1. Identification

Call	Date of submission
C1	25/04/2022

1.1. Full name of the project

Sustainable approaches for removal of oil residues and microplastics in Baltic Sea region

89 / 250 characters

1.2. Short name of the project

ROMP

4 / 20 characters

1.3. Programme priority

2. Water-smart societies

1.4. Programme objective

2.1 Sustainable waters

1.6. Project duration

Contracting start	22/09/2022	**Contracting end**	31/12/2022
Implementation start	01/01/2023	**Implementation end**	31/12/2025
		Duration of implementation phase (months)	36
Closure start	01/01/2026	**Closure end**	31/03/2026

1.7. Project summary

The Baltic Sea is suffering from the loss of biodiversity. There are vast amounts of oil products buried on the seafloor of water reservoirs as a result of anthropogenic activities. And new pollutants end up in the water such as plastic litter contaminating the food chain with microplastic. The problem mitigation calls for collecting and removing these from nature. The project is addressing the state of the water - particularly the oil and microplastic contaminants. Port operators, policymakers, and authorities need methods and knowledge to reduce water pollution. The toolbox is missing a cost-effective method to clean contaminated areas. The main obstacles to improvements are the high costs of current methods, limited capacity, missing knowledge, and unclear permission procedures. New cost-effective, scalable methods with related value chain components are piloted. Project results in knowledge of competence, capacity, and resilience for port operators, water utilities, policymakers, and authorities. The project connects stakeholders, increases mutual understanding, and reduces barriers to performing actions.
The project covers:
1 remediation technology to collect oil and plastic waste from water bodies
2 real-time measuring of the water bodies' status on microplastics
3 complex laboratory-based analyses of waters
4 recycling of the contaminants to valuable secondary raw materials
The value chain enhances the water management and sustainability of the mitigation technologies.

1,500 / 1,500 characters

1.8. Summary of the partnership

The consortium has 5 partners from 3 countries and represents cross-border cooperation with multidisciplinary and complementary expertise. Partners are research institutions and SMEs with connections to port and water utility operators, industry, authorities, policymakers, civil society and circular economic operators. The consortium ensures the efficient transfer of knowledge, experience and good practices from the experienced partners to their counterparts. In order to run piloting all partners are needed.

In this project consortium the Measurement Technology Unit (MITY), the University of Oulu (Finland), contributes to online monitoring that is essential for organizations operating and supervising water processing facilities. The MITY is acting as the lead partner. The MITY is the research unit concerning the development of technology for environmental monitoring in various industries (e.g. mining). The state-of-art facilities and research environment allow the development of monitoring inventions, which have led to commercialization. The MITY has experienced multidisciplinary personnel and engineering support experiences with the prototyping. MITY has wide experience with the coordination of national as well as international cross-border projects.

The Kajaani University of Applied Sciences (KAMK), (Finland), contributes to purification solutions. The KAMK is concerned with the valorisation of secondary resources such as industrial by-products from the mining industry, energy, agriculture, and paper production. KAMK has expertise in wastewater treatment using inorganic and bio-based adsorbents and has developed the mobile container-type purification solution.

The Analytical Expert Centre (AEC), Biological and Chemical Research Center, University of Warsaw (Poland), contributes to chemical analysis. The AEC has modern analytical equipment for complex analyses such as liquid chromatography with tandem mass spectrometry (LC-MS/MS). The AEC is concerned with the development of new analytical methods for different matrices and applications. AEC has an accredited laboratory for quality control.

The SME PurOceans (Latvia) contributes by providing break-through technology for the removal of oil/oil products and micro-plastic pollutants from the bottoms of the waterbodies by the micro flotation processes, caused by infused down to the bottom air, under the specific pressure and application methodology. The technology is nature-friendly and allows the collection of removed pollutants for recycling as a clean “product”. The technology is aimed to become CO2 neutral, automated, and easy to use.

The SME TerraWaste (Latvia) contributes by bringing expertise on the recycling approach for plastic and oil-based waste into value-added products using 'htloop' technology allowing the waste transformation into bio-liquid. That can, later on, be used as a raw material for various plastic product production and utilization.

2,964 / 3,000 characters

1.11. Project Budget Summary

Financial resources [in EUR]		Preparation costs	Planned project budget
ERDF	ERDF co-financing	0.00	2,450,795.94
	Own contribution ERDF	0.00	612,699.00
	ERDF budget	0.00	3,063,494.94
NO	NO co-financing	0.00	0.00
	Own contribution NO	0.00	0.00
	NO budget	0.00	0.00
NDICI	NDICI co-financing	0.00	0.00
	Own contribution NDICI	0.00	0.00
	NDICI budget	0.00	0.00
RU	RU co-financing	0.00	0.00
	Own contribution RU	0.00	0.00
	RU budget	0.00	0.00
TOTAL	**Total Programme co-financing**	0.00	2,450,795.94
	Total own contribution	0.00	612,699.00
	Total budget	0.00	3,063,494.94

2. Partnership

2.1. Overview: Project Partnership

2.1.1 Project Partners

No.	LP/PP	Organisation (English)	Organisation (Original)	Country	Type of partner	Legal status	Partner budget in the project	Active/inactive	
								Status	from
1	LP	University of Oulu	Oulun yliopisto	FI	Higher education and research institution	a)	784,092.00 €	Active	22/09/2022
2	PP	Kajaani University of Applied Sciences Ltd	Kajaanin Ammattikorkeakoulu Oy	FI	Higher education and research institution	a)	511,292.32 €	Active	22/09/2022
3	PP	University of Warsaw	Uniwersytet Warszawski	PL	Higher education and research institution	a)	477,770.62 €	Active	22/09/2022
4	PP	PurOceans Technology SIA	PurOceans Technology SIA	LV	Small and medium enterprise	b)	646,044.80 €	Active	22/09/2022
5	PP	SIA TERRAWASTE	Sabiedrība ar ierobežotu atbildību TERRAWASTE	LV	Small and medium enterprise	b)	644,295.20 €	Active	22/09/2022

2.1.2 Associated Organisations

No.	Organisation (English)	Organisation (Original)	Country	Type of Partner
AO 1	City Board of Kajaani	Kajaanin Kaupunginhallitus	FI	Local public authority
AO 2	City of Lahti	Lahden kaupunki	FI	Local public authority
AO 3	Port of Oulu Ltd.	Oulun satama Oy	FI	Infrastructure and public service provider
AO 4	Centre for Economic Development, Transport and the Environment	ELY-keskus	FI	Local public authority
AO 5	Foundation for the Protection of the Great Masurian Lakes	Fundacja Ochrony Wielkich Jezior Mazurskich	PL	NGO
AO 6	Painovoima	Painovoima ry	FI	Small and medium enterprise
AO 7	BASF SE	BASF SE	DE	Large enterprise
AO 8	The Freeport of Riga Authority	Rīgas Brīvostas pārvalde	LV	Infrastructure and public service provider

2.2 Project Partner Details - Partner 1

LP/PP Lead Partner

Partner Status Active

Active from 22/09/2022 **Inactive from**

Partner name:

Organisation in original language Oulun yliopisto

15 / 250 characters

Organisation in English University of Oulu

18 / 250 characters

Department in original language Mittaustekniikan yksikkö - MITY

31 / 250 characters

Department in English Measurement technology research unit

36 / 250 characters

Partner location and website:

Address	Mail address: Teknologiapuisto B.O.Box 127 Visting address: Kehräämöntie 7 82 / 250 characters	**Country**	Finland
Postal Code	FI-87400 8 / 250 characters	**NUTS1 code**	Manner-Suomi
Town	Kajaani 7 / 250 characters	**NUTS2 code**	Pohjois- ja Itä-Suomi
Website	www.oulu.fi/measurement-technology/ 35 / 100 characters	**NUTS3 code**	Kainuu

Partner ID:

Organisation ID type	Business Identity Code (Y-tunnus)
Organisation ID	0245895-5
VAT Number Format	FI + 8 digits
VAT Number	**N/A** ☐ FI02458955 10 / 50 characters
PIC	999844670 9 / 9 characters

Partner type:

Legal status	a) Public	
Type of partner	Higher education and research instituti	University faculty, college, research institution, RTD facility, research cluster, etc.
Sector (NACE)	85.42 - Tertiary education	

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities? Yes

Financial data	**Reference period**	01/01/2020 –	31/12/2020
	Staff headcount [in annual work units (AWU)]		2,977.0
	Employees [in AWU]		2,977.0
	Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]		0.0
	Owner-managers [in AWU]		0.0
	Partners engaged in a regular activity in the organisation and benefiting from financial advantages from the organisation [in AWU]		0.0
	Annual turnover [in EUR]		250,000,000.00
	Annual balance sheet total [in EUR]		315,000,000.00
	Operating profit [in EUR]		11,400,000.00

Role of the partner organisation in this project:

In this project consortium the Measurement Technology Unit (MITY), the University of Oulu (Finland), contributes to on-line monitoring solution and builds up knowledge on microplastics. The MITY is acting as the lead partner.

