Opis projektu:

1. GENERAL INFORMATION ABOUT THE PROJECT	
1.1. Project title	Baltic Smart Asset Management
1.2. Abbreviated project name (acronym)	BSAM
1.3. Priority axis	2 - Exploiting the environmental and cultural potential of the South Baltic area for the blue and green growth
1.4. Specific objective	2.2 - Increased use of green technologies in order to decrease the pollution discharges in the South Baltic area

2. DESCRIPTION OF THE PROJECT

2.1. Short project summary in the form of press release: background, rationale, aims, content and results (max. 2000 characters)
It is a big challenge to achieve the Europe2020 goals and beyond; both increase in energy efficiency by 20 %, but also the decrease of CO-emissions. Also, the EU the world´s largest importer of energy (400 billion EUR which amounts to approximately 53 % of the entire need) will in the upcoming years face vast reinvestment need in the modernization of existing infrastructure, such as DH (District Heating) grids, the leading heating source in the BSR. Many countries are too dependent on Coal and Russian Gas. By reducing the losses in the grid, we can minimize the usage of these fossil fuels and hence foster energy efficiency. The Nordic countries have shown that DH system is a tool to reduce fossil fuel dependency, mov ing into circular/bio economy. DH is also an enabler to more wind and solar power. The main drawback with DH is the capital need, inefficient operation (losses), expressed in economic terms – low return on capital. DH companies, usually city owned, need to attract a new generation of educated employees and more females. In order to solve the challenge described above, to boost DH efficiency, one of the most needed processes will be Smart Asset Management (SAM). SAM will create both environmental benefits for the Baltic Sea region, and more affordable heat for the end customers by using our existing assets and resources longer and more efficiently (fuel and energy saving). The purpose of the project is to develop methods, transnational collaboration processes and knowledge for SAM . The objectives are to: - Identify barriers and success factors for the development and implementation of SAM , the digitalization of DH Distribution Networks. - Develop nationally adapted methods for condition monitoring of the DH networks and Learning. - Full utilization of modern ICT-tools for Predictive Maintenance of DH networks.

2.2. Project relevance: describe initial situation/ challenge/ opportunity that will be tackled by the project - why is the project needed? (max. 2000 characters)

Challenges:

-The EU faces a big challenge in achieving the Europe2020 goals, both increase in energy efficiency by 20 %, but also the decrease of CO2-emissions.

-Another problem is the dependency on coal and gas from Russia. The Energy Union and the IPCC have already stressed the importance of urgency when working with energy efficiency efforts (as described in the Paris Protocol). EU is the world´s largest importer of energy (400 billion EUR which amounts to approximately 53 % of the entire need).

-There is a generation shift in the infrastructure industries, the utilities. Staff with many years' experience is retiring. It is hard to fill the vacancies and no experienced people are available.

-In general, infrastructure is aging in EU, illustrated by poor performing trains and railways with frequent delays. Less visible is huge water leakages in our drinking water pipes. The DH industry is "a buried asset", with invisible problems. A city with 100 000 inhabitants has a DH grid worth EUR 500 – 700 million in reinvestment value and the equivalent value in heat supply plants. The heat sales is EUR 50 – 100 million /year.

-The standard operation and maintenance policy is to repair after accident, corrective maintenance. A pipe burst, with 100 dgr C hot water at 20 Bar over pressure can cause severe lethal damages. Minor leakages are not handled. Leakage cause heat loss, damaged insulation and corrosion. A major pipe burst in the winter time, can cause loss of heat supply during several days, with consumers freezing to death.

-A corrective maintenance policy, require high capacity of emergency repair, a lot of staff and a wide variety of spare parts.

The problems above are related to district heating system. The problems vary but are more severe in Germany and Poland than in the rest of the BSR and much more severe in OSS, Ukraine and China. The problems are worse in the drinking water sector, where up to half of the water volume is lost in the distribution.

2.3. Project's approach (work plan): how the identified challenge(s)/ opportunity(ies) will be addressed? What is new/ innovative about this approach? (max. 3000 characters)

By introducing new Smart Asset Management (SAM), based on data driven predictive maintenance methods, above listed challenges can be addressed and solved. Methods developed for District Heating can be spread to the utilities of drinking water and sewage pipes, gas, railways and to power distribution and bridges.

