic Probiotics* staff carried out initial testing of the products in their own laboratories and fine-tuned the formulation; CORPI then offered its more extensive research facilities, including larger fish tanks with various fish species, and scientific experts for a second testing phase. *Baltic Probiotics* thus benefitted by the facilitation of testing their aquaculture products under various conditions and on multiple species of fish.

Adding a further dimension to the Alliance involvement, the two mentors from Poland (University of Gdansk and Pomerian Special Economic Zone), were able to offer advice and represent the company's interests through advertising. The mentors' dedication and the scientific and technical support they provided were critical for this case.

Mentors: The Coastal Research and Planning Institute (CORPI), University of Gdansk and Pomerian Special Economic Zone



KosterAlg

Founded in 2016 | Based in Sweden
SDGs: 2, 3, 9, 13, 14

A company set-up by six marine biologists, specialised in marine botany, ecology and chemistry, cultivation and breeding of macroalgae and a sustainable use of marine resources. With the gathered experience of all these actors involved in the *KosterAlg* case, the company focuses on large-scale and sustainable production of macroalgae in Kosterhavet National Park in the Koster fjord on the Swedish West coast.

Like many other successful Alliance cases, *KosterAlg* had a very close collaboration with their mentors. Their primary mentor, University of Gothenburg, offered and performed the compositional and nutritional analysis of the cultivated algae. The Danish mentor DTI supported them with the EU organic certification process and also with generating a business plan. Both mentors were also important in networking, incl. linking the case to other relevant cases (e.g. piloting with *SFTec*). As a result, *KosterAlg* has launched a new product in the market which they supply to local food markets and restaurants. They have partnered in projects with a Swedish municipality and they are looking at possibilities to upscale production.

Mentors: University of Gothenburg, Danish Technological Institute (DTI)

“Being part of the Alliance has been a vital injection for us, when it comes to business development and networking as well as financial support. The Alliance partners and collaborators have motivated us to believe in what we are doing”

Elisabet Brock

KosterAlg, Sweden, Case Owner

interviews

QUESTIONS TO A SELECTION OF ALLIANCE MENTORS



Rainer Cramm
BioCon Valley, Germany

What value does the Alliance bring to you?

Within the Alliance, we were able to connect companies, interested in the identification and production of drugs and enzymes, with partners who have built up biological resources such as strain collections.

How does your region benefit from the Alliance work?

A lot of new relationships and contacts between stakeholders in Mecklenburg-Vorpommern were established through networking at the Alliance conference "Blue Biotechnology in the Baltic Sea Region". These contacts have been already proven to be helpful in shaping the upcoming bioeconomy agenda of this region.

What new partners are still needed in the Alliance?

The Alliance would greatly benefit from partnering with as large a number of SMEs as possible on the one hand and also by getting in touch with global biotech players, not necessarily based in the Baltic Sea Region. Innovations and products are often aimed at large companies and big names will increase the attractiveness of the network in general.

What message would you give to other actors working for blue Biotechnology and/or blue bioeconomy in the BSR that are not part of the Alliance? Why should they join too?

The Alliance is a rather unique network that offers SMEs in the field of blue bioeconomy comprehensive expertise for almost every aspect from the product idea to marketing. It has never been so easy to obtain specific support for technical and methodical questions or for getting advice for company development.



Furcella (Berrichi)

Founded in 2015 | Based in Estonia | SDGs: 14

A natural cosmetics brand which combines macroalgae-based antioxidants and oils that make a perfect blend of vitamins, minerals and fatty acids.

After one year of fruitful collaboration with the Alliance, *Furcella* launched their first product line, "Berrichi", comprising a day and a night cream as well as a men's skin cream, in October 2017.

Berrichi products were developed by *Furcella* with support from the Alliance partners and mentors. Moreover, *CRM* provided *Furcella* valuable contacts for further raw material supply, that have evolved into bilateral agreements for ingredients supply from Germany, e.g. algae-based products and natural oils. In cooperation with *CRM*, *Furcella*'s latest project (2019) is to apply environmentally friendly, algae-based material for packaging of their products.