WP1: Implement on-line monitoring system and tools, participate requirement management and communication
WP2: Perform on-line monitoring operations, participate requirement management and communication
WP3: Process on-line monitoring results, participate requirement management and communication

The MITY is the research unit concerning on the development of technology for the environmental monitoring in various industries (e.g. mining). The state-of-art facilities and research environment allows the development of monitoring inventions, which have led into the commercialization. The MITY has experienced multidisciplinary personnel and the engineering support experiences with the prototyping. MITY has wide experiences with a coordination of national as well as international cross-border projects.

1,033 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

State aid relevance

For the partner type selected, the Programme sees a medium to high risk for implementing State aid relevant activities. If the partner is of the opinion that its activities are not State aid relevant, it can ask the MA/JS for a plausibility check on the State aid relevance. Does the partner want to do this?

○ Yes ○ No

2.2 Project Partner Details - Partner 2

LP/PP	Project Partner		
Partner Status	Active		
Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language: Kajaanin Ammattikorkeakoulu Oy
31 / 250 characters

Organisation in English: Kajaani University of Applied Sciences Ltd
43 / 250 characters

Department in original language: Teknologia osaamisalue
22 / 250 characters

Department in English: School of Engineering
22 / 250 characters

Partner location and website:

Address: Ketunpolku 1
12 / 250 characters

Postal Code: 87101
5 / 250 characters

Town: Kajaani
7 / 250 characters

Website: www.kamk.fi/en
14 / 100 characters

Country: Finland

NUTS1 code: Manner-Suomi

NUTS2 code: Pohjois- ja Itä-Suomi

NUTS3 code: Kainuu

Partner ID:

Organisation ID type	Business Identity Code (Y-tunnus)
Organisation ID	2553600-4
VAT Number Format	FI + 8 digits
VAT Number	N/A ☐ FI25536004 (10 / 50 characters)
PIC	949621465 (9 / 9 characters)

Partner type:

Legal status	a) Public
Type of partner	Higher education and research instituti — University faculty, college, research institution, RTD facility, research cluster, etc.
Sector (NACE)	85.42 - Tertiary education

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities? Yes

Role of the partner organisation in this project:

In this project consortium the Kajaani University of Applied Sciences (KAMK), (Finland), contributes to purification solution and builds up knowledge on sustainable and bio-based adsorbents.

WP1: Implement purification system, participate requirement management and communication
WP2: Perform purification operation during the piloting, participate requirement management and communication. Being responsible for activity 2.1, KAMK has obligation for correct preparation of piloting sites.
WP3: Process, verify, and present the purification solution and results of the project, participate requirement management and communication

The KAMK concerns on the valorisation of secondary resources such as industrial by-products from mining industry, energy, agriculture, and paper production. KAMK has an expertise in the wastewater treatment using inorganic and bio-based adsorbents and has developed the mobile container-type purification solution.

948 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

State aid relevance

For the partner type selected, the Programme sees a medium to high risk for implementing State aid relevant activities. If the partner is of the opinion that its activities are not State aid relevant, it can ask the MA/JS for a plausibility check on the State aid relevance. Does the partner want to do this?

○ Yes ○ No

2.2 Project Partner Details - Partner 3

LP/PP	Project Partner		
Partner Status	Active		
Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	Uniwersytet Warszawski (22 / 250 characters)

Organisation in English	University of Warsaw (20 / 250 characters)
Department in original language	Centrum Nauk Biologiczno-Chemicznych (36 / 250 characters)
Department in English	Biological and Chemical Research Centre (39 / 250 characters)

Partner location and website:

Address	ul. Żwirki i Wigury 101 (23 / 250 characters)	**Country**	Poland
Postal Code	02-089 (6 / 250 characters)	**NUTS1 code**	Makroregion województwo mazowieckie
Town	Warsaw (6 / 250 characters)	**NUTS2 code**	Warszawski stołeczny
Website	https://cnbch.uw.edu.pl/language/en/ (36 / 100 characters)	**NUTS3 code**	Miasto Warszawa

Partner ID:

Organisation ID type	Tax identification number (NIP)
Organisation ID	5250011266
VAT Number Format	PL + 10 digits
VAT Number	**N/A** ☐ PL5250011266 (12 / 50 characters)
PIC	999572294 (9 / 9 characters)

Partner type:

Legal status	a) Public	
Type of partner	Higher education and research instituti	University faculty, college, research institution, RTD facility, research cluster, etc.
Sector (NACE)	85.42 - Tertiary education	

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?	Yes

Role of the partner organisation in this project:

In this project consortium Analytical Expert Centre (AEC), Biological and Chemical Research Center, University of Warsaw (Poland), contributes to chemical analysis and builds up knowledge on attached chemicals.

WP1: Implement chemical analysis system, participate requirement management and communication
WP2: Perform chemical analysis, participate requirement management and communication
WP3: Process chemical analysis results, participate requirement management and communication

The AEC has extensive experience in establishing contacts with scientific, business and public benefit organizations. The unit has extensive research facilities and the latest technologies for the complex analyses (liquid chromatography with tandem mass spectrometry (LC-MS/MS)), for instance. The AEC concerns on the development of new analytical methods for different matrices and application. AEC has an accredited laboratory for the quality control.

939 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

State aid relevance

For the partner type selected, the Programme sees a medium to high risk for implementing State aid relevant activities. If the partner is of the opinion that its activities are not State aid relevant, it can ask the MA/JS for a plausibility check on the State aid relevance. Does the partner want to do this?

○ Yes ○ No

2.2 Project Partner Details - Partner 4

LP/PP	Project Partner		
Partner Status	Active		
Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	PurOceans Technology SIA (24 / 250 characters)
Organisation in English	PurOceans Technology SIA (24 / 250 characters)
Department in original language	PurOceans Technology SIA (24 / 250 characters)
Department in English	PurOceans Technology SIA (24 / 250 characters)

Partner location and website:

Address	Enerģētiķu iela 15 - 20 (23 / 250 characters)	**Country**	Latvia
Postal Code	LV-2121 (7 / 250 characters)	**NUTS1 code**	Latvija
Town	Salaspils (9 / 250 characters)	**NUTS2 code**	Latvija
Website	www.puroceans.com (17 / 100 characters)	**NUTS3 code**	Zemgale

Partner ID:

Organisation ID type	Unified registration number (Vienotais reģistrācijas numurs)
Organisation ID	40203201479
VAT Number Format	LV + 11 digits
VAT Number	**N/A** ☐ LV40203201479 (13 / 50 characters)
PIC	N/A (3 / 9 characters)

Partner type:

Legal status	b) Private

Type of partner	Small and medium enterprise	Micro, small, medium enterprises < 250 employees, ≤ EUR 50 million turnover or ≤ EUR 43 million balance sheet total
Sector (NACE)	39.00 - Remediation activities and other waste management services	

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities? Yes

Financial data	**Reference period**	04/02/2022 –	13/04/2022
	Staff headcount [in annual work units (AWU)]		10.0
	Employees [in AWU]		1.0
	Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]		0.0
	Owner-managers [in AWU]		5.0
	Partners engaged in a regular activity in the organisation and benefiting from financial advantages from the organisation [in AWU]		4.0
	Annual turnover [in EUR]		80,000.00
	Annual balance sheet total [in EUR]		0.00
	Operating profit [in EUR]		0.00

Role of the partner organisation in this project:

In this project consortium the PurOceans Ltd (Latvia), contributes to removal solution of oil/oil products and micro plastic pollutants from water and builds up knowledge on micro flotation methodology.

WP1: Implement pollutant removal system, participate requirement management and communication
WP2: Perform pollutant removal operations, participate requirement management and communication
WP3: Process pollutant removal results, participate requirement management and communication

PurOceans Ltd (Latvia) is providing and scaling up the break-through micro flotation technology to removal of oil/oil products and micro plastic pollutants from the bottoms of the waterbodies. The technology is nature-friendly and allows the collection of removed pollutants for recycling as a clean “product”. The technology is aimed to become CO2 neutral, automated, and easy to use.

873 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

2.2 Project Partner Details - Partner 5

LP/PP	Project Partner		
Partner Status	Active		
	Active from 22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	Sabiedrība ar ierobežotu atbildību TERRAWASTE
	45 / 250 characters
Organisation in English	SIA TERRAWASTE
	14 / 250 characters
Department in original language	Sabiedrība ar ierobežotu atbildību TERRAWASTE
	45 / 250 characters
Department in English	SIA TERRAWASTE
	14 / 250 characters

Partner location and website:

Address	Brivibas gatve 300 - 9 (23 / 250 characters)	**Country**	Latvia
Postal Code	LV-1006 (7 / 250 characters)	**NUTS1 code**	Latvija
Town	Riga (4 / 250 characters)	**NUTS2 code**	Latvija
Website	www.terrawaste.tech (19 / 100 characters)	**NUTS3 code**	Rīga

Partner ID:

Organisation ID type	Unified registration number (Vienotais reģistrācijas numurs)
Organisation ID	40203289016
VAT Number Format	LV + 11 digits
VAT Number	**N/A** ☑ (0 / 50 characters)
PIC	N/A (3 / 9 characters)

Partner type:

Legal status	b) Private	
Type of partner	Small and medium enterprise	Micro, small, medium enterprises < 250 employees, ≤ EUR 50 million turnover or ≤ EUR 43 million balance sheet total
Sector (NACE)	38.32 - Recovery of sorted materials	

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities? Yes

Financial data	**Reference period**	01/03/2022 –	31/03/2022
	Staff headcount [in annual work units (AWU)]		6.0
	Employees [in AWU]		1.0
	Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]		0.0
	Owner-managers [in AWU]		4.0
	Partners engaged in a regular activity in the organisation and benefiting from financial advantages from the organisation [in AWU]		1.0
	Annual turnover [in EUR]		10,998.33
	Annual balance sheet total [in EUR]		0.00
	Operating profit [in EUR]		0.00

Role of the partner organisation in this project:

In this project consortium TerraWaste Ltd (Latvia), contributes to recycling solutions and builds up knowledge on waste transformation into bio-liquid. Lead the communication.

