



Baltic Blue Biotechnology Alliance

Service Offer Brochure

Baltic Blue Biotechnology Alliance



Our Service Offer

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Building an Alliance



Dear reader,

Blue biotechnology – the application of biotechnology to living marine resources – is a sector with enormous potential for innovation and growth globally, in Europe, but also in the Baltic Sea Region (BSR). The “Sustainable Blue Growth Agenda for the Baltic Sea Region”, adopted by the European Commission in May 2014, recognises this potential as significant but still immature. It calls for a more strategic approach to the development of the sector. Initiated under the umbrella of the SUBMARINER Network and with GEOMAR Centre for Marine Biotechnology as the lead partner, the Baltic Blue Biotechnology Alliance is a practical response to that call.



The Alliance brings together blue biotechnology actors from across the BSR to develop innovative, marine, bio-based products and services. Our aim is to empower the participating research institutes, SMEs and business clusters to reach the critical mass required for action by systematically pooling the national capabilities. We work closely with the businesses that come to us with a “case” for mentoring and development: cooperating with research institutes, innovation agencies and business parks within the Alliance and beyond helps us achieve the best possible results.

This brochure depicts the services we offer: It introduces our holistic approach to the blue biotechnology sector and the way in which we work with our business cases. Above all, it gives an overview of the specific services each of our institutions is able to offer in the categories of analytical techniques, research infrastructure, bioresources, communication, business development and legal advice. We hope that you will find something to catch your attention and get in touch with us!

Our ambition is to develop a sustainable service model that allows the Alliance to function autonomously beyond the lifetime of our current project. Through our targeted and needs-oriented service approach, we aim to deliver concrete blue biotech success stories, which in turn stimulate more actors to come on board. To achieve our aims, we closely cooperate with partners, regions and networks throughout Europe and even worldwide (such as the Portuguese Blue Bio Alliance, the Scottish Association for Marine Science and BioMarine).

We are continuously looking for new business cases as well as institutional partners, so please let us know if you are interested in joining forces and becoming part of the Baltic Blue Biotechnology Alliance to take the development of this sector to the next level.

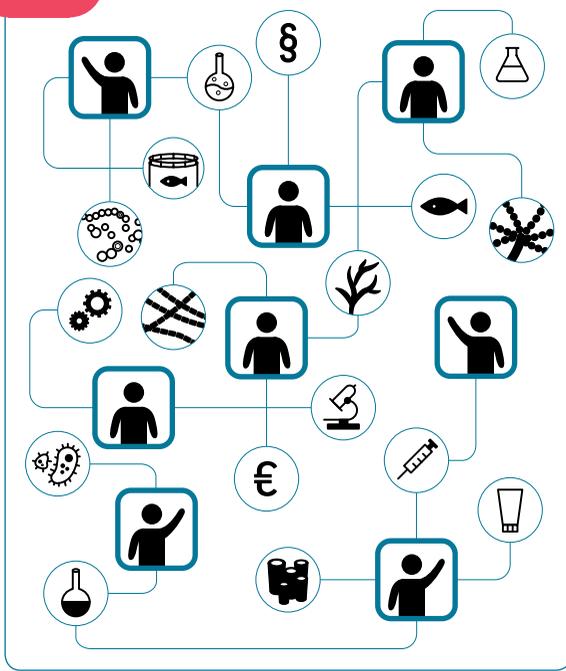
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Director GEOMAR Centre for Marine Biotechnology
(Lead Partner)
GEOMAR Helmholtz Centre for Ocean Research Kiel

Angela Schultz-Zehden

Managing Director of SUBMARINER Network
for Blue Growth EEIG

ALLIANCE



Our approach

Alliance experts know the structure and specific disciplines of the sector and can respond to its demands. We are working to create a **functioning network of actors** whilst working with our business cases on a needs-based approach. One of our overall objectives is the development of blue biotechnology products through integrated, transnational value chains. To do so, we match our users to the **services, facilities and experts** they need to take their idea to the next level. Not only do we look for the right partners to advance a project, we also help to create the necessary financial, legal and organisational conditions for the project to be realised.

What we aim to achieve

We aim to present **successful cases** in which the Alliance has helped a case gain what it needs in order to **progress towards a developed product**. On the basis of the experience gained with the concrete cases, we will streamline our overall **service offer**, connecting the right actors and resources throughout the BSR. This offer includes case mentoring, finding suitable partners, marketing, legal and financial advice. The service shall be continuously available to blue biotechnology actors in the BSR through a **self-sustaining network, which is permanently funded by public as well as private sources**. Working closely with our cases in a needs-oriented way will help us achieve this goal.



How we work with our business cases

- We have a rolling call for submission of ideas, with deadlines for review and evaluation twice a year (spring & autumn). Please visit ideas.balticbluebioalliance.eu for more detailed information.
- The most promising applications we receive are invited to pitch their idea to an international expert panel and receive feedback about the feasibility and potential of their idea.
- The ALLIANCE invites feasible ideas to join its mentoring programme and assigns mentor institutions.
- Mentors and case owners work together to determine and formulate the specific needs of the case:
 - What is currently missing to bring this idea closer to the market?
 - What are the case owner's specific requests towards the ALLIANCE: A biomaterial or compound? Access to laboratories? Support and expertise in business planning? Something else?

What current case owners say about us

“ Working with scientific experts within the Alliance allows us to fast-track our product development process.

Levent Piker, CRM – Coastal Research and Management

“ Made-to-measure usage agreements developed in the Alliance are an exciting possibility of ensuring a future for our state-of-the-art microalgae test and cultivation facility.

Preben Thisgaard, Kalundborg Utility

“ As a start-up, Biovento is benefiting from the broad range of expertise and services on offer within the Alliance.

Natalia Kujawska, Biovento

“ Becoming part of the Alliance has given us a chance to discover more creative ideas and scientific analysis of our potential.

Sigitas Petrauskas, JSC Geoterma

“ Our products will promote fish health and at the same time reduce the need for antibiotics in aquaculture.