Mentors: Tartu Biotechnology Park (TBP), Coastal Research and Management (CRM), Alliance Case

“Baltic Blue Biotechnology Alliance gave us huge confidence boost just by choosing us into the network at first hand. This was a critical momentum for Berrichi - somebody believed in us, our product's potential and our capacity to implement our plans. From a home-based, do-it-yourself cream-making and abstract dream into the pool of professional environment and international network - this pushed us in many ways”

Janno Joosep,
Furcella, Case Owner & Mentor

Furcella
Photo courtesy of Furcella





3 cases won prestigious competitions and pitchings



Vetik
Photo courtesy of Vetik



Vetik

Founded in 2017 | Based in Estonia
SDGs: 3, 9, 12, 14

The company has licensed access to a unique source of wild-growing red seaweed (*Furcellaria lumbricalis*) located in a Baltic marine area of the West Estonian Archipelago. The main priority of *Vetik* is to develop a competitive process for large scale chemical extraction of a pigment, R-phycoerythrin, from these macroalgae and further processing technologies. They aim to use 100% of the algae material and to develop valuable products from these extracts which may be used in different sectors, e.g. in cosmetics, as fertiliser in agriculture, etc.

Via their primary mentor, *Vetik* got access to the Alliance and the SUBMARINER Network experts and knowledge, who both provided support and promotion for the case in conferences and matchmaking events and also facilitated *Vetik*'s participation in several events and trainings/coaching to promote the case owners' development of business and entrepreneurial skills. The Alliance partners have further provided scientific and technical support to *Vetik*, such as seaweed drying (*SFTec* and SYKE), crushing, and pigment extraction technologies (GEOMAR, CRM). *Vetik* also received guidance for cost estimations (to build a large-scale production line) and support for business development, finding the right markets, networking and matchmaking for useful contacts and potential collaboration partners.

In the frame of Alliance, the company developed a new focus for product development and their first application field will be natural cosmetics. With promotion by the Alliance, *Vetik* applied to the Portuguese Blue Bio Value accelerator program, which they successfully completed in autumn 2018 and, few months later, they won a national Estonian competition – Prototron – with a value prize for creation of a prototype. *Vetik*'s success story continued, when they received a large grant from Estonia and the EU for upscaling their technology.

Mentors: Tartu Biotechnology Park, Coastal Research and Management (CRM) Alliance Case, Furcella OÜ, Alliance Case



SFTec

Founded in 2013 | Based in Finland
SDGs: 7, 8, 9, 12, 14

The company has developed a modular dryer which can use industrial waste heat in the drying process. Their main product, ModHeat®, is a patented drying technology enabling cost-efficient drying of industrial by-products, wastes and biomaterials.

With the support received from the Alliance partner BioCon Valley (Germany), *SFTec* visited several German companies who were in need of a drying technique. Contacts were also created to Swedish companies by University of Gothenburg and Estonian companies by Tartu Biotechnology Park. Many more Alliance cases were very interested in the dryer as well. *SFTec* performed small scale pilot tests with other Alliance cases *KosterAlg* and *Vetik* for drying macroalgae. With these tests, very important information on the drying and analysis needs was achieved. Due to the experience *SFTec* gained during the mentoring programme, they are now also acting as a mentor to another Alliance case, Movable Biogas Factory, helping them to develop their technology further.

In 2018, *SFTec* launched a new concept together with the Finnish company *Rakeistus* for production of fertiliser from organic sludges and received financial support by the Finnish Centre for Economic Development, Transport and the Environment. In 2019, *SFTec* was selected among six SMEs to attend the 2nd Accelerator Programme of Stora Enso, a leader in renewable solutions in packaging, biomaterials, wooden constructions and paper globally.

Mentors: Environmental Institute of Finland (SYKE), University of Gothenburg

“As a partner of the Alliance we want to provide, develop and test our unique enabling technology for the bio blue needs. Through the network we got in contact with both national and international players in the blue bio-economy sector”

Jani Isokääntä,
SFTec, Finland, Case Owner & Mentor

showCASES



Hoekmine BV

Founded in 2016 | Based in Netherlands
SDGs: 8, 9, 14

A startup which uses marine microorganisms to derive new optical materials and compounds with iridescent properties from these bacteria. Such structurally coloured biomaterials may act as a disruptive innovation for the dye and pigment industries. In particular, structurally coloured materials can be cheaply produced in fermenters with a very favourable carbon footprint compared to dyes (which are often based around petroleum or heavy metals).