WP1: Implement a recycling system, participate in requirement management and communication
WP2: Perform recycling operations, participate in requirement management and communication
WP3: Process recycling results, participate in requirement management and communication

TerraWaste (Latvia) contributes by bringing expertise on the recycling approach for plastic and oil-based waste into value-added products using 'htloop' technology allowing the waste transformation into bio-liquid.

662 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ◉ No

2.3 Associated Organisation Details - AO 1

Associated organisation name and type:

Organisation in original language: Kajaanin Kaupunginhallitus (26 / 250 characters)

Organisation in English: City Board of Kajaani (21 / 250 characters)

Department in original language: Ympäristötekninen lautakunta (28 / 250 characters)

Department in English: Environmental Engineering Board (31 / 250 characters)

Legal status: a) Public

Type of associated organisation: Local public authority — Municipality, city, etc.

Associated organisation location and website:

Address: Pohjolankatu 13 (15 / 250 characters)

Country: Finland

Postal Code: 87100 (5 / 250 characters)

Town: Kajaani (7 / 250 characters)

Website: www.kajaani.fi/kaupunki-ja-hallinto/organisaatio/ (49 / 100 characters)

Role of the associated organisation in this project:

The City of Kajaani's highest decision-making body is the City Council. The Environmental and Permits Sub-committee operates under the Environmental Technical Committee, which is a main contact actor with partners of the project. The organisation is actively looking for new solutions for remediation of water bodies, and expresses interest in clarifying the scope of responsibility and legal issues for microplastic pollution. As associated partner, the City of Kajaani will be actively involved into discussions with authorities on national and local levels on how to tackle with emerging pollutants. In addition, the involvement of the City of Kajaani as a representative of the target group allow efficient networking among city administrations in Finland and to broaden their expertise on the addressed challenge in transnational level.

842 / 1,000 characters

2.3 Associated Organisation Details - AO 2

Associated organisation name and type:

Organisation in original language: Lahden kaupunki (15 / 250 characters)

Organisation in English: City of Lahti (13 / 250 characters)

Department in original language: Ympäristötekninen toimiala (26 / 250 characters)

Department in English: Environmental services (22 / 250 characters)

Legal status: a) Public

Type of associated organisation: Local public authority — Municipality, city, etc.

Associated organisation location and website:

Address: Aleksanterinkatu 18 (19 / 250 characters)

Country: Finland

Postal Code: 15140 (6 / 250 characters)

Town: Lahti (5 / 250 characters)

Website: www.lahti.fi/asuminen-ja-ymparisto/ymparistonsuojelu-ja-valvonta/ (65 / 100 characters)

Role of the associated organisation in this project:

The Environmental services supervises the laws and regulations as well as the decisions that fall within the tasks of the Environmental Protection Authority in the region. The Environmental services is a part of municipal environmental authority that is the supervisory authorities designated in the Water Act. The associated partner is a valuable actor for the project implementation since it acts as the water supply supervisory authority. The associated partner helps to identify and clarify the target groups needs, participates in surveys, and the piloting of the solution. The extensive experience of Environment Services in the field of dispute resolution and problem solving related to wastewater disposal and wastewater management will be useful in project implementation and post-project activities.

810 / 1,000 characters

2.3 Associated Organisation Details - AO 3

Associated organisation name and type:

Organisation in original language: Oulun satama Oy (15 / 250 characters)

Organisation in English: Port of Oulu Ltd. (17 / 250 characters)

Department in original language: Hallinto (8 / 250 characters)

Department in English: Administration (14 / 250 characters)

Legal status: b) Private

Type of associated organisation: Infrastructure and public service provi — Public transport, utility company (water supply, electricity supply, sewage, gas, waste collection, airport, port, railway, etc.)

Associated organisation location and website:

Address: Poikkimaantie 16 (17 / 250 characters)

Country: Finland

Postal Code: 90400 (6 / 250 characters)

Town: Oulu (4 / 250 characters)

Website: www.ouluport.com/en/home/ (25 / 100 characters)

Role of the associated organisation in this project:

The location of the Port of Oulu means that consideration for nature is a top priority. All operation is also guided by the quality and environmental certificates ISO 9001 and ISO 14001. In accordance with them, a waste management system has been drawn up, as well as waste handling instructions for ships visiting the port. The Port of Oulu has been granted an environmental permit by the Regional State Administrative Agency for Northern Finland

447 / 1,000 characters

2.3 Associated Organisation Details - AO 4

Associated organisation name and type:

Organisation in original language: ELY-keskus
11 / 250 characters

Organisation in English: Centre for Economic Development, Transport and the Environment
62 / 250 characters

Department in original language: Kainuun ELY-keskus
18 / 250 characters

Department in English: Kainuu branch
14 / 250 characters

Legal status: a) Public

Type of associated organisation: Local public authority — Municipality, city, etc.

Associated organisation location and website:

Address: Kalliokatu 4
12 / 250 characters

Country: Finland

Postal Code: 87100
6 / 250 characters

Town: Kajaani
7 / 250 characters

Website: www.ely-keskus.fi/ely-kainuu
28 / 100 characters

Role of the associated organisation in this project:

The ELY Centres belong to the administrative branch of the Ministry of Economic Affairs and Employment. In addition to the Ministry of Economic Affairs and Employment also Ministry of the Interior, Ministry of Education and Culture, Ministry of Agriculture and Forestry, Ministry of the Environment, Ministry of Transport and Communication as well as Transport Infrastructure Agency all steer the centres. The ELY Centres also follow the goals of the Finnish Food Authority, Finnish Immigration Service and Business Finland.
524 / 1,000 characters

2.3 Associated Organisation Details - AO 5

Associated organisation name and type:

Organisation in original language: Fundacja Ochrony Wielkich Jezior Mazurskich (43 / 250 characters)

Organisation in English: Foundation for the Protection of the Great Masurian Lakes (57 / 250 characters)

Department in original language: na (2 / 250 characters)

Department in English: na (2 / 250 characters)

Legal status: a) Public

Type of associated organisation: NGO — Non-governmental organisations, such as Greenpeace, WWF, etc.

Associated organisation location and website:

Address: ŁUCZAŃSKA 1 (11 / 250 characters)

Country: Poland

Postal Code: 11-500 (6 / 250 characters)

Town: Giżycko (7 / 250 characters)

Website: www.jeziora.com.pl (18 / 100 characters)

Role of the associated organisation in this project:

The Foundation for the Protection of the Great Masurian Lakes has been operating on the regional market for 30 years.
For many years, the Foundation has been cooperating with research units, solving problems related to lake pollution.
The Foundation brings together 23 local municipalities located by the lakes with responsibility and environmental expertise, and science-based advice / recommendations will provide new ways of thinking in lake protection, which will impact long-term environmental management and quality solutions for environmental institutions / organizations.

579 / 1,000 characters

2.3 Associated Organisation Details - AO 6

Associated organisation name and type:

Organisation in original language: Painovoima ry
13 / 250 characters

Organisation in English: Painovoima
11 / 250 characters

Department in original language: Painovoima ry
13 / 250 characters

Department in English: Painovoima
11 / 250 characters

Legal status: b) Private

Type of associated organisation: Small and medium enterprise

Micro, small, medium enterprises < 250 employees, ≤ EUR 50 million turnover or ≤ EUR 43 million balance sheet total

Associated organisation location and website:

Address: Takojankatu 5
13 / 250 characters

Country: Finland

Postal Code: FI-15800 Lahti
14 / 250 characters

Town: Lahti
5 / 250 characters

Website: http://painovoima.net/
22 / 100 characters

Role of the associated organisation in this project:

An innovative sustainable filter material provider for the solution. In addition, the organisation is an active operator at field of civic community and the circular economy.
176 / 1,000 characters

2.3 Associated Organisation Details - AO 7

Associated organisation name and type:

Organisation in original language
BASF SE
7 / 250 characters

Organisation in English
BASF SE
7 / 250 characters

Department in original language
BASF SE
7 / 250 characters

Department in English
BASF SE
7 / 250 characters

Legal status
b) Private

Type of associated organisation
Large enterprise
≥ 250 employees

Associated organisation location and website:

Address
Carl-Bosch-Straße 38
20 / 250 characters

Country
Germany

Postal Code
67056
5 / 250 characters

Town
Ludwigshafen/Rhein
18 / 250 characters

Website
www.basf.com/
13 / 100 characters

Role of the associated organisation in this project:

Final user/tester of the TERRAWASTE's produced output materials.
64 / 1,000 characters

2.3 Associated Organisation Details - AO 8

Associated organisation name and type:

Organisation in original language: Rīgas Brīvostas pārvalde (24 / 250 characters)

Organisation in English: The Freeport of Riga Authority (30 / 250 characters)

Department in original language: Vīdes departaments (18 / 250 characters)

Department in English: Environmental unit (18 / 250 characters)

Legal status: a) Public

Type of associated organisation: Infrastructure and public service provi — Public transport, utility company (water supply, electricity supply, sewage, gas, waste collection, airport, port, railway, etc.)

