Final Project Conclusions

BFCC

Project title	Project duration
Baltic Fracture Competence Centre	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Research and innovation infrastructure

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.61 million	EUR 3.07 million	x	PA Innovation

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/bfcc-23.html	www.bfcc-project.eu/home.html

Lead partner (country)	Countries involved
Life Science Nord Management GmbH (Germany)	DK, EE, FI, DE, LT, PL, SE

Project summary

Teaser

The project BFCC engaged four hospitals supported by business development organisations and universities in creating a joint registry to store and process data about bone fractures in four countries. Medical companies used this data for improving their products to offer better treatment possibilities for patients, thus preparing our ageing society for the numbers of bone fractures and linked health disorders to increase.

The challenge

More fractures and stronger need for medical innovation in ageing societies

The number of bone fractures and linked health disorders are expected to increase in the future due to an ageing society. The annual number of fractures in the EU is estimated to rise from 3.5 million in 2010 to 4.5 million in 2025. Due to more age-related fractures and co-morbidities such as osteoporosis or post-surgery complications like infections, the need for innovative products and clinical treatment procedures is increasing. These innovations are meant to reduce the total cost of care or improve its quality.

Companies lack knowledge to offer better medical products

Companies that offer implants, imaging, pharmaceuticals, wound care or single-use surgery devices are facing various difficulties, e.g. in understanding the clinical needs, in following up on the effectiveness of treatment, in reducing costs and in offering innovation on the market. As around 50 % of new products are initiated by clinicians, the companies need direct access to hospitals. This allows them to collaborate within needs assessment, pre-clinical research, product development, clinical trials, post-market follow up studies and health technology assessment.

DE	DK	EE	FI	LT	PL	SE
						

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

BFCC

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

A digital registry to collect missing data and establish new links

In order to accommodate all these health and business needs, the BFCC project encouraged four hospitals in Germany, Estonia, Lithuania and Poland to join forces in the Transnational Fracture Registry Platform. The platform helped to acquire, store and process fracture data. The platform allowed to compare the clinical process and quality of outcomes across organisations and countries. At the end of the project the Fracture Registry contained several hundred complete data sets. As the work continues this number is growing every day and delivering new evidence.

Fracture Registry in action

Through practical usage of data gathered on the Transnational Fracture Registry Platform the project has improved the understanding of innovation processes in the medical technology industry. This way 48 companies gained opportunities to enter into a dialogue with the involved clinics and carry out research in fracture management. These businesses got a chance to align their innovation efforts with clinical requirements as well as gained access to the most recent findings in the fracture research.

The collaboration standards were tested, evaluated and optimized in the fields of infections, diagnostics and post-surgery complications. These tests featured different aspects such as a new classification system for fracture complications, a clinical study about a new commercially available bone substitute that elutes antibiotics, and a new method for hip fractures applied in a hospital setting. The companies involved gained insight into innovation cycles between industry and clinics in different Baltic Sea region countries and expanded their networks for future clinical industry cooperation.

Better treatment in the future

With EUR 3 million support from the European Union, the Interreg project BFCC has created a novel tool that gave a new dimension to cooperation of hospitals and medical technology industry. This in turn is likely to change treatment outcomes for thousands of patients who will experience fracture in the future.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Transnational Fracture Registry Platform

This online platform registers anonymous data from different hospitals about bone fractures and complications related to their treatment and makes them accessible to companies that develop medical products. Four hospitals in Germany, Estonia, Lithuania and Poland joined forces to create this unique tool. The data included in the first version (2019) covered at least 90% of the treated

cases. The methodology to collect data from individual cases was developed by the hospitals together with business support organisations and research institutes from seven countries.

The Transnational Fracture Registry generates statistical reports that allow the users to compare data across organisations and countries. It is currently accessible only for already connected hospitals. New hospitals wishing to join the platform are welcome to sign up and gain access to all resources. For this purpose they should contact the project Lead Partner: Life Science Nord Management GmbH, e-mail: eckers@lifesciencenord.de

Link: https://projects.interreg-baltic.eu/projects/bfcc-23.html#output-5

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during te project work and will be continued after its implementation.

In order to ensure durable access to the registry the partners jointly elaborated the Sustainability Concept which was supplemented by the Memorandum of Understanding in which each partner specified human and financial resources they dedicated to further cooperation. The Memorandum also specifies a list of new cooperation partners that will be involved in promoting the registry in coming months. They include: national specialist associations, regional and national ministries, representatives of the EU Commission, health insurance companies, operators of other registry platforms and business e.g. implant producers.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- Originally the project planned to integrate the patients' data from Swedish partner Sahlgrenska University Hospital to the Transnational Fracture Registry Platform. This turned out to be impossible due to legal constraints.
- First sustainability concept of the project seemed to rely very much on possibility of getting an extension stage funding from the Interreg Baltic Sea Region Programme. Only after several clarification rounds including face to face meeting the partners demonstrated clear engagement in ensuring broad usage of the developed register after the project end.

Final Project Conclusions

Baltic TRAM

Project title	Project duration
Transnational Research Access in Macro-Region	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Research and innovation infrastructure

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.16 million	EUR 3.75 million	x	PA Innovation

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/baltic-tram-12.html	www.baltic-tram.eu/

Lead partner (country)	Countries involved
DESY Deutsches Elektronen-Synchrotron (Germany)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The project BalticTRAM successfully connected companies from the Baltic Sea region with universities, research institutes, and large scale research infrastructures across eight countries and helped 15 small and medium sized enterprises (SMEs) solve specific challenges in product development, e.g. for sustainable cement, better medical test kits, more durable electronics and longer lasting batteries.

The opportunity

Companies need access to high level instruments for product development
Many modern European companies build their business on very specific materials – be it electrolytes for batteries, antibodies coated on plastic in medical test kits or cement containing organic ashes. To develop their products, these companies need all the available knowledge about how these materials are composed and how they behave. They need access to high level measuring devices, which often cost more than a million euros a piece. In particular for small enterprises it would not make sense or even be possible to invest into their own high-tech equipment, such as an atomic force microscope, a gamma spectrometer or an x-ray fluorescence spectrometer.

Research institutions can offer access to their under-used instruments
However, many research institutions all across the Baltic Sea region own such instruments. And the good news is: Many of the instruments are not used for research on an everyday basis – companies could make use of them, if they only knew which instruments to use, where to find them and how to contact their operators. In the project Baltic TRAM, research institutes and universities from six countries around the Baltic Sea joined forces with a number of business support organisations and international associations to address this opportunity.

DE DK EE FI LT LV PL SE

Final Project Conclusions

Baltic TRAM

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

A network of industrial research centres of eight countries

These partners set up a network of industrial research centres which supported the cooperation of analytical research institutions with industry in eight countries around the Baltic Sea. Primarily, this network facilitated practical product tests run by small and medium enterprises in their own facilities. In addition and targeting political decision makers and public administrations as well as other analytical research infrastructures, the partners presented analyses of the national governance of innovation and smart specialisation in the Baltic Sea region and the Multi-Level Governance of Innovation and Smart Specialisation in the European context. Eleven universities and research institutes continue the network beyond the project lifetime under the coordination of the Foundation of Innovative Initiatives located in Krakow (Poland). Based on the experience gained in BalticTRAM and the predecessor project Science Link, a follow-up project (CAROTS) aims to establish a new type of private or public-private company in the Baltic Sea region: Commercial Analytical Research Organisations (CARO).

Companies connected with science to develop their products

Over three years, the network brought together companies and scientists through three open calls for applications for measurement services which targeted EU-based SMEs. The calls were launched in Germany, Denmark, Estonia, Finland, Lithuania, Latvia, Poland and Sweden and their scope was to provide technical and scientific expertise to help solve challenges linked to the development of new products or services. 68 applications were submitted, covering a wide range of industrial sectors, i.e. life science, material science and engineering. The offered services were proved to be very beneficial especially for micro companies that took advantage of the scientific expertise and measurements offered by the network. The results of these pilot activities have been published as seventeen case studies. The University of Turku in Finland continues to host and operate the best-practice database and portal.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Report: Laying grounds for an enhanced macro-regional science-business cooperation

This report contains an overview of the national commonalities and differences in innovation and smart specialisation governance in Estonia, Finland, Latvia, Lithuania and Poland, when it comes to the thematic strands of research and innovation in the Baltic Sea Region. The report serves as a manual for political decision makers and public administrations as well as for Analytical Research Infrastructures and further innovation communities, interested in exploring the diversity of initiatives and policy support tools that focus on the cooperation between research infrastructures and the industry.

Link: https://projects.interreg-baltic.eu/projects/baltic-tram-12.html#output-100

Final Project Conclusions

Baltic TRAM

Report: Multi-Level Governance of Innovation and Smart Specialisation

This report analyses the global, international, European and transnational governing structures of innovation and smart specialisation in the science-business cooperation context. The report serves as a manual for political decision makers and public administrations as well as for Analytical Research Infrastructures and further innovation communities, interested in exploring the diversity of initiatives and policy support tools that focus on the cooperation between research infrastructures and the industry.

Link: https://projects.interreg-baltic.eu/projects/baltic-tram-12.html#output-101

Report: Baltic TRAM Smart Specialisation Trends

This report summarises the added value brought by the implementation of the three Baltic TRAM open calls for services offered to businesses to already existing key EU initiatives as the EU Action Plan for the Circular Economy, the EU Maritime Security Strategy´s (EUMSS) Action Plan and the New Skills Agenda for Europe.

The report serves as a manual for political decision makers and public administrations as well as for Analytical Research Infrastructures and further innovation communities, interested in exploring the diversity of initiatives and policy support tools that focus on the cooperation between research infrastructures and the industry.

Link: https://projects.interreg-baltic.eu/projects/baltic-tram-12.html#output-102

Baltic TRAM Company Cases

The Baltic TRAM project offered to companies free access to state-of-the-art analytical research facilities across the Baltic Sea region to perform measurements on material samples. The technical and scientific expertise provided helped the companies solve challenges linked to the development of new products or services. Some of the results of this process are described as 17 business cases (https://www.baltic-tram.eu/services_for_industry/business_cases/baltic_tram_company_cases/index_eng.html) that cover a wide range of industrial sectors (e.g. healthcare, thermal insulation, cement manufacturing) and present the challenge, the experiment and techniques that were followed, as well as the outcome of the testing. These reports could serve as best cases and examples for companies that face common challenges and would be interested in requesting the services that will continue being offered by the Industrial Research Centres (IReC) network.

Link: https://projects.interreg-baltic.eu/projects/baltic-tram-12.html#output-103

BalticTRAM open data portal

The open data portal is a data base consisting of experiments that were performed in the context of material research measurements related to various industries during the Interreg project BalticTRAM. Currently, this on-line tool hosts 32 case studies out of 51 experiments implemented. The case studies describe the problem, the research activity, the used methods and instruments and the achieved results. In order to have access to the case studies, the users need to register filling in their name, e-mail, and reason for requesting access. The users also have the possibility to request access to the measurement data of each case study and to the final report. The search in the portal can be performed based on filters that can be applied to get the most relevant results. This portal

can increase knowledge of SMEs regarding the possibilities for research activities offered by analytical research infrastructures.

Link: https://opendataportal.utu.fi/

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The majority of Baltic TRAM's partners have confirmed a long-term orientation towards a more sustainable collaboration beyond the time frame of Interreg Baltic Sea Region Programme´s funded project. For this reason, eleven out of fourteen organisations have signed the Memorandum of Understanding, and established a network of universities and research institutes, the IReCs network, that will continue improving their cooperation with industry. The IReCs are business-support units that can help companies throughout the entire application process - from formulating a product or process challenge to designing follow-up activities that support them in applying the knowledge gained in their product or manufacturing processes.

Complementary to that, Baltic TRAM partners have suggested to other large-scale Research Infrastructures (RI) to extend the project data base to a European data base of best-practice examples on collaboration between research and industry. Other RI have expressed their interest and the idea of a European database will be probably implemented in the context of a project under HORIZON EUROPE.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- Baltic TRAM was developed on the findings coming from Science link project, which was funded by Interreg Baltic Sea Region 2007-2013. Science Link is currently operated as a network.
- Baltic TRAM offered inspiration for the successful development of CAROTS project that was approved during the 3rd call for proposals launched by IBSR Programme.
- Baltic TRAM co-organised with Baltic Science Network project, also co-funded by IBSR Programme, their final conference in Brussels with the title "The Baltic Sea Region - a Science Powerhouse".
- The Foundation of Innovative Initiatives in Poland agreed to take over the future coordination of the network, while the University of Turku in Finland will host and operate the best-practice database and portal.

Final Project Conclusions

BSN

Project title	Project duration
Baltic Science Network	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Research and innovation infrastructure

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3 million	EUR 2.52 million	x	PA Education

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/bsn-27.html	www.baltic-science.org

Lead partner (country)	Countries involved
Free and Hanseatic City of Hamburg - Ministry of Science, Research and Equalities (Germany)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The project Baltic Science Network strengthened the political ownership of a joint, macro-regional approach towards science policy by setting up a network of ministries and other public bodies responsible for higher education, science and research policies in seven countries.

The opportunity

Society expects research and higher education to respond to global challenges, such as climate change, energy and resource efficiency, food supply, welfare, health and demographic change. The countries around the Baltic Sea have an excellent structure of leading universities and research institutions which makes the Baltic Sea region one of the most competitive and innovative science regions in the world. However, not all levels of research and innovation perform equally well across the macro region, the existing facilities are not evenly distributed and not all are well interconnected.

For the time being, science policy around the Baltic Sea is organised mainly from a regional, national or European angle. Yet, national or sub-national answers are not sufficient anymore to respond to global questions, and the European angle is typically too wide to consider the specific features of every single country. A macro regional dimension in science policy could be the right scale to respond to the challenges of society. This would require a joint approach of the countries surrounding the Baltic Sea towards higher education and research and more cooperation in research and higher education. However, there is a lack of political ownership of such a macro-regional dimension of science policy.roject supports the development of the European Research Area by stimulating cooperation in the Baltic Sea region, increasing the research and innovation performance and strengthening the political ownership in the field of science policy.

DE	DK	EE	FI	LT	LV	PL	SE
							

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

BSN

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

The project established a network – the Baltic Science Network – which gathers regional and national ministries and other public bodies responsible for defining and implementing higher education, science and research policies. Seven countries (Estonia, Finland, Germany, Latvia, Lithuania, Poland, Sweden) have confirmed their intention to continue the joint work and to turn the project into a permanent and independent network. These countries formulated a joint statement within a High-Level Meeting of the Representatives of the Ministries for Science of the Council of Baltic Sea States (CBSS) and formulated statutes for the network.

The Baltic Science Network analysed the current state of science and research cooperation in the Baltic Sea region and issued recommendations accordingly. The project also identified potential solutions to improve the cooperation in this sector and to increase the participation of less performing regions in transnational research activities.

Besides, the Baltic Science Network developed a mobility concept for researchers and students. The partnership identified mobility tools which seem particularly relevant for the region and decided to pilot one of them - the Research Internship Tool - in the extension stage project BSN Powerhouse.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Action Plan: The Baltic Sea region – a science powerhouse

This document identified the challenges and potential solutions regarding scientific excellence, mobility in research and higher education, widening participation (to the BSR countries which are less active in research consortia and international research projects), and outreach to the EU.

The document includes joint strategies to improve the cooperation in specific scientific areas, namely photon and neutron science, life sciences and welfare studies. It makes concrete proposals at the level of funding instruments, mobility schemes, and tools for widening participation on national and regional level:

Link: https://projects.interreg-baltic.eu/projects/bsn-27.html#output-80

Concept: Connecting through science – mobility funding instruments

This report elaborates a concept for mobility tools in the Baltic Sea region and singles out three of them as having the best potential to be implemented in test cases:

1. Summer Schools with a Focus on Large Research Infrastructures: one-week course with the aim to give a comprehensive knowledge about a specific subject and to provide potential new users with knowledge on a specific large research infrastructure.

2. Research Internships for Students within the Baltic Sea Region: matching PhD students in one country with students from another country based on the specific scientific interests of both groups.

3. Short-Term Scholarships for PhD Students: a PhD student identifies appropriate universities/research institutions in other Baltic Sea region countries and joins them for a limited period in order to work on a specific research question.

The report presents minuses and pluses of each tool and described the reasons why these three tools were prioritised.

Link: https://projects.interreg-baltic.eu/projects/bsn-27.html#output-81

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

In the approved extension stage project BSN-Powerhouse, it was decided to test the Research Internship Tool. This tool, whose concept was elaborated during the main project, was identified as the most suitable for a pilot, and several partners of BSN-Powerhouse already committed financially to fund the planned mobility tool.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- Foreseen as a "Reserved partner", the German Academic Exchange Service (DAAD) joined the project at a late stage (in the beginning of the last year of implementation). Their role was however important, as they contributed to the concept for mobility, which is being piloted in the extension stage project.
- The output 2.1 Memorandum of Understanding (MoU), laying the ground for the Network, has been delivered in a different format from the initial plan. Instead of a MoU containing the political commitment, the regulations and structure of the network, the output is divided in two documents, a political commitment and statutes. The political commitment is not a document as such, but the political will to continue with the Network was underlined by the joint statement of the "High-Level Meeting of the Representatives of the Ministries for Science of the Council of Baltic Sea States (CBSS). Although no MoU was provided, the expressed commitment is considered sufficient.

Final Project Conclusions

InnoFruit

Project title	Project duration
Advancement of non-technological innovation performance and innovation capacity in fruit growing and processing sector in selected Baltic Sea Region countries	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Research and innovation infrastructure

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 1.51 million	EUR 1.46 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/innofruit-31.html	https://fruittechcentre.eu/en/

Lead partner (country)	Countries involved
Institute of Horticulture, Latvia University of Agriculture (Latvia)	LV, LT, PL, SE

Project summary

Teaser

The project InnoFruit created a sustainable network of fruit-growing companies to make them more successful and competitive across the Baltic Sea region markets thanks to the exchange of innovative solutions.

The opportunity

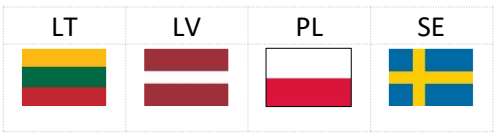
Fruit-growing sector with high potential

Fruit-growing industry demonstrates high potential for further development in the Baltic Sea region due to an expanding demand for healthy food.

Poland is one of the largest fruit-growers in Europe with around 4 million tons of fruit and berries produced on average every year. The best practices of the Polish fruit sector could efficiently be replicated in Latvia and Lithuania, and help them open up to new markets or to reposition their products. However, despite the high level of research in Latvia and Lithuania, the transfer of knowledge and innovation, both technological and non-technological, is limited due to the lack of advisory systems, slow development of fruit-growing cooperatives, and low absorptive capacity of small and medium sized enterprises (SMEs).

Sharing best practices across borders

In order to boost innovative capacity, especially in the areas of processes, organisation, and marketing innovations, owners of small and medium sized enterprises (SMEs) need to find ways to exchange knowledge and learn about best practices from other countries. Testing and implementing innovative solutions successful in one country are likely to work in another. This needs to be complemented with better tailored services offered by research organisations.



EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

InnoFruit

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Sustainable network for sustainable production

InnoFruit has established an open demo-farm network, which includes 22 research organisations and small and medium sized enterprises (SMEs). 12 members of the network from Latvia, five from Lithuania and five from Poland signed agreements on their responsibilities, obligations and eligibility requirements. The network ensures the future transfer of practical knowledge and skills, either through peer-to-peer learning among fruit-growers within and across the countries, or through researcher-farmer cooperation, on e.g. farm trials, testing and demonstration of new technologies.

New knowledge on demand

So far, 550 SMEs acquired new knowledge during cross-country visits to the demo farms, but also at consultations, trainings and seminars. They learned about good practices and the practical implementation of, for example, devices to process and store fruits and berries, or equipment to sterilise bottles for juice.

The project also created recipes for healthy products with reduced sugar and increased fibre, as well as a mobile application "Resistant apples" for the Latvian market, which shows cultivar-specific information, such as growing characteristics, appearance, composition, possible ways of usage and resistance to potential diseases.

From growing fruit to affecting policies

InnoFruit compiled recommendations for policy makers, in particular national ministries, in order to help them further develop common agricultural policies in Latvia, Lithuania and Poland. Among other things, the project recommends a balanced regional coverage of independent full-time advisors in fruit growing as part of a national advisory system, as well as financial and non-financial incentives for commercial farms to become involved in hosting on-farm demonstrations in fruit-growing. The recommendations were already communicated to the Ministry of Agriculture of Republic of Latvia.

The Interreg InnoFruit used EUR 1.27 million from the European Union to trigger exchange of knowledge and innovative solutions among fruit-growers in Latvia, Lithuania and Poland. This is how Interreg helps build trust across the borders and fosters a more competitive Baltic Sea region.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Open demo farm network

22 research organisations and small and medium sized enterprises (SMEs) created a demo-farm network, and signed 28 agreements about their responsibilities, obligations, eligibility requirements. The farms connected via the network offer consulting services for local and regional fruit-growers in orchard management and demonstrations of new technologies, demo objects, fruit crops and cultivars, processing and storing of fruit and berries. The network is open for other fruit-growing

enterprisers and farmers to and/or visit demo sites. Also students and researchers are invited to visit demo sites. Check the website for contact details and availability:

Link: https://projects.interreg-baltic.eu/projects/innofruit-31.html#output-77

Recommendations for policy makers of fruit growing sector

This document provides a list of seven policy recommendations based on the project results, in particular the research and national stakeholder workshops in Latvia, Lithuania and Poland. These recommendations present to national authorities the necessary improvements in the field of knowledge advancement in the fruit sector that require political solutions and support. They include, for example, the need for a balanced regional coverage of independent full-time advisors in fruit growing as part of a national advisory system as well as financial and non-financial incentives for commercial farms to become involved in hosting on-farm demonstrations in fruit-growing.

Link: https://projects.interreg-baltic.eu/projects/innofruit-31.html#output-78

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The open demonstration farm network, established within the project, will expand the number and scope of involved farms and demonstration objects, beyond the project. The ambition is to maintain the network as an evolving structure for informal collaboration and future knowledge sharing, both for peer-to-peer learning among fruit-growers within and across the countries and for researcher-farmer cooperation in the implementation of on-farm trials, testing and demonstration of new technologies and practices. The established network will be extensively used in the organisation of future study visits to demonstration objects already implemented by the project partners.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

In spite of the late purchase of a production line for juice (8 days before the end of the project implementation), the lead partner was able to provide supporting documents proving that the production line has been used for sample product development, as contracted in the project application. Besides, the project partner signed a cooperation agreement going beyond the project implementation to remain inside the demo farm network created by the project and to promote this new production line to interested stakeholders. This agreement and intended use is in line with the initial project objectives.

Final Project Conclusions

Smart Blue Regions

Project title	Project duration
Smart Blue Regions: Smart Specialisation and Blue Growth in the BSR	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Smart specialisation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 1.84 million	EUR 1.67 million	x	PA Innovation

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/smart-blue-regions-5.html	www.smartblueregions.eu

Lead partner (country)	Countries involved
Ministry of Economic Affairs, Transport, Employment, Technology and Tourism Schleswig-Holstein (Germany)	DE, EE, FI, LV, PL, SE

Project summary

Teaser

Smart Blue Regions helped public authorities review and improve their research and innovation strategies for smart specialisation to trigger sustainable blue growth in the marine and maritime sectors.

The challenge

Research and innovation strategies for smart specialisation (RIS3) are the EU policy instruments that support innovating the regions efficiently. However, regions often lack the know-how and prior experience to properly define, and later implement, such strategies from an early stage on. At the same time, there is a strong need and growing potential for using these strategies to stimulate blue growth in the Baltic Sea region, especially in emerging sectors of life science, blue medicine, energy and machinery & technology.

In Smart Blue Regions, six regions in Estonia, Finland, Germany, Latvia, Poland and Sweden worked together to exploit the existing opportunities and improve their RIS3 by developing solutions that best fit their needs. These are based on e.g. integrating good practice cases from other regions and developing policy measures that support blue growth.

DE	EE	FI	LV	PL	SE
					

Final Project Conclusions

Smart Blue Regions

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

The partner regions – Southwest Finland, Pomorskie, Skåne, Ida-Viru, Schleswig-Holstein and Riga regions – reviewed and shared experiences on the implementation of their blue growth research and innovation smart specialisation strategies (Blue RIS3). Next, they developed solutions for the identified bottlenecks in their RIS3, e.g. lack of cooperation with companies and regional planners or a weaker role of regional cluster and unstable financing for them and other intermediaries. As a result, for example, Pomorskie updated their Regional Strategic Programme introducing an entrepreneurial discovery process to manage regional clusters – a good practice from Schleswig-Holstein. Southwest Finland created an internal plan for their Blue RIS3 implementation with a focus on responsibility, collaborative skills, accessibility and resource wisdom. The project developed a monitoring and review system for evaluating Blue RIS3. Schleswig-Holstein (SH) tested this system by comparing needs and developments of blue growth sectors with the aims and priorities included in the RIS3 and its implementation programmes. This way, SH detected weaknesses as well as recommendations for an update in their Blue RIS3: e.g. to use RIS3 as a strategic tool for innovation policy and to focus more on cross-innovations, scenarios and visions.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Functional review of selection, adaption and uptake of new policy measures supporting Blue Growth

The report analyses six regional blue growth research and innovation smart specialisation strategies (Blue RIS3) in Estonia, Finland, Germany, Latvia, Poland and Sweden. It explains common bottlenecks faced by the regions when developing and implementing RIS3, such as getting industry partners engaged in designing and implementing changes in regional strategies as well as conducting the evaluation and impact assessment of the results. The partners included measures to overcome these challenges, e.g. cluster-type initiatives, platforms for connecting business and technology, adequate state funding, internationalisation of complex projects. The report is of interest to regional and national administrations looking for inspirations on how to improve the implementation of their Blue RIS3.

Link: https://projects.interreg-baltic.eu/projects/smart-blue-regions-5.html#output-41

Monitoring and Review System for Evaluating, Monitoring and Benchmarking Blue Growth

This system supports regional and national administrations in monitoring and assessing their research and innovation smart specialisation strategies (RIS3) in the topic of blue growth. This review process compares real characteristics, needs and developments of the blue growth sector with the aims and priorities included in the RIS3 and its implementation programmes. This system includes eight modules that can be combined in a flexible way, depending on the regional needs and opportunities. Four modules analyse the content of the current RIS3 and ERDF operational programmes. The other four modules analyse the blue growth sectors important in the region. All in

all, this system allows answering if the RIS3 fosters the development of the blue growth sectors in the region.