Arta Bārdule, Baltic Probiotics

For more information about our current cases, please visit: cases.balticbluebioalliance.eu



- This is when mentor and case owner review the ALLIANCE members' individual service offers to find the perfect fit. The offers are described in this brochure and in even greater depth in the ALLIANCE database of BSR blue biotech actors and resources.
- The ALLIANCE can also involve external experts and institutions if the case owner's request cannot be met internally.
- Through the work with cases in the current ALLIANCE project, we are gaining experience and formulating a service offer that will function in a self-sustaining network beyond 2019.

Figure 2: Meeting of the Baltic Blue Biotechnology Alliance in Gothenburg, Sweden in April 2017



The Baltic Blue Biotechnology Alliance project in a nutshell:

PROJECT PARTNERS

- GEOMAR Helmholtz Centre for Ocean Research Kiel
- SUBMARINER Network for Blue Growth EEIG
- BioCon Valley GmbH
- Royal Institute of Technology (KTH)
- University of Gothenburg
- Finnish Environment Institute
- University of Gdańsk
- Pomeranian Special Economic Zone Ltd.
- Coastal Research and Planning Institute (CORPI)
- Danish Technological Institute
- Klaipeda Science and Technology Park
- CleanTech Latvia
- Tartu Biotechnology Park
- Svanvid Sp.z o.o.
- Scottish Association for Marine Science (SAMS)
- Coastal Research and Management (CRM)
- Biovento Sp. z o.o.
- JSC "Geoterma"
- JSC "Baltic Probiotics"
- Kalundborg Utility A/S
- JSC "Biome"
- Furcella oü
- Guldborgsund Municipality
- KosterAlg AB
- SFTEC Oy
- University Hospital Schleswig-Holstein (UKSH)

DURATION

March 2016 – March 2019

BUDGET

€ EUR 3.4 million

The ALLIANCE is part-financed by the European Regional Development Fund. It is a project under the Interreg Baltic Sea Region Programme.

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#BalticBlueBioAlliance



What we offer

SERVICE OFFER CATEGORIES	
	<p>Analytical techniques</p> <p>The Alliance is strong in offering services related to biodiscovery and biotechnology of marine macro- and microorganisms, e.g. bioassays, growth optimisation, high value compounds, co-culturing, chromatography, spectroscopy, mass spectrometry-based chemical imaging and natural chemistry.</p>
	<p>Research infrastructure / Equipment</p> <p>Alliance partners have state-of-the-art laboratories and research facilities for applied research and product development, including analytical platforms, culture platforms and (pilot) plants from lab to pilot scale, research and development facilities.</p>
	<p>Bioresources</p> <p>Our partners can offer access to a large variety of marine biomaterial culture collections (e.g. macro- and microalgae, cyanobacteria, marine bacteria and fungi, mussels...).</p>
	<p>Business development</p> <p>We can help you to identify the right partners to bridge the gaps in your business and product development. Additionally, we offer support in business planning, life cycle assessment reports, technology transfer, incubation, fundraising and marketing.</p>
	<p>Communication</p> <p>The Alliance can help you with communication and advocacy activities, either directly or on your behalf. Our partners are experienced in science-to-market communication and have extensive international networks.</p>
	<p>Legal advice</p> <p>In questions related to intellectual property rights, patenting, legal framework requirements for joint activities, some Alliance partners can offer relevant advice.</p>

Overview of services by partner

	 SCIENTIFIC RESEARCH	 RESEARCH INFRASTRUCTURE / EQUIPMENT
GEOMAR Helmholtz Center for Ocean Research Kiel	●	●
SUBMARINER Network		
BioCon Valley		
Royal Institute of Technology Sweden	●	●
University of Gothenburg	●	●
Finnish Environment Institute	●	●
University of Gdańsk	●	●
Pomeranian Special Economic Zone		
Coastal Research and Planning Institute	●	●
Danish Technological Institute	●	●
Klaipeda Science and Technology Park		
CleanTech Latvia	●	●
Tartu Biotechnology Park		
Svanvid	●	
Scottish Association for Marine Science	●	●

 BIORESOURCES	 BUSINESS DEVELOPMENT	 COMMUNICATION	 LEGAL ADVICE	COUNTRY	PAGE NUMBER
●	●			DE	14
	●	●		DE	16
	●	●	●	DE	18
●	●	●	●	SE	20
●				SE	22
●			●	FI	24
●	●			PL	26
	●	●	●	PL	28
●	●		●	LT	30
●			●	DK	32
	●			LT	34
	●	●	●	LV	36
	●	●	●	EE	38
				PL	40
●	●		●	UK	42

GEOMAR —

Helmholtz Centre for Ocean Research Kiel



GEOMAR is one of the leading institutions of marine science worldwide. The institute investigates the chemical, physical, biological and geological processes of the seafloor, oceans and ocean margins and their interactions with the atmosphere. GEOMAR Centre for Marine Biotechnology (GEOMAR-Biotech), an integral part of the research unit Marine Natural Products Chemistry, is a unique, state-of-the-art centre dedicated to transferring the research results in marine biotechnology and biodiscovery to application. Geomar leads the consortium of Alliance partners.