Associated organisation location and website:

Address: Kalpaka bulvāris 12 (19 / 250 characters)

Country: Latvia

Postal Code: LV-1010 (7 / 250 characters)

Town: Rīga (4 / 250 characters)

Website: www.freeportofriga.lv (21 / 100 characters)

Role of the associated organisation in this project:

- The Freeport of Riga Authority will provide the territory (port water area) corresponding to the project works to be performed in the area of up to 5 ha
- Consultations and assistance will be provided to obtain the necessary permits from state and local government institutions.
- Coordination with the companies involved will be ensured
- Before the start of the project, the research of the project area will be ensured in accordance with the project tasks

464 / 1,000 characters

3. Relevance

3.1 Context and challenge

The Baltic Sea is considered one of the most polluted seas. It is suffering from the loss of biodiversity due to the effects of eutrophication, fisheries and contamination. Oil pollution is one of the leading factors of anthropogenic impact on aquatic ecosystems in the modern world. Oil has a negative impact on all groups of organisms that live in the surface layer, water column, and the ground. The oil threat is not limited to the Baltic Sea but touches global water bodies.

Over 20 million barrels of oil are emitted into the global waters annually. 60% of the spilt oil/oil products usually sink down to the bottom destroying the water ecosystem. Today there are vast amounts of oil products already buried in the water body's floor. Similarly, plastic litter/matter/debris ends up in the water bodies that negatively affect the marine and accumulates the contaminants through the food chain. The traces of micro-plastic are found in fish we eat, the water we drink, and even in human placentas. The only way of mitigating the problem is to begin collecting and removing it permanently from natural cycles.

Our project is addressing the specific challenges of improving the state of the water, preventing and reducing water pollution by employing novel technologies and their evaluation. The project concerns particularly the oil and microplastic pollution, that currently is the most widespread. Our idea covers several aspects of the plastic and oil pollution mitigation: (i) remediation technology is able to collect the oil and plastic waste from the water, as well as the bottom of water bodies, (ii) real-time detection and monitoring of the water bodies state on microplastic status, (iii) complex laboratory-based analysis of the seawater, and (iv) recycling the collected waste to generate high-value output materials. This value chain enhances the water management and sustainability of the mitigation technologies.

1,936 / 2,000 characters

3.2 Transnational value of the project

The project aims to support the general transnational environmental debate, increase understanding and address any technical, non-legal, legal and regulatory issues or obstacles at both local and EU levels, and promote the cleaning solution for oil and microplastics in the Baltic Sea region.

This challenge requires technological competencies and capabilities that cannot be collected nationally from one country only. The partner selection is based on both, technical expertise and distributed locations. All selected partners are experts in their own fields.

To pilot the technological solutions under discussion within various environments from polluted ports to less polluted water, there must be access to various locations that cannot be found in one country. National representatives are needed to discuss possible permits to perform piloting. In this consortium, Finland represents the North, Latvia represents the East, and Poland represents the South dimensions of the Baltic Sea. These countries cover sufficiently the geographical area of the Baltic Sea.

1,071 / 2,000 characters

3.3 Target groups

Target group	Sector and geographical coverage	Its role and needs
Infrastructure and public service provid	Port operators: Logistics infrastructure provider: Every country: Responsible for the environmental load. Water utility operators: water provider: Every city: Responsible for healthy water and environmental load. 213 / 500 characters	This target group is responsible for maintaining and improving the water quality under permitted limits in harbours. They are also in the chain of collecting unintentionally released oil and other related chemicals. The target group is missing an economical method to collect oil and other chemicals from the seafloor. Work practices and licensing procedures related to this technology are also missing. This target group is responsible for maintaining and improving water quality under permitted limits for households and industry. They are also in a chain of collecting chemicals and solid substances and particles from both their raw and runoff waters. The target group is missing a method to collect and monitor microplastics. Work practices and licensing procedures related to this technology are also missing. 818 / 1,000 characters

Target group	Sector and geographical coverage	Its role and needs
Large enterprise	Industry: Chemical industry: Global: Responsible for an environmental load. 75 / 500 characters	This target group is looking for innovative solutions in the field of circular economy and products that fit into the strategy of the European Green Deal. The target group will play a supporting role in evaluating the proposed solutions and their market potential. 266 / 1,000 characters
National public authority	Ministries of the Environment: Provide national policy guidance: Every country: Responsible for regulation. 107 / 500 characters	This target group is responsible for providing environmental and healthy policy guidance and regulation. The role of public authorities in the project will be to share experience and knowledge in the field of environmental protection management on a national scale. They are looking for possible solutions, using specialist and scientific knowledge as well as the experiences of the countries of the Baltic region. Practical use of the developed solutions. The target group needs to be well aware of the potential environmental risks and mitigation technologies. 566 / 1,000 characters
Local public authority	Local authorities: Approval body: Every country: Responsible for proving and monitoring permit limits for operations. 117 / 500 characters	This target group is responsible for providing environmental guidance and approving operating limits based on national regulations. Local authorities are crucial role players when conservation and environmental protection actions are planned in the region. To plan the investments and renovations, the target group need a deep understanding of the state-of-the-art approaches, which could come into practice in the near future. The target group needs to be well aware of the potential environmental risks and mitigation technologies. 537 / 1,000 characters
Small and medium enterprise	SME: Technology providers: Every country: Responsible for proving technological solutions for the marketplace. Associations: Civil society and the circular economy, Every country: Active operator in the field of civic and community engagement 243 / 500 characters	SMEs will be engaged in providing product and service information and opportunities being exploited within each region. Associations operating in the civil society and the circular economy will be engaged in the discussion. At the very same time, the associations gain contacts and visibility among the larger operators. It is also important that the citizens involved see and feel that they are on an equal footing with the larger operators. 443 / 1,000 characters

3.4 Project objective

Your project objective should contribute to:

Sustainable waters

The project aims to develop a technology that will contribute to reducing the future risk of water pollution in the Baltic Sea and inland waters, improving water quality and preventing the emission of harmful substances into the water. The key element of the project is to define the problem with the involvement of target groups and search for solutions that respond to the real challenges faced by target groups. The project engages authorities and local communities to implement good practices to prevent emissions of hazardous substances into the water. The project is looking for solutions presenting new strategies for the emergence of pollutants in the waters of the Baltic Sea and lakes. In addition, the comparison of practices used in the countries of the Baltic Sea Region in the field of water quality monitoring and purification of the Baltic Sea and lake waters will allow the exchange of best practices and experiences between target groups from different regions.

979 / 2,000 characters

3.5 Project's contribution to the EU Strategy for the Baltic Sea Region

Please indicate whether your project contributes to the implementation of the Action Plan of the EU Strategy for the Baltic Sea Region (EUSBSR).

(•) Yes ( ) No

Please select which Policy Area of the EUSBSR your project contributes to most.

PA Hazards

Please list the action of this Policy Area that your project contributes to and explain how.

PA Hazards' actions concentrate on reducing the use and preventing emissions of hazardous substances by developing and implementing primarily non-regulatory measures and Baltic Sea Region-wide policies, as well as mitigating and remediating historic contamination still causing negative effects on the Baltic ecosystem.
The main goal of our project is to develop a technology for the remediation of the Baltic Sea water from oil and microplastics. In our project, countries are engaging, cooperating and taking remedial action against waste already accumulated in Baltic waters and ports. Furthermore, the project is contributing to disseminating knowledge about the pollution of the Baltic Sea, increasing the awareness of local and public authorities, as well as residents.

775 / 1,500 characters

If applicable, please describe which other Policy Areas of the EUSBSR your project contributes to and how.

PA Innovation
The PA Innovation promotes a globally competitive position within innovation for sustainable economic growth in the Baltic Sea region and provides a strong platform for an enhanced macroregional collaborative ecosystem for innovation, research, SMEs and digitalization. Our project involves representatives of the scientific and business community, who, in cooperation with local and public authorities and non-governmental organizations participating in the project as associated organizations, create innovative solutions and technologies aimed at remediating the Baltic waters from oil and microplastics.