Link: https://projects.interreg-baltic.eu/projects/smart-blue-regions-5.html#output-42

Baltic Sea Region wide study identifying Blue Growth cooperation opportunities

The study guides blue growth public and private actors interested in developing a cooperation project in the Baltic Sea region. It presents blue growth focus areas, actors and resources based on the analysis of blue RIS3 of six partner regions from DE, EE, FI, LV, PL, and SE. Three common focus areas were identified as machinery & technology, energy and life science & blue medicine. The study analysed the following blue growth actors: business support organisations, higher education institutions and research institutes. Thematic ideas for cooperation resulted in such topics as shipping, offshore wind energy, blue biotechnology, health tourism, lack of skilled workers.

Link: https://projects.interreg-baltic.eu/projects/smart-blue-regions-5.html#output-43

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The partners studied possible transnational cooperation opportunities, especially in the topics of shipbuilding and education in the field of shipping, offshore wind energy, internationalisation of maritime clusters and coastal tourism. They developed eight project ideas involving public authorities, private enterprises, universities and research organisations. They continue working on them, after the project ends, through the Submariner Network too.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The project was implemented under the umbrella of the SUBMARINER Network. It coordinated its activities, where possible, with other projects like Interreg BSR ALLIANCE and Baltic Blue Growth. It is planned that the project results will feed into the BSR S3 Ecosystem – an Interreg BSR project platform on smart specialisation.

Final Project Conclusions

SWW

Project title	Project duration
Smart and Safe Work Wear Clothing	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Non-technological innovation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.44 million	EUR 2.19 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/sww-1.html	www.centria.fi/SWW

Lead partner (country)	Countries involved
Centria University of Applied Sciences Ltd (Finland)	EE, FI, LV, LT, PL

Project summary

Teaser

The Interreg project SWW showcased enterprises manufacturing work wear in the Baltic Sea region how to introduce mass customisation and integrate IT technology into clothing, and by this to increase their competitiveness against new producers and cheap imports from Asian markets.

The opportunity

Increasing imports from Asian markets

The clothing industry in the EU have been struggling with cheap imports from Asian markets. Already in 2013, the value of imported clothes was almost twice as high as for clothes produced in the EU. Companies in the Baltic Sea region experience a similar challenge: outsourcing and merchandising is increasing whereas domestic production is decreasing.

Finding a niche as a panacea

By finding a niche for ergonomically designed, functional smart clothing and safe products, companies manufacturing work wear can successfully develop their businesses across the Baltic Sea region. Companies in Latvia and Finland already have specific know-how in smart textiles and their application, whereas companies in Estonia, Latvia, Lithuania and Poland are the main producers in the Baltic Sea region. Closer cooperation between research and small and medium sized enterprises (SMEs) can help meet essential needs of the industry, and open way for new solutions, increasing the competitiveness of companies in the Baltic Sea region.

EE	FI	LT	LV	PL	SE
					

Final Project Conclusions

SWW

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Smarter work wear garments created

The project conducted interviews and 3D body scans of 547 work wear users in Estonia, Finland, Lithuania, Latvia and Poland to create new measure tables that any company manufacture garments can freely use now. The collected data, designed 2D patterns and virtual 3D fitting, enabled the project partners to develop five customised prototypes of work wear garments for construction works, chemical industry, military forces (marines and regular army), and firefighters. They incorporated smart fabrics, for example, to repel insects, and electronic devices that enable to track the location of a person wearing the work wear in emergency situations, communicate remotely or monitor the firefighters' physiological parameters.

First companies profiting from cooperation with researchers

Each prototype was developed jointly by a company and a research institute. The cooperation strengthened the position of 11 companies from Estonia, Finland, Latvia, Lithuania and Poland to compete more effectively against imports from Asian markets. By using 3D body scanning, digital pattern making, virtual fitting, and introducing smart functionality to work wear, the companies can save time and money when developing new products, and increase the quality and functionality of new work wear produced.

More competitive work wear market

Thanks to EUR 2 million of support from the European Union, the Interreg project SWW paved the way for enterprises manufacturing work wear around the Baltic sea to bring a competitive edge over Asian cheaper imports and new producers.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

The database of 3D body scanning measurements

This report presents an extended analysis of interviews and 3D body scanning data collected from 547 workers in the military services, chemical and construction industry in Estonia, Finland, Latvia and Poland. The report is a useful source of information for small and medium sized enterprises on how to innovate their production lines and to manufacture more tailored and customised work wear. The complementary visualisation summarises the size and measurement tables for the garment manufacturers and supports in choosing the right garment.

Link: https://projects.interreg-baltic.eu/projects/sww-1.html#output-1

New prototypes of the smart work wear

This report presents testing results and an extensive analysis of smart fabrics, as well as integration and safety sensors and electronics into workwear. It presents solutions for a better protection of workwear users from e.g. hazardous environments or difficult climate conditions. It gathers the results of laboratory tests on materials chosen for prototype manufacturing; technological solutions

for incorporation of various sensors into work wear; performance of various sensors and prototype clothing. The results were used while finalizing the design of the prototype solutions and can be used by any work wear manufacturer seeking new materials or smart solutions.

Link: https://projects.interreg-baltic.eu/projects/sww-1.html#output-2

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The industry and research partners will keep using the prototypes developed in the project, and further develop them. The industry partners are still working with the researchers from the project and developing further their products. These SMEs will transfer the improvements introduced into prototypes to new clothing in the future.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

One of the Finnish partner SMEs (Oy PD-Service Ltd) dropped out from the project, due to bankruptcy. The tasks of this partner were shared between the Lead Partner (Centria University of Applied Sciences) and a new partner (Ruuvi Innovations Ltd), which joined the partnership as a replacement. Although the drop-out took place quite late (in the last year of the project implementation), it did not have a negative impact on the project implementation.

Final Project Conclusions

EcoDesign Circle

Project title	Project duration
Ecodesign as Driver of Innovation in the BSR	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Non-technological innovation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.18 million	EUR 2.01 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/ecodesign-circle-6.html	www.ecodesigncircle.de

Lead partner (country)	Countries involved
German Environment Agency (Germany)	EE, FI, DE, PL, SE

Project summary

Teaser

The project Ecodesign Circle successfully introduced ecodesign thinking and acting to design centres and numerous design companies in five countries around the Baltic Sea, as well as to the Bureau of European Design Associations - a strong move towards a circular economy in Europe.

The opportunity

Eco-design is design for a circular economy

Eco-design is one way to move our societies towards a circular economy. An eco-designed product is designed in a way that it lasts long, can be easily repaired and at the end of its life, it can be rapidly disassembled and its materials can be managed through existing recycling systems without leaving behind harmful waste. Eco-design items of today are by and large non-technological, often mass products for everyday life, e.g. plates, pillows, clothes or benches.

Eco-design knowledge needs to be translated into business reality

Until recently, eco-design was only sparsely applied. Small and medium sized enterprises are focused on traditional linear business models in which products are short-lived and materials are typically discarded as waste. However, know-how concerning the environmental impact of products, how to assess the impact and how to reduce it is available. The challenge is to translate environmental science into business reality.

Professional networks for design can make the difference

Design centres from five countries around the Baltic Sea got together with environmental scientists to expand their eco-design expertise and to promote the use of eco-design among their national networks of design companies. Design centres are typically non-profit networks or associations for design professionals. Most design centres lacked the instruments to support their affiliate companies in eco designing innovative products. The design centres' primary aim was to introduce and expand the use of eco-design among designers and bring it into the core operations of companies.

Final Project Conclusions

EcoDesign Circle

DE	EE	FI	PL	SE
				

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Design Centers developed tools and broadened their offers

By collaborating with environmental scientists, the design centres of Germany, Sweden, Finland, Estonia and Poland gained in depth knowledge of eco-design. Together they conceptionalised a splendid travelling exhibition on ecodesign for major design events that reached more than 20.000 visitors in six countries. Together they compiled material for an online training platform, the sustainability guide, which is now publicly available. And together they coached selected companies in identifying their opportunities in circular economy. Some of the design centres – e.g. in Estonia and Finland – established services developed in the Ecodesign Circle project as part of their regular offer and secured national funding to continue promoting eco-design.

Small and medium sized companies were propelled towards sustainability

Ecodesign Circle involved 26 selected companies from Estonia, Finland, Lithuania and Sweden to test the newly developed business development tools of eco-design audit and eco-design sprint. The companies ranged from manufacturers of leather bags, of bedding, and of outdoor travel equipment, to developers of packaging solutions and of outdoor furniture to a construction company. In the audit and sprint processes, international teams assessed the ongoing businesses, trained the companies in eco-design thinking based on the jointly compiled sustainability guide, delivered consultancy, guided the design of prototypes and helped the companies pilot new business concepts. The SMEs thus pro-actively explored the possibilities and business models of the circular economy. Five companies invested in total some EUR 300.000 into a transition towards circular economy, namely into creating the position of a sustainability manager, into exchanging materials and the location of production, into changing towards a renewable energy source, into prototyping and even into developing new, circular services.

Eco-design anchored among designers on the European level

Ecodesign Circle reached beyond the countries involved as it anchored eco-design in the Bureau of European Design Associations (BEDA). BEDA is a Brussels based non-profit organisation that represents designers from industrial design and interiors to digital design. Due to the Ecodesign Circle project, BEDA has embraced eco-design as a new thematic cluster, i.e. a transnational network designated to bundle knowhow and competences in the field of eco-design. Via the BEDA network, the Ecodesign Circle results can spread across Europe.

Final Project Conclusions

EcoDesign Circle

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Sustainability Guide for (eco-)design

The Sustainability Guide is a website where companies, designers and lecturers at universities and art schools can find knowledge, tools and inspiration on how to work more sustainably in product and process design. The new website presents a wealth of eco-design related materials including business models for circular economy, principles of eco-design and cases of companies that have come far in applying eco-design in their work. You can find explanations of key design concepts such as design for longevity, practical check lists for product development, a series of explanatory videos and links to available information sources, e.g. on how to choose green materials. Designers in SMEs or others involved in product development can find out what it means to work in a circular instead of linear way.

Link: https://projects.interreg-baltic.eu/projects/ecodesign-circle-6.html#output-37

Exhibition catalogue: "Reconsider Design"

The travelling exhibition "rECOnsider design" covered 30 eco-designed products available on the market in 2017. The products were arranged in four categories, namely "Learning - playing", "Enabling moving", "consuming – eating" , and "Dressing – wearing".

The exhibition was put together by the International design Center Berlin and the German Environment Agency with support of design centres in Poland, Estonia, Finland and Sweden to raise awareness of eco-design among design professionals. The exhibition made visitors reflect about their daily habits in order to reduce their negative impacts on the environment without sacrificing the quality of the products. Between 2017 and 2019, the exhibition attracted some 20.000 visitors when it was displayed at the annual Gdynia Design Forum (Poland), the Arctic Design Week in Rovaniemi (Finland), the European Energy Forum campus in Berlin (Germany), as well as in Kaunas (Lithuania), Tallinn (Estonia), and Borås (Sweden).

The exhibition itself was entirely dismantled after its use, but the exhibition catalogue is still available for download in English with text versions in several other languages (German, Lithuanian, Polish and Swedish).

Link: https://projects.interreg-baltic.eu/projects/ecodesign-circle-6.html#output-38

Ecodesign Audit

EcoDesign Audit is a diagnostic tool to integrate design thinking and circular economy requirements into an organisation's product and service development process, in particular for small and medium sized enterprises. It follows a defined procedure described in the EcoDesign Audit Manual. The EcoDesign Audit helps any organization to analyse its current design capacity, strategy, practices and product/service development approaches. The audit recommendations will help the organisation to establish the basis for moving forward with product, service and business development. Recommendations may be further developed and implemented with EcoDesign Sprint. EcoDesign Audit has been developed by the Estonian Design Centre in cooperation with the Sustainable Design Lab of the Estonian Academy of Arts.

Link: https://projects.interreg-baltic.eu/projects/ecodesign-circle-6.html#output-39

EcoDesign Sprint

EcoDesign Sprint is a training programme intended for SMEs and design agencies interested in the possibilities of circular economy. The primary goal of EcoDesign Sprint is to develop the business of SMEs and create more sustainable products and services for them. Another goal is to provide the participants with in-depth knowledge on the possibilities and business models of the circular economy. EcoDesign Sprint has been developed by the Design Forum Finland and is described in the booklet "Introduction to Ecodesign sprint."

Link: https://projects.interreg-baltic.eu/projects/ecodesign-circle-6.html#output-40

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The partners have applied successfully for an extension of the project in order to put more emphasis on service design (opposed to product design) and to roll out the eco-design offers further.

As a result of the project and the connected activities / outputs, Sprint is now offered as a portfolio activity by one partner in Finland. Also in the next years, it will provide practical support to SMEs and designers. Design Forum Finland has already and will involve further several project managers and external trainers that all gained capacity in the field of ecodesign / circular economy.

Likewise, although in Lithuania the eco-design topic is still new, the project introduced it with various workshops and events primarily to the members of Lithuanian Design Forum and its network. As these activities only started at a late stage of the project, there are still some potentials for additional activities beyond the project implementation.

As a result of EcoDesign Circle Enterprise Estonia awarded the Estonian Design Center a grant to work further with ecodesign in enterprises. The grant is meant to network and institutionalize services for eco-design in a circular economy (training, advice, audits, sprints).

Events like the Circular Design Forum are trying to set up follow-up events to the successful format which brought a large international crowd of designers, environmental scientist, entrepreneur and consumers together. Also the Gdynia Design Days will continue to host an eco-block and exhibitions with respect to environmental issues reaching out to the transnational network established by the project.

After establishing successful transnational cooperation, the networking in the field of eco-design is planned to be extended on the European level via the cluster "Ecodesign" at the Bureau of the European Design Associations.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- With many designers working in the project, the "style" of the representation of the project work and outputs was mostly impressive. At the same time, nearly all project partners and even

the experienced external project management (s.Pro) to our surprise were repeatedly struggling with presenting visibility of the Programme funding.

- The case of a struggling Lithuanian partner, who finally dropped out, kept the Lead Partner and its external PM busy. In the end, an external organisation was found to support in the implementation in LT.

Final Project Conclusions

SEMPRE

Project title	Project duration
Social Empowerment in Rural Areas	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Non-technological innovation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.86 million	EUR 4.39 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/sempre-14.html	www.sempre-project.eu

Lead partner (country)	Countries involved
Diaconie of Schleswig-Holstein (Germany)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

In the Interreg project SEMPRE, charity organisations, trainers and universities gave social services in disadvantaged rural areas of the Baltic Sea region a new role: to empower people in need instead of offering help - this brought happiness and hope to elderly people, migrants, single parents and other vulnerable groups.

The challenge

More people in need in the countryside
Many rural areas in the countries around the Baltic Sea have been losing inhabitants for years. Young and qualified people leave the villages because they find better job opportunities and living conditions in the cities. The ones who have less of a choice remain in the countryside: elderly people, people with disabilities, migrants, single parents. These people are at risk of poverty and durable social exclusion.

Welfare organisations need to learn how to help with less resources
Social service providers could take care of such vulnerable groups, but they, too, suffer from ever smaller budgets and work force. Social services by their nature aim to build stronger communities and to promote equality and opportunity. They are typically provided by welfare and public sector organisations, NGOs or social enterprises. In the changing settings in our rural areas, social service providers need to find new ways of supporting their clients – they need service innovation. And one new approach is empowerment.

Empowering disadvantaged people to help themselves
Empowerment means that social service providers involve those belonging to vulnerable groups into designing the services they need and ideally into providing those services to each other. Social service providers who use empowerment methods rather connect people who can help each other instead of providing help themselves. Social service providers in some countries (e.g. in northern Germany) had been experimenting with for a while. With SEMPRE they wanted to expand the method to partner organisations in various countries around the Baltic Sea.ce innovation.

Final Project Conclusions

SEMPRE

DE	DK	EE	FI	LT	LV	PL	SE
							

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

The SEMPRE project brought together charity organisations with trainers for organisational development and with universities – altogether from eight countries - to test empowerment approaches in the local context and to learn from each other.

Local networks to bring empowerment to rural areas

The SEMPRE partners set up local empowerment networks of social service providers, public authorities, NGOs and local organisations to test different empowerment tools and methods together, such as the theory of change, future workshops or the social business model canvas. Altogether, there are 13 such networks: in Denmark (Varde and Tønder), Estonia (Võrumaa and Põlvamaa), Finland (Ostrobothnia, Kokkoloa, Pieterssari), Germany (Dithmarschen, Nordfriesland, County of Plön), Latvia (Liepaja and Vidzeme), Lithuania (Pagegiai and Jurbakas), and Sweden (Boden, Luleå and Övertorneå).

Micro projects to develop services

One of the tools tested in the local networks are so-called micro projects, i.e. small-scale initiatives at the local level that aim to improve the living situations of members of disadvantaged groups. Within the project lifetime some 35 creative and very diverse micro-projects were initiated and captured in a video and a brochure. And most of them continue in one way or the other. The local empowerment networks played a vital role for successful micro projects. They helped those who initiated micro project to learn, to explore, and to communicate with stakeholders and service providers, thus stretching their own network contacts and competences.

Five of the micro-projects have already been registered, some as cooperative ("AllDi" – a network of single Parents in Dithmarschen, Germany, and the "Tailor Cooperative" in Luleå, Sweden, which combines work integration of migrants with producing sustainable textiles); one as a social enterprise (the coffee shop "Stop over" in Liepa, Latvia), some as NGOs (the "Afghan Association" in Kokkola, Finland, that promotes social collaboration and "Roku Roka - Hand in Hand" in Latvia which trains assistants to people with disabilities).

Many services continue

Eight micro-projects resulted in new social services taken up by social service providers in their regular service portfolios. For example, in "Guests at School" senior adults in Finland visit secondary schools and share their expert knowledge with students. In Lithuania, Jurbarkas District Municipality set up a regular family afternoon at which a business plan for the establishment of a multifunctional social service centre was thought up. In Estonia, inhabitants of the small village Harkujärve turned an empty church building into a vibrant community centre with the support of the local church and an NGO. The Municipality of Varde (Denmark) set up a parents' nights for refugee parents at which the

school gets a good insight in what parents with refugee background struggle with in relation to their children's schooling. Thirteen other new services continue as informal initiatives or under the coordination of an established social service provider after the project.

From micro projects to established social start-ups

In the follow-up project SEMPRE ACCELERATOR, additional support mechanisms are going to be applied to accelerate the growth and development of the most promising micro projects developed within SEMPRE and turn them into self-sustaining social start-ups that offer services and/or products on local and regional markets of the Baltic Sea region. Overall, the SEMPRE project let a smart idea, i.e. empowerment in social services, become common practice in numerous organisations in rural areas of the Baltic Sea region.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Empowerment Handbook

The Empowerment Handbook is made for social service providers who would like to develop new or improve existing social services with the active involvement of service end-users. It can guide social service providers in the practical application of empowerment methods. It describes when and how particular empowerment tools can be used, and it provides practical examples of working with vulnerable groups in rural areas which were tested within the SEMPRE project.

Link: https://projects.interreg-baltic.eu/projects/sempre-14.html#output-48

Guidebook for Empowerment Training

This Guidebook for Empowerment Training is about building the empowerment competence of social service providers and covers different countries and contexts. It contains knowledge and experiences gained during practical pilots in countries around the Baltic Sea as well as numerous tips and guidance how to practice empowerment through action learning. The document provides concrete recommendations and tools to develop training modules that will lead to a change, development or improvement in the practice of social service delivery.

Link: https://projects.interreg-baltic.eu/projects/sempre-14.html#output-49

Organisational Roadmap

This Organisational Roadmap is meant to inspire and guide leaders of social service providers – public, private or third sector actors – to rethink their role in the social economy and to strengthen the involvement of service end-users in the work of their organisations. In the focus of the roadmap are co-creation principles in service development and design.

Link: https://projects.interreg-baltic.eu/projects/sempre-14.html#output-50

Brochure: Co-creating Social Services. A compilation of 26 service user driven micro projects in the Baltic Sea Region

One of the core objective of the SEMPRE project was to involve service users in the design and implementation of new social services that respond to the needs of disadvantaged people living in rural areas. To this end the partners applied empowerment tools to initiate co-creation processes in

their regions. These processes led to development of 35 locally based micro projects. Out of those, 26 micro projects as well as the empowerment tools that were used to develop and support them are presented in the brochure Co-creating Social Services. All the micro projects serve as an inspiration for social service providers, public authorities, NGOs and service user groups throughout the Baltic Sea region when starting their own co-creation processes.

Link: https://projects.interreg-baltic.eu/projects/sempre-14.html#output-51

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

26 out of 35 initiated micro projects continued their activities after the project end. There were at least 3 successful applications for LEADER or national funding to continue the micro projects (e.g. development of social service center for parents and children based on a business plan prepared in

a micro project in Lithuania, national grant (STEA) for the operation of the Afghan Association in Kokkola). In addition, some micro projectsinitiated cooperation within each other (e.g. Tailor cooperative, Liepa Coffee shop and Alldi).

The following project partners: Academy of Economics Schleswig-Holstein, Novia University of Applied Sciences, University of Jyväskylä Kokkola University Consortium Chydenius, University College South Denmark and Vidzeme University of Applied Sciences – as educational institutions, are going to include the Empowerment Handbook and the training guidelines in their study curricula and courses to contribute to the education of future social workers as well as to capacity building of social service providers.

Final Project Conclusions

CM

Project title	Project duration
Cross Motion	March 2016 - February 2019

Priority	Specific objective
Capacity for innovation	Non-technological innovation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.93 million	EUR 2.5 million	x	PA Culture

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/cm-18.html	www.crossmotion.org

Lead partner (country)	Countries involved
Tallinn University (Estonia)	DK, EE, FI, DE, LV, LT, NO, SE

Project summary

Teaser

The Interreg project CM helped audio-visual and videogame industry boost their businesses and enter new markets by teaming them up with traditional sectors of education, tourism and healthcare, and innovating their products with audio-visual content.

The opportunity

Cross-innovation as a profit booster

Videogames and audio-visual businesses are strong drivers of innovation in the Baltic Sea region, and can successfully serve other sectors, such as healthcare, tourism and education. Such innovative symbiosis can lead to the emergence of start-ups, opening new markets and generating new revenue streams for existing digital audio-visual industry. At the same time, owners of small and medium sized enterprises in the healthcare, tourism and education sectors can use audio-visual and interactive techniques, participatory and multiplatform storytelling and gamification as cost-effective and socially valuable solutions that innovate their businesses.

A big chance for win-win situation

Despite the evident potential to fill up the market niche, there is no framework that facilitates cooperation across sectors in an efficient manner. Additionally, these sectors are not proportionally developed in the Baltic Sea region. For example, an advanced public e-health system in Estonia that could use gamified applications would need developers from Germany, Sweden or Finland, internationally known as videogames industries strongholds.

Although video-based learning is becoming more popular, digital textbook developers, audio-visual heritage institutions and film producers do not cooperate enough to bring benefits to educational systems and to offer new opportunities for audio-visual and gaming industries. Similarly, location-based tourism applications could be very useful provided that audio-visual and gaming industry work close with the tourism sector.

Final Project Conclusions

CM

DE	DK	EE	FI	LT	LV	NO	SE
							

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Cooperation that helps cross-innovate

Through their engaging events, the Interreg project CM has reached more than 500 enterprises in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway and Sweden from audio-visual and gaming industries as well as tourism, healthcare and education sectors, to introduce them to the benefits of cross-innovation.

Several hackathons enabled programmers, graphic designers and project managers to meet experts from the tourism, healthcare and education sectors and understand their needs better. New market possibilities were picked up by the audio-visual and gaming industry, which teamed up with selected enterprises and developed prototypes of, for example, audio-visual gamified e-learning, gamified screen tourism applications, transmedia games that encourage healthy lifestyles or can be used in, for example, physiotherapy.

20 practical examples of cross-sectoral innovation

All in all, 20 prototypes of digital products (https://www.crossmotion.org/prototypes/) were developed in the project framework, showcasing the cross-sectoral cooperation in practice. VR Clinic, one of the prototypes, went to test phase in Danish hospitals. The application enables medical students to train in a virtual reality environment before treating real patients. It simulates the physical examination of a patient, i.e. the students listen to the heart and lungs, check the pulse and blood samples.

The screen time assistant Hoopy protects kids from excessive screen time and keeps the balance between valuable and entertaining activities. Parents can control their children's screen time with it. The application is available for Android and iOS and marketed in Estonia since August 2018 by Finland's largest mobile phone operator.

Another prototype, Old Narva, is also available for iOS for download. It makes use of photo archives for touristic purposes: it offers an augmented reality experience where one can walk around the town square and see the virtually reconstructed facades on a smart phone screen. This app won a GLAMi Award at Museums & the Web 2019 in Boston.

Networking is the value

CM triggered cooperation within and across sectors by initiating several networks, for example a network of immersive reality XR industry, gamers community, research organisations and individuals

from Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway and Sweden. Another network, Start North, brings together young talents, enterprises, NGOs, cities, universities, incubators in order to co-create meaningful things and learn from each other.

Several groups operate on the LinkedIn platform, such as a screen tourism network or a cross-sector network for the digital visual industry and tourism sector, based on the networking event "Stories of the West Coast".

Thanks to EUR 2.06 million support from the European Union, the Interreg project CM brought together audio-visual and gaming enterprises, universities and business accelerators to work on digital products for healthcare, tourism and education. In this way, Interreg helped increase competitiveness of the Baltic Sea region audio-visual and gaming industry and pushed healthcare, tourism and education towards applying innovative solutions.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Emergence of Cross-innovation Systems: Audiovisual Industries Co-innovating with Education, Health Care and Tourism

This report presents an in-depth analysis of cross-innovation, its possibilities and challenges. The policy makers, academic institutions, companies, in particular in the education, health care and tourism sectors can learn about cross-innovation opportunities and the empirical research that improves the collaboration between audio-visual industries and these three sectors. It is also an invaluable read for other companies or researchers interested in the cooperation with the audio-visual industry.

Link: https://projects.interreg-baltic.eu/projects/cm-18.html#output-92

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

Some of the prototypes of the project will be further developed, for example the Old Narva prototype, facades on a smart phone screen.

Besides, local policy makers from the countries involved in the project, for example the City of Malmö Municipality (Sweden), encourage future cross-innovative collaborations between different sectors and promote the benefits of such a cooperation, not only to SMEs, but also to the local businesses and authority.

Final Project Conclusions

NonHazCity

Project title	Project duration
Innovative management solutions for minimizing emissions of hazardous substances from urban areas in the Baltic Sea Region	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.54 million	EUR 3.32 million	x	PA Hazards

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/nonhazcity-7.html	www.nonhazcity.eu

Lead partner (country)	Countries involved
Municipality of Stockholm (Sweden)	EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The Interreg project NonHazCity enabled nine municipalities around the Baltic Sea to develop their chemical action plans for hazardous substances entering the Baltic Sea, and trained dozens of small businesses and households to reduce their emissions.