PARTNER
FACTBOX



- **ORGANISATION TYPE:** Research institution (Helmholtz association)
- **SIZE:** ca. 980 employees
- **DEPARTMENT:** Research Unit Marine Natural Products Chemistry (RU MN), GEOMAR Centre for Marine Biotechnology (GEOMAR-Biotech)
- **MAIN FOCUS AREAS:** Marine natural product chemistry, extraction, purification, structure elucidation, dereplication and metabolomics, imaging mass spectrometry (IMS), marine microbes, strain collection, bacteria, fungi, culture optimisation, OSMAC approach, co-culturing, biological assays

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>Extraction, isolation and structural elucidation of marine natural products from marine macro- and microorganisms, dereplication, metabolomics, mass spectrometry based chemical imaging (DESI-IMS), optimised cultivation of marine microbes, fermentation process development, biological assays, identification of microorganisms by ribosomal RNA genes</p>
	<p>Chemical analysis: analytical, semi-prep. and prep. HPLC, HPLC-DAD-ELSD, HPLC-DAD-MS (low and high resolution), UPLC-QTOF-DESI-IMS, GC-MS, FPLC, FT-IR, polarimeter, melting point apparatus, vacuum systems, large scale evaporation system, ASE</p> <p>Microbiology/Molecular biology: fermentation process optimisation (Multifors), fermentation capacities up to 300 L incl. downstream processing, DNA extraction, PCR</p> <p>Bioactivity: antibiotic, anticancer, antioxidant, biofilm inhibition, treatment of Alzheimer's, diabetes, HIV, crop protection, further info: www.geomar.de/en/research/fb3/fb3-mn/geomar-biotech/core-facilities/biological-assays/</p>
	<p>Access to strain collections of marine bacteria and fungi (managed centrally by GEOMAR, www.geomar.de/index.php?id=4768)</p>
	<p>Link to Nordverbund Marine Biotechnology (Society in formation) Link to Life Science Nord, www.lifesciencenord.de Link to Excellence Cluster The Future Ocean, www.futureocean.org</p>



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Figure 3: Bioassays carried out in Geomar laboratory (photograph by Christoph Wirth)

SUBMARINER Network

for Blue Growth



The SUBMARINER Network is a unique platform that brings actors from the whole Baltic Sea Region together to actively promote innovative and sustainable uses of marine resources. It operates across the whole knowledge triangle, integrating perspectives from local to international scale, different science disciplines as well as policy and economic stakeholders. Within the Baltic Blue Biotechnology project, the Network secretariat is coordinating the identification and recruitment of new ALLIANCE cases. We take a leading role in providing the appropriate communication and application materials to candidates. In our on-going project work for the existing cases, the SUBMARINER

PARTNER
FACTBOX



- **ORGANISATION TYPE:** European Economic Interest Grouping (EEIG)
- **SIZE:** 23 member organisations (full and associate members)
- **MAIN FOCUS AREAS:** networking, advocacy, project initiation, publication of studies and surveys

Network is a port of call for advocacy activities and representation. We also cover the project's overall marketing and communication activities.

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>Knowledge integration services</p> <ul style="list-style-type: none"> • Networking and matchmaking services among members and project partners (facilitating cooperation), • Establishment of project-oriented consortia, • Preparation and submission of project applications to (EU) funding programmes, • Funding advice (incl. identification of specific funding priorities). <p>Studies & assessments</p> <ul style="list-style-type: none"> • Macro-level assessments of Blue Growth in BSR (e.g. Compendium, Roadmap, Roadmap Status Report) and Europe, • Sectorial studies, impact assessment and scientific reports (e.g. BSR-wide study identifying Blue Growth cooperation opportunities). • Market research / market potential studies, • Business and regional development & support instruments, • Workshops, seminars, conferences, B2B events.
	<p>External promotion & communication</p> <ul style="list-style-type: none"> • Promotion of members through variety of communication channels, • Awareness-raising on behalf of members (e.g. at conferences), • External communication (online and print) for running projects. <p>External interest representation</p> <ul style="list-style-type: none"> • Representation of interest of individual members within larger networks (e.g. EurOcean Network), • Representation of BSR actors in the Blue Growth sectors within the wider European context.



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Figure 4: Publications such as the SUBMARINER Roadmap reach a wide audience

BioCon Valley



BioCon Valley® is the initiative for life science and health economy in Mecklenburg-Vorpommern, Germany. BioCon Valley® supports the commercial use of modern life sciences and bio- and medical technologies in the region. BioCon Valley's tasks are networking, project management and coordination, internationalisation and public relations. BioCon Valley collaborates in strategic partnership with life science initiatives in the Baltic Sea Region (such as the SUBMARINER Network and ScanBalt). Blue biotechnology has been one of the strategic topics in the region since 1996. In 2017, BioCon Valley was awarded with the Silver Label of European Cluster Management Excellence.

PARTNER
FACTBOX

BioCon Valley®

- **ORGANISATION TYPE:** Business support institution
- **SIZE:** 15 employees
- **MAIN FOCUS AREAS:** Life science & health, economic development, "BioRegion"



What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<ul style="list-style-type: none"> • Networks, matchmaking, business plans, economic models, funding opportunities with focus on experts from science and industry in Germany. BioCon Valley is a member of the Council of German BioRegions (www.ak-bioregio.org), • Project support, definition and acquisition, management: BioCon Valley has 20 years of experience of mobilising and managing of wide range of regional, national and international funded projects, e.g. on industrial biotechnology, innovative aquaculture, hygiene management combatting MRE, and cross-border networking in the Baltic Sea Region.
	<p>BioCon Valley has established a powerful tool for communication and dissemination to scientific journalists on national and international level.</p> <p>www.idw-online.de/de/pressreleases1047</p>
	<p>BioCon Valley offers initial stage consulting on IPR & patenting, with a focus on the specific IPR framework in Germany.</p>

GET IN TOUCH

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Figure 5: Sample collection at the German Baltic coast

Figure 6: Networking event at BioCon Valley



Royal Institute of Technology



The Royal Institute of Technology (Kungliga Tekniska Högskolan, KTH) in Stockholm is the largest, oldest and most international technical university in Sweden. No less than one-third of Sweden's technical research and engineering education capacity at university level is provided by KTH. Education and research spans from natural sciences to all the branches of engineering and includes architecture, industrial management and urban planning. Industrial Ecology at KTH is a founding member of the SUBMARINER Network.

PARTNER
FACTBOX



- **ORGANISATION TYPE:** University
- **SIZE:** Sweden's largest Technical University
- **DEPARTMENT:** Department of Sustainable development, Environmental science and Engineering (SEED)

GET IN TOUCH

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Figure 7: Seaweed cultivation site of the Seafarm project, which is lead by KTH.