621 / 1,500 characters

3.6 Other political and strategic background of the project

Strategic documents
Pathway to a Healthy Planet for All. EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'. Under EU law, Green Deal ambitions and in synergy with other initiatives, by 2030 the EU should reduce i.e. by 50% plastic litter at sea and by 30% microplastics released into the environment. Our idea covers several aspects of plastic and oil pollution mitigation from the sea. This project enhances the water management and sustainability of the mitigation technologies. (476 / 500 characters)
Chemicals strategy. Green Deal EU action to ensure chemicals are safe, for health and the environment. The EU's chemicals strategy for sustainability towards a toxic-free environment (i.e. metals). In our project, we will focus on purifying water from microplastics and oil. We will also study the environmental impact of the technology we have developed. (355 / 500 characters)
The Baltic Sea Action Plan (BSAP). BSAP is HELCOM's strategic programme of measures and actions for achieving the good environmental status of the sea, ultimately leading to a Baltic Sea in a healthy state. Our project is addressing the specific challenges of improving the state of the water, preventing and reducing water pollution by employing novel technology and its evaluation. The project concerns particularly the oil and microplastic pollution, which are currently the most widespread. (495 / 500 characters)

3.7 Seed money support

Please indicate whether your project is based on a seed money project implemented in the Interreg Baltic Sea Region Programme 2014-2020.

○ Yes ◉ No

3.8 Other projects: use of results and planned cooperation

Full name of the project	Funding Source	Use of the project outcomes and/or planned cooperation
FANPLESSTIC-SEA – INITIATIVES TO REMOVE MICROPLASTICS BEFORE THEY ENTER THE SEA (79 / 200 characters)	Interreg Baltic Sea Region, PROGRAMME 2014-2020 (47 / 200 characters)	Use of the results of the project related to the Baltic Sea and microplastics. This project is certainly a great source of knowledge about the scale of the problem. The results of this project will allow us to better understand how microplastics travel and enter the ecosystem from different sources. (300 / 1,000 characters)
THE BLASTIC PROJECT (60 / 200 characters)	Interreg Central Baltic Programme 2016-2018 (43 / 200 characters)	The BLASTIC project aims to reduce plastic waste and, thereby, the inflow of hazardous substances into the Baltic Sea by mapping and monitoring the amounts of litter in the aquatic environment. The knowledge bank with information on the sources and pathways of pollution in the Baltic Sea will be very useful. (309 / 1,000 characters)
REMMI - DEVELOPMENT AND PILOTING OF A REAL-TIME MICROPLASTICS MEASUREMENT SYSTEM (80 / 200 characters)	European Regional Development Fund, 2020-2022 (45 / 200 characters)	The REMMI project is developing a real-time microplastic measurement system. REMMI's goal is to pilot an on-site measurement system under real conditions in selected facilities. The output of the REMMI project can be modified and implemented during the ROMP project to be suitable for a challenging floating platform or ship. Due to the challenging operating environment, the introduction of measurement technology must be carefully considered. (444 / 1,000 characters)

3.10 Horizontal principles

Horizontal principles	Projects's direct impact
Sustainable development	positive
Non-discrimination including accessibility	neutral
Equality between men and women	neutral

4. Management

Allocated budget 15%

4.1 Project management

☑ **Please confirm that the lead partner and all project partners will comply with the rules for the project management as described in the Programme Manual.**

If relevant, please indicate any other important aspects of the project management, e.g. external entity supporting the lead partner in the management of the project, advisory board, steering committee, any other relevant working groups, etc.

The project will have:
- Consortium steering group: Interval 3 months, Consortium status report, Project approvals.
- Technical project meetings: Interval 1 month, Partner status reports, Co-ordination.
- Project meetings in each organization: Bi-weekly, Supervising, Staff allocations.

Total management staff cost is 14%. The project management includes both consortium (8%) and partner internal (6%) management.

414 / 500 characters

4.2 Project financial management

☑ **Please confirm that the lead partner and all project partners will comply with the rules for the financial management and control as described in the Programme Manual.**

If relevant, please indicate any other important aspects of the financial management, e.g. external entity supporting the lead partner, positions planned for financial management, involvement of special financial experts (e.g. for public procurement), etc.

The project lead partner shall utilize the financing practices and guidelines set by the University of Oulu.
The project coordination office and its experts shall perform actual financial actions.

197 / 500 characters

4.3 Input to Programme communication

☑ **Please confirm that you are aware of the obligatory inputs to Programme communication that must be submitted along the pre-defined progress reports, as described in the Programme Manual.**

If relevant, please describe other important aspects of project communication that you plan to introduce, e.g. a communication plan, opening and closing events, social media channel(s) etc.

Communication actions will include the visual documentation and output material creation within the scope of the project, networking (events), workshops, and seminars to which both associated organizations and also external selected target group representatives will be invited. The outcome from these will be distributed using not only the communication set by the Programme but also by attending external seminars. The communication manager will be nominated from TerraWaste Ltd.

481 / 500 characters

4.4 Cooperation criteria

Please select the cooperation criteria that apply to your project. In your project you need to apply at least three cooperation criteria. Joint development and joint implementation are the obligatory ones you need to fulfill in your project.

Cooperation criteria	
Joint Development	☑
Joint Implementation	☑
Joint Staffing	☑
Joint Financing	☑

5. Work Plan

Number	Work Package Name
1	WP1 Preparing solutions

Number	Group of Activity Name
1.1	Gathering knowledge for preparation of the solution and the pilot
1.2	Constructing piloting system and procedures
1.3	Communication strategy

Number	Work Package Name
2	WP2 Piloting and evaluating solutions

Number	Group of Activity Name
2.1	Operating piloting system
2.2	Analysis of preliminary results
2.3	Dissemination activities and exploitation plan

Number	Work Package Name
3	WP3 Transferring solutions

Number	Group of Activity Name
3.1	Final results
3.2	Exploring the future
3.3	Knowledge transferring and exploitation of the results

Work plan overview

Period:	1	2	3	4	5	6	Leader
WP.1: WP1 Preparing solutions							**PP1**
A.1.1: Gathering knowledge for preparation of the solution and the pilot							PP3
D.1.1: Material bank		D					
A.1.2: Constructing piloting system and procedures							PP1
D.1.2: Piloting system		D	D	D			
A.1.3: Communication strategy							PP5
D.1.3: Collected requirements and received permits to pilot, communication plan				D			
WP.2: WP2 Piloting and evaluating solutions							**PP2**
A.2.1: Operating piloting system							PP2
D.2.1: Piloting of the prepared solution				D	D		
A.2.2: Analysis of preliminary results							PP3
D.2.2: Data sets				D	D		
A.2.3: Dissemination activities and exploitation plan							PP5
D.2.3: Verified requirements					D		
WP.3: WP3 Transferring solutions							**PP5**
A.3.1: Final results							PP1
D.3.1: Case report						D	
A.3.2: Exploring the future							PP4
O.3.2: Cleaning solution						O	
A.3.3: Knowledge transferring and exploitation of the results							PP5
O.3.3: Communication product (Roadmap)						O	

Outputs and deliverables overview

Code	Title	Description	Contribution to the output	Output/ deliverable contains an investment

D 1.1	Material bank	The purpose of deliverable 1.2 is to plan, prepare, and optimize the solution for the upcoming piloting. Without Activity 1.1, it is not possible to construct a state-of-the-art piloting system and proceed with the pilot efficiently. The form of deliverable 1.2 is the material bank that includes: a) approval procedures; b) measurement techniques, sampling procedures, potential pollutants and related methodology for chemical analysis; c) description of the collecting procedures, the purification process stages and materials suitable for it; d) characteristics of the recycling processes and possible secondary raw material. Information collected during the reviewing process, consultations with the associated organisations and the target group representatives in three countries, and the own experience of the partners will contribute to both the future pilot and roadmap of sustainable practices for the specified pollutants. The material bank will be made available as a separate report as open access material with a possibility to be used for involvement and visibility of the project at its earlier stages in the BSR countries beyond the consortium. The material bank can be used by decision-makers for self-study both approval procedures at the local and national levels in partner countries and technical aspects.	O.3.2 Cleaning solution; O.3.3 Communication product (Roadmap)	
D 1.2	Piloting system	The purpose of the deliverable is to clean water by lifting and collecting oil residuals from the seafloor and microplastics from midwater. At a high level, the content of the deliverable is the collection, purification, processing, and online measurement units, as well as adequate chemical sampling and analysis methods to monitor the pilot site. In more detail, the system consists of the components like: - the bubble generation, capturing, and skimming units with associated tools and automation, - the purification unit with suitable adsorbents, - the optical measurement instrument with data analysis tools, - material processing tools such as reactors, shredder, and mixer and related tools, and - chemical analysis. The end-to-end system also includes applied procedures and means to transport the entire installation. The sub-units can be taken into operation in stages. 1) Adequate chemical sampling and analysis methods to monitor the pilot site are needed. 2) The collection, purification, and online measurement units are performed next. 3) Finally, material processing is required. However, the development of all these will start at the very same time. The implemented system is suitable for field use, can be installed onboard, is safe and easy to operate onboard, and is economical and robust. This activity WP1.2 has clearly essential links to all other activities. WP1.2 leans on the WP1.1 output and the WP1.3 input. On the other hand, the following work packages WP2 or WP3 cannot proceed without the completion of WP1.2. As this system can be placed onboard and used throughout the Baltic Sea region, valuable experience can be gained from different environments and operating conditions.	O.3.2 Cleaning solution	
D 1.3	Collected requirements and received permits to pilot, communication plan	The purpose of deliverable 1.3 is to collect requirements/permits needed for the solution preparation and piloting, smooth project launch, and organize communication activities for the entire project duration. The requirements/permits received from authorities to run the pilots ensure the solution transparency and visibility for the target groups and local residents in the BSR. This potentially leads to a more uniform permission process. The communication team will develop surveys for the target groups to identify needs and clarify current methods of Oil Residues and MicroPlastic removal, water purification approaches, and recycling of collected contaminants in various countries around BSR. The survey will take place at the beginning of the project as a point of reference for the follow-up survey at the end of the project. The result of deliverable 1.3 leads to output 3.3. A roadmap, which can serve as a guideline to local and international authorities on best practices for cleaning solutions of Oil Res. and MP to prevent the pollution of the BSR. The information package includes a project summary, story, pictures and quotes targeted to reach out to and engage the target groups. Participation in EU events increases awareness, provides feedback on the solution, and expands the cooperation network. Participation in EU-wide seminars facilitates knowledge sharing and project promotion. Many of the project activities are communicated online, via social media, and on the project subpage. The main deliverable from these activities is the establishment of industry contacts for fruitful collaboration. Reaching out and gathering interest from industry experts will help the project partners with aligning and calibrating their technological solutions for better performance and further adjustments to the industry needs. This will significantly contribute to output 3.2 Cleaning solution. Effective communication strategy increases possibilities for transnational cooperation.	O.3.2 Cleaning solution; O.3.3 Communication product (Roadmap)	