District Heating (DH) is an enabler to safe, secure and affordable energy supply and to reduce CO2 emissions and to increase renewables. Use of boilers fuelled by gas, oil, coal, waste – all causing air pollution – can be eliminated.

DH can increase efficiency by reducing its hot water losses and prevent pipe bursts. The energy losses, due to leakage can be reduced by 90% when applying SAM.

Loss of experience due to staff retirement can be compensated by SAM and Predictive, Preventive Maintenance. Condition monitoring, augmented by Data Analytics (AI) will locate problems before failure and allow planned scheduled repairs and retrofit, with less emergency staff. Less spare parts are required in stock.

SAM and predictive maintenance will locate weak sections of the pipe network, caused by corrosion and mechanical wear. Repair and replacement can be planned before failure and leakage. On-line or repeated condition monitoring will allow full life time utilization of the pipes. Replacement of the pipes are just-in-time, before failure. Leakage can be reduced by 90% and the life time is extended to 3-4 times longer than the full depreciation period, usually 30 years. Cost of capital is drastically reduced.

Best Class of DH networks have a heat loss of 3-10 % of produced energy, less than 1 time of turnover of the hot water volume per year and no pipe burst.

SAM is aiming beyond Best Class. Translating the percentages above to a fictive BSR city of 100 000 inhabitants will give: Consumption of district heating is 1 000 GWh, equivalent to 50-100 million Euro per year. A 10% heat loss is worth 5-10 Million Euro per year. Total reinvestment for the distribution grid is 500 million Euro, 30 years depreciation, which can be extended to 100 years, which means 10 million Euro less per year in reinvestment.

The BSR is the leading region in the world in the field of District Heating and can take the global lead, generating new start-ups and tech companies – a new sector supporting more energy efficient DH operation.

Opis zadań:

WORK PACKAGES	
WORK PACKAGE 0	
Name of the work package	**PREPARATION**
Total eligible costs	0.00 €
Summary description of activities carried out and contribution of each partner (max. 2000 characters)	
As the project received seed financing for the project, the preparation has already been conducted.	
WORK PACKAGE 1	
Name of the work package	**MANAGEMENT AND COORDINATION**
Total eligible costs	309 950.00 €
Coordinating partner	Linnaeus University
Partners' involvement	

yes	LP	Linnaeus University
yes	PP2	Swedish Council of District Heating and Cooling
yes	PP3	Öresundskraft Energy Company
yes	PP4	OPEC Gdynia Energy Company
yes	PP5	Gdansk University of Technology
yes	PP6	Lithuanian District Heating Association
yes	PP7	Klaipeda University

Describe how the management on the strategic and operational level will be carried out in the project (max 3000 characters).

The LP, Linnaeus University, will be responsible for WP1 as the Lead beneficiary. The main objective of this component is to manage the project in order make sure that we achieve the expected results.

LP will assign the project management which will consist of:

1. A project manager
2. A communication officer
3. A financial officer

In addition to this the project will also assign WP-leaders and a steering committee that will consist of representatives from all participating partners.

The responsibility of the WP-leader is to coordinate the activities in the WP as well as to disseminate relevant information and report to the project manager and the partners on the status of activities and results.

The responsibility of the steering committee is to have a broader view of the overall status/timeline of the project and to disseminate information on a project level, not individual activities as the WP leader does. It is also the steering committee´s responsibility to communicate with outside stakeholders for the involvement in the project activities. Last but not least, it is also their responsibility to monitor the overall financial status of the project, such as the budget and investment status.

Other important aspects that will be included in WP 1 is the setting of work structures and guidelines based on the Programme Manual and the input given from JS during the seed money project (please see older Seed Money project calls when Öresundskraft was the LP). Great emphasis will be put on the reporting, especially with the new SL2014 system and the different FLC structures/demands for the participating countries. It will also be the LP´s responsibility to coordinate the 6 reports during the project period and to set clear deadlines for the reports and plan ahead to avoid delays.

The associated organizations will take part in WP1 to promote the project results, add expertise within their field of knowledge and to broaden the project´s network with additional partners in the South Baltic Programme area.

Even though that the management structure described above will be set by the LP, it is important to know that work structures, agreements and reporting will be jointly discussed in the project and adapted accordingly to the partners´ request. The project will also have six project meetings (2 per year). The main purpose of the project meetings is to discuss the progress, reporting and results as well as to share knowledge and experiences from prior activities. In between these meetings, the project will also have online video meetings where WP leaders coordinate the activities and inform each other about the progress when needed. A structure for these meetings as well as a risk assessment plan will be discussed at the first project meeting (kick-off).