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>κΤΗ Industrial Ecology has several years of expertise around cultivation of algae in a bio refinery concept.</p> <p>κΤΗ can offer analytical techniques in its main focus areas of environmental strategic analysis, industrial ecology, sustainability analysis, LCA and hydrology, geology, water technology and environmental technology.</p>
	<p>The SEED department has a laboratory for water research and experimental sewage treatment plant Hammarby Sjöstadverket that is a worldwide unique facility that may be used e.g. for microalgae cultivation.</p>
	<p>Other parts of the University have Bio resources and κΤΗ is e.g. developing the human protein atlas and working with cultivation of cyanobacteria.</p>
	<p>κΤΗ has an organisation to help small companies to develop their business plan and handle intellectual property.</p>
	<p>κΤΗ can offer communication facilitation through a range of different channels.</p>
	<p>κΤΗ has a legal office that could provide help.</p>



University of Gothenburg



The University of Gothenburg (UGOT) meets societal challenges with diverse knowledge. Some 37,000 students and 6,000 employees from all around the world make the university a large and inspiring place to work and study. The research at UGOT is characterised by multidisciplinary cooperation. The Department of Marine Sciences at UGOT is Sweden's most complete, interdisciplinary environment for marine research and marine education, and is one of only a few such organisations in Europe. With broad and cutting-edge expertise and access to unique marine infrastructure such as research vessels and field stations, the department enjoys excellent conditions for marine research and education.

PARTNER
FACTBOX



UNIVERSITY OF GOTHENBURG

- **ORGANISATION TYPE:** University
- **DEPARTMENT:** Marine Sciences
- **MAIN FOCUS AREAS:** Seaweed cultivation, marine chemical ecology

GET IN TOUCH

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What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>UGOT offers:</p> <ul style="list-style-type: none"> laboratory antifouling assays using cyprid larvae and/or algal propagules, antifouling field tests using the natural assemblage of marine fouling organisms.
	<p>At the Sven Lovén Centre for Marine Infrastructure, UGOT offers a comprehensive marine infrastructure, with several research vessels and smaller boats as well as two stations for research and education. Both stations are located in unique environments on the west coast of Sweden: Kristineberg by the Gullmar fjord and Tjärnö by the Koster fjord.</p>
	<ul style="list-style-type: none"> UGOT provides cyprid larvae (<i>Balanus improvisus</i>), UGOT may provide biomaterials (e.g. macroalgae) harvested from various locations in the Skagerrak region.



Figure 8: The University of Gothenburg may provide macroalgae harvested from various locations in the Skagerrak region (photograph by Johan Wingborg).

Finnish Environment Institute



Finnish Environment Institute (SYKE)

is a governmental research and development centre, founded in 1995. Its main task is to produce and re-use environmental information and services for the government, general public and enterprises. The activities of SYKE take place in seven centres: the Freshwater, Marine Research, Natural Environment, Consumption and Production, Environmental Policy, Data and Information, and Laboratory centres. The Marine Research Centre of SYKE aims at producing information and new solutions that help decision-makers to promote the protection and sustainable use of the Baltic Sea. It integrates a wide spectrum of marine research, catchment research, climate change research and socioeconomic research.

PARTNER
FACTBOX

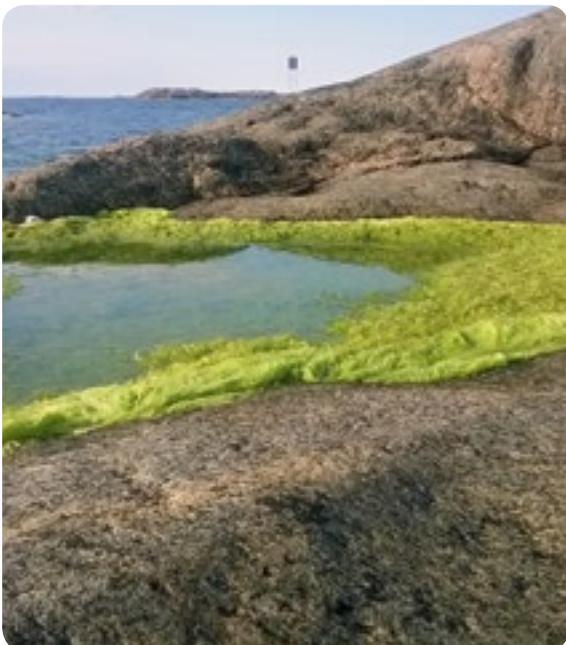


- **ORGANISATION TYPE:** Governmental research institute
- **SIZE:** 600
- **DEPARTMENT:** Marine Research Center
- **MAIN FOCUS AREAS:** Marine research, Baltic Sea, experimental research, modelling, monitoring, research infrastructure

Multidisciplinary research makes use of observations, experimental research, numerical models, prognoses and socio-economic studies.

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>Cultivation and isolation:</p> <ul style="list-style-type: none"> algae cultivation growth tests to evaluate and optimise growth rate, biomass yield, biomass characterisations (esp. lipids and pigments) and nutrient removal, isolation, cultivation and growth tests of marine bacteria and their viruses, feasibility planning for algae cultivation (incl. mathematical simulation tools, LCA, literature surveys, environmental and technical scenarios). <p>Analysis:</p> <ul style="list-style-type: none"> testing, validating and calibrating equipment used in monitoring and controlling algae cultivation, analyses of heavy metals and algae toxins in different biomaterials.
	<p>Equipment and facilities for algae and microbial research needs, including (but not limited to): photo bioreactor, climatic chambers, LED panels, temperature water baths, nutrient analysers, fluorometers for determination of photosynthetic parameters, spectrophotometry, spectrofluorometry, microscopy, imaging in flow systems, flowcytometry, DNA extraction and PCR.</p>
	<ul style="list-style-type: none"> Culture collection of microalgae and cyanobacteria cultures (brackish water species, approx. 300 strains available) and sea ice bacteria and their viruses, Biomaterials (e.g. macroalgae and mussels) harvested from various locations in the northern Baltic Sea.
	<ul style="list-style-type: none"> Experience of managing wide range of national and international projects, Expertise in legal issues especially related to environmental legislation in Finland and EU directives.