The challenge

Small scale emitters with big impact

Industrial wastewaters, municipal sewage and stormwater are the source of hazardous substances and pollutants entering the Baltic Sea waters. Although emissions from industrial sources are formally regulated, emissions coming from small-scale businesses or households usually are not. However, in cases of substances like phthalates, bisphenol A, alkylphenols and PFAS smaller sources account for 50% of emissions in the region.

So far, the exact emitters have been not identified because of low concentrations of the substances of concern. They have not been addressed either due to the high number of emitters. Consequently, people running small-scale businesses or households have little knowledge of which chemical products to select and which to avoid in order to protect both their own health and the environment.

Lacking tools to tackle emissions from small-scale emitters

Another challenge is related to the municipal wastewater treatment facilities, which are unable to effectively treat the pollution coming from small-scale businesses and households. People responsible for wastewater management in municipalities need to learn about new techniques to reduce emissions of hazardous substances and other pollutants that cannot be reached by traditional water treatment and enforcement techniques.

DE	EE	FI	LT	LV	PL	SE
						

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Final Project Conclusions

NonHazCity

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Chemical plans in action

Based on scientific studies showing frequent occurrence of phthalates, bisphenol A, alkylphenols and PFAS in wastewater, sewage sludge and stormwater, the project encouraged nine municipalities in Estonia, Finland, Germany, Latvia, Lithuania and Poland to develop their own chemical plans. This way representatives of municipalities and wastewater treatment plants, owners of local businesses and inhabitants received a practical set of tools to reduce emissions.

In Gdansk (Poland) and Riga (Latvia), the chemical action plans became standalone strategies, whereas the Riga City Council has introduced a new full-time staff position of chemical coordinator to monitor the implementation of its plan.

Kaunas district and Šilalė (Lithuania) incorporated their new chemical action plans into existing municipal development plans. Kaunas district municipality is now prepared to train its employees on procuring products that do not contain hazardous substances.

Pärnu (Estonia) adds its chemical action plan to its city waste plan and is running a campaign among residents and small businesses to educate them on hazardous substances in plastic food containers and household appliances.

The chemical action plan of Turku (Finland) was added to the existing Baltic Sea Challenge Action Plan, which covers Helsinki as well as Turku. Finally, Stockholm and Västerås (Sweden) updated their existing chemical action plans as a result of the project.

The project partners reached 200 additional municipalities to teach them about reducing the amounts of hazardous substances entering the wastewater, sewage sludge and stormwater.

Small businesses can make a big difference

The project has improved knowledge on the potential for hazardous substance reduction in businesses. Owners of 40 companies received tailor-made advice on how to improve their handling of hazardous substances. This included, for example, an end-of-life vehicle management company in Turku, private kindergartens in Riga, and an IT company in Gdansk. In addition, 340 companies and business associations and chambers of commerce attended training courses and more than 3,500 received information from the project. Among these were hotels, hairdressers, cleaning services, car repair workshops, laundry services, the construction and woodworking industry, healthcare services, and, in general, offices.

The home project

50 private households in ten municipalities in Poland, Germany, Estonia, Latvia, Sweden, Lithuania and Belarus were checked on hazardous substances, for example in cleaning agents, toiletries, kitchenware and toys. The households received information about the products in their home and advice on how to reduce the amount of hazardous substances used. During a second home visit, the households showed what changes they had made as a result, for example they had exchanged kitchenware such as non-stick pans and plastic food containers as well as reduced the number of

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detergents. Volunteer households in Gdansk provided urine samples before and after these behavioural changes: after avoiding certain plastic products, there was a decrease in concentrations of bisphenol A, phthalates and nonylphenol. The participants claim to reported an increase in awareness and confidence about hazardous substances after taking part in the household check.

Less hazardous substances in the future

With EUR 2.8 million support from the European Union, the Interreg project NonHazCity has increased knowledge and pushed for real actions towards reducing hazardous substances in local municipal administrations, businesses and households. In its follow-up project, NonHazCity 2, the project partners, among other things, will monitor the municipalities' implementation of their chemical action plans and further train public authorities in chemicals-smart procurement.

The project's success in tackling the challenge that goes beyond borders was already replicated by two municipalities in Belarus, Ivyje and Vilejka, thanks to Swedish funding. Now, two Russian organisations are also getting involved in NonHazCity 2 in order to transfer good practice to the municipality of St. Petersburg.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Report on SMEs' potential to reduce hazardous substances

Drawing on the behaviour of over 30 businesses like hair salons, car repair shops, cleaning services, hotels and offices in Estonia, Finland, Germany, Latvia, Lithuania, Sweden, the publication 'Hazardous substance reduction potential at local businesses' analysed how companies manage chemical risk. It highlighted opportunities for them to replace or reduce the hazardous substances used in their workspaces that are harmful to employees' health. The report recommends actions for municipalities, businesses and societies: for example, municipalities can apply chemicals-smart procurement rules as a powerful tool to influence suppliers into paying more attention to non-hazardous alternatives.

Link: https://projects.interreg-baltic.eu/projects/nonhazcity-7.html#output-14

Municipal chemical action plans

Nine municipalities in Estonia, Finland, Poland, Latvia and Lithuania developed chemical action plans that included some 100 concrete actions to reduce hazardous substances. These built on Stockholm's existing plan as a template. They developed these plans with the help of organisations working on the national level in their respective countries. These actions are to be used by the municipal organisation, such as training the staff responsible for purchasing in educational, medical and social care institutions and the staff responsible for procurement in renovation, construction and cleaning. In addition to internal changes in the administrative body, actions also involve targeting enterprises in the local area in certain sectors and information campaigns to local residents. They serve as a basis for other municipalities in the Baltic Sea region to develop their own chemical action plans.

Link: https://projects.interreg-baltic.eu/projects/nonhazcity-7.html#output-15

Final Project Conclusions

NonHazCity

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The project was selected for an extension stage project NonHazCity 2, co-financed by Interreg Baltic Sea Region. NonHazCity gained two Russian organisations in St. Petersburg as partners for the extension stage project.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

One associated organisation from Belarus (NGO Ecopartnership) was involved in all but one work package with financing from the Swedish Institute. Activities took place in two pilot municipalities (Ivije and Viyeka), including benchmarking and awareness raising among municipal stakeholders and inhabitants.

Final Project Conclusions

WAMBAF

Project title	Project duration
Water Management in Baltic Forests	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.93 million	EUR 2.53 million	x	PA Bioeconomy

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/wambaf-9.html	www.skogsstyrelsen.se/en/wambaf/

Lead partner (country)	Countries involved
Swedish Forest Agency (Sweden)	FI, LV, LT, PL, SE

Project summary

Teaser

The project WAMBAF provided tools for authorities and planners, forest enterprises, hunters and forest owners to better manage drainage systems, riparian forests and beaver activity in forests, and in doing so to keep clean waters flowing from forests to the Baltic Sea.

The challenge

Harmful dispatch from forests

Forests cover 48% of the Baltic Sea catchment and are accountable for about 19% of the total nitrogen and 16% of the phosphorus load to the sea, according to Baltic Marine Environment Protection Commission (HELCOM). Forest streams and rivers take nutrients and hazardous substances, such as methyl mercury, directly to the regional and coastal waters. In this way, they add to the eutrophication and pollution of the Baltic Sea water and decrease of biodiversity.

Missing coordination across the region

The main drivers of change in the inflow of nutrients and hazardous substances is better maintenance of forest drainage systems, management of riparian forests, and distribution of beaver dams. To date, however, authorities responsible for the forestry in the countries around the Baltic Sea have applied various, often barely cost-effective water protection practices without coordinating the efforts with the neighbouring countries. With better knowledge and efficient tools in place, the authorities, as well as forest enterprises, forest owners and hunters could more effectively plan operations in riparian forests, decide which drainage systems to keep and assess which beaver dams have the best capacity to decrease the amounts of nutrients and hazardous substances in waters.

FI	LT	LV	PL	SE
				

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Final Project Conclusions

WAMBAF

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

New tools for managing forests

National forest and environment ministries and agencies in Lithuania and Sweden, the state-owned forest enterprise that manages one-third of Finland's land area, and forest institutes in these countries as well as in Latvia and Poland pooled their expertise and experience in the project WAMBAF in order to jointly develop a mobile app tool for maintaining forest drainage systems, a planning tool for riparian forest buffers, and a decision support tool for beaver dams.

Over 620 representatives from private and state-owned forest enterprises, forest owners, hunters, and authorities attended training courses to test them directly in the forest and provide feedback on their usability. Over two-thirds of the participants said that these tools would be useful to them in their daily forestry work. These tools can help users balance the various forest management goals, such as producing timber while safeguarding water quality.

Demonstration areas

The project set up physical demonstration areas where private and state-owned forest enterprises, forest owners and authorities witnessed good practices in forest water management. These eleven demonstration areas were located in Vengasoja, Finland; Jaunkalsnava, Latvia; Plateliai and Kretinga, Lithuania; Sokolak, Strazalowo (two areas) and Żednia, Poland; and Kungsberget, Tobo, Torringen, and the Helgeå watershed, Sweden.

The area in Sokolak, Poland, for example, demonstrated that it is possible to retain drainage water from agricultural areas in mid-forest ponds and assessed the effects of this solution on trees and groundwater quality around the reservoir.

The biggest forest enterprise in Sweden, Sveaskog, reached out to the Finnish state-owned forest enterprise Metsähallitus to arrange a visit to the demo area in Vengasoja to learn more about the results developed in WAMBAF.

Cleaner waters in forests

With EUR 2.28 million invested by the European Union, the Interreg project WAMBAF not only filled a knowledge gap of water management in forests by creating easy-to-use tools for authorities, planners, forest owners, forest managers and hunters, it introduced the tools to these intended users in 19 training courses around the Baltic Sea. Now the follow-up project WAMBAF Tool Box, puts these tools into practice by training more users to use them.

On the demo areas that were already established, Latvian forest managers, machine operators and contractors, and Estonian forest administrators, managers and operators are learning how to use the ditch management application. Lithuanian forest managers and hunters as well as relevant stakeholders from various countries in the region are training how to use the beaver tool, whereas Polish state forest managers are practising the blue targeting tool.

Final Project Conclusions

WAMBAF

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Ditch management tool

The ditch management tool is a mobile application developed to support taking inventory and management of ditches in forests. The app's intended users are forest owners, machine operators and entrepreneurs, and persons not educated in planning drainage works. It is especially aimed toward those who do not use GIS software in their everyday work.

The user, after loading the files containing topographic information based on LiDAR data or other measurements, acquires finished hydrological analysis output, which will be transferred directly to the mobile application. The application can help the user to find ditches in the field and also edit them outright on their device.

The application is multilingual and available for download for Android and iOS from Google Play and App Store.

Link: https://projects.interreg-baltic.eu/projects/wambaf-9.html#output-89

Blue targeting tool

The blue targeting tool is a forestry planning tool that helps forest owners and managers design a riparian forest buffer. The tool can be used to propose the right measure, at the right place, to the right extent, thereby protecting water quality and biodiversity.

While walking along a stream, users of the tool should look at the stream and at the surrounding forest. They should notice things like moisture of the ground, amount of dead wood, tree species, and amount of stones in the stream. They answer a number of questions in the provided form, which gives credits. The credits sum up to a total credit sum, which then provides a recommendation for how the forest should be managed in order to safeguard the values of the stream and the water quality.

This tool is available in English, Finnish, Latvian, Lithuanian, Polish and Russian.

Link: https://projects.interreg-baltic.eu/projects/wambaf-9.html#output-90

Beaver tool

The impacts of beavers and corresponding responses are complex, creating a need for standardised and objective assessment of the potentially beneficial or detrimental effects of beavers in the forest.

The beaver tool is a tool that supports decisions and for making assessments. It is designed for forest owners – private, enterprise, state or municipal – and forest managers – enterprise or government. It consists of a protocol where the forest owner or manager answers a number of questions concerning the beaver dam and its surroundings. The tool asks, for example, how the dam affects nearby forests, biodiversity, recreational values, cultural remains and water. As a decision support tool, it can be used to recommend to remove or keep a beaver dam, based on information on water quality, nature and economic values that are either gained or lost by removing or keeping the dam. As an assessment tool, it helps to identify and quantify water quality as well as nature and economic values of beaver systems.

Link: https://projects.interreg-baltic.eu/projects/wambaf-9.html#output-91

Final Project Conclusions

WAMBAF

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The project inspired two subsequent projects that were approved for funding:

- An extension stage project funded by Interreg Baltic Sea Region (WAMBAF Tool Box) that involves two RU partners. The project aims to scale up and adapt the tools developed in the regular project.
- IMPRESS, funded by Kolarctic programme, aims to adapt Barents forest management to future climate and economic conditions. The lead partner is WWF Russia, who cooperated closely with the regular project as an associated organisation.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The lead partner Swedish Forest Agency was highly competent in coordinating the partners and activities. At the same time, the driving force of the project was decentralised in a positive way: There seemed to be a strong sense of ownership from all the partners and almost all partners led an activity and/or work package. The diversity in expertise in the partnership was apparent in the way the partners actively contributed to and led discussions on certain topics.

Final Project Conclusions

IWAMA

Project title	Project duration
Interactive WAter MAnagement	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.62 million	EUR 4.53 million	x	PA Nutri

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/iwama-10.html	www.iwama.eu

Lead partner (country)	Countries involved
Union of the Baltic Cities, Sustainable Cities Commission c/o City of Turku (Finland)	EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The Interreg project IWAMA equipped waste water managers with new audit tools and a durable platform for life-long learning and exchange so that they can better protect our environment, in particular by optimising the energy use and sludge management of waste water treatment plants.

The opportunity

Municipal wastewater treatment plants (WWTPs) play an important role in water protection. Efficient and environmentally smart WWTP operations can positively influence the state of the sea and the climate. While purifying domestic and industrial wastewaters, WWTPs remove nutrients (in particular phosphorous and nitrogen) from the water. When returning to the water bodies, nutrients cause eutrophication, which is one of the biggest problems of the Baltic Sea. The Baltic Marine Environment Protection Commission HELCOM monitors the state of the Baltic Sea and frequently issues high level political recommendations that are to ensure a good environmental status of the sea.

The HELCOM recommendations concerning waste water are stricter than the requirements of the EU Urban WWT Directive, demanding lower nutrient concentrations for water leaving waste water treatment plants. That is why WWTPs in different part of the Baltic Sea region are applying different requirements. To be able to reach the HELCOM recommendations, most of the WWTPs still need to improve their nutrient removal methods. Complying with the HELCOM recommendations means also additional operational costs for the WWTPs. However, it is possible, at the same time as applying the HELCOM recommendations, to save costs by smart process optimisation and investments. In order to be able to do so, the owners and operators of waste water treatment plants need tools that they can apply in everyday management and access to information about available technologies and experience with their application.

Final Project Conclusions

IWAMA

DE	EE	FI	LT	LV	PL	SE
						

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

In the IWAMA project the Union of Baltic Cities teamed up with five research and training institutions, three national waterworks associations and eight operators of waste water treatment plants from five countries to provide tools and knowledge that operators need to improve the the efficiency of waste water management in the Baltic Sea region. They focused on three of the core areas of the municipal waste water treatment sector: energy management, sludge management and capacity development.

Modern technology for waste water treatment plants across the Baltic Sea region

The waste water treatment plants installed state of the art technologies to improve their waste water treatment. Several installations improve the nutrient removal, e.g. a nitrogen component control system in Daugavpils (Latvia), a combined anammox-constructed wetland pilot-plant in Gdańsk (Poland), as well as full-scale sludge humification beds in Türi and Oisu (Estonia) and a reject-water treatment system in Tartu (Estonia). Other installations improved the energy management, e.g. energy-efficient sludge drying in Jūrmala (Latvia), a control system for energy optimization in Kaunas (Lithuania) and a a full-scale advanced control system in Grevesmühlen (Germany). All of these pilot installations were documented and evaluated for other operators to learn from.

New tools for better self-monitoring of energy and sludge management

Universities developed two tools which operators of waste water treatment plants can use to audit and optimise their own energy and/or sludge management practices. Operators of twenty wastewater treatment plants tested the auditing tools, among them the plants in Kaunas (Lithuania), Daugavpils (Latvia), Gdansk (Poland), and Grevesmühlen (Germany). The energy audit tool was translated into eight languages and is included in a package of training materials for lifelong learning of professionals in waste water treatment.

Training and lifelong learning for waste water experts – in the Baltic Sea region and beyond

The project partners developed a package of training materials and organised workshops and webinars which attracted some 140 organisations. Furthermore, the Union of Baltic Cities set up an online portal that facilitates the international exchange of knowledge and expertise in water management: the Baltic Smart Water Hub. More than 60 professionals from academia, municipal administrations and private companies have contributed to developing the Hub. At the end of the project, the Smart Water Hub provided already more than 50 descriptions of good practices, technical solutions and tools on waste water management including experience gained in the IWAMA project, and more than 100 users from 10 countries were registered. Experts from outside Europe have already expressed interest in the common, transnational approach towards water

management in the Baltic Sea Region, namely from Vietnam, from Georgia and from the United States. With the support of the BSR Water platform the Smart Water Hub is developed further.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Baltic Smart Water Hub

The Baltic Smart Water Hub is a multifunctional international platform for sharing water expertise in the Baltic Sea Region which is meant to connect all those interested in water management, including waste water treatment. The Hub was designed to serve water companies and associations, local authorities, academia, clean-tech companies, and NGOs to improve their knowledge on water treatment and strengthen cooperation to optimise water treatment processes.

The Hub covers good practices, technical solutions and tools to optimize waste water treatment and other water related issues. It is open for users to submit their ideas and solutions and to promote their organisation´s expertise in water management in the region. The Hub was created by university and research institutions in cooperation with waste water treatment plants in Estonia, Finland, Germany, Latvia, Lithuania and Poland under the lead of the Union of Baltic Cities (UBC).

Link: https://projects.interreg-baltic.eu/projects/iwama-10.html#output-71

Audit tool for smart energy management

The smart energy management audit tool is Excel-based and can be used for the (self-)assessment of waste water treatment plants' energy management. The tool can be used to monitor the energy performance and to identify needs for improvements of the waste treatment process by waste water treatment plants, municipalities and regional authorities owning water companies, associations and environmental centers. The smart energy audit was developed by the universities and wastewater treatment plants from Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden. A guideline document is available.

Link: https://projects.interreg-baltic.eu/projects/iwama-10.html#output-72

Audit tool for smart sludge management

The smart sludge management audit tool is Excel-based and can be used for the (self-)assessment of waste water treatment plants' sludge handling. The tool can be used for monitoring of the sludge management and improvement of efficiency of waste water treatment processes by WWTPs, municipalities and regional authorities owning water companies, associations and environmental centers.

Universities and wastewater treatment plants in Estonia, Finland, Germany, Latvia, Poland and Sweden developed this audit concept for smart sludge management. The tool was tested in waste water treatment plants in Gdansk (Poland), Daugavpils (Latvia), Kaunas (Lithuania), Tartu (Estonia), Türi (Estonia) and Grevesmüheln (Germany). It is available in eight languages. A guideline document is available.

Link: https://projects.interreg-baltic.eu/projects/iwama-10.html#output-73

Final Project Conclusions

DAIMON

Project title	Project duration
Decision Aid for Marine Munitions	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.74 million	EUR 4.51 million	x	PA Hazards

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/daimon-22.html	www.daimonproject.com

Lead partner (country)	Countries involved
Institute of Oceanology Polish Academy of Sciences (Poland)	FI, DE, LT, NO, PL, SE

Project summary

Teaser

DAIMON equipped maritime, defence and environmental administrations in decision making tools that help deal with dumped chemical and conventional warfare in the Baltic Sea and the Skagerrak.

The challenge

Legacy at the bottom of the Baltic Sea

Some 50,000 tons of chemical munitions and 200,000 tons of conventional munitions were dumped into the Baltic Sea after World Wars I and II. So far, there have been no efforts to remove the dangerous legacy from the bottom of the Baltic Sea. However, the recently increasing construction of pipelines, cables and wind farms at sea as well as natural corrosion of dumped containers increase the risk of explosions near populated areas and of contamination of the environment.

Over the years, there was an ongoing discussion on how to assess and manage the environmental risk of dumped ammunition. Although the environmental effects of some of harmful substances, such as arsenic compounds, are well known, in other cases, the knowledge is insufficient to make proper risk assessments.

DE	FI	LT	NO	PL	SE
					

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Final Project Conclusions

DAIMON

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Impact assessment

DAIMON assessed the environmental impact and biological effects of chemical and conventional munitions dumped at the bottom of the Baltic Sea and Skagerrak that originate from the first and second World Wars, and brought in some practical tools how to manage them safely.

Research project partners performed several sea missions to analyse selected warfare objects, for example the chemical munition in Bornholm and Gdańsk Deep, conventional munition in German coastal waters and the Gulf of Finland, a wreck with chemical munition in the Skagerrak and Måseskär. They analysed samples of sea water, sediments and marine biota on concentrations of hazardous substances around selected munitions. The research proved that dumped munitions could be toxic to the environment due to the degradation and leakage from munition shells.

From knowledge to action

A guidance on how to assess ecological risks for marine organisms caused by dumped munitions and their toxic contents, chemical warfare agents or explosives, complemented by six management strategies served as a basis for developing the decision support system for risk categorisation and decision aid. This online tool supports environmental agencies, maritime administrations, the military, spatial planning and coastguards in handling dumped munitions. Using specific parameters entered into it, the software analyses and categorises risks, and suggests procedures to take, e.g. monitoring, accumulation, recovery or destruction.

The online tool developed jointly by the project is available to any authority across the Baltic Sea region. To facilitate its use, in the project follow-up called DAIMON 2, the partners will train respective authorities dealing with the management of marine space (maritime, environmental, fishery, military) and offshore economy stakeholders in integrating the tool into their regular work.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Decision Support System for marine munitions

The DAIMON online tool for risk categorisation and decision aid was developed by the Clausthal University of Technology (Germany) in cooperation with other DAIMON partners. It helps public institutions dealing with the management of marine space (maritime, environmental, fishery, military) and offshore economy stakeholders to handle munitions dumped into the Baltic Sea and Skagerrak. For each detected munition object, the software requires specific parameters, based on which it formulates risk analysis. It covers information about the localisation and an overall state of the ammunition, the surrounding environment and the state of biological pollution or damage. Furthermore, it recommends possible actions to take, such as recovery and destruction, accumulation, encapsulation, capping, blasting or non-action, including monitoring and costs thereof.

Link: https://projects.interreg-baltic.eu/projects/daimon-22.html#output-60

Final Project Conclusions

DAIMON

Catalogue of Baltic Sea dumped munitions' types

Polish Naval Academy in Gdynia in collaboration with other DAIMON partners created an online catalogue of all types of munitions resting on the bottom of the Baltic Sea. The catalogue allows registered users to manipulate objects in the catalogue (e.g. add new objects or edit existing ones). It helps representatives of maritime administrations to identify munition pieces found on the Baltic seafloor during economic activities (e.g. fishery, construction works, dredging, etc.). The catalogue allows for searching for munition objects, based on a weapon type, its calibre and country of origin.

Link: https://projects.interreg-baltic.eu/projects/daimon-22.html#output-61

Toolbox for the Assessment of Marine Munitions impact on biota / EcoTox Toolbox

The Thünen Institute (Germany) in collaboration with other project partners developed the EcoTox Toolbox. It enables environmental research and regulatory bodies to monitor and assess ecological threats posed by dumped marine munitions. It contains 1) a strategy how to analyse and assess the impact of dumped chemical and conventional munitions and associated hazardous substances on contamination and health status of exposed organisms and 2) a description of methods to be applied.

Link: https://projects.interreg-baltic.eu/projects/daimon-22.html#output-62

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The project was granted an extension stage (DAIMON 2) during which the partners will train authorities dealing with the management of marine space (maritime, environmental, fishery, military) and offshore economy stakeholders in using the DAIMON online tool for risk categorisation and decision aid.

JPI Oceans, an intergovernmental platform on marine and maritime research, has expressed their interest in extrapolating the risk categorisation matrix (RCM) developed by the project to other European seas. This would contribute to establishing a unified approach to risk assessment of munitions. A future policy oriented project run by JPI Oceans would verify the validity of RCM and EcoTox toolbox in the Mediterranean and North Seas, and bring it to attention of the European Commission for developing a standard risk assessment procedure for the EU.

Offshore companies expressed an interest in adopting the RCM and EcoTox toolbox. Common procedures for environmental impact assessment of new investments would reduce the lengthy discussions on transboundary impact. Therefore, the Institute of Oceanology Polish Academy of Sciences together with Regional Directorate for Environmental protection, Poland, agreed to develop the idea further, and possibly present it at the meeting of ESPOO convention.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- A well-managed project.
- Well covered by media, especially in Poland and Germany.

Final Project Conclusions

VillageWaters

Project title	Project duration
Water emissions and their reduction in village communities – villages in Baltic Sea Region as pilots	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.01 million	EUR 2.90 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/villagewaters-60.html	www.villagewaters.eu

Lead partner (country)	Countries involved
Natural Resources Institute Finland Luke (Finland)	EE, FI, LT, LV, PL

Project summary

Teaser

The Interreg project Village Waters produced comprehensive knowledge about technical solutions for cleaning waste water in the countryside and successfully made it available to municipal officials, home owners and companies so that they can improve the waste water treatment and comply with EU directives also where large waste water treatment facilities are missing.

The Challenge

Nutrient pollution from scattered dwellings has been underestimated

Waste water treatment in cities has been improved considerably over the past 30 years, while the countryside did not receive much attention. On the EU level, the Water Framework Directive from 2000 and the Urban Waste Water Treatment Directive from 1991 require that waste water from households is treated to remove nutrients before their release to the environment. The national implementation of these directives differs. In some countries, there is a legal obligation in place for all households to clean their waste water. In other countries such as Estonia, Latvia, Lithuania and Poland there is to date no legal obligation for nutrient removal from waste waters for small dwellings, e.g. of less than 2000 inhabitants. The Baltic Sea Environmental Protection Commission HELCOM noted that nutrient pollution from scattered dwellings has been underestimated.

People in rural areas need access to information to make sound decisions

It can be anticipated that in the next 5-10 years, the focus will shift from cities to villages, and that all countries will have to become more active to improve the waste water treatment also in the countryside. There is no lack of technical solutions for cleaning waste water on small scales. However, it has been difficult for small municipalities and home owners to select cleaning facilities that fit their local needs and are affordable because the information about such cleaning systems is scattered and usually not directly comparable.

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

VillageWaters

EE	FI	LT	LV	PL
				

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Life Cycle Assessments reveal all information needed

In the Village water project, researchers from Finland with support of scientists from Poland, Latvia, Lithuania, and Estonia collected comprehensive information about more than 100 different waste water treatment systems from manufacturers, studies and own experiments. They carried out in depth life cycle assessment for each of them. A life cycle assessment reveals not only the costs of purchase, installation and annual maintenance. It provides detailed information, about the cost-effectiveness in terms of removing nutrients, about the greenhouse gas emissions generated and many more relevant parameters.