Please describe activities within the work package		
Activity 1.1	**Activity name**	**Project documents and partnership agreement**
	Joint development and signing of project documents for the partnership agreement.	
Activity 1.2	**Activity name**	**Project management**
	The LP will be responsible for the management and coordination of the project, but will receive help with this from a steering committee that will be created containing WP-leaders and key personnel from project partners for the strategic decisions in the project.	
Activity 1.3	**Activity name**	**Creating administrative working structures and routines**
	Creating internal working routines and informing partners about the regulatory framework of the project: Programme manual, FLC, Reporting, contracts. Giving individual support and access to national directives for interreg as well. Also training in SL2014	
Activity 1.4	**Activity name**	**Reporting - Technical and Economic**

		6 reports where we report our activities and results as well as costs. National consultations will be given to the partners with emphasis on the new SL2014 system and FLC certification. LP will be responsible for the coordination and implementation of these activities.
Activity 1.5	**Activity name**	**Project meetings**
	The project will conduct 6 project meetings 2 in each country (first one will be a kick-off meeting),. The aim of the meetings is to discuss activities, results, reporting, economy and the project plan. The kick-off meeting will focus more on the working plan and the regulatory framework.	
Activity 1.6	**Activity name**	**Online cooridnation meetings**
	Between the project meetings, the WP-leaders will also cooridnate the activities through online meetings. The outcome of these meetings will then be disseminated to the project partners for implementation.	

WORK PACKAGE 2	
Name of the work package	**COMMUNICATION AND DISSEMINATION**
Total eligible costs	193 650.00 €
Coordinating partner	Linnaeus University

Partners' involvement		
yes	LP	Linnaeus University
yes	PP2	Swedish Council of District Heating and Cooling
yes	PP3	Öresundskraft Energy Company
yes	PP4	OPEC Gdynia Energy Company
yes	PP5	Gdansk University of Technology
yes	PP6	Lithuanian District Heating Association
yes	PP7	Klaipeda University

Project objective
BSAM will raise cross-border awareness of preventive data driven maintenance methods for Energy Companies and set a BSAM standard for educational purposes to decrease CO2 emissions and increase energy efficiency by involving stakeholders through new arenas of cooperation that focus on proactivity.

Communication objectives (max. 500 characters)	Target groups (max. 500 characters)	Approach (max. 500 characters) How and by what means will the target groups be approached?

Raise awareness of the most current hindering challenges with regards to the further implementation of proactive and precentive maintenance methods by cross-border cooperation and focusing on regional inter- and intrasectorial cooperation and initiatives.	Local, regional and national authorities	Individual meetings, cross-border knowledge exchange seminars, newsletters, web page, success stories, internal partner marketing channels (press releases etc.), media (industry papers etc.) and publication of project leaflet.
Disseminate results and evaluation of the BSAM pilot case installations, benefiting both the environment (a decrease in CO_2-emissions and increased energy efficiency) and creating a resilient region in regards to a more proactive approach regarding smart maintenance methods.	Local, regional and national authorities	Individual meetings, cross-border knowledge exchange seminars, newsletters, web page, success stories, internal partner marketing channels (press releases etc.), media (industry papers etc.) and publication of project leaflet. In addition to this all reports will be posted online and study visits to the pilot cases will be held.
Promote the Baltic Smart Asset management standard/manual that will induce further implementation of pilot projects and cross-border knowledge exchange.	Local, regional and national authorities as well as SMEs/companies and knowledge providers such as Universities	Individual meetings, newsletters, web page, internal partner marketing channels (press releases etc.), media (industry papers etc.) and publication of project leaflet and seminars outside the project where we present the standard to a broader audience.

Please describe activities within the work package		
Activity 2.1	**Activity name**	**Creating a Strategic Communication Plan and Graphic Profile**
	Development and creation of a strategic communication plan/graphic profile for internal and external structures based on the communication objectives, target groups and approach. The communication officer is responsible for the plan, but all partners will give input when creating it.	
Activity 2.2	**Activity name**	**Hosting three Cross-border Knowledge Exchange Seminars**
	One larger seminar for outside stakeholders will be held in each country with the topic being smart proactive and preventive maintenance methods where BSAM is showcased and promoted. This is both to disseminate the results and knowledge, but also to create new networks of cooperation.	
Activity 2.3	**Activity name**	**Producing printed promotion material**
	Creation and production of printed media such as project leaflets, roll-ups and brochures describing the evaluation/green technical solution of pilot projects for dissemination to outside stakeholders to raise awareness of smart proactive and preventive maintenance methods for Energy companies.	
Activity 2.4	**Activity name**	**Creating a website and digital communication content material**
	Development of a project website/digital media and maintenance of it. Website is used to easily share information as well as to promote the project and be able to cover media articles covering topics of interest for the project partners. All created digital media will be posted here.	