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Figure 9: SYKE helps decision-makers to promote the protection and sustainable use of the Baltic Sea.

University of Gdańsk



The University of Gdańsk (UG) has eleven faculties and over 30,000 students. UG is one of the best higher education institutions in Poland and the largest in northern Poland. It has always had a very close relationship with the Baltic Sea. The Faculty of Oceanography and Geography hosts Hel Marine Station, which offers laboratory space and accommodation.

Moreover, the faculty operates a research vessel for the interdisciplinary survey of the Baltic Sea. The Intercollegiate Faculty of Biotechnology of UG and Medical University of Gdańsk is a unique institution in Poland, established by two universities. This enables the use of infrastructure and expertise of both universities and contributes to interdisciplinary research as well as teaching in the area of biotechnology for health and life quality.

PARTNER
FACTBOX



UNIVERSITY OF GDANSK

- **ORGANISATION TYPE:** University
- **SIZE:** 1,700 scientific and teaching staff, 1,400 administration staff
- **DEPARTMENTS:** Faculty of Oceanography and Geography, Intercollegiate Faculty of Biotechnology, Faculty of Biology and Faculty of Chemistry
- **MAIN FOCUS AREAS:** marine research, experimental research, modelling, monitoring, research infrastructure

GET IN TOUCH

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What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<ul style="list-style-type: none"> • Marine chemistry and environmental protection, • Pollution in the marine environment due to human exploitation, • New research methods and ecohydrodynamic models to evaluate the state of and to forecast changes in Baltic Sea basins, • Natural products of marine microorganisms – biosynthesis, • Structure, biological activity, potential application, • Evaluation of the socioeconomic significance of the marine ecosystems, • Molecular microbiology, medical biology and molecular diagnostics molecular plant research.
	<ul style="list-style-type: none"> • Research vessel „Oceanograf“ (49.5m x 14m), 20 passengers in 11 cabins; catamaran built in 2015 for biological, chemical, physical and geological investigations on the Baltic Sea; equipped with 4 labs: wet, sterile, thermostatic and analytical as well as didactic room and functional achterdeck, • Laboratory of Biomolecular Analysis: spectro- and fluorometers, stopped-flow, microcalorimeter, microplates reader, plasmon resonance analyser Biacore 2000, atomic force microscope Bruker BioScope Resolve, and Monolith NT.115 for microscale thermophoresis, Atomic Force Microscope BioScope Resolve with scanning head MultiMode8 Lockout Specs (Bruker), • Laboratory of Mass Spectrometry spectrometers providing applications, e.g. in genomics, transcriptomics, proteomics, lipidomics (MassARRAY[®] Analyzer 4, MALDI-TOF/TOF[™] 5800 with MALDI Imaging, QTRAP[®] 6500 LC/MS/MS, TripleTOF[®] 5600, CESI 8000 Plus High Performance Separation-ESI Module), • Laboratory of Genetic Analysis with new genetic analysis devices (real-time thermocycler, real time cell analyser xCELLigence DP, homogeniser MagnaLyser, apparatus for the automatic isolation of nucleic acids MagnaPure 2.0, apparatus for nucleic acids capillary electrophoresis Tape Station 2200 and automatic pipetting station epMotion 5070), • Laboratory of Imaging and Data Analysis with 3 confocal microscopes as well as several fluorescent ones, • Laboratory of In Vitro Plant Breeding with several growth chambers and various in vitro cultured endangered plants, hairy root cultures, plants containing bioactive compounds and GM plants, • Isotope Laboratory Type III with full equipment for conducting research with radioisotopes.
	<ul style="list-style-type: none"> • Culture Collection of Baltic Algae (CCBA); with more than 100 Baltic strains including cyanobacteria and several algal groups: flagellates, green algae and diatoms, • Collection of Plasmid and Microorganisms, • Culture Collection of Northern Poland including cyanobacteria causing toxic blooms in Baltic coast and marine bacteria with potential application in blue biotechnology, • Biological Resource Centre Gdańsk (BRC Gdańsk) affiliated at the Faculty of Biology – part of the SeCuRe (Strain and Culture Resources) infrastructure.
	<p>Centre for Analyses and Expert Opinions offers potential for inquiries for various kinds of analyses based on the competencies of experienced university staff e.g. from the Faculty of Economics, Faculty of Management, Faculty of Law and Administration.</p>

Pomeranian Special Economic Zone



Pomeranian Special Economic Zone is a part of Gdańsk Science and Technology Park. It is an area where entrepreneurs can run their business on preferential conditions, using public aid in the form of income tax exemptions (Corporate Income Tax and Personal Income Tax).

As a modern centre supporting entrepreneurship and innovation, it forms a vehicle to aid cooperation between social, economic, scientific & research, and local government entities in terms of buildings, shaping of the information sphere and promotion of advanced technological solutions. The comprehensive nature of the services is ensured at all stages of entrepreneurship development and R&D by including activities that involve:



PARTNER FACTBOX

- **ORGANISATION TYPE:** Business support institution
- **DEPARTMENT:** Projects department
- **MAIN FOCUS AREAS:** Entrepreneurship (including maritime)

education, incubation, acceleration, cooperation chain creation, building relations with business partners as well as scientific and academic institutions, supporting GSTP companies, implementing joint projects, as well as finding innovative companies and keeping them within the GSTP.