Municipalities test cleaning solutions and pin down their information needs

Nine municipalities tested different technologies available in their respective local settings, from septic tanks to soil infiltration: in Kolgaküla and Valkla (Estonia), Gennarby and Nurmijärvi (Finland), Ainaži and Svētciems (Latvia), Leitgiriai (Lithuania), as well as in Krynica-Zdrój and Sokoly (Poland). The incoming waste water, the outgoing water and the sludge were analysed with respect to nutrients and bacteria they contain, i.e. how efficiently the solutions worked in practice. Their experience is compiled in a report. In each municipality, researchers and municipal officials held meetings with the village communities and collected input on which information they need.

Municipalities, home owners and trainers get access to information at a few clicks

All information about all technologies currently on the market was compiled in the interactive online Wastewater Solutions Information Tool. The tool now helps municipal staff who issue environmental permits, e.g. in Finland, to assess if certain solutions can be permitted or not. In addition, manufacturers of such solutions compare treatment systems and can easily identify how good their technologies are and at which stages of the life cycle they need to focus their product development to provide more efficient systems in the future. The tool is already used in vocational training for waste water managers in Finland. Within the project platform BSR Water, the tool is also integrated into the Smart Water Hub, on online platform for smart solutions and lifelong learning in water management.

Final Project Conclusions

VillageWaters

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Wastewater Solutions Information Tool

The tool is made for home owners and municipal representatives in rural areas who are looking for the right solution to clean their waste water locally. Furthermore, environmental authorities, NGOs, technology development companies and research institutes can make use of the information provided, e.g. by comparing different technologies.

The information is based on Life Cycle Assessments for more than 100 individual systems. The info tool also includes a "Connect and share" platform where the users can meet in an open discussion forum and receive advice regarding waste water treatments solutions in an expert answering service. The tool was developed by researchers from Finland and Estonia.

Link: https://projects.interreg-baltic.eu/projects/villagewaters-60.html#output-69

Guidelines for the best technical solutions and practices for wastewater treatment in scattered dwelling areas

These guidelines compile relevant information needed when trying to identify the best available wastewater treatment solution for a given place in the countryside around the Baltic Sea. The guidelines cover key aspects, e.g. how to select and procure a new technology, how to evaluate its inputs and costs compared to other systems, how to operate and maintain it, how to co-operate within village water cooperatives. The guidelines also give basic information of the wastewater treatment systems and describe why they are used and how they impact local waters and the Baltic Sea, as well as the global environment.

The information provided in these guidelines is based on pilot constructions of smallscale waste water treatment solutions in rural municipalities in Finland, Estonia, Latvia, Poland and Lithuania. For example, wastewater treatment systems with a soil filter and constructed wetlands were built in in villages Tylicz and Sokoły (Poland). A biological treatment plant was installed in Ainaži village (Latvia). In Lithuania the pilot village Leitgiriai modernized their system to biological wastewater treatment.

Link: https://projects.interreg-baltic.eu/projects/villagewaters-60.html#output-70

Final Project Conclusions

MARELITT Baltic

Project title	Project duration
MARELITT Baltic - Reducing the impact of marine litter in the form of Derelict Fishing Gear (DFG) on the Baltic Sea environment	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.75 million	EUR 3.20 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/marelitt-baltic-28.html	www.marelittbaltic.eu

Lead partner (country)	Countries involved
Municipality of Simrishamn (Sweden)	EE, DE, PL, SE

Project summary

Teaser

The Interreg project MARELITT Baltic developed a sustainable strategy for national authorities around the Baltic Sea to manage derelict fishing gear, which is marine litter with extensive hazardous effects on the marine ecosystem.

The challenge

Hazardous marine litter

Derelict fishing gear (DFG) is recognised worldwide as a source of marine litter with extensive hazardous effects on the marine ecosystem. In the Baltic Sea alone, 5,500 to 10,000 gillnets and trawl nets are lost every year, adding to hundreds of tonnes of ghost nets already resting at the bottom of the sea.

The ghost nets have a wide range of negative effects. They are a threat to fish and other marine animals, as abandoned nets maintain 20% of their normal capacity to catch fish for the first three months, and still 6% after 27 months. They pose risks to divers and swimmers in more shallow waters. And, in the longer run, they dissolve into microplastics that release hazardous substances.

Insufficient knowledge to tackle the issue

The problem of ghost nets is poorly known in the fisheries industry and among politicians. Most countries around the Baltic Sea lack proper policies on managing derelict fishing gear. As a result, there is a lack of methodology of how to assess the risks and to locate, retrieve, and deal with derelict fishing gear in a cost efficient, safe and environmentally sound manner.

DE	EE	PL	SE
			

Final Project Conclusions

MARELITT Baltic

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

MARELITT Baltic is the first transnational initiative in the Baltic Sea region bringing together local and national government agencies, the fishing industry, environmental NGOs, the diving community, and scientific institutions to develop a step-by-step roadmap on how to tackle derelict fishing gear. These recommendations are presented in the Baltic Sea Blueprint, which offers practical guidelines on mapping, retrieving, recycling, and preventing abandoned fishing gear.

Mapping and retrieving derelict fishing gear

The fishing sector's active participation in the project helped them understand the environmental problems of derelict fishing gear and the need for a change in attitude towards more sensitive topics like prevention. On the issues of mapping and retrieval, local fishers and divers took part in planning and executing search and rescue operations for derelict fishing gear in Germany, Estonia, Poland and Sweden. In these operations, nearly 25 tonnes of derelict fishing gear was retrieved: over 6 tonnes in Germany, 0.35 tonnes in Estonia, 8 tonnes in Poland, and almost 10 tonnes in Sweden. The data collected was used to create a map showing 'hot spots' with high potential for lost gear in the Baltic Sea.

Harbour masters, underwater archaeologists, environmentalists and scientists evaluated these operations with the aim of avoiding potential conflicts of interest when retrieving derelict gear in the future. A resulting recommendation is to have an underwater archaeologist involved in future shipwreck clean-up operations to minimise the risk of damaging cultural heritage. These groups' practical knowledge was used to create and test a methodology for mapping and retrieval, which was presented to HELCOM, the fishing sector and relevant ministries in Germany, Estonia, Poland and Sweden. As a result, WWF Germany followed the Baltic Sea Blueprint's recommendation to sonar for its retrieval efforts, and the Swedish Agency for Marine and Water Management commissioned cleaning operations using the 'hot spots' map developed by the MARELITT Baltic.

Recycling ghost nets

The gear that was retrieved went to fishing harbours either to be returned to the value chain or disposed of as waste. For an overview of how equipped fishing harbours are for this task, 50 harbour facilities in Germany, Estonia, Poland and Finland were surveyed and assessed. Trials were made to test the recycling potential of derelict as well as end-of-life nets. The lessons learned, such as the need to first remove hazardous objects like lead weights from derelict fishing gear that cannot be disposed of as commercial or household waste, are presented in the Baltic Sea Blueprint.

Based on the methodology developed by the project, a new project in Finland on ghost fishing and gear recycling was financed by the European Maritime and Fisheries Fund. In addition, a Swedish dragging project in autumn 2019 followed the project's recommendations on reception and recycling.

Feeding national and international policy

Through systematic dialogue maintained by the project, key authorities and policymakers in national environment ministries, marine and water management agencies, agriculture boards and heritage

boards in Sweden, Germany, Poland and Estonia gained awareness of the challenge and possible solutions.

Using procedures developed by MARELITT Baltic, environmental ministries and fisheries authorities in Germany are presently developing an authorised scheme to fund lost gear retrievals by the fishing sector. Policy developed by the German Round Table against Marine Litter on waste management of fishing gear was informed by the project's recommendations on harbour reception facilities and recycling of retrieved fishing gear.

WWF Germany fed project results into various policy-level discussions in the Baltic Sea region and beyond. It presented the map that the project developed to show host areas of derelict fishing gear to the HELCOM Marine Litter working group. Solutions on how to process derelict fishing gear reached OSPAR, which regulates transnational cooperation on marine environmental protection in the North-East Atlantic. WWF Germany introduced the project's findings on sustainable waste collection and management for derelict fishing gear to the Maritime Affairs and Fisheries department at the EU Commission (DG MARE) and continues to be a consultant to DG MARE. Furthermore, project results have also been passed on to national ministries and agencies, which has resulted in, among other things, a process to draft the first national policy document on derelict fishing gear in Poland.

Working together on a common challenge

With EUR 3.01 million of support from the European Union, the Interreg project Marelitt BALTIC raised awareness of the problem of derelict fishing fear in the Baltic Sea at all levels, from fishers to policy levels. It also showcased how joint actions across borders to map, retrieve, recycle, and prevent ghost nets bring real benefits to the environment.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Baltic Sea Blueprint

The Baltic Sea Blueprint is a comprehensive handbook covering four pillars of action to reduce derelict fishing gear in the Baltic Sea. These four pillars are: mapping, retrieval, recycling, and prevention. The handbook is an action plan with recommendations, best practices and lessons learned for policy makers, namely, national authorities. Their feedback was included in the drafting of the document. The handbook also helps those developing projects for cleaning operations, fishing organisations, fishery management authorities, fishery control authorities, and NGOs. The Baltic Sea Blueprint was created in such a way that, within one hour, the reader should be aware of the most important issues and solutions for derelict fishing gear.

Link: https://projects.interreg-baltic.eu/projects/marelitt-baltic-28.html#output-79

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

As a result of the project's search and retrieval methods, WWF Germany extended efforts to use sonar for retrievals; the Swedish Agency for Marine and Water Management commissioned cleaning

operations using a map developed by the project; and a new project in Finland on ghost fishing and gear recycling, based on MARELITT Baltic methodology, has been financed by the European Maritime and Fisheries Fund.

WWF Germany fed the results from the project's recycling and waste management trials into the German Round Table Against Marine Litter.

A dragging project in Sweden in autumn 2019 followed the project's recommendations on reception and recycling.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The work plan changed regularly throughout the project lifetime as the partners continually assessed the work based on reactions and results from stakeholders and target groups. This made administration and monitoring less straightforward but was always based on the good judgment of the project partners of their target groups and the situation on the ground.

Final Project Conclusions

Baltic Slurry Acidification

Project title	Project duration
Reducing nitrogen loss from livestock production by promoting the use of slurry acidification techniques in the Baltic Sea Region	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Clear waters

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 5.27 million	4.58 million	x	PA Bioeconomy

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/baltic-slurry-acidi-34.html	www.balticslurry.eu

Lead partner (country)	Countries involved
RISE Research Institutes of Sweden (Sweden)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

In the Interreg project Baltic Slurry Acidification, farmers around the Baltic Sea tested the technology of treating animal manure with acid to reduce ammonia emissions harmful to people and the environment, and to gain valuable fertilisers for their crops instead.

The challenge

Harmful emissions

Agriculture is accountable for about 10% of the global greenhouse gas emissions. In the Baltic Sea region, a large contributor to greenhouse gas emissions are ammonia emissions from animal manure slurry on farms. Ammonia emissions cause most of the airborne eutrophication of the Baltic Sea, almost all of which come from livestock manure slurry.

Not only do ammonia emissions threaten the waters of the Baltic Sea but also harm people's health through the formation of secondary particulate matter, which is among the pollutants with the highest estimated impact on human health.

From waste to profit

In their work, farmers around the Baltic Sea region dispose tonnes of manure produced by their animals, which - if not dealt with properly - emit large amounts of ammonia. Additionally, farmers have to spend money to buy fertilisers for their crops.

In Denmark, farmers from 70 farms treat existing manure with acid, which reduces ammonia from evaporation from animal slurry into the atmosphere and reduce nitrogen loss. When the pH of the manure is lowered, emissions decrease and nitrogen is stabilised into a plant-available form. Moreover, the treated slurry can effectively be used as a fertiliser on the same farm without the need to purchase mineral nitrogen and sulphur fertilisers. The technology proved to be successful in Denmark; however, it is not widely spread, providing a chance for the project Baltic Slurry Acidification to make the Danish example common practice around the Baltic Sea.

Final Project Conclusions

Baltic Slurry Acidification

DE	DK	EE	FI	LT	LV	PL	SE
							

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Pilot investments in six farms

For over a decade, Danish farmers have successfully been treating animal manure with acid to reduce ammonia emissions but this practice was not widespread in the Baltic Sea region. Now for the first time, six commercial farms, experimental farms and agricultural contractors tested slurry acidification techniques (SATs) in Estonia, Germany, Latvia, Lithuania, Poland and Sweden. They tested the change in ammonia, the effect of using the treated slurry as fertiliser, and the running costs.

Farmers from each test site teamed up with at least one other organisation to get assistance in buying and setting up the slurry acidification tankers as well as in running the tests. For example, the Swedish RISE Research Institute, Latvian Rural Advisory and Training Centre and Danish Organe Institute supported SAT investments at the test sites of the Estonian Crop Research Institute, Polish Institute of Technology and Life Sciences and the Latvian private farm Lauku Agro.

Satisfying SATs

After 70 acidification processes and around 35,000 tonnes tons of slurry acidified, farmers from four out of six farms concluded to further use acidification techniques. Most of them did not notice any negative influence on the machinery nor the soil's pH. The field trials proved that slurry acidification decreases ammonia emissions by 49–64%, and mineral nitrogen kept in slurry as a fertiliser allows for savings within the range of 0.77–2.10 € for each cubic meter of slurry.

The farmers shared this new knowledge with other farmers and agricultural advisors who visited test sites to learn more about the equipment and the field trials. The Swedish farm Br Göransson together with the Rural Economy and Agricultural Society exhibited the SAT equipment at the Swedish Borgeby Agricultural Expo and three conferences for milk and meat producers, reaching over 20,000 people in the industry.

Acidification techniques for businesses

Thanks to the support from the Polish Institute of Technology and Life Sciences in assessing the market potential, the Polish enterprises Pomot, Agroserwis and Lukomet became distributors of SATs in Poland. The Danish company Ørum Smeden has enough knowledge now on how to enter the Polish agricultural market with their products.

The Estonian Crop Research Institute helped Eesti Agritehnika become a distributor of SATs in Estonia, whereas another company Väätsa Agro AS learned from the project how to best apply slurry acidification into their current manure and fertiliser management.

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Baltic Slurry Acidification

The RISE Research Institute of Sweden worked closely with a Swedish consulting company Lifsung AB to integrate them into the existing Swedish manure handling systems and build their capacity for advising their clients on acidification techniques.

From local test case to regional good practice

The Interreg project Baltic Slurry Acidification used EUR 3.99 million from the European Union to turn a proven Danish solution into common practice in the region. Now, farmers around the Baltic Sea have more options at hand how to treat animal manure, reduce harmful ammonia emissions and fertilise their crops at the same time.

Spreading the project recommendations and results further is continued in the framework of the Interreg Baltic Sea Region project platform SuMaNu. The platform combines expertise from several projects to more efficiently manage manure and reduce the negative impact of farming on the Baltic Sea.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Pilot SATs, procurement installation and commissioning min countries in the Baltic Sea Region

A set of reports presents lessons learned from six test sites. Six private farms, experimental farms, and agricultural contractors in Estonia, Germany, Latvia, Lithuania, Poland and Sweden tested seven slurry acidification tankers to apply slurry acidification technology, and to reduce nitrogen loss and ammonia emissions, improve crop yield, and to make a profit. The reports provide agricultural advisors and farmers around the Baltic Sea with detailed knowledge on the slurry acidification technology, including country-specific procurement processes, cost calculations, and field test results.

Link: https://projects.interreg-baltic.eu/projects/baltic-slurry-acidi-34.html#output-87

Policy recommendations for supporting SAT implementation

The report compiles policy recommendations of agricultural and rural advisory agencies and research institutes from Sweden, Poland, Latvia, Lithuania, Estonia, Finland, Germany, Russia, Belarus and Denmark on the implementation of slurry acidification technology across the Baltic Sea region. The report helps research institutes as well as farmer organisations and advisory services promote the uptake of slurry acidification technology.

Link: https://projects.interreg-baltic.eu/projects/baltic-slurry-acidi-34.html#output-88

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

Two associated organisations from Russia and Belarus participated in the project by, for example, evaluating the feasibility of applying slurry acidification techniques in their countries and conducting country-specific market analysis. Their involvement was financially supported by the Swedish Institute in the associated project Bringing Russia and Belarus into Baltic Slurry Acidification.

Final Project Conclusions

Baltic Slurry Acidification

The project partnered up with three other projects to form the platform SuMaNu, funded by Interreg Baltic Sea Region, to continue promoting sustainable manure management techniques in the region.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- Two associated organisations from Russia and one from Belarus participated due to the financial support of Swedish Institute
- Half of the investments were realised by private partners. Close cooperation with public partners helped them to ensure compliance with the Programme rules, especially on public procurement.

Final Project Conclusions

BEA-APP

Project title	Project duration
Baltic Energy Areas – A Planning Perspective	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Renewable energy

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.69 million	EUR 2.50 million	x	HA Spatial Planning

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/bea-app-8.html	www.balticenergyareas.eu

Lead partner (country)	Countries involved
Ministry of Energy, Infrastructure and Digitalization Mecklenburg-Vorpommern (Germany)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The BEA-APP project compiled experience from eight countries around the Baltic Sea that helps regional planning authorities to accelerate the setup of windfarms, solar parks, biogas plants and the like.

The challenge

Planning processes for renewable energy projects are too slow

More renewable energy installations need to be erected faster to meet the ambitious climate mitigation and renewable energy targets in the EU and the Baltic Sea region's countries. Spatial planners play a crucial role in erecting renewable energy installations, as they are the ones to find and designate suitable locations, based on criteria defined in their respective laws and regulations and taking into account the needs and interests of other users, of local people and of the environment.

However, spatial planners often lack the appropriate planning instruments to define and designate the best suitable areas. They are faced with local resistance and a "not in my backyard" attitude towards renewable energy projects. And they do not always have enough knowledge on local resources and circumstances to find smart place based solutions. Thus, spatial planners face numerous challenges which prolong planning processes for renewable energy projects and slow down Europe's transition to a low carbon economy.

DE	DK	EE	FI	LT	LV	PL	SE
							

EUROPEAN REGIONAL DEVELOPMENT FUND
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Final Project Conclusions

BEA-APP

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Merging two perspectives and testing on the ground

Within the BEA-APP project, spatial planners and regional energy planners collaborated and exchanged their different perspectives on renewable energy development. Together they elaborated a set of spatial planning criteria which reflect the challenges related to renewable energy production better than the existing criteria applied in planning and approval of windfarms, biogas plants, solar parks and the like. In order to increase the social acceptance of renewable energy projects, innovative stakeholder involvement methods and financing instruments were developed and tested by the project partners. The test cases included geoenergy in Äänekoski city (Finland), biogas in Odsherred (Denmark), and solar energy in Lund (Sweden).

Regions become better at renewable energy planning

The newly defined spatial planning criteria served to evaluate and improve the existing renewable energy strategies of nine regions, including Blekinge and Skåne (Sweden), Mecklenburg-Vorpommern (Germany), Tartu (Estonia), Western Pomerania (Poland), and Zemgale (Latvia).

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Transnational recommendations to improve spatial planning processes for renewable energy projects

These recommendations have been elaborated to help national, regional and local authorities responsible for energy and spatial planning to strengthen the commitment towards renewable energy projects in the Baltic Sea region. The recommendations are meant to improve the framework conditions for spatial planning of renewable energy projects. They cover both technical and political aspects. A set of new and redeveloped criteria to be applied in spatial planning processes related to renewable energies is included in the recommendations. These criteria help the responsible bodies to better take into consideration the specific conditions and challenges related spatial planning in renewable energies. This concerns not only the particular needs of stakeholder involvement but also legal, geographical, infrastructural and technical issues. The recommendations were compiled by the Ministry of Energy, Infrastructure and Digitalization Mecklenburg-Vorpommern based on experience in the transnational Interreg cooperation project BEA-APP.

Link: https://projects.interreg-baltic.eu/projects/bea-app-8.html#output-21

Handbook on innovative stakeholder involvement and communication models

This handbook was developed within the BEA-APP project to support public and private bodies responsible for the planning and implementation of renewable energy projects in the Baltic Sea region to involve stakeholders in the planning of such projects in a sufficient way. Such early involvement of relevant stakeholders is crucial to avoid conflicts which delay or impair the project's success, but often neglected in current planning processes.

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The handbook provides a background of stakeholder attitudes towards renewable energy projects and to give an overview of factors triggering stakeholders´ acceptance or non-acceptance of renewable energy projects. It covers a practical step-by-step guidance for elaborating stakeholder involvement plans. It also includes hints for stakeholder mapping, direct and indirect interaction with stakeholders as well as for evaluation of stakeholder involvement. This makes the handbook a useful and reliable compilation.

Link: https://projects.interreg-baltic.eu/projects/bea-app-8.html#output-22

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

It was concluded in the recommendations that a VASAB sub-group “Terrestrial (renewable energies) spatial planning) should be established similar to the already existing VASAB sub-group for maritime spatial planning. The establishment of such a sub-group within the VASAB organisation would institutionalise the topic and ensure that it will be tackled and developed further beyond the project lifetime.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

Administration went smoothly, and the project did not have any outstanding aspects such as reserved partners, state aid, partnership challenges or particular financial issue.

Final Project Conclusions

Baltic InteGrid

Project title	Project duration
Integrated Baltic offshore wind electricity grid development	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Renewable energy

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.95 million	EUR 3.68 million	x	PA Energy

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/baltic-integrid-32.html	www.baltic-integrid.eu

Lead partner (country)	Countries involved
Institute for Climate Protection, Energy and Mobility (Germany)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The Baltic Integrid project shaped a plan for a coordinated Baltic Sea offshore electricity grid - a big leap forward to removing one of the most important bottlenecks for the development of renewable energy sources in the Baltic Sea region.

The opportunity

Because the Baltic Sea is shallow, has low wave heights, and neglectable tides, it provides very good prerequisites to install large offshore wind power devices. The full potential of offshore wind power can be exploited if the countries around the Baltic Sea established large transnational meshed offshore wind grids based on the same standards and methodology.

While today, offshore wind parks are typically connected to land individually, and national grids have few large connections, a meshed grid connects several wind parks from different countries at sea with few connections to land in the different countries. In such a meshed grid, energy losses for transportation are considerably lower. Thus, few large meshed grids would make use of electricity produced offshore much more efficiently than current networks in place and they would deliver more stability and security in energy supply to all countries connected.

DE	DK	EE	FI	LT	LV	PL	SE
							

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Baltic InteGrid

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Baltic InteGrid has framed and coined the debates around offshore wind energy development in the Baltic Sea region with excellence in research and professional dissemination efforts, laying the ground for further exploitation of the project results by key actors.

The right players are on board

The project created a knowledge and cooperation platform in which all the relevant stakeholders from the offshore wind energy supply chain meet, exchange and plan their cooperation. The number of stakeholders who can play a decisive role in such a large infrastructure project is limited. There is maybe a dozen companies who would be able to operate such transmission systems and only larger energy suppliers have experience in building and operating wind parks in an offshore environment. Baltic InteGrid has gotten most of them onboard. However, at the core of the cooperation platform are the authorities of all countries involved who are responsible for designating suitable offshore areas and issuing construction permits. To make the circle complete in terms of knowledge needed, Baltic InteGrid involved renowned research institutes and several companies know for producing reliable turbines.

A common vision based on sound calculations and planning

Based on the joint expertise of practitioners and scientists from different disciplines from in total seven countries, the project calculated a potential of 35 GW by 2050. In 2018, only 2.2 GW were installed. The project partners elaborated a common vision of what such a grid could look like and put down a plan that defines the necessary steps and procedures to plan, finance, implement and operate such a meshed offshore wind grid. The concept was tested and verified in two pre-feasability studies covering a potential meshed grid between Poland-Sweden-Lithuania and Germany-Sweden-Denmark.

Good prospects for a joint offshore electricity grid

By firing up an expert discussion about a joint offshore electricity grid in the Baltic Sea, the Interreg project brings the macro-region closer to removing one of the most important bottlenecks for the development of renewable energy sources in the Baltic Sea region. Picked up by the right players in the market, the research activities and knowledge exchange initiated by the project can initiate changes in policy, regulation, investment decisions, technological development and planning towards the Baltic Offshore Grid. By actively addressing powerful players, the results of Baltic InteGrid have already reached influential organisations, e.g. the European Network of Transmission System Operators for Electricity which embraced the Baltic InteGrid vision in its Ten Year Network Development Plan 2018.

Final Project Conclusions

Baltic InteGrid

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

High Level Concept for the Baltic Offshore Grid

This concept contains the major findings of comprehensive and concerted studies on planning and implementing a meshed offshore wind grid in the Baltic Sea. The document informs political decision makers, operators of electric transmission systems and offshore wind industry about the current status, possibilities and challenges related to the implementation of a meshed Baltic offshore grid. It covers all relevant areas such as policy/regulation, planning, public acceptance, construction and technical matters as well as market conditions and supply chains. It is an excellent source of quality information and a practical guideline for the countries around the Baltic Sea.

Link: https://projects.interreg-baltic.eu/projects/baltic-integrid-32.html#output-23

Baltic Offshore Grid Forum

The Baltic Offshore Grid Forum was created as a network of all relevant stakeholders from politics, industry and science that need to be involved to found a joint offshore electricity grid in the Baltic Sea. The forum continues the work of the Interreg project Baltic InteGrid and is the place of on-going discussions and initiatives aimed at implementing a meshed offshore wind grind in the Baltic Sea by 2050.

Link: https://projects.interreg-baltic.eu/projects/baltic-integrid-32.html#output-24

Recommendations to the Ten Year Network Development Plan (TYNDP) on the development of Baltic Offshore Grid

These recommendations about establishing a concerted meshed offshore electricity grid in the Baltic Sea region are based on the findings from the transnational cooperation project Baltic InteGrid. They condense in a single place the full knowledge and analytical results developed within the project. They reflect case studies and experts' opinions based on very precise offshore wind energy projects and interconnectors. They also name the potential in terms of future development of projects.

These recommendations target one of the most important stakeholders in the field of wind energy: the European Network of Transmission System Operators for Electricity (ENTSO-E). ENTSO-E represents 43 electricity transmission system operators from 36 countries across Europe. In its Ten-Year Network Development Plan (TYNDP), ENTSO outlines how the electricity nets in the EU need to be developed over the next 10 years in order to meet the energy consumers' needs. The content of these recommendations was presented to ENTSO-E's in the light of the next Ten-Year Network Development Plan (TYNDP).