Activity 2.5	**Activity name**	**Individual meetings/consultations for new potential cooperation**
	Individual meetings with stakeholders that are interested in the project and would like to cooperate, as well as adapt and install out showcased solutions in the pilot cases and/or add new green technologies that could be included in the BSAM concept.	

Mandatory Programme related communication activities	
Activity 2.6	**Participation in the Programme events**
Activity 2.7	**Cross-project activities**
Activity 2.8	**Audiovisual materials to the Programme (i.e. photos, videos, etc.)**
Activity 2.9	**Success story**

WORK PACKAGE 3		
Name of the work package	BSAM Development and Pilot Case Analysis	
Total eligible costs	298 200.00 €	
Coordinating partner	OPEC Gdynia Energy Company	
Partners' involvement		
yes	LP	Linnaeus University
yes	PP2	Swedish Council of District Heating and Cooling
yes	PP3	Öresundskraft Energy Company
yes	PP4	OPEC Gdynia Energy Company
yes	PP5	Gdansk University of Technology
yes	PP6	Lithuanian District Heating Association
yes	PP7	Klaipeda University

What is the main objective of the work package? (How is it linked to the main output?) - max. 1000 characters

   The main objective of the WP is to analyze the technical, social and economic viability of the pilot cases as well as the overall concept of BSAM solutions. This is to create the most optimal setting as well as to analyze potential risks and to certify that the transferability and durability of the cases has been properly assessed. This WP also includes the evaluation of the pilot cases once they are up and running to evaluate the impact from an environmental, economic and social/health-benefit perspective.
These activities will set the stage for the main objectives that will be the creation of BSAM Standard and manual. Based on the analysis and evaluation and through workshops and study tours, these conclusions will be the first segments to be included in BSAM standard and the creation of the tool for implementation.

Summary description of the WP including explanation of partners' involvement (who will do what?) - max. 3000 characters
We will start by working with the technical and the economic/social feasibility studies in the project. The responsible partners for these will be LP, PP5 and PP7. They will also be supported by the other partners at different stages of this process. For the technical studies, the main support will be provided by PP2, PP3, and PP4. For the economic/social feasibility study, LP, PP6 and PP7 will provide support. The same division of responsibilities will be divided between the partners in the evaluation of the pilot cases as well. The development of the method/tool will be a joint activity with the LP as coordinating partner. The same division of responsibilities will be applied on the input for the tool as during the evaluation and feasibility studies. The mapping of potential new pilot cases will be led by PP1, PP5 and PP6 in the project. Their role is to gather all experiences from the project partners´ networks as well as from the associated organizations. Based on this input, it will be up to them to purpose an algorithm for choosing new potential cases and give concrete examples to that have been initiated during the project. All partners will participate in the study tours, but these may differ in their structure depending on the aim of the study tour. PP2, PP4 and PP6 will focus mostly on knowledge exchange and technical study visits. LP, PP1,PP3, PP5 and PP7 will mostly be a part of study visits focusing on the implementation of solutions at new sites and PP5, PP6 on study visits for the recruiting of new stakeholders for the project network, visiting SMEs for example. PP2 and PP7 will also have the main responsibility to coordinate the workshops based on this recruitment, even though other partners of course will take part as well and give them input and leads on who to contact and which sites for implementation to evaluate. Creating the database of stakeholders for new pilot projects will be the responsibility of LP, PP5 and PP6 by gathering and structuring information from the other partners. This activity will be connected to the mapping of potential new pilot cases to match the need with the stakeholders that can provide a relevant service or product. The LP will be responsible for creating the BSAM Standard and tool. This activity will structure and revise all previous activities in the WP and used as the basis for this main output. They will use PP3 and PP4 to coordinate the technical knowledge, PP5 and PP7 to include information about the challenges/opportunities on a political level and what to think of when working with Energy companies. PP2 and PP6 will provide the stakeholder network and framework for the economic/social key performance indicators. LP, PP5 and PP16 will act as ambassadors for the BSAM Standard and be use the pilot cases in Helsingborg and Gdynia as success stories when promoting the concept to the South Baltic Programme region.