The company performs research, development and contract research within this area. The primary achievement of the Alliance for *Hoekmine* was to provide new samples (macroalgae, bacterial enrichment cultures from algae, sediment, water) for isolation of new iridescent bacterial strains. Biological resources were provided by the Alliance partners from Finland, Poland and Germany.

Partly aided by the business assessment procedure conducted in frame of the Alliance, the case owner was able to set up a business plan. Furthermore, thanks to the Finnish Environment Institute (SYKE), *Hoekmine* received algae strains from Finland. *Hoekmine* managed to make mutants with altered colours, which were then optically characterised at laboratories in Cambridge University with considerable attention from press, researchers and colour industries.

Alliance mediated the case owner's application to a Portuguese business accelerator programme, BlueBioValue, in which the case shared the first prize (with two other companies) in December 2018. Discussions on further international collaborations and potential joint project applications are in progress between GEOMAR and *Hoekmine*.

Mentors: GEOMAR Helmholtz Centre for Ocean Research Kiel, Scottish Association for Marine Sciences

“The Alliance was extremely useful to support our business development including help ranging from provision of samples of algae from the Baltic Sea to advice on commercial developments. Small companies need a European network like this that amplifies their reach”

Colin Ingham

Hoekmine, Netherlands, Case Owner

interviews

QUESTIONS TO A SELECTION OF ALLIANCE MENTORS



Anne-Mari Luhtanen
Finnish Environment Institute, Finland

What value does the Alliance bring to you?

We became a member of a network, which opens us more possibilities to know and reach different actors in the blue bioeconomy field. During different events we were also able to meet these people and get to know them personally. This will help the collaboration in the future.

How does your region benefit from the Alliance work?

The Finnish cases (especially *SFTec*, *EHP Environment*) in the Alliance mentoring programme were able to find several experts around Baltic Sea Region to help them in their product development. It also helped them to reach new markets outside Finland.

What new partners are still needed in the Alliance?

Research institutes in the field of medicine, different types of pilot facilities that can help in upscaling of the processes, funding agencies, marketing companies.

What message would you give to other actors working for blue Biotechnology and/or blue bioeconomy in the BSR that are not part of the Alliance? Why should they join too?

When the resources are limited, it is a good idea to combine forces. In a good network which is based on trust, much more can be achieved. Also, much more information and expertise is available and can lead to important inventions.

SERVICES OFFERED

Scientific | technical support

Scientific/technical support is an umbrella term used for a broad spectrum of tailor-made knowledge-intensive services offered by pooled individual and institutional capacities of Alliance R&D partners. Selected Alliance service provider(s) share their scientific expertise and know-how, incl. analytical techniques and processes (planning, setup and conduction of experiments, data analysis), provide exclusive access to infrastructure, equipment techniques and bioresources, facilitate exchange of staff, etc.

Scientific and technical support has been offered by 9 project partners and 3 cases (cross-case service offer) and 20 cases have benefited from this type of support. Sustainability had the most pronounced impact of collaboration among partners and cases, as it has often resulted in **new discoveries, developed prototypes, improved processes, new product applications** and even launched products. This is a resource-intensive type of service. This is because scientific/technical support is offered primarily for developing a prototype in R&D stage or a proof-of-concept in bioprospecting stage. These by nature are resource-intensive steps.

To support this type of service, the Alliance has developed a database for cataloguing the multi-purpose infrastructure and equipment available in Alliance partner institutions. New partners are asked to enter this information - as this provides by now a good overview on available facilities for researchers and companies alike.



Most common scientific research & analytical services offered to cases:

- Laboratory chemical analysis
- Bioactivity/toxicological tests of extracts or chemical compounds
- Chemical extraction technologies
- Propagation/cultivation of biomass
- Development of new apparatus/equipment
- Scaling technology
- Product formulations



Business development

Business development is catalytic for turning an invention into a marketable innovation and blue biotech is no exception. For this, business development is convoluted in the mentoring programme service for cases in the R&D stage or more advanced stages of the product development chain.