Link: https://projects.interreg-baltic.eu/projects/baltic-integrid-32.html#output-25

Final Project Conclusions

Baltic InteGrid

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The Baltic Offshore Grid Forum can be expected to continue its work beyond the project lifetime and as a network as well as a discussion forum. Here, the already engaged stakeholders as well as new participants can discuss the current development and future challenges in the sector for offshore wind energy from the regulatory, economic and technical perspective. They can join forces to plan and initiate future projects either.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- State aid relevant activities have been carried out and no distortions occurred during their implementation
- One SME, the Deutsche WindGuard GmbH, participated as a project partner
- The project managed well to extend its cooperation with relevant stakeholders beyond the partnership. Next to ministries on national level like the German Federal Ministry for Environment and the Lithuanian Ministry for Energy, also transmission system operators as well as other research projects like the Horizon 2020 project PROMOTION were incorporated in the project activities successfully.

Final Project Conclusions

Green PE

Project title	Project duration
Power Electronics for Green Energy Efficiency	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Energy efficiency

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.1 million	EUR 3.03 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/green-pe-26.html	www.balticgreenpower.eu

Lead partner (country)	Countries involved
University of Southern Denmark (Denmark)	DK, EE, DE, LV, LT, PL, SE

Project summary

Teaser

The project Green PE demonstrated in test applications of electric car engines, wind energy production, and smart buildings that advanced power electronics are technically feasible, reliable and cost efficient and compiled a roadmap to accelerate their market uptake.

The opportunity

Advanced power electronics can save energy
The novel technologies behind advanced power electronics allow for more than 50% of energy savings. They help to reduce energy losses at all stages of the energy supply chain. The market for advanced power electronics is expected to grow and is driven by the demand for more energy efficiency and for more renewable energy production as part of the European Union's transition towards a green, low carbon society.

An untapped potential
More than 15.000 companies in the Baltic Sea region deal with power electronics. However, the market uptake of advanced power electronics is challenged by technical and economic barriers, e.g. related to the purchase of adequate equipment in companies and proper timing of investment. As a result, companies tend to choose conservative technology management and R&I strategies with regard to advanced power electronics. If provided with better information and consultancy about advanced power electronics, companies could benefit from faster innovation.

What are advanced power electronics?
Power electronics master the flow of energy in electronical devices from car engines to turbines and battery systems. Power electronics that is based on next generation materials beyond Silicon , such as wide bandgap semiconductors, is called 'advanced power electronics'. The novel technologies behind advanced power electronics allow to increase the power output of devices while making them ever smaller. Advanced power electronics also prepares devices for smart digitalisation and is an essential part of efficient production, distribution and consumption of electricity in a renewable energy society.

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

Green PE

DE	DK	EE	LT	LV	PL	SE
						

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

A roadmap and pilots on smart housing, wind power generation and e-mobility

The project consortium elaborated a transnational technology and product roadmap for advanced power electronics to help the industry, R&D institutions and policy makers understand the chances of and the barriers related to the novel technologies. To prove the practical relevance of the roadmaps´ findings, five electronic pilot applications were developed and tested, covering the areas of smart housing, electricity generation from wind power and e-mobility.

Active exchange with companies

To make sure that the projects´ activities have an impact on the ground, the partnership directly addressed businesses. The project conducted 80 company visits and more than a dozen in depth consultations which helped the companies to rethink their approaches in product development and to consider advanced power electronics to tackle their challenges. Some companies included advanced power electronics in their R&D strategies and investments. All in all, some 240 companies were actively engaged in the project activities, and partners in technology transfer reached out to around 7.000 companies.

Research and innovation alliances across borders

On the transnational level, the partnership set up a collaboration platform for research institutions and innovative start-ups and SMEs around the Baltic Sea. It is meant to transfer knowledge and to build up more research and innovation alliances across borders such as the recently established Centre for Industrial Electronics, which was set up at the Danish-German border as a joint endeavour of industry, academia, regions and municipalities.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Transnational Technology & Product Roadmap

This transnational technology and product road map assembles the most relevant information about the technological state-of-the-art and future capabilities of advanced power electronics and wide bandgap materials.

The roadmap is meant to help the power electronics industry (companies, consulting and financing, system providers, business development and support) and research institutions as well as policy makers and regulatory bodies to better understand the chances and barriers related to the market uptake of advanced power electronics as a means to facilitate revolutionary changes in power electronics.

Final Project Conclusions

Green PE

The roadmap was compiled by the RISE Research Institutes of Sweden together with project partners from the research, business and industrial sector from Denmark, Estonia, Germany, Latvia, Lithuania, Poland and Sweden in the transnational Interreg cooperation project Green PE.

Link: https://projects.interreg-baltic.eu/projects/green-pe-26.html#output-27

A pilot in e-mobility: inverter for racing cars

The Universities of Southern Denmark and of Latvia together with the company Converdan A/S carried out a pilot study dealing with inverters in car engines, exemplified by a racing cars. In racing cars, power electronics operate at their limits, which makes them good test objects for power electronics.

The pilot of the project Green PE showed that wide bandgap semiconductors in electric drives improve the overall system efficiency. The results of the pilot will be used by industrial companies, especially SMEs, research institutions and technology transfer organisations.

Reaching the ambitious goals related to e-mobility requires radically new vehicle electronics with components based on wide bandgap semi-conductors. These components help to optimise several parameters and product characteristics such as energy efficiency, design and power density. This leads in consequence to an increased applicability and usability that help to boost e-mobility.

Link: https://projects.interreg-baltic.eu/projects/green-pe-26.html#output-28

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- State aid relevant activities have been carried out and no distortions occurred during their implementation
- The project partnership included several companies and SMEs to ensure the relevance and use of the developed products and outputs

Final Project Conclusions

Baltic LINes

Project title	Project duration
Coherent Linear Infrastructures in Baltic Maritime Spatial Plans	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Blue growth

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.38 million	EUR 2.92 million	x	HA Spatial Planning

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/baltic-lines-29.html	www.vasab.org/index.php/balticlines-eu

Lead partner (country)	Countries involved
Federal Maritime and Hydrographic Agency (Germany)	DK, EE, FI, DE, LV, LT, PL, SE, Other (NL)

Project summary

Teaser

In the Interreg project Baltic LINes, maritime spatial planners in countries around the Baltic Sea found an efficient way to exchange their national plans for developing energy corridors and shipping routes, and in this way to improve the connectivity across the Baltic Sea.

The challenge

Complex spatial planning
Planning the national sea area is a complex task where the different sectoral interests need to be carefully weighed against each other, conflicts have to be solved and planning solutions need to be found. At the Baltic Sea, there has been a growing competition among shipping and energy sectors to use the available scarce space and resources: shipping corridors collide with fixed installations, such as wind farms and pipelines.

Cooperate to plan better
A lack of coordinated maritime spatial planning decreases transnational connectivity and puts the natural Baltic Sea ecosystem at risk. It also leaves blue growth opportunities in the sectors of e.g. maritime transportation and coastal tourism untapped.

Although maritime spatial planning is a national competence, the EU Maritime Spatial Planning Directive from 2014 obliges the Member States to ensure that their national spatial plans are coherent across the sea-basins, which means that shipping routes, energy infrastructure and the ecosystem considerations should be coordinated.

However, there is insufficient cooperation among maritime spatial planners and authorities as well as industry in the countries around the Baltic Sea. There is no pan-Baltic spatial data infrastructure either, which would combine information from the neighbouring countries. Last but not least, there are no common criteria how to plan, which would help align the decisions taken on the energy infrastructure and shipping routes. ea region. This prevents cross border mismatches and secures transnational connectivity, as well as contributes to the efficient use of the Baltic Sea space.

Final Project Conclusions

Baltic LINes

DE	DK	EE	FI	LT	LV	PL	SE
							

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

First database for spatial planners in the region

In order to overcome the challenge of inconsistent maritime spatial planning approaches and procedures in the countries around the Baltic Sea, Baltic LINes set up a system for exchanging maritime spatial plans; compiled requirements for planning and developed scenarios for future developments in the energy and shipping sectors.

The project partners established BASEMAPS, the first in the Baltic Sea region online database, which provides a catalogue of up-to-date transnational Maritime Spatial Planning data. It displays already existing and planned infrastructures from neighbouring countries. In this way, BASEMAPS helps spatial planning authorities as well as the authorities responsible for energy or transport planning in countries around the Baltic Sea to make planning decisions.

Currently BASEMAPS are run by the Baltic Marine Environment Protection Commission – HELCOM. Whereas the procedures on updating the information are subject to the Maritime Spatial Planning (MSP) Working Group of the Baltic Marine Environment Protection Commission (HELCOM) & Vision and Strategies around the Baltic Sea organisation (VASAB).

The Working Group represents ministries, government agencies, HELCOM and VASAB observers and other organisations from the Baltic Sea region countries. It is forum that the Baltic LINes also addressed with the project's recommendations on the energy, shipping and horizontal issues, for example on the need to involve the stakeholders from the energy sector such as transmission system operators, offshore wind farm developers or civil servants.

Preparing for future spatial challenges

Baltic LINes compiled spatial requirements for shipping and energy as well as future scenarios for 2030 and 2050, which were integrated into the Maritime Spatial Planning (MSP) Challenge. It is a virtual simulation game in which the planning authorities from all the Baltic Sea region countries can simulate different scenarios depending on the parametres they select. In this simulation, they develop plans for the future uses of sea space over a period of several decades, and observe the consequences of their decisions for energy, shipping and the marine environment. In this way, the MSP Challenge helps make better planning decisions to improve transnational coherence of shipping routes and energy corridors.

Final Project Conclusions

Baltic LINes

Linear infrastructures more coordinated

The project Baltic LINes used 2.50 EUR million from the European Union to increase the transnational coherence of shipping routes and energy corridors by enabling countries around the Baltic Sea to learn about each other's plans. Now, the project's results are in use in the Interreg Baltic Sea Region project platform, Capacity4MSP, which further increases collaboration among stakeholders, decision- and policy makers in maritime spatial planning.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

BASEMAPS – a map service to access Baltic Sea maritime spatial planning data

BASEMAPS is a web-based tool that collects Baltic maritime spatial planning decentralised data from official data providers in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden. It is the useful source of information for maritime spatial planning practitioners, such as national and regional authorities responsible for maritime spatial planning as well as representatives from the energy and transport sector that helps them align maritime spatial plans across the borders.

The tool has a user-friendly interface: the users can view and download datasets; view their metadata; click on geographical features to get information and zoom in to get more details of the area. BASEMAPS help better understand and coordinate Maritime Spatial Planning processes across borders and sectors as it easily visualises the impact of particular planning decisions for the sectors of shipping and transport as well as for the ecosystem as such.

Link: https://projects.interreg-baltic.eu/projects/baltic-lines-29.html#output-105

Practical guidelines for the designation of energy and transport infrastructure in the Baltic Sea

These two guidelines help maritime spatial planning authorities to designate areas for energy and transport infrastructure at sea. The guidelines consist of practical step-by-step pieces of advice how to allocate transport corridors and energy infrastructures in national sea beds. They are based on the most commonly used planning criteria and scenarios, which additionally take into consideration the existing differences in procedures and criteria in all the countries involved. Maritime spatial planning practitioners such as national and regional authorities can use these guidelines to compare the different approaches, gain a common understanding of the planning processes in other countries, and align their own maritime spatial planning.

Link: https://projects.interreg-baltic.eu/projects/baltic-lines-29.html#output-106

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

Currently it is discussed with HELCOM and VASAB whether the developed guidelines for the designation of energy and transport areas will be taken up by both organisations and officially used as HELCOM and VASAB planning guidelines. Some of the BalticLINes project partners are participating the Interreg Baltic Sea Region platform project Capacity4MSP. These partners are

Final Project Conclusions

Baltic LINes

HELCOM, Aalborg University, Swedish Agency for Marine and Water Management, Ministry of Environmental Protection and Regional Development of Latvia and Gdynia Maritime University.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The administration went smoothly, and the project did not have any outstanding aspects such as reserved partners, state aid, partnership challenges or particular financial issue.

Final Project Conclusions

ALLIANCE

Project title	Project duration
Baltic Blue Biotechnology Alliance	March 2016 - February 2019

Priority	Specific objective
Management of natural resources	Blue growth

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.49 million	EUR 3.1 million	x	PA Innovation

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/alliance-13.html	www.balticbluebioalliance.eu

Lead partner (country)	Countries involved
GEOMAR Helmholtz Centre for Ocean Research Kiel (Germany)	DE, DK, EE, FI, LT, LV, PL, SE, Other (UK)

Project summary

Teaser

The Interreg project Baltic Blue Biotechnology ALLIANCE built a network of Research-Technology-Innovation mentors who match services, facilities and experts from different countries around the Baltic Sea and turned smart ideas for biotechnology from the sea into a dozen market-ready products.

The opportunity

Blue biotechnology is about exploring and exploiting the organisms of the sea in order to develop new products or services – ideally in a sustainable manner. The Baltic Sea region has all the necessary elements for the successful development of an innovative and sustainable maritime economy and benefits from strong research and innovation activities and a tradition of close cooperation. And the European Commission's Blue Growth strategy of 2012 identified blue biotechnology as one focus area.

The potential for blue biotechnology of the Baltic Sea is recognised as significant. Yet it is immature and needs a strategic approach. The ALLIANCE systematically pooled the national capabilities aimed to empower research institutes, SMEs and business clusters to reach the critical mass required for action and global competitiveness of blue biotechnology from the Baltic Sea.

DE DK EE FI LT LV PL SE

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Final Project Conclusions

ALLIANCE

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Mentors to advance good ideas for blue biotechnology

The ALLIANCE built a network of mentors in the sector of blue biotechnology consisting of research and technology institutes, technology parks and innovation companies. All together they helped blue biotech ideas from different countries around the Baltic Sea become market-ready products by match-making companies to services, facilities and experts as if there were no borders.

Some smart ideas turned into products

A Danish company that cultivated kelp started developing a natural organic sunscreen extract from this seaweed with two mentor universities from Denmark and Sweden. An Estonian brand for natural cosmetics manufactured facial moisturizers with algae-based antioxidants in close collaboration with an Estonian biotechnology park and a German research and consulting company. A startup company from Lithuania working with mollusk shells for bone regeneration received support from Lithuanian, Swedish and Estonian technology parks on chemical analyses, contacts to raw material suppliers and business plan development.

A network to support biotech companies

Using the experiences of 25 successful cases like these, the partners developed a full-fledged service offer (including a business plan) to support companies in developing new marine biotechnology products and services. The service supports blue tech companies in communication and lobbying, scientific and technical inquiries, access to biological resources, legal advice, business and project development, monitoring and coaching. The business plan is operationalised by the follow-up project ALLIANCE+. The network initiated by the Interreg project ALLIANCE was set-up with EUR 2.65 million of support from the European Union, because it strengthens European integration and makes European regions more competitive.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

ALLIANCE integrated service offer for blue biotechnology

This brochure depicts the services that the ALLIANCE network of experts in the blue biotechnology sector offers to start-ups, small and medium enterprises and academic institutions: connecting the right actors and resources throughout the Baltic Sea region. This offer includes case mentoring, finding suitable partners, marketing, legal and financial advice.
Link: https://projects.interreg-baltic.eu/projects/alliance-13.html#output-6

ALLIANCE database for blue biotechnology

Here researchers from companies and institutes can find almost anything they need for their blue biotechnology research and product development, among others: laboratory equipment, laboratory surfaces, bacterial and fungal strains as well as marketing or product development specialists:
Link: http://alliance-database.eu/#/

Final Project Conclusions

ALLIANCE

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

In its follow-up, ALLIANCE+, a few partners will extend recruitment and training of mentors to their network and concentrate on reaching out to strategic investors (incl. EU, national, regional public authorities and their funding programmes, private foundations) capable of providing funding to blue biotech companies and researchers in the region.

The results of ALLIANCE are also spread further through the project platform Blue Platform.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- The partners successfully involved SMEs into the activities: as partners and later reserved partners as well as from outside the project via broadly spread open calls.
- State aid was granted to SMEs participating as partners. The cooperation with partner SMEs seemed mostly smooth and successful (with minor delays due to lack of staff capacity in SMEs). The State aid scheme allowed keeping intellectual property rights, e.g. for products developed within the project.
- The project used its option to extend its implementation time by two months as offered to all projects of this call R1. This option is based on a decision taken during the 4th meeting of the Monitoring Committee of Interreg Baltic Sea Region held on 14 June 2016 in Copenhagen.

Final Project Conclusions

EMMA

Project title	Project duration
Enhancing freight Mobility and logistics in the BSR by strengthening inland waterway and river sea transport and proMoting new internAtional shipping services	March 2016 - February 2019

Priority	Specific objective
Sustainable transport	Interoperability of transport modes

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.16 million	EUR 4.00 million	x	PA Transport

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/emma-20.html	www.project-emma.eu

Lead partner (country)	Countries involved
Port of Hamburg Marketing (Germany)	FI, DE, LT, PL, SE

Project summary

Teaser

In the Interreg project EMMA, waterways administrations, business support organisations and ports together with shipping companies, logistic service providers, and research organisations jointly raised inland waterway transportation higher on the political agendas in five countries around the Baltic Sea.

The Opportunity

Transport policies need to adjust to growing volumes in a sustainable manner
Transport volumes in Europe are expected to grow significantly in the next decades, also in the Baltic Sea region. In some countries, e.g. Germany, Sweden, Poland, Finland, Lithuania, these challenges could be reduced by transporting more goods on inland waterways, i.e. on rivers, canals and lakes.

At European level, inland waterway transport plays a prominent role in transport policies. However, it is in political focus mainly in western and southern Europe around the large rivers Rhine and Danube. The transport conditions in these rivers differ from those in inland waterways around the Baltic Sea.

Rivers, lakes and canals around the Baltic sea can be a reliable and efficient solution in international transport chains
Around the Baltic Sea, standardized inland vessels like the "Europe" class vessel cannot be used. Navigation restrictions in natural rivers as well as weather conditions are a burden, e.g. ice during winter shortens the season in which waterways are navigable. In addition, transport policies around the Baltic Sea too often focus on road and rail transport. For these reasons, inland waterway transport has only a small share in transport volumes within the Baltic Sea region compared to road and rail. However, in the light of rising increasing transport volumes, rising environmental standards and modern technical solutions, inland waterway transportation holds a potential to become a more profitable business also in the Baltic Sea region.

Final Project Conclusions

EMMA

Business and politics need to be convinced that inland waterways are an opportunity
In order to make use of these opportunities, the mind sets of transport related politicians from the Baltic Sea region and on the European level need to be changed towards a higher appreciation of these opportunities. At the same time, the market needs to become more acquainted with inland waterway transportation, i.e. the logistics and shipping industries servicing the Baltic Sea region need to be convinced that integrating inland waterway and river-sea transport into their logistic concepts will be beneficial for them.

DE	FI	LT	PL	SE
				

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Better information for operating inland waterway transport now available online

The EMMA project elaborated new information and made it available to authorities and business. For the Nordic countries, an ice study was carried out that provides information and knowledge how to operate under ice conditions – such information did not exist before. The project furthermore set up the prototype of a map-based web application of an inland waterway information system that allows logistics companies and skippers to better plan their inland water transport operations and tested it in Germany and Finland. The central part of the information system is planned to be integrated into the interactive map of the Port of Hamburg. In the project EMMA Extension, the IT prototype will be adapted to the regional requirements in North Karelia (Finland) and northern Poland.

New inland waterway transport services tested and made ready for business

A step forward was done towards implementing new inland waterway transport services. For example, in Sweden, a test cruise with a barge container from Gothenburg to Vänersborg along the Göta Canal proved the feasibility of such transport in the Gothenburg hinterland. Shipping and logistic companies in Sweden now initiated new commercial container services for that region. The regional administration of Kujawsko-Pomorskie in Poland studied possibilities to shift transport from road to inland waterways and to develop a new concept for multimodal ports. In Lithuania (region Kaunas) new services for the transportation of heavy goods on river Nemunas were planned and the transportation of oversized cargo was already tested. In the follow-up project EMMA extension, there will be first tests of transporting cargo containers from a sea port to an inland customer with the purpose to establish a regular inland water shipping service between the port of Klaipeda and Kaunas.

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EMMA

Inland waterway transport gained political recognition in several countries

EMMA partners have raised awareness among politicians on the national and regional level through pilot demonstrations, a thorough analysis of the status in each country and through recommendations on how to enhance inland waterway shipping.

For example, in Poland, during a cruise of a container barge from Gdansk to central Poland on the Vistula river politicians and industry representatives got a vivid picture of how barge transport on the Vistula river can work. Following this, a new promotion center for inland waterway transport was established in Bydgoszcz to support the development of inland waterway transport in cooperation with the Polish Ministry of Maritime Economy and Inland Navigation.

On the national level, the Polish authorities included recommendations from a "Competitiveness Improvement Plan" developed by the project partners in their overall inland waterway transport strategy. The Swedish government included inland waterway transport in their national transport plan to further support its development, and national governments in Finland and Germany now also consider inland waterway transport in their transport strategies.

Promotion centres and associations in Finland, Germany, Lithuania, Poland and Sweden presented steps to strengthen inland waterway transport in the Baltic Sea region in a joint declaration that was handed over to United Nations Economic Commission for Europe (UNECE) and several interest groups on the European level. With EUR 3.44 million of support from the European Union, the Interreg project EMMA helped five countries around the Baltic Sea identify common interests, develop a habit of cooperation and thus delivered territorial cohesion.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Competitiveness Improvement Plan: Enhancing inland waterway transport in the Baltic Sea region

This report analyses current status of inland waterway transport and existing bottlenecks in five countries around the Baltic Sea (Finland, Germany, Lithuania, Poland and Sweden). It furthermore proposes measures to improve inland waterway transport and includes recommendations for more efficient structures on the national levels. The plan was compiled by administrations responsible for inland waterway transport, port and shipping companies, lobby organisations and shipping promotion centers in five countries.

Link: https://projects.interreg-baltic.eu/projects/emma-20.html#output-66

Policy Paper: Strengthening inland navigation and river sea shipping in Europe and the Baltic Sea region

This policy paper condenses recommendations on how to strengthen inland navigation and river shipping in the Baltic Sea region. It is based on a thorough analyses of the situations in Finland, Germany, Lithuania, Poland and Sweden. It is meant for national and international institutions and organisations who want to further promote and develop inland waterway transport in the Baltic Sea region.

Link: https://projects.interreg-baltic.eu/projects/emma-20.html#output-67

Final Project Conclusions

EMMA

IT prototype: Inland Waterway Information system ELIAS

ELIAS is a map-based web application which provides information on inland waterways in the Baltic Sea region. It includes, for example, the positions of vessels, real time water levels, and traffic density and flow. It can be used, for instance, by logistics companies and skippers to plan their inland water transport operations. ELISAS was developed by the Institute of Shipping Economics and Logistics (ISL) in Bremen in cooperation with ports, inland waterway barge operators, port operators and associations in Germany, Sweden, Poland and Lithuania, and it was tested in Germany and Finland.

ELIAS can be accessed here: http://project-emma.eu/content/blog/elias-ris-info-portal

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

In EMMA Extension project, the Regional Council of North Karelia (FI) and the Inland Navigation Office in Szczecin (PL) are working together with the Institute of Shipping Economics and Logistics (DE) on implementing and extending the IT prototype and adapting it to the regional requirements wherever necessary for the benefit of waterway administrations).

Final Project Conclusions

HAZARD

Project title	Project duration
Mitigating the effects of emergencies in Baltic Sea Region ports	March 2016 - February 2019

Priority	Specific objective
Sustainable transport	Interoperability of transport modes

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.34 million	EUR 3.86 million	x	PA Secure

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/hazard-25.html	https://blogit.utu.fi/hazard/

Lead partner (country)	Countries involved
University of Turku (Finland)	EE, FI, DE, LT, PL, SE

Project summary

Teaser

The HAZARD project made firefighters, coastguards, policemen and others involved in rescue operations in ports around the Baltic Sea more fit to save people and goods when accidents happen: Large scale exercises helped sea port authorities and rescue services to improve their structures and procedures to be better prepared for the next accident to come.

The Challenge

Accidents at seaports that endanger people are becoming more likely

Seaports, terminals and facilities to store shipped goods, including those for dangerous goods, are often located close to residential areas. Therefore, a large number of people is put at risk when accidents happen in ports. Vessel traffic in the Baltic Sea region is high and can be expected to increase in the future. Thus, the risk for more accidents also increases, unless the safety and security procedures are improved. Therefore, the EU's vision is that the Baltic Sea should become a leading region in maritime safety and security. In this context, HAZARD is a flagship of the EU Strategy for the Baltic Sea Region.

Rescue services that exchange beyond borders are better prepared

In case of emergency, different rescue services usually take action, e.g. fire fighters, coast guards and police, but also civil organisations such as the red cross or environmental NGOs might be involved. The set-up and the procedures at sea ports in the countries around the Baltic Sea differ. It is obvious that damages and losses of life can be minimised if the rescue services are well prepared and have set up optimal procedures for cooperating with each other and for communicating with citizens. Joint exercises, evaluations and cooperation across countries can help rescue services from all countries to mitigate the effects of accidents better.

DE	EE	FI	LT	PL	SE
					

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HAZARD

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Accidents practiced in near-real life circumstances

In the HAZARD project, sea port authorities together with their rescue services in charge organised ten large scale international exercises in the ports of Klaipeda (Lithuania), Hamburg (Germany) and the Finnish ports of Turku, Naantali and Kuopio. Up to 350 local rescue staff practiced in each port a different emergency situation such as fire on a passenger ship in the port, the leaking of a hazardous substance from a tanker, and an explosion of a chemical tank.

Knowledge compiled for better risk assessment and better communication & regulation

The exercises, which often lasted several days, were observed by international researchers and rescue service peers from partner regions to evaluate the cooperation structures, rescue procedures, and communication abilities and in order to facilitate learning from each other. Taking into account the knowledge gained in joint exercises, rescue services, seaports and academia, among other things, jointly developed a toolbox to assess risks in sea ports, a report on communication and regulatory challenges in safety and security of sea ports and a foresight study about the development of transport and logistics by 2030.

Instant improvements in ports & rescue services

Through this cooperation and sharing of experience several ports instantly introduced new measures. The Port Authority of Naantali (Finland) updated its crisis management procedures. The Fire and Rescue Department of Lithuania developed a standard evaluation procedure for exercises. And Hamburger Hafen und Logistik AG (Germany) improved their IT solution for the emergency response plan. The results of HAZARD are spread further within the project platform RESQU2.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

HAZARD Seaport Risk Assessment Toolbox

The Seaport Risk Assessment Toolbox is a publication that compiled available standards and methods to identify, analyse and evaluate risks in and of seaports. Seaports are confronted with risks that may affect the operational, economic and technical dimensions. The types of safety, operational and environmental risks include, for example, leakages of hazardous materials, fires on passenger ships at port, oil spills in port areas as well as explosions of gases or chemicals. The toolbox developed under the leadership of Hamburg University of Technology enables port operators and rescue services to standardise risk management at seaports across the Baltic Sea.