Project main output delivered in WP3
BSAM Data Driven Proactive Maintenance Standard
Deliverables and activities necessary to achieve the main output
Deliverable 3.1

Deliverable name	Analysis method/tool for planning of data driven proactive and preventive maintenance methods
Deliverable description	A tool to be able to plan the implementation of data driven proactive and preventive maintenance methods. The tool takes into consideration costs, permits, procurements, environmental performance, social/health benefits and needed network for the installation.
Value after project	1
Source of verification	Tool
Deliverable 3.2	
Deliverable name	New potential pilot cases for data driven proactive and preventive maintenance methods.

Deliverable description	Five new cases are identified by the project with shown interest to implement data driven proactive and preventive maintenance methods and have signed a letter of intent to take part in the training programs and implement the BSAM Standard
Value after project	5
Source of verification	Regional mapping reports of potential cases

Deliverable 3.3	
Deliverable name	Stakeholder network for training/education and implementation of the BSAM Standard
Deliverable description	40 stakeholders participating, 20 per each case. The participating organisations consist of SME´s, knowledge providers, local/regional authorities as well as industry specific associations.
Value after project	40
Source of verification	Participating stakeholders

List of activities					
Activity 3.1	**Activity name**	**Technical feasibility reports on pilot cases**			
	Activity 3.1 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable	**Deliverable 3.1.**	**Deliverable 3.2.**	**Deliverable 3.3.**	
		yes	no	yes	
	Two reports on the technical feasibility of the pilot cases. One for each pilot case, focusing on the viability of the installations. These reports will then be presented and shared among all partners to maximize the cross-border learning.				
Activity 3.2	**Activity name**	**Economic/Social feasibility reports on pilot cases**			
	Activity 3.2 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable	**Deliverable 3.1.**	**Deliverable 3.2.**	**Deliverable 3.3.**	
		yes	no	yes	
	Two reports on the economic/social feasibility of the pilot cases. One for each pilot case, focusing on the economic potential and social factors to take into consideration. These reports will then be presented and shared among all partners to maximize the cross-border learning.				

Activity 3.3	Activity name	Evaluation of pilotcases			
	Activity 3.3 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		Deliverable 3.1.	Deliverable 3.2.	Deliverable 3.3.
			yes	yes	no
	Two evaluations of the pilot cases. One for each pilot case, focusing on technology, economics and socials factors to take into consideration. These reports will then be presented and shared among all partners to maximize the cross-border learning.				

Activity 3.4	Activity name	Development of method/tool for smart proactive and preventive maintenance			
	Activity 3.4 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		Deliverable 3.1.	Deliverable 3.2.	Deliverable 3.3.
			yes	yes	no
	Developing of the method/tool for the smart proactive and preventive data driven maintenance solutions. This will be created based on activity 3.1, 3.2 and 3.3. and distributed through the partnership as well as the project website for download.				

Activity 3.5	Activity name	Mapping of potential new pilot cases for the BSAM approach			
	Activity 3.5 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		Deliverable 3.1.	Deliverable 3.2.	Deliverable 3.3.
			no	yes	yes
	A scan and analysis to map new potential pilot cases that are suitable for the BSAM approach with regards to smart data driven maintenance methods. Activity 3.4 will be applied as the testing ground to assess the potential of the mapped cases. 1 regional report per country.				

Activity 3.6	Activity name	Study Tours			
	Activity 3.6 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		Deliverable 3.1.	Deliverable 3.2.	Deliverable 3.3.
			no	yes	yes
	Study Tours to educate participants on the BSAM methodology and to increase the project impact by recruiting new stakeholders to BSAM for future cooperation and development of new cases. Recruitment of SMEs is also included in this activity. 18 events, 6 in each country.				

Activity 3.7	Activity name	Workshops to evaluate new cases and learn from existing ones			
	Activity 3.7 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		Deliverable 3.1.	Deliverable 3.2.	Deliverable 3.3.

			yes	yes	yes

Workshops to have the opportunity to go more "in-depth" on each case and increase the cross-border knowledge exchange approach in WP3. Workshops will be held in all participating countries and international participants will be invited. 12 workshops, 4 in each country.