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<ul style="list-style-type: none"> • Over 2,200 hectares of investment areas, located in close proximity to major transportation routes in this part of Europe, • Access to Gdańsk Science and Technology Park and the Baltic Port of New Technologies in Gdynia, • Access to several other investment incentives (such as exemption from property tax), • Comprehensive services rendered both during the investment project implementation and afterwards, • Assistance in finding a skilled labour force due to the cooperation with vocational schools, • Cooperation with major universities – Technical University of Gdańsk, Gdańsk University, Medical University of Gdańsk and Gdynia Maritime University
	<ul style="list-style-type: none"> • PSEZ offers project promotion, support in networking and for conferences, meetings, websites • Communicates on behalf of partners with other institutions and local and regional public authorities
	<p>PSEZ is proprietor of Gdansk Science and Technology Park, which offers legal advice to its tenants and PSEZ's investors</p>

GET IN TOUCH

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Coastal Research and Planning Institute



The Coastal Research and Planning Institute (CORPI) is a non-profit public research institute founded to carry out R&D activities in order to foster the implementation of maritime policy and development of the maritime economy. The institute has a special focus on marine energy and port development systems, blue biotechnology, environmental impact and planning of maritime activities. Our scientific competences include high-quality research and consultancy services in experimental and applied aquatic ecology. The experts are experienced in modern aquaculture, experimental indoor systems, cultures of aquatic organisms, food-web analysis and more.

PARTNER
FACTBOX



- **ORGANISATION TYPE:** Research institute
- **MAIN FOCUS AREAS:** experimental analysis & testing, marine energy, blue biotechnology

GET IN TOUCH

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What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<ul style="list-style-type: none"> • CORPI provides facilities and expertise for physiological condition and growth analysis, applying standard and nucleic acid based indices for standard metabolism measurements using closed or intermittent-flow respirometry for invertebrates and fish larvae, embryos and eggs, • CORPI offers expertise for field and experimental analysis of phyto- and zooplankton, toxins of cyanobacteria, application of stable isotope analysis in food web studies.
	<ul style="list-style-type: none"> • CORPI offers a microplate reader, optical fluorescence oxygen systems for closed and intermittent-flow respirometry, • Together with partner institutions, CORPI experts use facilities for microscopy, climate chambers, nutrient analysis, fluorometry, flow-cytometry etc.
	<p>CORPI may provide crustacean/fish adults, larvae, embryos and eggs, either laboratory-cultivated or collected from nature.</p>
	<p>CORPI could provide assistance in national and international project management.</p>
	<p>CORPI may help with different issues related to the development of economic activities and national environmental regulations. It includes EIA, health impact assessment, risk assessment, spatial planning, environmental monitoring and modelling.</p>

Danish Technological Institute



DTI is the oldest and largest Research and Technology Organisation (RTO) in Denmark and develops, applies, and disseminates technology to Danish and international business sectors.

AgroTech is a division in DTI, working with all aspect of plants, environment and food. We have a strong corporation with universities to secure our customers easy access to new knowledge.

In Plant Technology, we keep the plant in focus and have expertise in optimising the growth, production and utilisation of plants, plant based bio-resources and microalgae. We work with optimised plant production, plant breeding and biotechnology, high value bio compounds, plant health and diseases as well as cultivation technology for plants and algae.

PARTNER
FACTBOX



**DANISH
TECHNOLOGICAL
INSTITUTE**

- **ORGANISATION TYPE:** Applied sciences and consultancy
- **SIZE:** DTI: >1000 employees / Plant Technology = 19 employees
- **DEPARTMENT:** AgroTech – Plant Technology
- **MAIN FOCUS AREAS:** Microalgae cultivation, climate control and energy efficiency in controlled cultivation systems – Life Cycle Analysis, plant based bio resources and high value bio compounds, optimised plant production, biotechnology, plant health

GET IN TOUCH

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plant-technology/37843](http://www.dti.dk/specialists/plant-technology/37843)

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<ul style="list-style-type: none"> • Tailor-made cultivation and harvesting of microalgae cultures for specific high value compound production, • Test, characterisation, upscaling and optimising of growth conditions for microalgae. Biomass characterisation of microalgae, • Protein content, dry matter content, ash content, fatty acid content, • Controlled cultivation of microalgae biomass, pH conductivity, light, temperature, gas (CO₂/O₂) regulators, Controlled light conditions, • Density measurement, Harvesting of microalgae, Dry matter content, Mineral content, Fatty acid content, Life Cycle Analysis, • Decision support software with automatic data transfer from grower's climate control computer. Monitoring performance of greenhouse climate control (consultancy service), • Modelling for planned or existing greenhouses in terms of energy use and plant growth in relation to climate control settings, specific crops, greenhouse location, -construction and -equipment, • Measurement of leaf photosynthesis in relation to climate (light, temperature, CO₂ concentration and humidity). Results from measurements can be used to optimise greenhouse climate setpoints (e.g. temperature, CO₂ level, control of irradiance), • Test of climate control strategies in small scale experiments: Cultivation of several plants inside closed daylight climate chamber with precise climate control. Chambers can be controlled individually regarding temperature, CO₂ level, irrigation and assimilation light and contains all necessary sensors for monitoring climate. Photosynthesis calculation based on CO₂ added to the chamber air.
	<ul style="list-style-type: none"> • Photo bioreactors (single cell-750L) open or semi-open microalgae cultivation systems, data logger, pH conductivity, light, temperature, gas (CO₂/O₂) regulators, LED system, Spectrophotometer, Continuous harvest centrifuge, • Portable clamp-on flow/energy meter, Data logger, Sensors, Portable Photosynthesis System, Daylight climate chambers, • Can measure flow/energy flow in pipes from 10 to 250 mm diameter, • Logging of data from climate sensors. Climate measurements, • Measurement of leaf photosynthesis. Measurement of canopy photosynthesis.
	<p>Fresh and salt water microalgae and cyanobacteria cultures, e.g.:</p> <p><i>Synechocystis sp.</i>, <i>Synechococcus sp.</i>, <i>Rhodomonas sp.</i>, <i>Haematococcus sp.</i>, <i>Spirulina sp.</i>, <i>Chlorella sp.</i>, <i>Scenedesmus sp.</i></p>
	<p>DTI has experience in IPR and patent applications.</p>

Klaipeda Science and Technology Park



Klaipeda Science and Technology Park is a business support organisation established by Klaipeda University and the Ministry of Economics of the Republic of Lithuania. The organisation is responsible for the development and application of innovations in the industry of Klaipeda region and the facilitation of technology transfer processes in Klaipeda University. KSTP provides business development, project management and innovative infrastructure services for science, industry and startups.