D 2.1	Piloting of the prepared solution	The piloting helps to evaluate technical performance in various environments and monitor environmental aspects of operated sites. During the pilot, valuable environmental information on microplastic occurrence is gathered, analysed, and passed to the target groups (national and local authorities) and the public at the transnational level. New options to collect and render harmless oil pollutants and microplastic in a non-invasive manner are presented to the target groups. Using obtained pilot data, the operating costs and the cost-efficiency of the upscaled solution can be estimated. The piloting of the new modules of the solution not demonstrated previously are devoted to enhancing the operational capacity of the associated organizations and the partners. For instance, each partner for the first time in BSR demonstrates: -a real-time monitoring module for microplastic (the lead partner, MITY); -a new methodology for assessment of environmental state related to chosen pollutants (Partner 3, AEC); - software for automatization of the purification system (Partner 4, PureOceans); - applications of sustainable materials and recycling practices (Partners 2 and 5, KAMK and Terrawaste). Deliverable 2.1 is essential in terms of post-project implementation of the solution. Without extensive user experience, it is not possible to: - improve the state-of-the-art piloting system technically, - implement a user-friendly and accessible for clients tool to keep the water bodies clean - receive a target group feedback from the piloting system or performed operations, - receive experience from the realized permission processes. The aim is to level up the TRL of the prepared solution and to provide the ready-to-use solution for WP3 dissemination. Experience gained from the piloting in three countries of the Baltic Sea region could be distributed across the programme area.	O.3.2 Cleaning solution	
D 2.2	Data sets	The purpose of the preliminary results is to provide concrete evidence of the proposed solution. The collected data becomes comprehensible information. The results become more accessible and understandable for representatives of target groups not related to the scientific community. The more transparent form of the results also facilitates the exchange of knowledge and discussion between representatives of the business and scientific sectors, as well as authorities and non-governmental organizations. Transnational value is the transparency of the information and the process itself. Missing transnational knowledge and opportunity for transnational dialogue and joint reviews on achieved results will also be provided.	O.3.2 Cleaning solution	
D 2.3	Verified requirements	The purpose is to make the prepared solution transparent and in line with the needs of the target groups and stakeholders. Solution vision will be communicated to the target groups, associated organisations, and the general public via the communication channels and at the external seminar. Project video, pictograms, newsletters and promotional materials (project leaflets and posters) will be designed in an accessible way to the general public and professionals outside the project area. The communication package at this stage includes project stories, quotes, pictures of the solution and piloting. The communication activities are aimed at demonstrating the effectiveness of the proposed solution and its positive impact on the environment. During the piloting phase implementation, it would be essential to communicate the results locally and internationally to promote transnational collaboration and knowledge sharing. To capitalize on the potential of reaching targeted audiences, social and local media channels will be used to spread project news and videos to draw the attention of the general public to increase understanding and promote environmental awareness. The project achievements will be communicated at the EU-wide event/campaign assisting in wider approval of the solution in the BSR. The deliverable 2.3 contributes to the output 3.2 (roadmap) through verification of requirements, permits, IPR issues by a wider audience and expert community. That way, the final version of the roadmap would include feedback from stakeholders about tackling the identified challenge.	O.3.2 Cleaning solution; O.3.3 Communication product (Roadmap)	
D 3.1	Case report	The results are collected and documented in the form of the final reports. A case report will be created based on the final reports of all partners. The case report includes: - technical results, - description of pilot cases, - piloting results, - validated requirements, - evaluation of the performance of the cleaning system. The benefits and suitability of the cleaning solution are communicated to stakeholders with a concrete report. The multinational project team and broad target groups will increase acceptance of the cleaning solution.	O.3.2 Cleaning solution	
O 3.2	Cleaning solution	The purpose of the solution is to provide the water cleaning technological system for oil residues and microplastics utilizing micro floating technique, purification system, and material treatment process to produce secondary raw material, as well as environmental monitoring scheme for the operating site. The solution is a functional, tested, and economical water cleaning technological system. The solution has a relatively widely accepted permitting process. The solution has transnational value when it can be deployed promptly in the Baltic Sea region, the cleaning capacity of the solution is high enough, the solution can be used safely, and the solution can be implemented within a service business model.		

O 3.3	Communication product (Roadmap)	The purpose of the output is to compile and disseminate knowledge about the expanding ubiquity of pollutants and treatment practices for oil residues and microplastics in the BSR in an accessible and comprehensible manner. The generated knowledge would be documented as a roadmap that will include: (i) results of target group surveys reflecting their needs and major constraints in the legal and non-legal field; (ii) water cleaning innovations and practices applied in the BSR; (iii) future vision for integrated waste and water management in the BSR concerning oil residues, plastic litter and microplastic. (iv) suggestions for the interested target groups on how to decrease the pollution in the first place, basing it on the interviews and research done during the project run. The piloted solution is one of the innovations and practices of water purification for the BSR, the functionality and economic significance of which are provided to the target groups within the framework of the roadmap. The roadmap will be published as an open access material hosted by the partners and/or on publicly available platforms. The roadmap is used for expanding the project visibility at a post-project stage, increasing environmental awareness among residents and policy-makers, and improving the knowledge of the microplastic and oil residual pollution in the Baltic sea.		
Work package 1				

5.1 WP1 Preparing solutions

5.2 Aim of the work package

The aim of this work package is to prepare solutions to help address the identified challenge. You can either develop entirely new solutions or adapt existing solutions to the needs of your target groups. Prepare your solutions in a way that you can pilot them in Work Package 2. Consider how you involve your target groups in preparation of the solutions.
Organise your activities in up to five groups of activities to present the actions you plan to implement. Describe the deliverables and outputs as well as present the timeline.

5.3 Work package leader

Work package leader 1 PP 1 - University of Oulu

Work package leader 2 PP 2 - Kajaani University of Applied Sciences Ltd

5.4 Work package budget

Work package budget 50%

5.5 Target groups

	Target group	How do you plan to reach out to and engage the target group?
1	Infrastructure and public service provider Port operators: Logistics infrastructure provider: Every country: Responsible for the environmental load. Water utility operators: water provider: Every city: Responsible for healthy water and environmental load. 213 / 500 characters	In the same way, the wider target group is reached via the representatives of the associated organizations. The networking event is in a key position to increase awareness and build up a wider contact base. The target group involvement is run via a survey, interviews and related discussions. The target group is to be engaged from the first phase of requirement management (needs collection) and the development process. 421 / 1,000 characters
2	Large enterprise Industry: Chemical industry: Global: Responsible for an environmental load. 75 / 500 characters	In the same way, the wider target group is reached via the representatives of the associated organizations. The networking event is in a key position to increase awareness and build up a wider contact base. The target group involvement is run via a survey, interviews and related discussions. The target group is to be engaged from the first phase of requirement management (needs collection) and the development process. 421 / 1,000 characters
3	National public authority Ministries of the Environment: Provide national policy guidance: Every country: Responsible for regulation. 107 / 500 characters	In the same way, the wider target group is reached via the representatives of the associated organizations. The networking event is in a key position to increase awareness and build up a wider contact base. The target group involvement is run via a survey, interviews and related discussions. The target group is to be engaged from the first phase of requirement management (needs collection) and the development process. 421 / 1,000 characters
4	Local public authority Local authorities: Approval body: Every country: Responsible for proving and monitoring permit limits for operations. 117 / 500 characters	In the same way, the wider target group is reached via the representatives of the associated organizations. The networking event is in a key position to increase awareness and build up a wider contact base. The target group involvement is run via a survey, interviews and related discussions. The target group is to be engaged from the first phase of requirement management (needs collection) and the development process. 421 / 1,000 characters
5	Small and medium enterprise SME: Technology providers: Every country: Responsible for proving technological solutions for the marketplace. Associations: Civil society and the circular economy, Every country: Active operator in the field of civic and community engagement 243 / 500 characters	In the same way, the wider target group is reached via the representatives of the associated organizations. The networking event is in a key position to increase awareness and build up a wider contact base. The target group involvement is run via a survey, interviews and related discussions. The target group is to be engaged from the first phase of requirement management (needs collection) and the development process. 421 / 1,000 characters