Being among the most highly requested services, business development has been offered to 17 cases. The majority of requests included development of **business plans, market analysis, development of marketing strategies and support in fund raising**. The service has been offered by 11 partners and 2 cases (cross-case service offer), each having profound expertise in different business elements, market sectors and regions.

Financial support has not been a distinctive Alliance service offer, rather part of business development. Fund raising support has been offered to 4 cases in the form of identifying and introducing to private investors, recommending public funding opportunities, co-developing new projects, etc.

A **quick scan business assessment** tool was developed by Gaia Consulting for the Alliance. The tool assesses the business potential of a case and recommends the immediate strategic steps needed to be taken to increase the business viability. It has been very useful to both informing case owners on current status and immediate needs and to mentors in helping them integrate knowledge and accelerate the mentoring process. All cases have had access to the tool.



CRM (Coastal Research & Management)

Founded in 1994 | Based in Germany
SDGs: 8, 12, 14

Legal advice

Three Alliance partners offer expertise on legal issues, with a diverse expertise on product regulations. Furthermore, an external patent lawyer has developed for the Alliance, a series of **guideline documents on Intellectual Property Rights (IPR), Non-Disclosure Agreements and Material Transfer Agreements**. All templates and guidelines are available to all Alliance mentors and cases.

Alliance biological resources database

Several Alliance partners host biological resources and offered access to these resources taking into account the respective applicable legal regulations. A new catalogue on biological resources in the form of an **"one-stop-info-shop"** has been created, listing the biological resources, and the respective contact partners at the partner institutions. The effort is coordinated by the lead partner GEOMAR with support from the Alliance partners and the catalogue is publicly available on the Alliance website.

Access to biological resources has not been among the most demanded services in the Alliance. Most cases (16) approaching the Alliance with a blue biotechnology idea had the biological resources for their product development readily available.

A specialised company in developing sustainable mariculture systems and investigating marine natural substances. On top of selling natural macroalgae extracts to cosmetics companies as active ingredients, *CRM* also has its own line of finished cosmetics products called Oceanwell.

Recently, *CRM* has developed a new extract, based on polyphenols which are found in different species of brown algae. *CRM* is collaborating with Alliance partners to overcome the difficulties of setting up a suitable extraction process. Beyond mentoring, the two mentors and the University of Gothenburg provided technical expertise, while GEOMAR provided alternative solutions for chemical environmentally friendly extraction of the target compounds.

Cross-linking between the Alliance cases was crucial for *CRM*, since it resulted in a bilateral agreement between them and another case, Organic Seaweed, for sustainable and certified supply of raw material. Notably, *CRM* was one of the three Alliance cases involved in mentoring of other cases, i.e. cases Organic Seaweed and *Furcella*. *CRM* considerably advanced product development of a natural cosmetic product for an Estonian startup.

Mentors: Danish Technological Institute (DTI),
Royal Institute of Technology (KTH)



KosterAlg
Photo courtesy of KosterAlg



Levent Piker, Coastal Research and Management (CRM), Case Owner and Mentor.
Photo courtesy of CRM

Communication & lobbying

A special type of support is provided by the Alliance in promoting the cases towards target audiences. Networking has been so far the most popular service offered to cases (apart from mentoring). It is a multifold service that can be sub-structured into two categories: Mediated promotion of cases and promotion in events.

Whereas the **publicity on the SUBMARINER Network website** is offered by the secretariat to members and cases, promotion is offered by the Alliance as a whole. This means that primarily the mentors, as well as the Mentors' Forum, are responsible for promoting and "matchmaking" the right partners to cases and vice versa.

Mediated promotion of cases

All cases were offered to be showcased online in the Alliance website. The majority of case owners accepted this offer resulting in 25 published profiles. The online profiles promote the business idea of a case, the team behind it, and the Alliance partners supporting the case. Furthermore, the cases have access to the SUBMARINER community to reach out and search for partners, both online and through a **professional e-newsletter** released by the SUBMARINER secretariat regularly. The newsletter is open access and subscribers are able to respond to calls for collaboration.