	Activity name	**Database of stakeholders for new pilot cases and the cluster**			
			Deliverable 3.1.	**Deliverable 3.2.**	**Deliverable 3.3.**
Activity 3.8	Activity 3.8 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		yes	yes	yes

Creation of a DB to support activity 3.6, but also as the basis for preparation of future workshops. The directory will include companies/SMEs, municipalities, energy companies, knowledge providers as well as supporting org.. 1 database to induce cross-border cooperation.

	Activity name	**Creation of the BSAM Data Driven Proactive Maintenance Standard**			
			Deliverable 3.1.	**Deliverable 3.2.**	**Deliverable 3.3.**
Activity 3.9	Activity 3.9 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		no	yes	yes

Creation of the BSAM Data Driven Proactive Maintenance Standard that can further induce the implementation of the concept as well as certify the durability of BSAM results and recruit new pilot cases to maximize environmental positive impact and cross-border cooperation. 1 standard

	Activity name				
			Deliverable 3.1.	**Deliverable 3.2.**	**Deliverable 3.3.**
Activity 3.10	Activity 3.10 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable				

WORK PACKAGE 4	
Name of the work package	Implementation of Data Driven Predictive Maintenance through ICT-based systems
Total eligible costs	416 100.00 €
Coordinating partner	Öresundskraft Energy Company
Partners' involvement	
yes	LP	Linnaeus University

yes	PP2	Swedish Council of District Heating and Cooling
yes	PP3	Öresundskraft Energy Company
yes	PP4	OPEC Gdynia Energy Company
yes	PP5	Gdansk University of Technology
yes	PP6	Lithuanian District Heating Association
yes	PP7	Klaipeda University

What is the main objective of the work package? (How is it linked to the main output?) - max. 1000 characters

The main objective of the WP is to install two different pilot cases that will test the BSAM Data Driven Proactive Maintenance methodology in Helsingborg and Gdynia and to induce future investments for the expansion of the BSAM concept. This objective is clearly connected to the projects first main output which is WP4´s main purpose to create Pilot cases for smart proactive and preventive maintenance methods. The WP also includes training programs, creation of regional networks and a risk analysis tool.

Summary description including explanation of partners' involvement (who will do what?) - max. 3000 characters

The WP will be started by the planning of the pilot cases. This will be coordinated by the LP, PP3 and PP4. They will use the knowledge and the input from all partners in this process to optimize the plan and cover all aspects for the pilot cases. The plan will include technical, economic and social factors taken into consideration. We will also invite outside stakeholders for this activity with prior experiences of the specific solutions being installed in our cases.
All partners will then jointly create awareness of the pilot cases at an early stage of the planning process to create awareness and interest of our work. This will be done through each partners´ marketing channels as well as with the help from the associated organizations. Once this is achieved, we will proceed with creating stakeholder involvement among SME´s for example. This to broaden our knowledge base, receive input from prior experiences but also to start the initiation of creating a network for each pilot case.
The installation of pilot cases will be the responsibility of PP3 and PP4 but they will need to receive input from all partners. PP2 and PP6 will be responsible for the connection to SME´s and companies, LP, PP5 and PP7 to promote the cases to knowledge partners for their input, PP2 will als give input on the municipal aspect of the installations as they work closely with the Municipality of Helsingborg; which hinders and opportunities do they experience when working with Öresundskraft AB. The running and maintenance of the installations will be the sole responsibility of PP3 and PP4.
To understand the strategically political approach to installing pilot cases focusing on smart proactive and preventive maintenance methods, LP, PP5 and PP7 will be responsible to set the structure of the training programs and coordinate the information for the cross-border distribution. The training programs will aim at inviting external stakeholders as well, such as technology providers for BSAM solutions and energy companies in the region. In addition to this, LP and PP7 will manage the creation of a risk analysis tool to evaluate which potential risks current as well as future cases face.
Last but not least, the experiences from the WP will be disseminated through all partners as well as the project´s communication channels, such as the website, leaflets and other printed/digital media. It is important for the project that the cases have a cross-border approach, which is aligned with our project approach and will be included in the strategic communication plan. We have therefore also chosen to have partners from different regions being responsible for joint activities which we feel will be of key importance for the dissemination of results to the entire region.