5.6 Activities, deliverables, outputs and timeline

No.	Name
1.1	**Gathering knowledge for preparation of the solution and the pilot**
1.2	**Constructing piloting system and procedures**
1.3	**Communication strategy**

WP 1 Group of activities 1.1

5.6.1 Group of activities leader

Group of activities leader PP 3 - University of Warsaw

A 1.1

5.6.2 Title of the group of activities

Gathering knowledge for preparation of the solution and the pilot

65 / 100 characters

5.6.3 Description of the group of activities

Activity 1.1 assesses the potential of new management practices to reduce the impact of oil and microplastics on the water bodies. Activity 1.1 is specifically seeking new sustainable practices to be included in a solution to be piloted.

Partner 2 (KAMK) is responsible for finding sustainable commercial adsorbing materials in order to enable the recycling of target substances collected during the pilot in begin way. Companies producing bio- or mineral-based adsorbents from the BSR or central EU will be contacted in order to list potential material providers for a final cleantech solution. As target groups, such as SMEs and large enterprises producing adsorbents will gain access to new markets and applications for their products and could reach their end-users for further collaboration through networks established during the project. Compatibility and the possibility to integrate chosen commercialized materials with a novel cleantech layout will be evaluated. The adsorbing materials should be compatible with 'htloop' technology provided by Partner 5 (Terrawaste) in order to obtain value-added products after recycling and support the overall circularity approach of the project. The associated organizations as relevant representatives of several target groups (infrastructure and public service providers, local authorities, and SMEs) are involved in this activity by allowing sampling at future piloting sites in participating countries and providing adsorbent material for a demonstration of a pilot system on the bench-top level. Target groups will benefit through access to new mitigation options for microplastic and oil pollution cross-regionally. The reviewed practices and lessons learned from available practices with an assessment of potential associated risks will contribute to an activity deliverable.

Partner 3 (AEC) will review literature data and the existing international research projects in the BSR related to pollution occurring in ports in order to prepare the sampling and investigation plans for an upcoming pilot of the solution. Microplastics and the sorption of identified contaminants on microplastic surfaces will be the focus of this review. Consultations with target groups about what pollutants they consider important for monitoring will be organized. Based on the collected data, implementation and validation of a required analytical methodology will be done. The optimized methodology will be used for pilot studies. That allows the building of a contamination profile for each water sample and proves the safety of the solution. In addition, existing methods for real-time microplastic detection and identification utilizing VIS and NIR channels coupled with mathematical modelling and data analytics will be benchmarked by the lead partner (MITY). Also, the integration practices of the real-time instruments into the purification system for oil and microplastic removal will be reviewed.

2,946 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 1.1

Title of the deliverable

Material bank

13 / 100 characters

Description of the deliverable

The purpose of deliverable 1.2 is to plan, prepare, and optimize the solution for the upcoming piloting. Without Activity 1.1, it is not possible to construct a state-of-the-art piloting system and proceed with the pilot efficiently. The form of deliverable 1.2 is the material bank that includes:
a) approval procedures;
b) measurement techniques, sampling procedures, potential pollutants and related methodology for chemical analysis;
c) description of the collecting procedures, the purification process stages and materials suitable for it;
d) characteristics of the recycling processes and possible secondary raw material.

Information collected during the reviewing process, consultations with the associated organisations and the target group representatives in three countries, and the own experience of the partners will contribute to both the future pilot and roadmap of sustainable practices for the specified pollutants.

The material bank will be made available as a separate report as open access material with a possibility to be used for involvement and visibility of the project at its earlier stages in the BSR countries beyond the consortium. The material bank can be used by decision-makers for self-study both approval procedures at the local and national levels in partner countries and technical aspects.

1,329 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution; O.3.3 Communication product (Roadmap)

62 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.1: WP1 Preparing solutions						
A.1.1: Gathering knowledge for preparation of the solution and the pilot						
D.1.1: Material bank						

5.6.7 This deliverable/output contains productive or infrastructure investment

☐

WP 1 Group of activities 1.2

5.6.1 Group of activities leader

Group of activities leader PP 1 - University of Oulu

A 1.2

5.6.2 Title of the group of activities

Constructing piloting system and procedures

43 / 100 characters

5.6.3 Description of the group of activities

The overall solution is to remove oil residues from the seabed and microplastics from the midwater using micro floating technology. Here, the piloting sub-system (mechanics, electronics, software, tools, materials, and site monitoring) implementation principles will be benchmarked and studied. Benchtop sub-solutions will be constructed, and the performance will be validated. The sub-systems for piloting will be designed, constructed, and tested.

MITY: Construct the online optical measurement benchtop solution and associated data tools. Construct the pilot instrument with help of the benchtop solution and verify performance. Design the instrument integration into the KAMK system. Generate necessary technical documentation to support piloting.

KAMK: Construct the purification benchtop solution and associated tools utilizing applicable adsorbents. Construct the pilot equipment with help of the benchtop solution and verify performance. Design the purification integration into the PurOceans system. Generate necessary technical documentation to support piloting.

AEC: Construct the site monitoring benchtop solution utilizing applicable practices and methods and associated tools. Construct the pilot monitoring matrix with help of the benchtop solution and verify performance.
Design the monitoring matrix for the piloting sites. Generate necessary technical documentation to support piloting.

PurOceans: Construct the collecting benchtop solution and associated tools. Construct the pilot unit with help of the benchtop solution and verify performance. Design the overall integration into a used vessel. Generate necessary technical documentation to support piloting.

TerraWaste: Construct the material processing benchtop solution and associated tools. Construct the pilot process with help of the benchtop solution and verify performance. Design the material process integration into the secondary raw material process. Generate necessary technical documentation to support piloting.

Target group representatives will be interviewed to collect input from technical to approval process related needs. From a requirement management process point of view, the collected needs will be listed as mandatory, important, and wish categories. Later, the collected requirements will be developed in a direction that the fulfilment of the selected requirement can be verified, and the expressed requirements will be valid. Since some technical details are proprietary information, a set of target group members will be informed of selected technical details to collect input. Since the piloting will be executed in different countries, it is ensured that selected methods and technical feedback sound reasonable also from an approval process point of view in the target countries. The technical and approval process inter compatibility will ensure performing solid communication between the project partners and the target group representatives.

2,960 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 1.2

Title of the deliverable

Piloting system

15 / 100 characters

Description of the deliverable

The purpose of the deliverable is to clean water by lifting and collecting oil residuals from the seafloor and microplastics from midwater. At a high level, the content of the deliverable is the collection, purification, processing, and online measurement units, as well as adequate chemical sampling and analysis methods to monitor the pilot site.

In more detail, the system consists of the components like:
- the bubble generation, capturing, and skimming units with associated tools and automation,
- the purification unit with suitable adsorbents,
- the optical measurement instrument with data analysis tools,
- material processing tools such as reactors, shredder, and mixer and related tools, and
- chemical analysis.

The end-to-end system also includes applied procedures and means to transport the entire installation.

The sub-units can be taken into operation in stages. 1) Adequate chemical sampling and analysis methods to monitor the pilot site are needed. 2) The collection, purification, and online measurement units are performed next. 3) Finally, material processing is required. However, the development of all these will start at the very same time.

The implemented system is suitable for field use, can be installed onboard, is safe and easy to operate onboard, and is economical and robust. This activity WP1.2 has clearly essential links to all other activities. WP1.2 leans on the WP1.1 output and the WP1.3 input. On the other hand, the following work packages WP2 or WP3 cannot proceed without the completion of WP1.2. As this system can be placed onboard and used throughout the Baltic Sea region, valuable experience can be gained from different environments and operating conditions.

1,714 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution

23 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.1: WP1 Preparing solutions						
A.1.2: Constructing piloting system and procedures						
D.1.2: Piloting system						

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 1 Group of activities 1.3

5.6.1 Group of activities leader

Group of activities leader PP 5 - SIA TERRAWASTE

A 1.3

5.6.2 Title of the group of activities

Communication strategy

23 / 100 characters

5.6.3 Description of the group of activities

The solution is to remove oil residues from the seabed and microplastics from the midwater using micro floating technology. Here, the requirement management is started by collecting the requirements of the solution. Information flow to various directions is ensured to receive needed operating permits at the planned piloting sites. This includes listing the actors of a particular target group in each country, obtaining permits for access to the premises of associated partners and the target groups, and resolving any legal and regulatory issues. Risk assessment includes gathering information from the partnership countries about local legal and non-legal constraints, and barriers to implementation of the solutions in the future. For instance, microplastic pollution is an emerging problem and there are still discussions about its impact on natural ecosystems. In addition, there is uncertainty about who is responsible for tackling this emerging pollutant across the EU. Although each EU member should follow The Water Framework Directive (WFD), it is not always clear who has to perform the actions locally. Thus, possible bottlenecks will be listed, and information materials for the target groups and end-users of the countries involved will be prepared as a part of the dissemination and communication plan.