The SUBMARINER Network and Alliance partners boost networking prospects by continuously sharing event lists and opportunities, highly relevant to cases and Alliance partners

Promoting of members & cases in events

Promotion of Alliance members and cases is facilitated by participating in events on different scales. Samples of events that cases were promoted are:

- International Baltic Blue Biotechnology Alliance conference in Greifswald, Germany, on which R&D partners and selected cases gave a pitch talk or presented their case on a poster (*CRM, Furcella, UKSH, BIOFISK, Uni Gdansk Smart Bloom, Phytolinc, Hoekmine, Vetik*).
- **STARTUp** day, a regional event in Estonia, co-organised by Alliance partner Tartu Biotechnology Park, contributed to the promotion of cases at regional level.
- *DoS* case with Aalto University prepared an **art exhibition** and 2 workshops at Sweden and Finland, co-organised with their mentor Royal Institute of Sweden (KTH) and University of Gothenburg.



SUBMARINER Network promoting cases at the at the European Week of Cities and Regions 2018

- Promotion of the cases to other national and international accelerator programs resulting in the successful participation of *Hoekmine* and *Vetik* in the **Portuguese BlueBioValue accelerator** programme in 2018.
- European Week of Cities and Regions 2018, where *Furcella* products and *Biome* prototypes were promoted.
- The Alliance as part of the SUBMARINER Network is present on regular basis at the **European Maritime Day** events organised every year - often coupled with workshops featuring Alliance cases (*CRM & KosterAlg* in Southampton '17 / *Vetik & Hoekmine* in Lisbon '19).
- Case interests were also promoted by the Alliance / SUBMARINER secretariat in 1-to-1 matchmaking rounds e.g. at the **"Blue Invest"** in Brussels, 2018 and the yearly **BioMarine** Conventions.
- The regular **"Better of Blue"** conferences organised by the SUBMARINER Network allow for a cross-cutting blue bioeconomy "come together".



“ We are very proud of the ongoing collaboration with Baltic Blue Biotechnology Alliance, as it allows us to learn from the success and challenges faced by each network and is paramount to pursue a joint effort towards the development of a more sustainable blue bioeconomy in Europe ”

Ricardo Calado

BlueBio Alliance Portugal, member of the Executive Board



“ The collaboration of CIIMAR with the Alliance opened doors for a great experience as a mentor! The Alliance proved to be a very well designed supporting structure for research teams and Startups that wish to see their disruptive ideas and technologies in the market ”

Joana Moreira-Silva
CIIMAR Portugal, Mentor



Prof. Dr. Deniz Tasdemir, GEOMAR (Lead partner)



Biome

show CASE

Founded in 2014 | Based in Lithuania
SDGs: 9, 12, 14

A startup company which aims to create and develop new materials for biomedical industry. UAB "Biome" applies Baltic Sea mollusk shells as a mineral resource for the preparation of the bone grafts using the shell material for bone tissue engineering. *Biome* generated high-quality biogenic products from mussel shells; their obtained biogenic nanohydroxyapatite meets the requirements of the ISO 13779 standard (and is thus suitable for surgical implants). This opens potential markets for biomedical applications, including but not limited to bone tissue regeneration, coating, tooth pastes, etc.

Biome has mainly received support from three Alliance mentors. Support encompassed chemical analysis of mussel shells and development of a business plan. Moreover, the Alliance provided useful contacts for raw material suppliers (access to blue mussel shells). The Alliance partners, University of Gothenburg and Royal Institute of Technology in Stockholm (KTH) provided blue mussels needed by *Biome* and with the help of the SUBMARINER Network, *Biome* reached further contacts to Baltic mussel farmers, who are partners in the INTERREG BSR project Baltic Blue Growth.

In the frame of the Alliance, *Biome* has developed two prototypes – hydroxyapatite obtained from mussel shells and a bone graft substitute made from modified cellulose and shell-derived hydroxyapatite. Both prototypes were presented at the European Week of Regions and in 2018 in European Week of Regions and Cities by SUBMARINER Network to promote successful innovative blue biotech products from the Alliance.

Mentors: Klaipeda Science and Technology Park (KSTP), Interdisciplinary Centre of Marine and Environmental Research Portugal (CIIMAR) and Tartu Biotechnology Park (TBP)

interviews

QUESTIONS TO A SELECTION OF ALLIANCE MENTORS



Martina Blümel
GEOMAR Helmholtz
Centre for Ocean
Research Kiel, Germany

What value does the Alliance bring to you?