Link: https://projects.interreg-baltic.eu/projects/hazard-25.html#output-34

Report "Communication and regulatory challenges in the Baltic Sea Region"

The report creates an overall picture of the communicational and regulatory challenges related to safety and security issues for major seaports in the Baltic Sea Region. This includes, e.g. challenges related to the different national/regional legal frameworks and to communication between different

rescue authorities and between seaports. It suggests improvements to be made in the near future (five years' time span) to mitigate emergencies and accidents in seaports.

For example, the report revealed that one of the challenges in safety and security regulation is that interpretation of regulations is not uniform and, interpretation of regulations varies among the countries in the Baltic Sea region. EU directives and lower-level regulations could be more precise, and there could be more detailed interpretation directions included. The report was published by Turku School of Economics of the University of Turku.

Link: https://projects.interreg-baltic.eu/projects/hazard-25.html#output-35

Transport and Logistics in the Baltic Sea Region by 2030: A Foresight Study

The study maps the outlook for transport and logistics in the Baltic Sea region by the year 2030. Several factors anticipated to affect the region's competitiveness by 2030 were identified, of which the most important ones are the growing importance of environmental aspects in conducting business, significant technological advances, increasing taxation and regulation, increasing prevalence of cyber threats, and a shortage of skilled blue-collar labour. The study is based on data surveying a multinational expert panel of 96 participants from the Baltic Sea region. It was published by Turku School of Economics of the University of Turku.

Link: https://projects.interreg-baltic.eu/projects/hazard-25.html#output-36

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The project plans to continue to disseminate the HAZARD Seaport Risk Assessment Toolbox to the organisations for which it could be helpful tool. For example in 2020 a workshop is planned with the terminal operator Hamburg Hafen and Logistik AG (Germany).

The findings of the HAZARD project also made the foundation for the Interreg BSR project OIL SPILL and its consortium.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The jury of the MA/JS has selected a HAZARD project picture as the winner of the 2019 Interreg BSR photo competition in the category "Your project in one picture". The winning shot was captured by project director Lauri Ojala during a large-scale exercise at the Port of Klaipėda, Lithuania on 28 September 2017. The exercise simulated a chemical accident in the container terminal.

Final Project Conclusions

DiveSMART-Baltic

Project title	Project duration
Diving with State MAritime Resources in The Baltic	March 2016 - February 2019

Priority	Specific objective
Sustainable transport	Maritime safety

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.25 million	EUR 2.18 million	x	PA Safe

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/divesmart-baltic-4.html	www.kustbevakningen.se/granslos-samverkan/utvecklingsprojekt/dive-smart-baltic/

Lead partner (country)	Countries involved
Swedish Coast Guard (Sweden)	FI, PL, SE

Project summary

Teaser

The Interreg project DiveSMART-Baltic mapped competences of divers in nine countries around the Baltic Sea and equipped rescue centres, rescue services and other involved services with operational procedures that harmonise and accelerate joint search and rescue missions in an underwater environment to save more human lives.

The challenge

Gaps in emergency preparedness

The accident of Costa Concordia in Italy from 2012 was an alarming lesson for the rescue services in Sweden, Finland and Poland. Considering the dense shipping traffic in the Baltic Sea with about 2,000 operating in the Baltic Sea at any given minute throughout the year, colliding windfarms and other underwater architecture, accidents in the Baltic Sea can take place, too. However, there is neither an overview of divers' competences available, nor common procedures in place for countries around the Baltic Sea to support search and rescue missions in underwater environment. A lack of coordination on the national and international levels inevitably leads to gaps in the emergency preparedness, meaning a longer response time and fewer lives saved as the consequence.

FI	PL	SE
		

Final Project Conclusions

DiveSMART-Baltic

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Divers competences mapped

The first in the Baltic Sea region online database created by DiveSMART-Baltic compiles human diving resources and competences as well as diving equipment in Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland and Sweden. Thanks to this database currently managed by the Swedish Coast Guard, rescue services and authorities in countries around the Baltic Sea can validate the available resources, and better plan search and rescue missions in an underwater environment where local resources are not sufficient.

Common operational procedures put into test

In six table top and two live exercises, DiveSMART-Baltic brought together diving communities from Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Norway, Poland and Sweden, offering them a unique opportunity to train search and rescue missions. During Europe's biggest diving exercise in Kotka, Finland (November 2018), 65 divers from six countries spent 36 hours in water to save lives of 45 people.

This exercise enabled to test the newly developed Standard Operational Procedures all the way from alarming, mobilisation to life-rescuing diving. They clarify and harmonise how Rescue Coordination Centres, rescue services, coast guards, fire departments, police and armed forces around the Baltic Sea should cooperate in case of an accident to reduce the reaction time to accidents. Guidelines for dive coordinator officers are already in use by the Maritime Rescue Coordination Centre in Helsinki, Finland and the Joint Rescue Coordination Centre RCC in Tallinn, Estonia.

The procedures also serve as a baseline for a long-term exercise plan developed by the project, which include the exercises in May 2019 in Stockholm, Sweden, and in September 2020 in Gdynia, Poland.

Maritime safety improved

The Interreg project DiveSMART-Baltic used EUR 1.72 million from the European Union to make the best out of limited diving resources in countries around the Baltic Sea. By bringing diving communities closer together, the Interreg project DiveSMART-Baltic improved the overall maritime safety in the Baltic Sea.

The project results are now in use in the project platform ResQU2, which further develops the expertise of national authorities and rescue services in countries around the Baltic Sea to cope with accidents in the Baltic Sea and in ports, including those involving hazardous substances.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Standard Operational Procedure (SOP)

Standard Operational Procedures (SOP) is an action plan, which includes guidelines, manuals and checklists for Rescue Coordination Centres, rescue services, coast guards, fire departments, police,

armed forces and other services involved in diving search and rescue missions in an underwater environment. These procedures help harmonise joint actions and reduce reaction time to accidents.

Link: https://projects.interreg-baltic.eu/projects/divesmart-baltic-4.html#output-93

The inventory of human resources and diving equipment

The Jira tool is an online inventory of all the diving resources, capacities, mobilisation times and alarming procedures from the EU countries around the Baltic Sea. It includes information about more than 1,500 divers ready to be deployed in the case of an emergency, and suggested lists of equipment that each country should bare as an emergency preparedness procedure. The database enables Rescue Coordination Centres (RCC) in Denmark, Sweden, Finland, Latvia, Poland and Norway, diving organisations and the local and regional authorities to better prepare for and coordinate activities in case of accidents in the Baltic Sea.

Link: https://projects.interreg-baltic.eu/projects/divesmart-baltic-4.html#output-94

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The project has developed a long-term exercise plan to continue improving emergency preparedness, including exercises are in May 2019 in Stockholm, Sweden and September 2020 in Gdynia, Poland.

It was observed during one of exercises that an area between the Lithuanian shore and deeper sea was not covered by the responsibility of any authority. The project has therefore initiated change in the Lithuanian legislation to fill this gap.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The DiveSMART-Baltic project originally had seven partners from Finland, Poland and Sweden, and lacked participation of all the countries from around the Baltic Sea. As these countries were necessary in the work of improving the emergency preparedness in the region, some participants were financed via the Swedish Institute. As a result all the EU-countries around the Baltic sea have participated in the project, and are part of the achievements.

Final Project Conclusions

ChemSAR

Project title	Project duration
Operational plans and procedures for maritime search and rescue in HNS incidents	March 2016 - April 2019

Priority	Specific objective
Sustainable transport	Maritime safety

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.48 million	EUR 2.11 million	x	PA Safe

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/chemsar-17.html	https://blogit.utu.fi/chemsar/

Lead partner (country)	Countries involved
University of Turku (Finland)	EE, FI, DE, LT, SE

Project summary

Teaser

The Interreg project ChemSAR provided national rescue authorities and services around the Baltic Sea with operational plans and common procedures to harmonise maritime search and rescue (SAR) operations in incidents involving hazardous and noxious substances (HNS), and by this to save more lives.

The Challenge

Lack of common procedures

There are about 2,000 commercial vessels operating in the Baltic Sea at any given minute and tens millions of tons of chemicals transported along. So far, there have been 100-200 incidents with commercial vessels reported annually. Due to an increasing amount of traffic in the Baltic Sea, traffic intersections and difficult waters, the probability of a largescale maritime incident remains high.

Incidents are transnational by nature

No country around the Baltic Sea has sufficient resources to tackle incidents involving hazardous and noxious substances (HNS) on its own, hence almost any maritime chemical incident is international by nature. However, there are no standardised procedures that national rescue authorities and rescue services could use in case of maritime HNS incidents to harmonise joint search and rescue (SAR) operations.

DE	EE	FI	LT	SE
				

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Final Project Conclusions

ChemSAR

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

New procedures in place

The ChemSAR partners have jointly developed the first in the Baltic Sea region Standard Operational Procedures (SOP) for search and rescue (SAR) operations applicable to hazardous and noxious substances (HNS) incidents. The procedures were tested in table top exercises and simulations, and piloted in a live rescue exercise held on Estonian waters in September 2018 with over 100 role players, evaluators, and observers from eight countries. The procedures enable rescue maritime authorities and services to analyse capacities and capabilities, procedures and operational models in countries around the Baltic Sea, and to respond to HNS incidents in a more coordinated manner. The ready-made checklists additionally help harmonise e.g. assessing an incident, determining a restriction area, evaluating or decontaminating procedures.

Step by step in use

The ChemSAR operational plans and procedures are now compiled in a Handbook for Maritime SAR in HNS Incidents. The Finnish Border Guard, which coordinates rescue operations in Finland, uses the handbook in practice. The organisation also brought it up to the discussion at the HELCOM Response Working Group. The handbook is a guiding tool for rescue organisations in Sweden and Estonia too, including the Joint Response Coordination Centre Tallinn and Estonian Rescue Board. It is a reference document for rescue operations for the Lithuanian Armed Forces.

Towards standardisation

In most countries around the Baltic Sea, responsibility for dealing with HNS incidents is shared among several organisations. For this reason, it is a lengthy process until all organisations in all countries fully coordinate their operations. ChemSAR eLearning tool and chemical databank contribute to assimilating the guidelines into national procedures faster.

Further dissemination work of ChemSAR achievements is continued by the ResQU2 platform. The platform aims at improving preparedness of rescue authorities and services around the Baltic Sea to cope with incidents at sea and in ports, also those with hazardous and noxious substances.

ChemSAR matters

The Interreg project ChemSAR used EUR 1.89 million from the European Union to develop common operational plans and procedures for search and rescue operations in incidents involving hazardous and noxious substances. It offers ready-made tools for rescue authorities and services around the Baltic Sea to harmonise rescue operations, and in this way to save more lives and reduce the harm to the environment at the same time.

Now, the ChemSAR core partners contribute to the ResQU2 project platform that further develops the expertise of national authorities and rescue services to cope with accidents in the Baltic Sea and in ports, including those involving hazardous substances.

Final Project Conclusions

ChemSAR

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Standard Operational Procedures (SOP) for Maritime Search and Rescue Operations Involving HNS Incidents

The Standard Operational Procedures (SOPs) developed by ChemSAR support national maritime rescue authorities and services around the Baltic Sea in conducting maritime search and rescue operations in incidents involving hazardous and noxious substances (HNS). The procedures complemented by checklists and operational plans ensure more efficient use of human and technical resources, and help rescue crews to work together in a more coordinated manner.

Link: https://projects.interreg-baltic.eu/projects/chemsar-17.html#output-74

ChemSAR Chemical Dataportal

The ChemSAR Chemical Dataportal is an online tool that helps national maritime rescue authorities and services find relevant information relevant to rescue operations where hazardous and noxious substances (HNS) are invlved. It helps plan and respond to chemical emergencies at sea as vast amount of information on HNS can be accessed fast and in practical form, also via mobile devices.

Link: https://projects.interreg-baltic.eu/projects/chemsar-17.html#output-75

ChemSAR eLearning Material

The eLearning material helps maritime rescue authorities and services improve knowledge of responding to chemical emergencies at sea. The training is based on the ChemSAR operational plan and standard operational procedures and framed into subunits, reflecting the standard operational procedures. The training includes pretests and quizzes.

Link: https://projects.interreg-baltic.eu/projects/chemsar-17.html#output-76

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The main spin-off activity of the ChemSAR project is the ResQU2 project platform. It is a joint platform with core ChemSAR partners and three other projects, two of which funded by the Interreg Baltic Sea Region Programme, i.e. HAZARD, DiveSMART-Baltic. In this way, ChemSAR outputs will be further disseminated to help improve maritime preparedness for search and rescue operations in incidents at sea and in ports.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- The most crucial thing for the project's success was the fact that the project had its main target groups involved as partners. This ensured producing tangible and needed guidelines and tools for the rescue services.

Final Project Conclusions

ChemSAR

- Cooperation in the field of communication with other Interreg Baltic Sea Region projects brought more visibility to the project.
- The already existing cooperation with other projects was essential when planning the follow-up for the project, i.e. the ResQU2 project platform.

Final Project Conclusions

GREEN CRUISE PORT

Project title	Project duration
GREEN CRUISE PORT - Sustainable Development of Cruise Port Locations	March 2016 - February 2019

Priority	Specific objective
Sustainable transport	Environmentally friendly shipping

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.76 million	EUR 2.00 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/green-cruise-port-3.html	www.greencruiseport.eu

Lead partner (country)	Countries involved
Hamburg Port Authority (Germany)	DK, EE, FI, DE, LV, LT, NO, PL

Project summary

Teaser

In the project Green Cruise Ports, eight major cruise ports of the Baltic Sea region lifted sustainability up on their agenda and committed themselves to decoupling growth from negative environmental impact of port and vessel operations; they jointly established an action plan for more sustainable investments over the next ten years.

The opportunity

The cruise shipping sector in the Baltic Sea region has grown enormously in the last decade. From 2001 to 2013 cruise ship calls (visits by a cruise ship at a port) grew by a total of 59 % (1,601 to 2,552), and passenger visits increased by over 260 % (1.2 million to 4.4 million). Cruise tourism is expected to continue growing in the Baltic Sea region. Meeting the fast-growing demand and the associated environmental requirements in the cruise sector in a strategic, sustainable manner is necessary. Because the "cruise product" is transnational by its nature, only a joint planning process of ports in the region will have lasting results.

DE DK EE FI LT NO PL

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Eight ports and two cruise lines explore green solutions together

In the project, the port authorities of eight large cruise ports in the Baltic Sea region joined forces, namely Hamburg (Germany), Rostock (Germany), Klaipeda (Lithuania), Riga (Latvia), Tallinn (Estonia),

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Helsinki (Finland), Bergen (Norway) and Esbjerg (Denmark) for an ambitious approach towards green cruise ports. The port authority RosMorPort which operates the ports of St. Petersburg and Kaliningrad (Russia) contributed as well. Together with the cruise lines AIDA and TUI as well as researchers from the Maritime Institute in Gdansk they looked into smart solutions for greener cruise ports in terms of sustainable energy supply and innovative emission reduction, cruise terminal buildings and innovative reception facilities and maritime and landside cruise terminal traffic links and published a series of thematic studies in each of those fields. A study on "Sustainable energetic solutions for the cruise terminal building in Northern climate" laid the fundament for an engineer-layout of a smart cruise terminal building at the Port of Tallinn. The new terminal was built 2019.

A common vision and an action plan for green cruise tourism by 2030

To bring all the experience and ambitions together, the ports established a joint vision: To decouple growth in the Baltic Sea region cruise port industry from negative sustainability, and especially environmental impacts that result from port and vessel operations. In order to pursue this vision, the ports and cruise lines developed a Green Cruise Port Action Plan 2030 with specific goals for its realization. The Action Plan serves as an important tool and source of reference for ports, cruise lines, policy and others striving for a high level of sustainability. In 2017, the Baltic Sea Forum awarded the project the Baltic Sea Clean Maritime Award in the category “Infrastructure”.

Main Outputs

The main outputs present the project’s main deliveries which are tangible and can be used by others outside the project.

The Green Cruise Port Action Plan 2030

The Action Plan sets up an overarching sustainability vision for the cruise tourism industry together with specific goals for its realisation. The Action Plan provides concrete and practical information on how to reduce negative ecological and social impacts of cruise port operations. Consequently, the Action Plan serves as an important tool and source of reference for the project partners and all others striving for a high level of sustainability. All measures in the Action Plan have been evaluated on the basis of two main criteria - impact on sustainability and efforts for implementation.

Link: https://projects.interreg-baltic.eu/projects/green-cruise-port-3.html#output-30

Report “Onshore Power Supply for Cruise Vessels

The report sums up the opportunities and limitations for connecting cruise vessels to onshore power drawing upon a thorough analysis of the ports of Hamburg (Germany), Rostock (Germany), Tallinn (Estonia), Helsinki (Finland), and Bergen (Norway). Onshore power for vessels while in ports is one possible technology to avoid air and noise pollution from cruise vessels in cities. The report looks at the costs and benefits for vessel operators and ports related to establishment of onshore power supply. Based on the findings of this report, Green Cruise Ports partners can provide information to governments and local authorities on how to reduce barriers to onshore power for vessels.

Link: https://projects.interreg-baltic.eu/projects/green-cruise-port-3.html#output-31

A study on “Common standards in the measurement of economic effects by cruise tourism”

Despite the importance that cruise tourism gained in recent years, there are still few studies that attempt to quantify its economic impact. This study elaborated by Green Cruise Port project looks into the economic impact of cruise tourism, in particular at the regional and local levels. Providing

data about the impacts of cruise tourism at cruise port locations gives stakeholders a possibility to compare the economic effects of cruise tourism in different cruise port locations. This enables them to make sound investment decisions for in cruise port infrastructure.

Link: https://projects.interreg-baltic.eu/projects/green-cruise-port-3.html#output-32

Technical study "Sustainable energetic

The purpose of this study is to analyze the possibility of employing sustainable solutions at the cruise terminal built by Port of Tallinn. The study defines criteria for designing a sustainable terminal which are applicable to other plans for cruise terminal buildings. It describes technical solutions, e.g. for heating, cooling, automation, lighting etc.

Link: https://projects.interreg-baltic.eu/projects/green-cruise-port-3.html#output-33

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

- The project partners adopted a declaration to use the Green Cruise Port Action Plan 2030 in order to support strategic and operational decisions to foster sustainability in their ports. The partners will also encourage other ports and stakeholders to consider the Action Plan to support the development of sustainable cruise port locations.
- A study "Sustainable energetic solutions for the cruise terminal building in Northern climate" laid the fundament for an Engineer-Layout of a smart cruise terminal building at the Port of Tallinn. The new terminal is built outside the project funding still in 2019.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The project won the Baltic Sea Forum's Baltic Sea Clean Maritime Award in the category 'Infrastructure' in 2017.

Final Project Conclusions

EnviSuM

Project title	Project duration
Environmental Impact of Low Emission Shipping: Measurements and Modelling Strategies	March 2016 - February 2019

Priority	Specific objective
Sustainable transport	Environmentally friendly shipping

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.22 million	EUR 3.00 million	x	PA Ship

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/envisum-16.html	https://blogit.utu.fi/envisum/

Lead partner (country)	Countries involved
University of Turku (Finland)	DK, EE, FI, DE, NO, PL, SE

Project summary

Teaser

The Interreg project EnviSuM provided policy makers and ship owners with sound evidence that strict, global environmental regulations of shipping can benefit human health and the environment without threatening business – the Baltic Sea served as the globally unique test case.

The challenge

Stricter environmental limits on sulphur emissions of ships made Baltic Sea a global test case
A new regulation to limit sulphur emissions from ships by the International Maritime Organisation (IMO) entered into force in 2015. The purpose of the so-called SECA regulation (Sulphur Emission Control Area) is to reduce the air pollution and thus the negative effects of shipping exhausts on human health and on the environment. Since then, all ships sailing the Baltic Sea need to comply with stricter limits than elsewhere, and in 2020 these stricter sulphur limits are implemented worldwide. This situation turned the Baltic Sea into a test region for environmental limits covering larger areas of several countries.

Decision makers in policy and shipping industry need solid information
Before SECA was implemented, there were heavy debates in the maritime sector about the costs for ship-owners to comply with the regulation. Ship-owners bear these costs, no matter how they reduce the sulphur emissions – be it by cleaning the exhaust gas or by using higher quality fuels. These costs are transferred to their customers and ultimately to the consumers. This discussion showed that there is a need for up-to-date science-based information to guide future legislation on shipping emissions – among decision makers in both policy and business. Against this background, the Interreg project EnviSuM developed and applied state-of the-art measurement methods and models.

DE	DK	EE	FI	NO	PL	SE
						

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Final Project Conclusions

EnviSuM

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Sound measuring and modelling shows: environmental regulation works

Several research institutions with support of businesses and public administration from altogether seven countries took stock of the effects of SECA on human health, environment and the economy, namely the shipping sector. To this end, they used local and pan-Baltic measurements of the air composition and combined them with different models. These studies found that 1) negative economic effects of SECA concerning the rise of fuel costs and modal shift from sea to land did not occur as it was predicted; 2) the health, environmental and economic benefits of SECA outweigh the costs; 3) tight environmental regulation can encourage innovation: the reduction in emissions can create business benefits to the maritime cluster. All in all, the test case of stricter environmental limits for ships run in the Baltic Sea between 2015 and 2020 provided sound scientific evidence that the regulation works well without heavily impairing business. The results of the EnviSum project can serve decision makers in policy and business all across the globe as all coastal countries are facing the sulphur cap in 2020 and possibly new environmental regulation in the future.

Three large port cities get precise model studies on ship-borne air pollution

Next to the overall results of the model studies, the project partners carried out local studies on air pollution from ships, namely in Gothenburg (Sweden), the Tri-City (Poland) and St. Petersburg (Russia). In Poland, it was the first time that effects on shipping emissions on a local scale were inventorised and modelled. In Sweden, the local study showed that the sulphur emissions from ships decreased by 70 % within only one year, the year that the SECA regulation entered into force.

Decision support for the shipping industry

The project also addressed the shipping industry's compliance with the SECA regulation. The partners examined how efficient the different techniques for removing pollution from exhaust gases are. An online tool was set up that can help ship-owners assess the costs and benefits of the different techniques for their fleet. A study found that in general, ship-owners operating in the Baltic Sea region comply well with the SECA regulation, but compliance needs to be monitored regularly and noncompliance needs to be sanctioned in order to make the regulation effective. However, there were many challenges concerning the usability of engines and technical devices. Wide-spread air pollution control devices will not be able to match future obligations of the global marine pollution convention and need to be technically improved or replaced by better solutions.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Final report: Clean Shipping – Exploring the impact of emission regulation

This report summarises the results of the project EnviSuM - an acronym for "Environmental Impact of Low Emission Shipping: Measurements and Modelling Strategies". In Chapter 1, the authors look at different emission abatement strategies including measurement results from different types of vessels. This section also presents results on the effects of switching fuels, the modelling used to

measure ship emissions and compliance monitoring. In Chapter 2, they explore air quality based on emission results. Local air quality was modelled for three urban areas - Gothenburg, Gdansk/Gdynia and St. Petersburg. The effects of shipping emissions on public health and environment are assessed in Chapter 3. In Chapter 4 they discuss the economic consequences of SECA. This includes costs as well as positive effects of SECA, such as inducement to innovate and the enhanced reputation of the Baltic Sea region. The authors conclude in chapter 5 by looking to the future environmental shipping regulations.

The report is backed up by a large number of international partner organisations from nine countries, namely the University of Turku (Finland), Chalmers University of Technology (Sweden), Maritime University of Szczecin (Poland), Finnish Meteorological Institute (Finland), Norwegian Meteorological Institute (Norway), University of Gothenburg (Sweden), Tallinn University of Technology (Estonia), City of Gothenburg (Sweden), Voeikov Main Geophysical Observatory (Russia), Maritime Development Center (Denmark), Baltic Marine Consult Ltd. (Germany), Baltic Marine Environment Protection Commission - Helsinki Commission (Finland), Helsinki Commission (Russia), International Institute for Applied Systems Analysis (Austria).

Link: https://projects.interreg-baltic.eu/projects/envisum-16.html#output-82

Storymap: Baltic Sea Region Shipping Towards Better Air Quality – EnviSuM results

This interactive online narrative presents the role of shipping towards a better air quality in the Baltic Sea Region using animated videos and maps that highlight the results from the Interreg project EnviSuM. Between 2016-2019, the EnviSuM project - an acronym for "Environmental Impact of Low Emission Shipping: Measurements and Modelling Strategies" has assessed the impacts and costs of ship emissions on the scopes of human health, environment and economics. The information in the story map is useful for a wide range of audience: from experts of the field to the people interested in the air emissions and the state of the Baltic Sea.

Link: https://projects.interreg-baltic.eu/projects/envisum-16.html#output-83

SECA investment decision tool

A web-based visualised economic decision tool (was developed during the project for assessing real options for compliance with maritime sulphur regulations and to indicate the best short or long-term investment and capital budgeting strategies for the future. Compliance with SECA regulations requires investment decisions by maritime fuel producers as well as ship-owners, particularly in the case of scrubber installation. The investment tool will help companies estimate costs related to SECA regulations and decide which investments to make in order to comply.

Link: https://projects.interreg-baltic.eu/projects/envisum-16.html#output-84

Urban air quality measurements in Gothenburg (Sweden), St. Petersburg (Russia) and the Tri City region (Poland)

The Finnish Meteorological Institute compared the measurements of air quality from three large port cities in the Baltic Sea region, namely the Tricity (Gdansk, Sopot and Gdynia) in Poland, Gothenburg in Sweden, and St. Petersburg in Russia. The air quality measurements were made during the years 2016–2018 near the city ports. Measured components for air quality included NOx, SOx, CO, O3, as well as particulate matter PM10 and PM2.5.

The comparison helps air pollution experts to assess the effect of the SECA legislation and to evaluate the results of a local modelling study of air quality in the ports of Gdansk and Gdynia – such modelling had been carried out for the first time in Poland in the project EnviSuM.

Link: https://projects.interreg-baltic.eu/projects/envisum-16.html#output-85

Policy brief: Sulphur Emission Control Area (SECA) Regulation's Benefits Exeed the Costs. Both are Distributed Unevenly.

This policy brief provides policy makers and authorities with recommendations for the development of future environmental regulations, and the shipping sector with guidance to support future investment decisions. It wraps up the results of the transnational cooperation project EnviSuM which analysed the impacts of an environmental regulation on the Baltic Sea region from 2016-2018.

Link: https://projects.interreg-baltic.eu/projects/envisum-16.html#output-86

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The objective of CSHIPP (Clean Shipping Project Platform, led by University of Turku, who was a lead partner in EnviSuM project) is to increase the impact of and connect the dots between the several projects working for clean shipping. As the projects involved in the platform look at the shared topic of clean shipping from different angles, CSHIPP synthesises the projects' results into a more comprehensive whole.