PARTNER
FACTBOX



- **ORGANISATION TYPE:** Business support institution
- **SIZE:** 8
- **MAIN FOCUS AREAS:** Innovation, business development

GET IN TOUCH

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What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>KSTP acts as a business support organisation active in application and development of innovation. It provides the following services:</p> <ul style="list-style-type: none"> • Technology screening to support companies or investors with the identification of economically promising potential business models, innovations, • Development of business strategy: KSTP helps organisations to define or develop technology and innovation based business models, • Training and technological support: Via the extensive and efficient business network of science and research institutions, KSTP provides training and technological support services for the application of technologies, process or business model innovation, • Market access services: KSTP offers a market access services for innovative companies, providing networking, certification and product development knowledge.



Figure 10: The park offers comprehensive support for technology transfer

CleanTech Latvia



CleanTech Latvia is a cluster of clean technologies, which brings together Latvian companies and research institutions to enhance each other's competitive advantages, and the cluster as a whole. CleanTech Latvia joined the Alliance to promote and improve the growth of the blue biotechnology field, which is closely connected with the clean technologies our cluster promotes in its actions. Members of the cluster produce bioreactors and bioreactor lines for cultivation of bacteria, yeasts, microalgae and other microorganisms.

The laboratory photobioreactor manufactured by our cluster's member is used in several countries to develop technologies for using algae resources in wastewater treatment, CO₂ emission reduction, as well as manufacturing high value substances.

PARTNER
FACTBOX



- ORGANISATION TYPE: Nongovernmental organisation
- SIZE: 44 members
- MAIN FOCUS AREAS: Biotechnology, environmental protection, clean technologies, waste water treatment

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>We offer:</p> <ul style="list-style-type: none"> • Our competence in bacteria, yeast, algae etc. cultivation in laboratory scale, optimisation of the growth rate and other biomass parameters, • Model based feed-batch control for the fermentation process, • The development of engineering solutions for different aspects of bioreactor application, • The research of influence of magnetic fields on the growth of different microorganisms.
	<p>CleanTech Latvia offers:</p> <ul style="list-style-type: none"> • Equipment for bacteria, yeast, algae etc. cultivation in laboratory, pilot and industrial scale; • Aseptic agitation solution – magnetic drive mixer, • Bioprocess automation solutions, • SCADA for real-time control for the fermentation processes, • The software and hardware for model-based control of fermentations.
	<p>CleanTech Latvia offers:</p> <ul style="list-style-type: none"> • Consultations for business development of clean technologies, • Contacts and partnership organisations in Kazakhstan, Kirgizstan and Uzbekistan.
	<p>We offer the communication bridge development between clean tech enterprises and governmental organisations.</p>
	<ul style="list-style-type: none"> • CleanTech Latvia has experience in patenting procedures, • We have experience in obtainment of public funding.



GET IN TOUCH

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Figure 11: Bioreactor complex line for production of animal vaccines

Tartu Biotechnology Park



Tartu Biotechnology Park (TBP) provides physical infrastructure, business development and consultancy services to companies and R&D institutions in the fields of life sciences and medicine.

The activity of TBP stands on five pillars: quality, cooperation, competence, information and innovation. The aim of TBP is to create a favourable and developing environment for the promotion of life science entrepreneurship. In order to achieve its aims and to provide better services, TBP engages in active cooperation with Estonian and foreign companies, science and technology parks, research and development institutions, foundations and other organisations,

**PARTNER
FACTBOX**



TARTU BIOTECHNOLOGY PARK
integrated expertise

- **ORGANISATION TYPE:** SME, Science and technology park
- **SIZE:** 6 employees
- **MAIN FOCUS AREAS:** Business development and consultancy services, incubation services, infrastructure services, project management, market research, technology transfer

including state agencies and local authorities. TBP brings to the Alliance its business development experience gained in 15 years in the field.

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<ul style="list-style-type: none"> • TBP supports Technology Transfer, • TBP provides advice and counseling for preparation of a business plan, market and risk analysis, • TBP supports the development of a business plan and strategy, • TBP can support preparation and submission of project applications for EU structural funds and financial institutions in Estonia, • TBP offers project consultation and advisory services, financial management of projects, • TBP runs Business Incubator for creation of new businesses and accelerates their success through a dedicated incubation programme.
	<ul style="list-style-type: none"> • TBP facilitates cooperation between enterprises and research institutions, • TBP can provide access to its network for finding appropriate cooperation partners, • TBP organises business meetings and matchmaking events, • TBP organises dedicated events, seminars, training and mentoring events.
	<p>TBP has experience of IPR licensing and commercialisation, and managing of wide range of projects and may assist case owners in various ways, especially related to national regulations and funding resources.</p>