The experience of being a mentor in the Alliance was of high value to us at GEOMAR; it paved the way to fruitful research collaborations and generated deep insights into the business side of blue biotechnology. We feel, that especially the mentors' forum facilitating mutual exchange and communication, was a vital element. Moreover, the database which was designed to provide detailed information on the service elements, that the Alliance has on offer, will now serve as important info point and entrance gate.

How does your region benefit from the Alliance work?

Beyond the benefit for regions involved in the Alliance by moving their respective research institutions, Startups, SMEs and business parks closer together, united through the aim to advance sustainable blue biotech development, the entire Baltic Sea region benefitted from the Alliance. It has successfully bridged the gap between blue biotech ideas and final products by creating sustainable, transnational product development chains and a viable network of closely cooperating actors in the region.

What new partners are still needed in the Alliance?

Following its ambition to be THE blue biotech hub in the BSR, the Alliance would mostly benefit from new partners representing national sub-regions. Since they have tight links to their respective regional blue biotech SMEs or Startups, they may act as funders for small projects, as clients searching for blue bioeconomy solutions themselves, and, last but not least, they are vitally important multipliers of information to sustain the network.

What message would you give to other actors working for blue Biotechnology and/or blue bioeconomy in the BSR that are not part of the Alliance? Why should they join too?

The Alliance unites actors in every field of blue biotechnology. It constitutes an unparalleled network tightly interwoven with sister networks in other regions or focusing on related topics in the BSR and thus represents a shortcut to the highly innovative blue bioeconomy sector in the region. Joining the Alliance will open doors to become part of this vibrant sector and facilitate realisation of new blue biotech ideas by finding the right partners.

Project development

This type of service breaks across existing projects, and into **new collaboration opportunities** for discovery and innovation among Alliance partners and cases. The Alliance with the help of SUBMARINER Network as blue economy cluster, provides the network with knowledge and actors in different fields that jointly take action.

Lobbying for Blue Biotech

The Alliance supports the development of national, macro-regional and European **research agendas** for blue biotechnology in the Baltics, taking into account evidence provided by its collaborative work with research institutes and companies. Using the voice of the SUBMARINER Network, the Alliance aims to unlock the potential of Blue Biotech, by informing the Blue Bioeconomy Forum, influencing new National as well as European funding programmes (ERA-Net, Interreg, Horizon Europe) as well as innovation policies. Finally, it aims to **help RGD to strategically position itself** in the BSR and thus influence the research agenda of individual institutions.

Placement & training opportunities

The Alliance as an innovation platform connects talent with blue biotech and blue bioeconomy open training opportunities, job placements, **exchange of staff, internships, apprenticeships, in-job-training, courses** and other important opportunities. All relevant opportunities offered by the Alliance and third parties are available on the web-site and disseminated on regular basis through the e-newsletter.



Courtesy of KTH/DoS

“ The Baltic Blue Biotech Alliance has been very cooperative and involved in the activities of the European Commission’s Blue Bioeconomy Forum. Their knowledge of the Baltic region’s activities and their work as “blue detectives” have provided many examples of good practices. For the blue bioeconomy to flourish, there is a need for mentors, coordinators, scouts and partners at all levels in the European Union. It is to be hoped that the Baltic Blue Biotech Alliance can keep fulfilling this important regional role in the future ”



technopolis [group]

Andreas Ligtoet

Project Leader of the Blue Bioeconomy Forum & principal consultant at Technopolis Group



Hilary Karlson from DTI with Guldborgsund Municipality's mayor, John Brædder
Courtesy Guldborgsund Municipality

 **BIOFISK**

Based in Denmark | SDGs: 2, 12, 13

Guldborgsund Municipality is a rural municipality with 316 kms of coastline, where tons of seaweed wash ashore each year. The municipality has a bioeconomy strategy for the valorisation of residual biomass and at the BioEconomy Hotspot there is focus on supporting local business development by exploring the whole value chain behind new biomass-based potential products. The *BIOFISK* case hopes to find ways to produce valuable products from the problematic beach cast and to attract new business initiatives.