The activities of CSHIPP revolve around two key themes: the environmental effects of shipping and the business potential of clean shipping in the Baltic Sea Region. CSHIPP targets its activities at three groups of actors in the field of clean shipping: research organisations, businesses/industry representatives and policy makers.

Final Project Conclusions

EmpInno

Project title	Project duration
S3-Empowering for Innovation and Growth in Medium-Sized Cities and Regions	May 2016 - April 2019

Priority	Specific objective
Capacity for innovation	Smart specialisation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.91 million	EUR 2.70 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/empinno-15.html	www.empinno.eu

Lead partner (country)	Countries involved
Rostock Business and Technology Development GmbH (Germany)	DK, EE, FI, DE, LV, LT, PL, SE

Project summary

Teaser

The Interreg project EmpInno helped twelve medium sized regions around the Baltic Sea to improve their regional innovation strategies for smart specialisation (RIS3) by providing strategy owners (e.g. public authorities) and strategy implementers (e.g. science parks, universities, business intermediaries) with peer knowledge and by boosting their cooperation with business.

The challenge

Smart specialisation (S3) is a systematic process to make European regions globally more competitive through innovation. This approach was introduced to policy makers as well as other stakeholders from business level, academia and other innovation actors in 2011. Since then, more than 180 regional innovation strategies (RIS3) were established. Across Europe authorities face common problems and obstacles in the process of managing, delivering and monitoring their strategies.

To implement S3 is not trivial

On the one hand, public authorities ("strategy owners") face common problems and obstacles in the process of managing, delivering and monitoring strategies for smart specialisations in their regions. On the other hand, innovation actors, such as business intermediaries, science parks, universities (as "strategy implementers") often lack institutional capacity, resources and experiences to work with RIS3. In many regions the RIS3 are communicated insufficiently or are even unknown to the innovation actors. Compared to metropolises, medium sized cities and regions have on average a smaller critical mass for innovation and growth and the local economic actors are less outward oriented and this face similar challenges. And thus, the potential for innovation and growth remains unused.

To learn from others who face the same challenges

To face these challenges public authorities joined forces with universities, technology and science parks, business support organisations and NGOs. The authorities represented the state of

Final Project Conclusions

EmpInno

Mecklenburg-Vorpommern (Germany), the region of Southern Denmark, Kujawsko-Pomorskie and Lubelskie Voivodeships (Poland), the regions Gävleborg Östergötland (Sweden), regions Satakunta, South Ostrobothnia and South Savo Finland), South-Estonia, Latvia and Lithuania. They identified six priorities they had in common in their RIS3: Information and Communication Technology, Maritime Industries, Food, Energy, Advanced Materials and Health, Life Sciences and Biotech.

DE	DK	EE	FI	LT	LV	PL	SE
							

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

A network to get in touch

In the course of the project a transnational network of RIS3 specialists was developed. Learning from each other on RIS3 related topics, exchanging good practices on regional innovation policy tools and gaining knowledge about ways of working with the RIS3 potential is the core of the created network. 15 representatives of public authorities from the national and regional level, universities, business support organisations, technology and science parks, non-governmental organisations signed a memorandum of understanding to secure the continuation of cooperation to enrich the capabilities of RIS3 owners and implementers to adapt new solutions to own regions and smart specialisation processes. The network is maintained with the follow up project EmpInno Monitor.

Learning from each other

To boost the cooperation between public authorities, innovation actors and companies, representatives of public authorities, universities, business support organisations, technology and science parks, and non-governmental organisations shared experiences and good practices on regional and local innovation policy instruments supporting the employment of the RIS3 instrument. As a result, various examples of boosting innovation and growth within the Baltic Sea region to better utilise the regional smart specialisation strategies and bring them closer to business were introduced, discussed and finally collected in the EmpInno catalogue of Regional Innovation Policy Instruments. This document offers a comprehensive overview of good practices learned during the project, as it includes the best examples chosen by the project partners in applying RIS3 in their regions. The aim of the catalogue is to provide new ideas and solutions for regional authorities and innovation actors working for RIS3 implementation to improve and update regional policy tools and organisational set-up.

Improving RIS3 in the different regions

The partners established a closer cooperation between RIS3 owners and implementers, e.g. Rostock Business and Technology Development GmbH (DE) as RIS3 implementer in Mecklenburg-

Vorpommern, should be stronger involved in the process of RIS3 development and update, especially when it comes to methods of monitoring results of the RIS3 implementation in the region.

Östergötland County Council (SE) continued to develop the model of RIS3 specialists and ambassadors and also introduced new supporting measures and tools for this work that were developed within EmpInno, e.g. organisational couching tools or RIS3 feedback papers.

In the Region Gävleborg the initiative with "the smart specialisation school" was continued to further enhance the RIS3 capacity in the regional innovation support system.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

RIS3-recommendations for strategy owners

This set of recommendations is compile for public authorities in small and medium-sized cities in the region who are responsible for or involved in the implementation of smart specialisation. Based on experiences collected within the Interreg project EmpInno and knowledge exchange, the RIS3-recommendations provide hands-on guidance and derive lessons learnt for a better management and implementation of RIS3 in the Baltic Sea region.

Link: https://projects.interreg-baltic.eu/projects/empinno-15.html#output-63

RIS3-recommendations for innovation intermediaries

This set of recommendations is compile for innovation intermediaries in small and medium-sized cities in the region who are responsible for or involved in the implementation of smart specialisation. Based on experiences collected within the Interreg project EmpInno and knowledge exchange, the RIS3-recommendations provide hands-on guidance and derive lessons learnt for a better management and implementation of RIS3 in the Baltic Sea region.

Link: https://projects.interreg-baltic.eu/projects/empinno-15.html#output-64

Synergy and Empowerment Concepts for energy, food, health and life science, ICT, maritime industries and advanced materials

These Synergy and Empowerment Concepts present good practices and lessons learned from the Interreg project EmpInno. They compile knowledge to implement innovative and competitive ideas of adapting and using RIS3 for the benefit and growth of different regions in the Baltic Sea region. The concepts cover six business fields: energy, food, health and life science, ICT, maritime industries and advanced materials. The learning is based on numerous R&D transfer workshops, matchmaking and networking events as well as training formats.

Link: https://projects.interreg-baltic.eu/projects/empinno-15.html#output-65

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

In order to capitalise on the results already achieved, some of the EmpInno partners decided to elaborate and submit the extension to the EmpInno project, EmpInno Monitor S3. It will help to

valorise and spread the results of EmpInno in the Baltic Sea region. The main objective of the extension stage project is to develop and test novel monitoring tools, and thereby to improve the monitoring systems of the smart specialisation strategies in three partner countries (Estonia, Latvia and Denmark) and in four partner regions (Mecklenburg-Vorpommern, Kujawsko-Pomorskie Region, Lubelskie Voivodeship and South-Eastern Finland). To achieve this, the partners will take up and pilot parts of the main output "RIS3 feedback papers" elaborated during the regular EmpInno project, in which the testing of RIS3 monitoring approaches was proposed to "strategy owners"

In some partner regions, e.g. South-Savo, the authority responsible for the RIS3 was involved in the planning process of the extension stage project and joined EmpInno Monitor S3 as associated organisation.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- The project partnership consisted of the impressive combination of the RIS3 owners and implementers (regular partners and associated organisations) that enabled to optimally foster the evaluation and the update process of regional smart specialisation strategies in the selected small and medium-sized cities in the Baltic Sea region.
- It is planned that the project results will feed into the EmpInno Monitor S3 extension stage project aiming to develop and test monitoring elements, and thereby to improve the monitoring systems of the smart specialisation strategies in three countries and four regions around the Baltic Sea.

Final Project Conclusions

BSR Stars S3

Project title	Project duration
Stimulating smart specialization ecosystem through engaging SMEs in open innovation processes	May 2016 - April 2019

Priority	Specific objective
Capacity for innovation	Smart specialisation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.9 million	EUR 2.2 million	x	PA Innovation

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/bsr-stars-s3-33.html	www.bsr-stars.eu/bsr-stars-s3/

Lead partner (country)	Countries involved
The Baltic Institute of Finland (Finland)	DK, FI, LT, NO, SE

Project summary

Teaser

Through BSR Stars S3 business support organisations, public authorities and policy makers in several regions around the Baltic Sea know more about how to turn their smart specialisation strategies for advancing bio and circular economies into action.

The opportunity

Smart specialisation (S3) is a systematic process to make European regions globally more competitive through innovation. This approach was introduced to policy makers as well as other stakeholders from business level, academia and other innovation actors in 2014. Even though many regions wanted to leverage their own strengths by connecting with regions in other countries, the existing structures, operational mechanisms and financing frames were not suited to these transnational ambitions. Since 2014, around 180 strategies were established.

Building on existing activities and policy governance structures, the project aimed to develop more integrated innovation support infrastructures, such as test and demonstration facilities and new innovation management tools to leverage complementary competences across borders in the Baltic Sea region. The project aimed to improve competences and capabilities of innovation actors to apply a transnational approach when they implement their regional and national smart specialisation strategies. The project focused on bio- and circular economy as a cross-sectoral priority field of smart specialisation in the Baltic Sea region with a focus on the Nordic states and Lithuania.

DK	FI	LT	NO	SE
				

Final Project Conclusions

BSR Stars S3

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Administrative actors like regional and national public authorities from and beyond the partnership learned about economic opportunities in the bio- and circular economy and transnational cooperation. Regional authorities gained understanding on new digital potentials for innovation ecosystem management in their regions, e.g. by contributing and testing an online tool to visualise innovation ecosystems. Regional authorities also learned how to better organise workshops in cross-sectoral teams to find the best solutions to regional challenges by setting up so-called S3 accelerator camps. Beyond study visits, both regional authorities and business development organisations learned and tested ways to involve business sector and research organisations in smart specialisation, e.g. by organising matchmaking events and a so-called transnational innovation coaching.

Networking opportunities for bio- and circular economy stakeholders were organised in Karlstad, Tampere and Vilnius. The events have had altogether approximately 800 participants representing research (about 400 representatives), business (over 300 representatives), and the public sector (about 100 representatives). Another means of building further knowledge were so-called policy briefs on different topics. In policy briefs, the regions and research institutes summarised their learning about selected aspects of smart specialisation.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Policy Brief: Innovation Ecosystems in the Circular Economy

This policy brief "Developing and Managing Innovation Ecosystems in the Circular Economy" outlines the main aims and features of a digital monitoring tool and makes recommendations for how to support the development and management of effective innovation ecosystems. For example, it highlights the importance of fostering a culture of open data sharing amongst key regional innovation actors.

Link: https://projects.interreg-baltic.eu/projects/bsr-stars-s3-33.html#output-53

Visualisation tool for a circular economy innovation ecosystem

The "Visualisation tool for a circular economy innovation ecosystem" is an online software that compiles data about a circular economy ecosystem. It converts the data into a user-friendly form which shows key actors within the ecosystem and how they interlink. The software uses open data but can also process data from other information sources and is constantly updated with real-time data. The prototype visualizes the circular economy innovation ecosystem of Tampere Region in Finland. The tool is currently password protected and people interested can obtain access upon request.

The tool creates the basic information needed to build up an overview of the local circular economy. For instance, it will be possible to monitor different circular economy sub-ecosystems, such as those that focus on e.g. textile circulation or fertilizers.

Link: https://projects.interreg-baltic.eu/projects/bsr-stars-s3-33.html#output-54

Final Project Conclusions

BSR Stars S3

Policy Brief: Inclusive Digitalisation

This policy brief "Inclusive Digitalization in the Baltic Sea Region" examines whether inclusive digitalization is an important instrument for promoting regional growth and development in struggling rural areas in the Baltic Sea region. The brief highlights the potential benefits that digitalization can bring and the challenges faced in implementing an effective digital agenda in rural areas. The brief also provides key recommendations identifying possible initiatives and policies that may help local businesses achieve successful digital transformation. These recommendations are based on learnings and best practices from digitalization initiatives conducted in rural areas around the Baltic Sea region.

Link: https://projects.interreg-baltic.eu/projects/bsr-stars-s3-33.html#output-55

Policy Brief: Industrial Symbiosis

The policy brief "Industrial Symbiosis in the Baltic Sea Region" describes current practices and guidelines for new initiatives of industrial symbiosis. Industrial symbiosis is the process by which wastes or by-products of an industry or industrial process become the raw materials for another. Industrial symbiosis is promoted as vitally important moving towards a circular economy by helping industries and businesses cooperate.

Link: https://projects.interreg-baltic.eu/projects/bsr-stars-s3-33.html#output-56

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

During a study visit to Kalundborg and Helsingborg within BSR Stars S3, innovation experts identified industrial symbiosis as a key element of circular economy. Based on the needs identified at this study visit, the project Baltic Industrial Symbiosis (BIS) was developed which is financed in the third call of Interreg Baltic Sea Region. BIS will continue the learning between regions to support and enhance industrial symbiosis in the Baltic Sea region.

The outputs of BSR Stars S3 have provided content for the S3 ecosystem development and preparation of BSR S3 Ecosystem Platform proposal for Interreg BSR Platform call which was approved in 2019.

A network of regions was formed to promote the BSR S3 ecosystem, including the partner regions Tampere, Västerbotten and Sor-Trondelag. This network of regions will continue having meetings and exchange of experiences on S3.

BSR S3 Ecosystem Platform provide a platform for creating a better understanding on the best practices and opportunities for S3 in the BSR to a wide range of BSR regions. The Platform will combine best practices of BSR Stars S3 and other S3 projects and produce e.g. a manual for S3 implementation and a joint S3 training programme.

Final Project Conclusions

BSR Stars S3

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

While especially public and administrative actors were strongly benefitting, it proves more challenging for the project to attract and involve stakeholders from the business sector. Examples for this are the intended realisation of pilots or e.g. plans to drive transnational cooperation between companies and research-oriented actors.

Beyond its study visits and events, also in connection with its flagship status and cooperation with PA Inno, the project's efforts with a focus on the policy level are considered successful. At the same time, the planned active involvement of business sector actors remained challenging and partly fragmented. More specifically, the planned pilots were delayed and nearly cancelled. Respective adaptations were based on comprehensive efforts of the MA/JS, especially with the initial conditions of this split call project in mind. In connection to this, also more than EUR 0.7 million budget remained at the end of the project. Based on crucial questions about the business involvement and piloting aspects, the duration of the clarifications of reports was above average. Beyond this, the partnership sometimes seemed to rely too much on its strengths in working with public actors.

Final Project Conclusions

BaltSe@nioR

Project title	Project duration
Innovative solutions to support BSR enterprises in product development aimed at raising comfort and safety of seniors home living	May 2016 - April 2019

Priority	Specific objective
Capacity for innovation	Non-technological innovation

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 2.39 million	EUR 1.98 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/baltsenior-30.html	http://www.baltsenior.up.poznan.pl/ https://baltsenior.com

Lead partner (country)	Countries involved
Poznan University of Life Sciences (Poland)	DK, EE, FI, DE, LV, LT, NO, PL, SE

Project summary

Teaser

In this Interreg project, furniture manufacturers, designers, architectures and other experts gain knowledge about the senior's needs and preferences in order to win a competitive edge in designing customised and smart products for seniors, and by this to improve their quality of life.

The opportunity

Insufficient market placement for seniors

Although almost 20% of the EU population is 65 years old or more, the market for furniture adapted to the seniors' needs is still fragmented. At the same time, there are great design traditions in the Baltic Sea region: the furniture industry develops here five times faster than in other part of the EU. Germany and Poland are among the world's leaders in producing and exporting furniture; together with Sweden, these countries also rank high in the industrial design.

Yet, owners of furniture companies have little understanding and knowledge how to design furniture that would increase the seniors' comfort and security in home environment. By failing to meet the changing demands of aging societies, companies miss considerable business opportunities.

Innovating the approach

With applying a cross-sectoral approach and product development methods based on design thinking and open innovation, owners of companies, designers and architectures can boost their competitiveness in the Baltic Sea region and beyond. A big chance for enterprises can be a big win for seniors: better designed furniture incorporating smart solutions ensure a higher life quality and independence in home environment.

Final Project Conclusions

BaltSe@nioR

DE	DK	EE	FI	LT	LV	NO	PL	SE
								

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Needs and preferences of seniors do matter

Experts from Estonia, Denmark, Finland, Germany, Latvia, Lithuania, Norway, Poland and Sweden worked together in the project BaltSe@nioR, and paved the way for the furniture industry, in particular small and medium sized enterprises, to better adapt their market offer for the elderly.

Baltse@nioR has developed a profile of an elderly as a customer that can serve any enterprise manufacturing furniture or serving seniors otherwise in product customisation. 90 companies from 12 countries identified their challenges when producing products for seniors. In a knowledge database, the project collected feedback from more than 3,000 seniors from Denmark, Finland, Germany, Latvia, Lithuania, Poland and Sweden on their preferences in using kitchen, bedroom and upholstery furniture, as well as on their IT skills and economic conditions of households.

Virtual library for real-life benefits

The project created a one-stop shop for furniture manufacturers and others interested in seniors as customers. More than 230 registered users: designers, engineers, architects, health experts, furniture industry journalists and entrepreneurs from furniture manufacturing companies from 18 countries access new databases, research results from seven countries around the Baltic Sea, safety requirements for the furniture construction, design methods, new tools and prototypes developed by the project.

Let's test together

Students and young professionals from Poland, Estonia, Latvia, Lithuania, Denmark, Sweden, Finland, Germany and Norway tested new design, such as gigamapping or shadowing to get inspired to reshape the future furniture market. Now, these methods are part of the educational process of Poznan University of Life Sciences, Art Academy of Latvia and Tallinn University of Technology. Whereas the result of joint innovation camps and design workshops are several prototypes of furniture incorporating smart IT solutions that increase the seniors' safety. For example, a magic mirror displays personalised messages, a ReAbleChair collects data on sit-to-stand movements, a smart chair helps in physical rehabilitation, and a mobile robot with the fall detection and stand-up support function.

The prototypes serve as an incentive for designers to design smarter and, by this, to gain a competitive advantage on the furniture market. The project directly supported as many as 40 companies, and involved many more into testing, workshops and business exchange events.

More than 100 seniors and their caregivers tested these novelties in real home environments in Ulvila and Pori (Finland), whereas enterprises from the furniture, IT and healthcare sectors validated

the functionality of the tools, such as a virtual library and a 3d printed age-simulator. The collected feedback helped, for example, improve the mobile robot, and triggered further amendments to prototypes that could serve the needs of seniors in public space better, a niche picked by the follow up project BaltSe@nioR 2.0.

Interreg helps improve the quality for life

Thanks to EUR 1.72 million support from the European Union, the Interreg project Balts@nioR provided furniture manufacturers with knowledge and tools to customise their products for seniors. In this way, Balts@nioR increased the competitiveness of furniture sector across the Baltic Sea region and triggered producing safer and more comfortable furniture for seniors, which improve their quality of life and independence in home environment. Now, the follow-up project BaltSe@nioR 2.0 strives for changing public spaces into age-friendly areas, making use of all knowledge and tools in place.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Virtual Library

The Virtual Library is an online platform that compiles relevant data from Denmark, Germany, Finland, Lithuania, Latvia, Poland and Sweden, research results, publications, tools, furniture prototypes and tested design methods developed in the project. The Library is a knowledge database for any furniture manufacturers, designers, students, practitioners and researchers that would like to learn more about furniture that better meet the needs of seniors. It is also a constantly developing platform, with new documents, films, photos, research results being added.

Link: https://projects.interreg-baltic.eu/projects/baltsenior-30.html#output-95

New, improved product development methods

This is a set of manuals and guidelines to new design working methods, which make use of design thinking, open innovation, and refer to the databases on the seniors' preferences, and safety requirements for furniture for seniors. This comprehensive and inspirational set of design working methods was described and illustrated in order to ensure better understanding of the methods and to facilitate their implementation by companies, designers, students into their daily routines. The elaborated manuals and guidelines summarise all workshops, case studies and examples of the design methods that were tested and implemented during the project. The documents are also part of the Virtual Library.

Link: https://projects.interreg-baltic.eu/projects/baltsenior-30.html#output-96

Knowledge database on the seniors' preferences

This database collects new knowledge on the seniors' needs and preferences regarding kitchen, bedroom and upholstery furniture. Thanks to an optimised search engine, this online tool allows for finding relevant information about the seniors' needs and preferences according to their e.g. country of origin (Denmark, Germany, Finland, Lithuania, Latvia, Poland and Sweden), age, sex and independence. The database guides manufacturers and designers in developing age-friendly

furniture by providing valuable hints on how to adapt their products to create a safe home space for seniors.

Link: https://projects.interreg-baltic.eu/projects/baltsenior-30.html#output-97

Knowledge database on reliability and warranty

This online application enables to calculate the reliability of cabinet furniture joints and whole furniture constructions made from wood-based materials. This mathematical tool provides furniture designers, manufacturers and students with a unique possibility to calculate the warranty period length and align the design of furniture construction accordingly in order to achieve the extended warranty period. The application is based on long-term reliability investigations of samples of selected types of cabinet furniture joints performed by the project BaltSe@nioR. It makes use of new knowledge on the safety and reliability of furniture joints taking into consideration different materials and kinds of furniture joints.

Link: https://projects.interreg-baltic.eu/projects/baltsenior-30.html#output-98

Prototypes of furniture for seniors

A set of functional furniture prototypes guide students, designers, architects and furniture companies how to integrate new technologies into traditional furniture, and in this way create smart furniture for the elderly that adapted to their needs and preferences. For example, a magic mirror displays personalised messages, a ReAbleChair collects data on sit-to-stand movements, a smart chair helps in physical rehabilitation, and a mobile robot with the fall detection and stand-up support function. 3D printable furniture handles help in more comfortable use of cupboards and drawers. More information about the prototypes is also available in the Virtual Library: https://baltsenior.com/virtual-library/

Link: https://projects.interreg-baltic.eu/projects/baltsenior-30.html#output-99

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The new knowledge and tools created in BaltSe@nioR are the starting point for the activities of the project BaltSe@nioR 2.0, and serve as the basis for developing demo spaces of age-friendly public spaces in various Baltic Sea regions, e.g. in seniors houses in Ukmergė District (LT), in a public garden and in a third age university in Poznan (PL).

The valuable spin-off activity was also the lecture on the Age Simulator at the International Conference on Applied Human Factors and Ergonomics in Washington DC, USA. At the event, representatives of the Poznan University of Life Sciences promoted BaltSe@nioR and its results amongst multinational audience coming beyond Europe. This resulted in a number of new Virtual Library registered users representing various countries.

Steps were undertaken to submit to the European Committee for Standardisation the proposal for the EU Standards for Senior Furniture. The proposed standards were developed during the BaltSe@nioR project. Additional documents, including a special application confirming results and new state of knowledge, were elaborated. The Lead Partner stays in contact with the

representatives of the Technical Committee No 207 of the European Committee for Standardisation that is the reference technical body for standards on furniture. As it was considered by the Technical Committee representatives as potentially valuable to set up a new working group to define new European standards for senior furniture, currently the LP prepares additional documents to proceed further in this respect.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

- The experienced and cooperative leadership of the project ensured a very smooth implementation of the planned activities. Although the regular project partnership does not include organisations representing furniture companies or designers, the project partners managed to actively involve representatives of the business sector and furniture designers in the project activities, among others through the cooperation networks of the associated organisations.
- The project results will feed into the BaltSe@nioR2.0 regular project approved within the third call. BaltSe@nioR 2.0 brings together municipalities, universities, businesses and NGOs to create new business models as well as demo spaces in public locations furnished with smart furniture. Through this, the project aims to trigger public institutions and manufacturing companies in the region in starting a transformation of museums, theatres, city halls, restaurants and other public spaces into friendlier places for seniors.

Final Project Conclusions

Baltic Blue Growth

Project title	Project duration
Baltic Blue Growth - Initiation of full scale mussel farming in the Baltic sea	May 2016 - April 2019

Priority	Specific objective
Management of natural resources	Blue growth

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 4.65 million	EUR 4.2 million	x	PA Nutri

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/baltic-blue-growth-11.html	www.balticbluegrowth.eu

Lead partner (country)	Countries involved
Region Östergötland (Sweden)	SE,DK, EE, DE, LV, PL

Project summary

Teaser

The Baltic Blue Growth project paved the way for the farming of blue mussels to become common business practice in the Baltic Sea.

The opportunity

Farming mussels in the Baltic can be a sustainable blue business

Aquaculture in the sea is traditionally widespread in the Mediterranean and North Seas and at the European Atlantic coast. In the Baltic Sea region, it has been playing a very minor role. However, with the European Commission's Blue Growth policy for sustainable growth in the marine and maritime sectors, aquaculture has received more attention in recent years, also in the Baltic Sea region. Mussels farmed in Baltic Sea waters are less appropriate for human consumption than mussels from the North or Mediterranean Seas, mainly due to their small size. Instead, they can be used in the feed industry to replace e.g. imported fish and soybean meal. In previous projects test scale pilots of mussel farms had been set up and examined in the Baltic Sea and had shown good potential in both economic and environmental terms. However, full scale mussel farms were not yet present in the Baltic Sea.

Mussel farms can clean the sea water

One of the most serious challenges the health of the Baltic Sea is is eutrophication, the enrichment of ecosystem by nutrients. By farming and harvesting blue mussels, nutrients can be removed from the sea water, because they filter large amounts of water for feeding. Blue mussel farming may be a stand-alone measure to counteract eutrophication, but can also become a business model.

Authorities and business need to be taken on board

Baltic Blue Growth aimed to proceed from pilot stage to real mussel farms by building awareness and capacity concerning blue growth and mussel farming among authorities, aquaculture companies, related associations, research organisations and other businesses.

Final Project Conclusions

Baltic Blue Growth

DE	DK	EE	LV	PL	SE
					

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Experimenting together: Practical experience with mussel farming all across the Baltic Sea

The partners started several new mussel farms and modified a few existing ones in the Baltic Sea: St. Anna archipelago, Byxelkrok, Västervik and Hagby in Sweden, Musholm in Denmark, Kieler Meeresfarm in Germany, Pavilosta in Latvia and Vormsi in Estonia. They proved that mussels can be successfully farmed on business scale in most of the Baltic Sea, if farming methods are adapted to the local conditions (e.g. water salinity, harmful substances in the water or the sediment, other uses of the sea). The project gave countries where no marine aquaculture was established before, namely Latvia and Estonia, a chance to gain some practical experience to better judge on the efforts it would take to develop this business. A strong push was given to mussel farming in countries that already had some marine aquaculture in place, namely Denmark, Germany and Sweden.

Mussels in poultry feed can be business

The project partners investigated the possibility to use mussels as an ingredient for poultry feed. The studies along the entire production line proved that mussels from the Baltic Proper could be used as a protein source in feeds for poultry. This would reduce the need to import feed from outside the Baltic Sea region and would result in re-use of nutrients in a local nutrient loop. In addition, mussel farms demonstrated positive effects on the environment by filtering the water and trapping excess nutrients.