GET IN TOUCH

Mariann Nõlvak

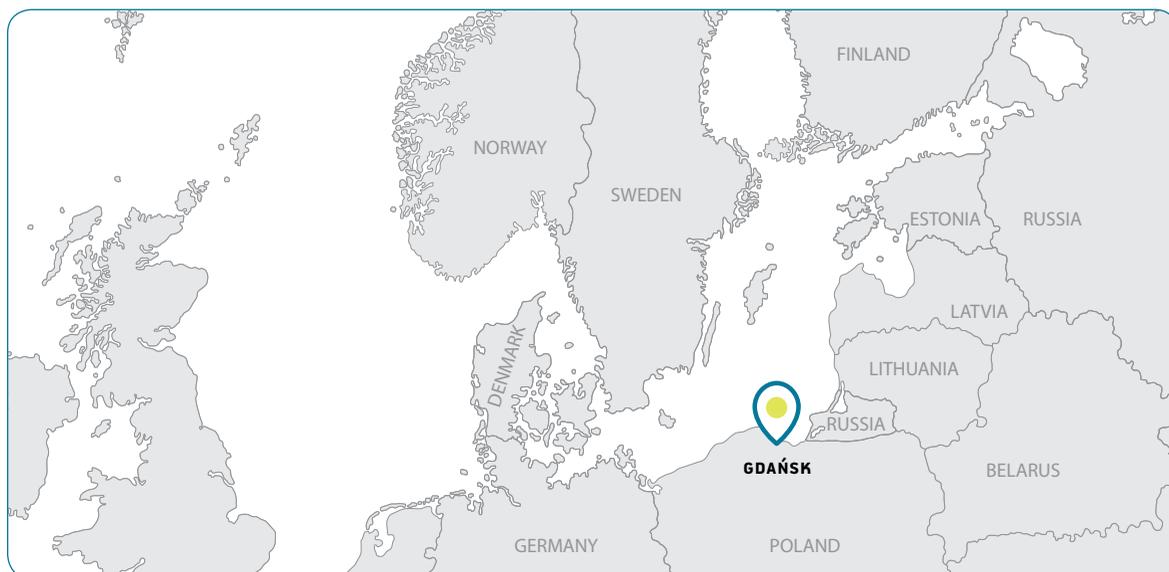
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Figure 12: Tartu Biotechnology Park runs an incubator for life science businesses.

Svanvid



Svanvid Sp. z o.o. is an innovative biotechnology company that uses its unique know-how every day. For years, we have been producing active and natural ingredients that are used in the pharmaceutical industry. As a result of many years of advanced research, we have developed dozens of methods of production: ultra-pure, natural and innovative products, which are used to build our clients' businesses. As we continue to innovate, Svanvid's products help more patients than ever before.

PARTNER
FACTBOX

svanvid
BIOTECHNOLOGY

- ORGANISATION TYPE: Limited liability company (SME)
- SIZE: Up to 10 people
- MAIN FOCUS AREAS: Marine biotechnology



What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>We are working on unique solutions that will allow us to start producing biofuels from microalgae on a massive scale. We focus on the following areas:</p> <ul style="list-style-type: none">• Obtaining microalgal strains capable of accumulating large amounts of oil in a short time,• The process optimisation (upstream and downstream processing),• The creation of a prototype plant for the production of microalgae oil,• The commercialisation of this technology.

GET IN TOUCH

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Figure 13: In 2015, Svanvid was awarded to be Europe's second most innovative biotech company in EuropaBio's SME Award.



Scottish Association for Marine Science



The Scottish Association for Marine Science (SAMS) has an international reputation in marine science, undertaking multi-disciplinary research across a wide range of fundamental and applied topics. Projects employ observational, experimental, genomic, bioinformatic and chemoinformatic approaches to investigate the biology, ecology and biotechnology of microbes, macroalgae and other organisms in coastal and ocean habitats from the tropics to the poles. They are home to the Culture Collection of Algae and Protozoa (CCAP), which houses >2,500 strains of algae and protozoa from diverse ecological niches. They are also an academic partner of the University of the Highlands and Islands delivering undergraduate and postgraduate education.

PARTNER
FACTBOX



- ORGANISATION TYPE: Research institute
- MAIN FOCUS AREAS: Science, research, education, consultancy

GET IN TOUCH

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Figure 14: The Scottish Association for Marine Science's site in Oban, Scotland (photograph by Tony Gorzkowski / HIE).

What we offer

SERVICE OFFER CATEGORY	SERVICE OFFER DESCRIPTION
	<p>SAMS undertakes a wide range of lab & field-based projects including:</p> <ul style="list-style-type: none"> • Development of macroalgal cultivation systems, • Development of Integrated Multi Trophic Aquaculture (IMTA), • Microalgae for energy, bioremediation and natural products, • Early warning and risk assessment of shellfish toxicity, • Smart observation platforms, making in situ observations in challenging environments, • The NERC Facility for Scientific Diving (NFSD) provides divers, equipment, training and scientific/technical support that underpins research in the underwater environment.
	<ul style="list-style-type: none"> • SAMS offers its equipment and facilities for both lab-based and field-based research needs. It has modern laboratory facilities suited for marine research, including (but not limited to): photo bioreactors, climatic controlled chambers, an aquarium extending over 160m² including both indoor and outdoor facilities , nutrient analysers, fluorometers for determination of photosynthetic parameters, spectrophotometry, flowcytometry, imaging using light microscopy, FlowCAM, confocal microscopy and environmental Electron Microscopy, • In the pursuit of science excellence, SAMS has invested in a suite of world-class analytical facilities which support environmental, biological, geochemical, molecular and geological investigations, for details contact SAMS directly.
	<ul style="list-style-type: none"> • SAMS maintains a publically accessible culture collection, see www.ccap.ac.uk, which include a uniquely diverse range of microalgae, small seaweeds, protozoa and cyanobacteria cultures (freshwater, brackish water , marine, hypersaline and terrestrial), • SAMS may provide other biomaterials (e.g. macroalgae and macrofauna) on request.
	<p>SAMS hosts a biotechnology incubator the European Centre for Marine Biotechnology www.ecmb.org and is closely associated with the European Marine Science Park in Oban, developed by Highlands and Islands Enterprise. This is alongside SAMS and builds on the existing growing cluster of marine science related activity.</p>
	<p>SAMS has competence in legal issues especially related to: microbial biodiversity, bioprospecting, patenting of microbes, transportation of microbes and environmental legislation in the UK.</p>



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www.balticbluebioalliance.eu

[#BalticBlueBioAlliance](https://twitter.com/BalticBlueBioAlliance)

To unlock the full potential of blue biotechnology, available resources throughout the Baltic Sea Region need to be better integrated to reach critical mass for action. The Baltic Blue Biotechnology Alliance is an innovative project in answer to this need. It matches its users to the services, facilities and experts they need to take their blue biotechnology product or service idea to the next level. This brochure offers an overview of the services offered by individual Alliance partner institutions in areas ranging from analytical techniques to legal advice.



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