Project main output delivered in WP4	
Pilot cases for Smart Data Driven Maintenance methods with emphasis on green proactive and preventive solutions	
Key deliverables and activities necessary to achieve the main output	
Deliverable 4.1	
Deliverable name	Pilot cases using data driven proactive and preventive maintenance methods
Deliverable description	2 pilot cases planned, installed and promoted. 1 in Sweden and 1 in Poland. The management and monitoring of the cases together with stakeholder involvement is included in the deliverable as well. The aim of the deliverable is also to induce further investment in data driven proactive and preventive maintenance methods in the South Baltic.
Value after project	4
Source of verification	Pilot cases (reports with photos)
Deliverable 4.2	
Deliverable name	Risk analysis tool
Deliverable description	A risk analysis tool that takes into consideration technical, economic and social factors when installing data driven proactive and preventive maintenance methods. The purpose of the tool is two both assess current pilot case risks in the project, as well as a tool to evaluate future investments in other regions and cases.
Value after project	1
Source of verification	Tool/method
Deliverable 4.3	
Deliverable name	Strategic training modul for BSAM Data Driven Proactive Maintenance Standard implementation
Deliverable description	A strategic training module for BSAM Standard implementation. The training module will include both educational elements with the industry´s top experts, as well as online tools for further increase of knowledge capacity. The module will be promoted through the website, as well as partners´ marketing channels.
Value after project	1
Source of verification	Training Module
List of activities	

Activity 4.1	**Activity name**	**Planning of pilot cases**			
	Activity 4.1 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			yes	yes	yes
	Planning of each case from a technical, economic and social perspective prior to installing the solutions. This activity will also include background assessment regarding permits and procurement routines. 2 plans, one per each case.				

Activity 4.2	**Activity name**	**Create pilot case awareness among relevant target groups**			
	Activity 4.2 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			yes	no	no
	Creating awareness of the pilot cases at an early stage of the process. The cases will be promoted through the partners´ marketing channels as well as in accordance with the project´s strategic communication plan. 120 stakeholders informed, 40 in each country.				

Activity 4.3	**Activity name**	**Create cross-border stakeholder involvement**			
	Activity 4.3 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			yes	no	no
	Creating cross-border stakeholder involvement in the pilot cases by including SME´s, regional/local authorities and knowledge providers such as Universities and industry specific associations for example. 20 stakeholders actively involved, 10 in each pilot case.				

Activity 4.4	**Activity name**	**Installation of pilot cases**			
	Activity 4.4 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			yes	yes	yes
	Installing the 2 pilot cases as well as setting the preparatory groundwork of permits and procurements. Cases are documented during the installation phase and continuously promoted through the project´s marketing channels. 2 pilot cases.				

Activity 4.5	**Activity name**	**Running and maintenance of pilot cases**			
	Activity 4.5 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**

			Deliverable 4.1.	Deliverable 4.2.	Deliverable 4.3.
			yes	no	yes
	Running and monitoring of the installation for the gathering of data and experiences which then are disseminated and shared through the project to achieve cross-border knowledge exchange. The data and experiences are also taken into consideration for activity 4.6 and 4.7. 2 pilot cases.				
Activity 4.6	**Activity name**	**Development of Strategic training modul for BSAM Data Driven Proactive Maintenance Standard**			
	Activity 4.6 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			no	yes	yes
	Creation if the Strategic training modul for BSAM for knowledge increase when implementing Data Driven Proactive Maintenance solutions. The module is based on the prior experiences in the WP as well as activities 3.1, 3.2 and 3.3. in WP3. 1 Training Module				
Activity 4.7	**Activity name**	**Creation of risk analysis tool**			
	Activity 4.7 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			no	yes	yes
	Creation of a risk analysis tool with the purpose to pin-point weaknesses in current and future pilot projects from a technical, economic and social perspective. The tool will also be used in the BSAM Data Driven Proactive Maintenance Standardr. 1 risk analysis tool.				
Activity 4.8	**Activity name**	**Dissemination of training documentation and risk analysis tool**			
	Activity 4.8 contributes to deliverable (use drop down list by selecting 'yes'/ 'no'). Please note: activity can contribute to more than one deliverable		**Deliverable 4.1.**	**Deliverable 4.2.**	**Deliverable 4.3.**
			no	yes	yes
	Dissemination of training documentation and risk analysis tool to stakeholders for cross-border impact. Strategy for this dissemination is included in the strategic communication plan. 300 relevant stakeholders (website, PDF, printed etc.) informed, 100 per country.				