Municipalities and companies are prepared to boost mussel farming

Through the Baltic Blue Growth project, municipalities in several countries learned that mussel farms offer a dual benefit to their regions: a business opportunity and a positive environmental effect. They gained knowledge not only about where mussels grow best, but also how to avoid conflicts with other uses of the sea, how to best arrange the planning processes for mussel farms and how to support farmers for the environmental services they provide. The project provided aquaculture companies interested in adding mussel farming to their business profiles knowledge about how to do this correctly and a tool to help them select suitable locations for farms. The results of Baltic Blue Growth are spread further through the project platforms BSR WATER, Blue Platform and Capacity4MSP.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Plan your farm: operational decision support platform

Using this platform, regional and national authorities as well as future Baltic mussel farmers can assess the optimal locations for mussel farms and their expected environmental impacts. The

platform combines spatial modelling of environmental parameters (e.g. to determine the mussel growth potential) and mussel farm related ecosystem services (e.g. nutrient extraction services) with spatial data related to marine resources usages. The system covers fishery, eutrophication, shipping and nature conservation, which makes it possible to quickly identify conflicts between the farms and other users.

Link: https://projects.interreg-baltic.eu/projects/baltic-blue-growth-11.html#output-8

Factsheet: Advice for the future Baltic mussel farmer

Future mussel farmers can learn from this factsheet about the main factors that are important for a new start-up of mussel production in the Baltic Sea, such as water salinity and depth, placement, farming technologies, growth cycle and harvest period, production costs, and communication with neighbours.

Link: https://projects.interreg-baltic.eu/projects/baltic-blue-growth-11.html#output-9

Report: Common methodological approach on addressing mussel farms in maritime spatial plans

The report supports maritime spatial planners from national, regional and local levels to run a planning process for establishing mussel farms in the Baltic Sea. It includes a description of several series of basic steps from “organizing stakeholder participation” to “defining and analysing existing and future conditions” as well as “monitoring and evaluating performance”.

Link: https://projects.interreg-baltic.eu/projects/baltic-blue-growth-11.html#output-44

Report: How to turn Ecosystem Payments to Baltic Mussel Farms into reality?

Mussel farming can be used as one measure to reduce eutrophication of the Baltic Sea locally. This report addresses a wide circle of experts, including policy-makers, working with water quality issues and nutrient uptake from the sea. It explores how mussel farmers can receive payments for the provision of ecosystem services, e.g. nutrient recycling, habitats, water purification. The authors conclude that in the short run a ‘one size fits all scheme’ may be unrealistic. Ecosystem service payments for mussel farms should be tailored to the specific regional characteristics, where a mussel farm is situated.

Link: https://projects.interreg-baltic.eu/projects/baltic-blue-growth-11.html#output-45

Factsheet Poultry trial feeding results

The factsheet sums up the project’s studies on turning mussel meal into poultry feed. The factsheet is interesting for mussel and chicken farmers, and feed producers looking for new opportunities to develop their businesses. The partners concluded that mussel-based feed for poultry was an interesting raw material. The factsheet includes several recommendations for the future development of such a business case.

Link: https://projects.interreg-baltic.eu/projects/baltic-blue-growth-11.html#output-46

Final Project Conclusions

Baltic Blue Growth

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The results of Baltic Blue Growth are spread further through the project platforms: BSR WATER, Blue Platform and Capacity4MSP.

A mussels working group was established within the Submariner Network for Blue Growth EEIG. Mussel farmers from the Baltic Blue Growth project and other projects, academia and representatives from the blue processing industry joined this newly created working group. The group works to promote sustainable mussel farming in the Baltic Sea Region.

All mussel farmers that took part in the project have plans and financing for continued operations, albeit at very different timescale and level of ambition. In addition, a few are keen to continue working with developments in post-harvesting processing of mussels into feed for animals.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The project was quite successful in public promotion: e.g. a news piece about the project from Kiel shot and broadcasted by the Euronews in the partnership with the European Commission: https://www.euronews.com/2019/05/09/pollution-fighting-mussels.

Final Project Conclusions

Scandria®2Act

Project title	Project duration
Sustainable and Multimodal Transport Actions in the Scandinavian-Adriatic Corridor	May 2016 - April 2019

Priority	Specific objective
Sustainable transport	Interoperability of transport modes

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.62 million	EUR 3.28 million	X	PA Transport

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/scandriaR2act-2.html	www.scandria-corridor.eu/index.php/en/projects/scandria2-act

Lead partner (country)	Countries involved
Joint Spatial Planning Department Berlin-Brandenburg (Germany)	DK, FI, DE, NO, SE

Project summary

Teaser

Scandria2Act successfully established a formal cooperation for modern transport of regions along one of the nine European transport corridors, which will help those regions to contribute to shaping the corridor and to benefit from it economically in the long run.

The background

The Scandinavian-Mediterranean Core Network Corridor connects Helsinki (Finland) and Oslo (Norway) with Palermo (Italy) via Sweden, Germany, and Austria. It is one of nine corridors in Europe that make up a Europe-wide transport network of railway lines, roads, inland waterways, maritime shipping routes, ports, airports and railroad terminals, also called Trans-European Transport Network (TEN-T). TEN-T was launched by the EU institutions as one major policy of the EU in the mid 1990s. The idea of Transnational European Networks goes back to the Treaty of Rome (1957). Europe-wide networks of transport, of energy (TEN-E) and of telecommunications (eTEN) are considered as a fundament for the internal European market and for economic and social cohesion of the European Union. The "core transport network" includes the most important connections, linking the most important cities, and is to be completed by 2030. The "comprehensive network" covers all European regions and is to be completed by 2050. To complete these networks is a matter of smaller and large infrastructure constructions such as the Øresundbridge between Denmark and Sweden (completed) or the Fehmarn Belt Railway axis between Germany and Denmark (ongoing).

The challenge

TEN-T policy affects the regions along the corridors to a large extend, and can be expected to have many positive but also negative effects. As transport policy is typically a matter of national responsibility, the regions' needs, concerns and proposals are not automatically considered in TEN-T implementation.

Final Project Conclusions

Scandria®2Act

The project Scandria®2Act was an intiative of several regional and local councils and public authorities along the Scandinavian-Mediterranean Core Network corridor. With support of a number of established research institutes, Scandria®2Act wanted to foster clean, multimodal transport through those corridor regions. It aimed at increasing connectivity and competitiveness, while at the same time minimising the negative environmental impact induced by transport activities.

DK	FI	NO	SE
			

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

In pilot actions, the partners developed or improved multimodal services – both for passenger transport and freight transport in collaboration with the European integrating system "EU-Spirit". Now, customers of public transport in Berlin-Brandenburg, Skåne and Greater Copenhagen are able to get better and real time information. The ports of Rostock and Oslo as well as Region Örebro and Hamburg developed new multimodal concepts, e.g. for freight trains. The partnership developed a strategy to deploy clean fuels along the Scandria®Corridor, making use of the experiences made in the corridor regions.

The Scandria®2Act partnership established a new governance mechanism by formally establishing the Scandria®Alliance, a cooperation platform of regions located along the Scandria®Corridor to create mutual benefit from the development of the European transport corridors. The Scandria®Alliance General Assembly constituted formally on 5 March 2019.

The project Scandria®2Act eastablished the Scandria®Alliance as a think tank for experts aiming to foster a change in mobility towards a more integrated and sustainable system. The founding member were the regions Helsinki-Ussimaa, Skane, Örebro, Akershus/Eastern Norway County Network, Berlin-Brandenburg as well as the City of Turku. They concluded a cooperation agreement on issues related to the Scandria®Corridor that are relevant for the regions development; i.e. the deployment of clean fuels, the fostering of multimodal transport, the improvement of cross-border rail links as well as initiatives to digitalise transport services.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Pathway to the future - Scandria®2Act Clean Fuel Deployment Strategy

This strategy deals with alternative fuels and vehicles in Denmark, Finland, Germany, Norway, Sweden along the Scandinavian-Mediterranean transport corridor. It provides an overview of the current development of the market, as well as policies and incentive schemes available in the

countries and regions along the corridor. It also formulates recommendations against the background of climate targets agreed at European and global scale. It contains valuable information mainly for decision makers at all levels. The strategy is unique in the sense that it presents an ambitious transnational corridor view instead of separated national or regional frameworks.

Link: https://projects.interreg-baltic.eu/projects/scandriaR2act-2.html#output-57

Mutlimodal Corridor System Report

The report has been developed by regions, universities and stakeholders of multimodal transport such as port authorities to obtain a picture of multimodal transport along the Scandria®Corridor. It provides an understanding of how transport between Scandinavia and the European mainland is currently handled. It is based on extensive studies carried out in Sweden, Norway and Germany. The report estimates the potential for a shift between transport modes and provides recommendations on how to foster a modal shift. It is a valuable information source for multimodal service providers but also for political decision makers mainly at national and regional level.

Link: https://projects.interreg-baltic.eu/projects/scandriaR2act-2.html#output-58

Scandria®Alliance

The project Scandria®2Act eastablished the Scandria®Alliance as a think tank for experts aiming to foster a change in mobility towards a more integrated and sustainable system. The founding member were the regions Helsinki-Ussimaa, Skane, Örebro, Akershus/Eastern Norway County Network, Berlin-Brandenburg as well as the City of Turku. They concluded a cooperation agreement on issues related to the Scandria®Corridor that are relevant for the regions' development; i.e. the deployment of clean fuels, the fostering of multimodal transport, the improvement of cross-border rail links as well as initiatives to digitalise transport services. The platform is open to further experts and regions, organising a regional dialogue on clean fuels, multimodal transport, cross-border infrastructure and digitalisation. Interested parties are invited to get into contact.

Link: https://projects.interreg-baltic.eu/projects/scandriaR2act-2.html#output-59

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The cooperation of regions in the Scandria®Corridor will be continued and extended in the Scandria®Alliance.

Due to the close approach of the project to the TEN-T Strategy several partners used the project to prepare applications for infrastructure measures to CEF and other EU and national funds like Horizont 2020. Further some of the infrastructure needs to complete the Scandria®Corridor as well as (or in line with) the TEN-T ScanMed Corridor have been prepared and were included into the TEN-T investigations and concepts.

Several partners included results and objectives of the project into regional strategies or plans for transport and infrastructure. E.g. the capital region Berlin-Brandenburg which is crossing by three TEN-T corridors recognized to improve and to fit its transport strategy as Urban Node in line with the needs and objectives of main European corridors (new strategy "i2030").

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

Scandria®2Act

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

Major success factors of the project have been a well-balanced partnership that cooperated very trustfully. Especially the engagement of experienced partners in clean fuel deployment from Eastern Norway, Skane Region and German Energy Agency enabled a high quality of outputs.

Close cooperation with EUSBSR flagship projects TENTacle and NSB Core provided valuable input. Very positive has also been the cooperation with the EUSBSR PA Transport Coordinators – i.e. during EUSBSR Annual Conference 2017 and the European Coordinators for the Core Network Corridors. The ScandriaAlliance was established in a meeting back-to-back to the final conference of the flagship projects TENTacle, NSB Core and Scandria®2Act with participation of the European Coordinators for the ScanMed, the Baltic-Adriatic and the North Sea – Baltic Core Network Corridors.

At the integrated final project conference in Brussels as well as at TEN-T Fora, the TEN-T Coordinators of the crossing corridors ScanMed, Northsee-Baltic, Orient-East-Med and representatives of DG MOVE emphasized the support to implement the TEN-T Strategy by the Scandria*Project as well the Scandria*Alliance in advance.

Thus, the project approach in continuation with the Scandria®Alliance is well integrated within the EU TEN-T strategy and its players.

Final Project Conclusions

NSB CoRe

Project title	Project duration
North Sea Baltic Connector of Regions	May 2016 - April 2019

Priority	Specific objective
Sustainable transport	Interoperability of transport modes

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.31. million	EUR 2.9 million		PA Transport

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/nsb-core-19.html	www.uudenmaanliitto.fi/nsbcore

Lead partner (country)	Countries involved
Helsinki-Uusimaa Regional Council (Finland)	EE, FI, DE, LV, LT, PL

Project summary

Teaser

In the project NSB Core, spatial and transport planners and other experts representing local, regional and national authorities from six countries developed a joint vision on how to ensure better integrated and accessible eastern and southern parts of the Baltic Sea region.

The challenge

Lower accessibility of eastern parts
The eastern part of the Baltic Sea region is marked by lower connectivity and accessibility. Especially in the cross-border areas and inter-urban growth corridor sections, there is considerable potential for developing transport options.

Multiple challenges in passenger transport
Due to low population density, the transport relies on combined infrastructures for freight and passengers. Road transport and short sea shipping prevail while rail transport strives to gain momentum.

Connectivity and accessibility in cross border areas is lagging behind as the development has rather been targeting main urban nodes and routes. The biggest missing link is the railway connection from Tallinn, Riga, Kaunas towards Warsaw. The implementation of Rail Baltica, a railway infrastructure venture that links Finland, Estonia, Latvia, Lithuania and Poland with a European standard rail line, is expected to solve the missing link between north and south, and ensure better connectivity in the region.

However, the biggest volumes in freight are still on the east-west routes. In passenger transport, the main challenge is how to develop multimodal transport: increase the share of public transport, develop smart transport solutions, multimodal mobile services and mobility as a service. This would contribute to supporting the economic growth corridors and zones of intensified commuting.

On top, regional planning systems are usually inward-looking and node-centric. The challenge is on one hand to bring cross-border issues and on the other hand to bring the trans-national corridor perspective into the spatial planning processes.

Final Project Conclusions

NSB CoRe

DE	EE	FI	LT	LV	PL
					

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Joint vision developed

In the project NSB-CoRe, local, regional and national authorities and other experts from Finland, Estonia, Latvia, Lithuania, Poland and Germany developed a joint transnational spatial vision on regional development, logistics and mobility of the North Sea Baltic corridor. The corridor is a transport and development corridor, stretching from Germany to Sweden: Hamburg – Berlin – Warsaw – Kaunas – Riga – Tallinn – Helsinki – Vaasa – Umeå.

Towards better connectivity

The vision sets out how the North Sea Baltic corridor should look like in 2050: territories along the eastern and southern coast of the Baltic Sea will be better integrated and accessible, and in this way disparities between western and eastern coast of the Baltic Sea will be reduced. The region will be an attractive living environment made up of a network of interlinked metopolises, regional centres and rural territories with efficient transport systems operating between them.

The vision document encourages spatial and transport planners and other involved authorities to discuss spatial planning processes jointly on different levels, and includes recommendations on e.g. increasing cooperation between sectors and countries.

Spatial planning in focus

With EUR 2.60 million support from the European Union, the project NSB CoRe created a vision on how to achieve better connectivity in southern and eastern parts of the Baltic Sea region. Work on the vision and its implementation is continued in the Interreg Baltic Sea Region project platform BSR Access, which facilitates innovative and sustainable in the region.

Moreover, the Vision and Strategies around the Baltic Sea (VASAB) with its wide network and others use the vision in further planning of spatial development in the Baltic Sea region and raising awareness among municipalities in the North Sea Baltic Corridor about potential and benefits from the TEN-T core network development.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Joint transnational spatial vision on regional development, logistics and mobility

The document presents Vision 2050 on how the North Sea Baltic corridor covering Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden should look like. The chapters describe integration and connectivity, North Sea Baltic corridor backbone, network of secondary connections, smart

mobility and multi-level governance. It also includes recommendations on policy improvements, cooperation promotion and improvements of connections.

The spatial vision is a guidance tool for local and regional and national authorities, non-governmental organisations and other experts in the region to advance the implementation of the North Sea Baltic transport and development corridor that is stretching from Hamburg to Umeå. The Vision encourages increased cooperation between sectors and countries in order to foster greater cohesion in the region.

Link: https://projects.interreg-baltic.eu/projects/nsb-core-19.html#output-107

NSB CoRe Interconnectivity and Interoperability Policy Papers

This Policy Paper presents the intermodal logistics situation within the North Sea Baltic Corridor and defines the main needs of the logistic service providers and shippers. It describes the logistics business requirements and networking needs, nodal point infrastructure analysis and ICT solutions for intermodal transport. It also presents main barriers for intermodal transport and what its users think about the opportunities arising from new intermodal infrastructures, especially Rail Baltica.

The Policy Paper is of particular interest to policy makers, transport infrastructure managers, logistics service providers and others. It helps identify and develop policies fostering sustainable transport, promote intermodal transport solutions in the market, and start and enhance the existing business relations with other inland terminals and/or port terminals.

Link: https://projects.interreg-baltic.eu/projects/nsb-core-19.html#output-108

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The NSB-CoRe work continues in the project platform BSR Access and in other activities of the VASAB network.

Administrative matters

These include specific good practices, financial implications, challenges as well as synergies and cooperation with other projects and the main drivers of the project (core partners).

The progress report no. 5 as well as the final progress report no. 6 were submitted with significant delays. In addition, the clarifications of both reports were often answered after several reminders only. The main reason seems to be lack of sufficient human resources for proper project implementation.

The project was not able to deliver planned (main) outputs in time. The NSB CoRe Strategy - one of the project's main outputs was finalised and delivered to the MA/JS only by end of the clarification of the project's final progress report. One of the intermediate outputs, which was part of the Strategy was also delivered by end of the clarification of the progress report no. 6.

Final Project Conclusions

TENTacle

Project title	Project duration
Capitalising on TEN-T core network corridors for prosperity, growth and cohesion	May 2016 - April 2019

Priority	Specific objective
Sustainable transport	Interoperability of transport modes

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.75 million	EUR 3.52 million	X	PA Transport

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/tentacle-21.html	www.tentacle.eu

Lead partner (country)	Countries involved
Region Blekinge (Sweden)	DK, EE, FI, DE, LV, LT, NO, PL

Project summary

Teaser

The Interreg project TENTacle equipped public authorities and industry around the Baltic Sea with recommendations on how to benefit from the core transport network corridors in order to boost prosperity and growth around the Baltic Sea.

The opportunity

Unexploited potential for growth

The TEN-T core network corridors are an instrument of the EU transport policy that improves mobility on major transport axes across Europe by removing physical, technical and administrative bottlenecks. The Baltic Sea region is crossed by three core network corridors: Scan-Med, North Sea-Baltic and Baltic-Adriatic. Successful implementation of these corridors can trigger positive effects in the transport and mobility sectors and beyond them, as well as within and beyond the immediate territories the corridors cross.

More understanding needed

However, national, regional and local authorities, infrastructure managers, investors and transport and logistics companies have little knowledge of the instrument itself and how they can impact its implementation. Key players in the areas along the three corridors are too little dedicated to using corridor mobility to boost sustainable growth and prosperity actions. They fail to plan proper measures and mobilise financial support for investments. Last but not least, the potential arising from the corridors' implementation is not exploited in transport planning, management, and activities in the region.

DE DK EE FI LT LV NO PL

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

TENTacle

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

Piloting the core network corridors' benefits

The project TENTacle actively involved local, regional and national authorities, research organisations and industry from eight countries around the Baltic Sea into a dialogue on the benefits and challenges related to the core transport network corridors crossing the region.

Nine pilot activities examined areas located in, close to and far away from the Scandinavian-Mediterranean, North Sea-Baltic and Baltic-Adriatic core network corridors. Each case offered public authorities and industry a comprehensive analysis of key growth challenges, suitable policy and optimal solutions for their region. Now, for example, Swedish Region Blekinge and Latvian Vidzeme Planning Region make use of the project recommendations for the corridor catchment areas, whereas the Värmland-Östfold Border Committee applies recommendations resulting from the Central Scandinavia Borderland pilot. Moreover, results compiled in the pilot on the tunnel connecting Danish Lolland and German Fehmarn (Fehmarnbelt Fixed Link) feed into the discussions at STRING, a political platform for Hamburg and Schleswig- Holstein in Germany, the Capital Region of Denmark and Region Zealand in Denmark and region Skåne in Sweden.

More cooperation in transport to come

TENTacle triggered several new initiatives, such as a Polish-Swedish interregional task force on extending the Baltic-Adriatic Corridor northwards, and teamed up with other Interreg projects: NSB CoRe and Scandria®2Act. The three projects joined their forces in presenting their results to decision makers in transport at the European Commission, including the European Coordinators of core network corridors. Now, the project is part of the BSR Access project platform, which contributes to further development of the corridors.

Thanks to EUR 2.75 million support from the European Union spent on developing action plans, pre-feasibility studies for key investments, new business models and transport strategies, the Interreg project TENTacle showcased how core transport network corridors can help boost growth and mobility in the Baltic Sea region, and trigger the development of smarter and greener logistics chains.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Realising benefits from the TEN-T Core Network Corridors – how, where and by whom?

This report presents replicable know-how about development opportunities and profits related to the implementation of the core network corridors. It offers guidance to European Coordinators, public authorities, infrastructure managers and investors – irrespective of the geographical location – on how to adjust policy actions, governance response and business strategies to fully maximise the benefits and mitigate threats induced related to the investment along the corridors. Intergovernmental networks and the Coordination Group of the EU Strategy for the Baltic Sea

Region Policy Area Transport shall also find this report useful in promoting the successes of the implementation of core network corridors.

Link: https://projects.interreg-baltic.eu/projects/tentacle-21.html#output-10

How to use the Fehmarnbelt Fixed Link as impulse for regional growth

This guidance paper is dedicated to exploring the Fehmarnbelt Fixed link, which is a planned tunnel connection for road and rail transport between Rødby on Lolland (Denmark) and Puttgarden on Fehmarn (Germany), and an important part of Scandinavian-Mediterranean (Scan-Med) TEN-T core network corridor. The paper includes a detailed impact analysis of the new connection and is a useful tool for planners from national and regional public authorities and businesses especially in Denmark, Germany and Sweden, for developing strategies that would help maximise the benefits from the new connection.

Link: https://projects.interreg-baltic.eu/projects/tentacle-21.html#output-11

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The TENTacle project results are uplifted within the BSR ACCESS project platform, ensuring further stakeholder dialogue on core network corridors, with a special focus placed on first mile corridor areas and additional corridor governance structures.

TENTacle resulted in new initiatives, for example interregional Polish-Swedish task force on extending the Baltic-Adriatic Corridor northwards via Motorways of the Sea Gdynia-Karlskrona, local/regional stakeholder corridor forum on the Baltic-Adriatic Corridor.

Final Project Conclusions

Go LNG

Project title	Project duration
LNG Value Chain for Clean Shipping, Green Ports and Blue Growth in Baltic Sea Region	May 2016 - April 2019

Priority	Specific objective
Sustainable transport	Environmentally friendly shipping

Budget	Spent budget	Flagship project	EUSBSR Policy Area/Horizontal Action
EUR 3.05 million	EUR 2.76 million		

Link to the project library	Link to the project's website
https://projects.interreg-baltic.eu/projects/go-lng-24.html	www.golng.eu

Lead partner (country)	Countries involved
Klaipeda Science and Technology Park (Lithuania)	DK, EE, DE, LT, NO, PL, SE

Project summary

Teaser

The Interreg project GO LNG explored new business opportunities for liquefied natural gas (LNG) as a green fuel for shipping in the BSR and other international markets by bringing together scientists and business.

The opportunity

Liquefied natural gas (LNG) is considered to be an alternative fuel to heavy oil and ship diesel, which emit large amounts of CO2 and harmful substances containing sulphur and nitrogen when burned in ship motors. LNG is natural gas as we commonly use it in heating systems or for stoves but cooled down to very low temperatures at which it becomes liquid. LNG as a fuel emits no sulphur, no nitrogen and less CO2 than classical ship fuels. In the longer run, gas from organic waste could be liquefied, too, resulting in renewable liquefied bio gas (LBG).

Because LNG is liquid, it can be stored and transported more easily than natural gas. And this is why it is interesting to the shipping industry. Ship engines that run on both heavy oil and LNG are already being produced and a few ports at the Baltic Sea coast can already accept and store LNG. In order to make use of LNG on a large scale in shipping, ship owners and operators as well as logistics and fuel companies need to learn how LNG works: which technology is needed on ships and in ports, how to store and apply it safely, what are the costs and benefits of switching to LNG, etc.

DE	DK	EE	LT	NO	PL	SE
						

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

Final Project Conclusions

Go LNG

Project's highlights

The highlights present the project's main achievements and results, e.g. change brought for the target groups, pilots or tests carried out, and exemplary transnational work.

The project Go LNG focused on developing the demand and accessibility of Liquefied Natural Gas (LNG) in the Baltic Sea region. It created a strategic approach to LNG development and a technology approach for consolidating the LNG value chain and provided skills and business partnerships for infrastructure development. GO LNG has established the first macro-regional business cluster in Europe for LNG. The business networks unites over 300 businesses from large to small. Also, GO LNG has set up a competence centre of scientific institutions to spread the knowledge needed to promote and develop LNG. The competence centre delivered trainings to more than 1000 professionals and students.

Main Outputs

The main outputs present the project's main deliveries which are tangible and can be used by others outside the project.

Go LNG platform

This online information platform is meant for stakeholders of LNG (liquefied natural gas) development from business and science. It provides access to industry news, to a business cluster and a scientific LNG competence centre, which were set up within the GO LNG project.

The Baltic Sea region LNG cluster helps building LNG related partnerships and to establish international business models. The organization unites LNG related industry from around the Baltic Sea and serves as the networking platform for national LNG organizations.

Baltic Sea region LNG competence centre is a network of scientific and business organizations which provides trainings on liquefied natural gas (LNG) for industry and public stakeholders. The network develops and promotes knowledge on LNG, will enable new research and competence development initiatives to support LNG infrastructure development in Baltic Sea region.

Link: https://projects.interreg-baltic.eu/projects/go-lng-24.html#output-13

Liquid Biogas Business Concept: Field to Ferry

This report presents a business model concept for renewable shipping fuel from local resources in coastal communities in the Baltic Sea Region. It is based on a test case of using liquefied biogas (LBG) from the "green island" Samsø in Denmark within the GO LNG project.

The report analyses briefly the emerging market for both liquefied bio-methane for marine transport and the corresponding market for coastal communities to produce biogas and to concentrate the bio-methane in a liquid form either for heavy duty road traffic, for trains or for ferries.

The Samsø Field to Ferry business concept is perhaps a one-of-a-kind case, but inspiration can be taken for other localities with similar aims and options. The report combines the biogas planning manual from Denmark with a generalized business concept model and ideas of crowdfunding into a conceptual model for other coastal communities.

Link: https://projects.interreg-baltic.eu/projects/go-lng-24.html#output-52

Final Project Conclusions

Go LNG

Follow-up/spin-off activities

These include specific new activities that have been inspired by or initiated during the project work and will be continued after its implementation.

The project has established two network organizations that will ensure the durability of the project results. The BSR LNG cluster will manage industry cooperation established by the project, promoting it in national and international events, providing crucial business contacts. The LNG competence center will serve as a network of research institutions, to develop and promote LNG knowledge. The organizations already performed in several conferences and events.