The Alliance partners have helped the municipality assess the quality and content of the beach cast biomass and clarify its suitability as part of a feed composition for insect cultivation. The Danish Technological Institute has provided technical expertise, collecting and analysing the municipal beach cast throughout the summer season. The results of the analysis have shown that the beach cast biomass (mainly eelgrass) does not contain problematic substances and that the insect feed can be supplemented with a proportion of beachcast biomass without adversely affecting the feed conversion ratio of the insect larvae.

The Alliance has provided Guldborgsund Municipality with a new network and the opportunity to discuss processes and proof-of-concept with international experts through participation in project meetings and international events, as well as permitting dissemination of *BIOFISK* as a bioeconomy strategy through the Alliance conferences and workshops, thereby strengthening the activities of the Bioeconomy Hotspot Guldborgsund.

Mentors: Danish Technological Institute (DTI), SUBMARINER Network

show CASE



Alliance project partners, cases and judges at pitching event 2018

WE WELCOME NEW CASES, PARTNERS AND SUPPORTERS

Even though the Alliance gathers already a critical mass of blue biotech actors across the Baltic Sea Region, we are aware that there are many more.

Capitalising on the achievements and progress of the past years, we continue to search for new cases, organising pitching and matchmaking events, specialised workshops and seminars and joint conferences. Coming new in 2019/2020, in addition to provide mentoring to cases, we also offer training opportunities for those, who want to become a mentor themselves.

Applications are welcome by institutions as well as individual experts:

- / Business parks as well as other accelerator and innovation programmes – with whom we can link our efforts as to create the most effective and attractive offer
- / Specialists in business development and financing support; marketing and communication companies and experts as well as legal advisors – with the Alliance being the source for your new clients
- / Blue clusters and regions attracted by Blue Bioeconomy and Blue Growth, that can support our activities with expertise and resources
- / R&D institutions with suitable technical facilities, bioresources and expertise as well as potential spin-offs
- / Mentors, business coaches and “blue detectives” with experience and flare in biotechnology, impact of innovation, and sustainable development
- / Startups and SMEs with a business idea within blue bioeconomy, seeking product development support in the Baltic Sea Region
- / Companies with an interest in increasing their outreach and network towards blue bioeconomy R&D, accelerators and innovators
- / Regional and national authorities, private foundations as well as public funding programmes interested in driving sustainable blue growth innovations
- / Universities and other educational bodies interested in running and promoting summer schools, professional training as well as Masters’ Programmes on blue biotechnology

“ This brochure provides evidence of just how much value can be generated in the blue bio-economy through collaborations between science and spin-offs, startups and SMEs. We really hope that it inspires a new generation of supporters and sponsors to collaborate with us to continue a work, which has actually just started ”

Angela Schultz-Zehden,
SUBMARINER Network, Mentor



GET IN TOUCH WITH US TO LEARN MORE ABOUT HOW TO

- / Showcase and get support for a new business idea
- / Include information on your capacities and resources in the database
- / Advertise and / host one of our blue bio-economy events
- / Join us as a mentor
- / Participate in our workshops
- / Link your activities with the Alliance network
- / Sponsor the Alliance

INTERESTED IN CURRENT OPPORTUNITIES?

Call us directly: +49 30 832 1417 45
Contact: Kamila Zalesiak

Visit our website and see our national contact points:
www.submariner-network.eu

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networking, pitching
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mentor training opportunities
available placements



Join us!

The SUBMARINER Network for Blue Growth EEIG is the leading transnational networking hub in the Baltic Sea Region that promotes sustainable and innovative uses for marine resources. It is a flagship initiative of the EU Strategy for the Baltic Sea Region.

Since 2013 the Network provides for communication and match-making as well as action and strategy development across the various marine sectors, including blue biotechnology and aquaculture, by connecting R&D with regional development and industry innovation.

ALLIANCE PARTNERS | Want to join?



“ The aim of the Alliance project was to develop a comprehensive offer for the Baltic Sea Region in the field of Blue Biotechnology and to increase the number of companies in this industry. This aim was surely achieved. The growing interest of Small and Medium Sized Companies and Startups in the sector of Blue Biotechnology has shown that initiatives like the Alliance should be continued as it is one of not that many possibilities to connect large enterprises with Startups that only begin their journey in the Blue Sector ”

Jasmina Zwierz, Project Manager
Pomeranian Special Economic Zone, Poland, Mentor

**SUBMARINER Network
for Blue Growth EEIG**

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