The communication plan of WP1 includes a project launch event, creating the project portal page, developing a communication strategy and preparing the project information package, which could be shared with the local media. The purpose of engaging with local media is to raise the awareness of microplastics and oil pollution among the general public. The development of the content for the project subpage and social media channels will ensure open access to project activities and their results, on a transnational level. All project partners and associate organizations are involved in discussions. Each project partner is encouraged to share the project news using their own marketing channels. Regular meetings between partners will be arranged to ensure the work progress updates. The progress meetings will be arranged for each reporting period. Visual documentation of the project progress will be ongoing throughout all work packages.

One of the key steps is to ensure the information flow between the associate organizations as representatives of the target groups and the project partners. This is to be achieved by collecting solution requirements via surveys, networking with the target groups and stakeholders, sharing views and observing competence. The networking events are targeted to engage with the organisations and build a fruitful collaborative spirit, mobilize their interest and secure their buy-in and support for the project. The support of communities would contribute to the project's ambition, goal and impacts. Additionally, it would assist in designing and implementing an effective project communication campaign.

2,969 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 1.3

Title of the deliverable

Collected requirements and received permits to pilot, communication plan

72 / 100 characters

Description of the deliverable

The purpose of deliverable 1.3 is to collect requirements/permits needed for the solution preparation and piloting, smooth project launch, and organize communication activities for the entire project duration. The requirements/permits received from authorities to run the pilots ensure the solution transparency and visibility for the target groups and local residents in the BSR. This potentially leads to a more uniform permission process.

The communication team will develop surveys for the target groups to identify needs and clarify current methods of Oil Residues and MicroPlastic removal, water purification approaches, and recycling of collected contaminants in various countries around BSR. The survey will take place at the beginning of the project as a point of reference for the follow-up survey at the end of the project. The result of deliverable 1.3 leads to output 3.3. A roadmap, which can serve as a guideline to local and international authorities on best practices for cleaning solutions of Oil Res. and MP to prevent the pollution of the BSR.

The information package includes a project summary, story, pictures and quotes targeted to reach out to and engage the target groups. Participation in EU events increases awareness, provides feedback on the solution, and expands the cooperation network. Participation in EU-wide seminars facilitates knowledge sharing and project promotion. Many of the project activities are communicated online, via social media, and on the project subpage. The main deliverable from these activities is the establishment of industry contacts for fruitful collaboration. Reaching out and gathering interest from industry experts will help the project partners with aligning and calibrating their technological solutions for better performance and further adjustments to the industry needs. This will significantly contribute to output 3.2 Cleaning solution. Effective communication strategy increases possibilities for transnational cooperation.

1,996 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution; O.3.3 Communication product (Roadmap)

62 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.1: WP1 Preparing solutions						
A.1.3: Communication strategy						
D.1.3: Collected requirements and received permits to pilot, communication plan						

5.6.7 This deliverable/output contains productive or infrastructure investment

☐

Work package 2

5.1 WP2 Piloting and evaluating solutions

5.2 Aim of the work package

The aim of this work package is to pilot, evaluate and adjust solutions. Plan one or several pilots to validate the usefulness of the solutions prepared in Work Package 1. Start Work Package 2 early enough to have time to pilot, evaluate and adjust solutions, together with your target groups. By the end of this work package implementation the solutions should be ready to be transferred to your target groups in Work Package 3.
The piloted and adjusted solution should be presented in one project output.
Organise your activities in up to five groups of activities. Describe the deliverables and outputs as well as present the timeline.

5.3 Work package leader

Work package leader 1 PP 2 - Kajaani University of Applied Sciences Ltd

Work package leader 2 PP 4 - PurOceans Technology SIA

5.4 Work package budget

Work package budget 25%

5.4.1 Number of pilots

Number of pilots 1

5.5 Target groups

	Target group	How do you plan to reach out to and engage the target group?
1	Infrastructure and public service provider Port operators: Logistics infrastructure provider: Every country: Responsible for the environmental load. Water utility operators: water provider: Every city: Responsible for healthy water and environmental load. 213 / 500 characters	The representatives of the associated organizations and target groups are invited to visit piloting sites to see the immediate effect of the piloted solution on water quality at a local level. Through communication tools such as social media and professional contacts, more representatives from neighbouring countries are involved in tackling the environmental challenges of the region. 386 / 1,000 characters
2	Large enterprise Industry: Chemical industry: Global: Responsible for an environmental load. 75 / 500 characters	The industry giants will help with the definitions for piloting activity according to the industry standards. That type of feedback will enable the project to develop in an industry and target group driven way, which will ensure the desire and motivation to implement the provided recycling and sea cleanup technological process in their processes. 348 / 1,000 characters
3	National public authority Ministries of the Environment: Provide national policy guidance: Every country: Responsible for regulation. 107 / 500 characters	The target group involvement is done via interviews and discussions related to regulations and approval procedures for each country. The engagement of the target group in a discussion of the challenge to be addressed is done via seminar or participation in our own hosted events. 280 / 1,000 characters
4	Local public authority Local authorities: Approval body: Every country: Responsible for proving and monitoring permit limits for operations. 117 / 500 characters	The representatives of the associated organizations and target groups are invited to visit piloting sites to see the immediate effect of the piloted solution on water quality at a local level. Through communication tools such as social media, local newspapers, and professional journals, a wider audience are be involved in the discussion on local environmental challenges. 373 / 1,000 characters
5	Small and medium enterprise SME: Technology providers: Every country: Responsible for proving technological solutions for the marketplace. Associations: Civil society and the circular economy, Every country: Active operator in the field of civic and community engagement 243 / 500 characters	Assisting with secondary tests development and execution for the preparatory phase of piloting activity. This target auditory will be informed regularly on the development of the project and will be required to generate valuable feedback that will shape the development of the piloting activity within the project. 314 / 1,000 characters

5.6 Activities, deliverables, outputs and timeline

No.	Name
2.1	**Operating piloting system**
2.2	**Analysis of preliminary results**
2.3	**Dissemination activities and exploitation plan**

WP 2 Group of activities 2.1

5.6.1 Group of activities leader

Group of activities leader PP 2 - Kajaani University of Applied Sciences Ltd

A 2.1

5.6.2 Title of the group of activities

Operating piloting system

25 / 100 characters

5.6.3 Description of the group of activities

Activity 2.1 is dedicated to organizing the piloting and demonstration of the solution prepared in WP1 in real conditions. To this end, the sub-units assembled into one piloting system are validated first in Finland. In the first phase, the prepared solution is run in Oulu port to collect sedimented oil pollution from the bottom and test the functionality and efficiency of the overall purification system. All project partners are involved in the piloting equally. The support from the associated partners from Finland is highest in the first phase of piloting. The associated partners from other countries will act as representatives of the target groups. They take a central role when the piloting is transferred to Latvia and Poland, while the associated partners from Finland support and share expertise and knowledge from first piloting runs. Since Oulu port is an associated partner in the project, the port management will be involved at multiple levels: choosing the place for piloting to address the most problematic site in the port area, providing required connections to supplies, hosting the piloting, and participation in interim and final result discussion. At the same time, water samples before, during, and after the piloting will be collected to be sent to AEC for comprehensive analytical investigation. This action will generate valuable information on the efficiency and safety of the piloted solution for the port management, the partners, and later - the target groups.

After the solution is tested in the Oulu port area and possible drawbacks are eliminated, the solution will be transferred for the second pilot run in Lahti (Finland). Here, the City of Lahti acting as an associated partner will guide the project team in order to find a proper piloting site and execute piloting. Active involvement of the Lahti city administration and local SMEs allows to maximize the visibility of the project for target groups and to bring the project closer to citizens. In the second phase, the solution is transferred to the next pilot locations in Latvia and Poland where the pilot operations are repeated. The pilot run of the solution at a transnational level is carried out in Latvia in The Freeport of Riga. The main priority is to collect sedimented oil from the bottom of the waterbody and clean the contaminated area. During piloting, sampling procedures to track the changes in water quality will be extended. Another pilot run is planned in Poland in Masurian lake. The main objective is to collect microplastics from midwater in freshwater conditions.

As the pilot sites are in Latvia, Poland and Finland, the target groups in the program area can easily and cost-effectively observe the pilot system in operation. The results of the pilot are evaluated via the data produced by the pilot system on-site and remotely. According to the processed data, the operational procedures will be improved and the expected efficiency of the upscaled system can be estimated.

2,999 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 2.1

Title of the deliverable

Piloting of the prepared solution

33 / 100 characters

Description of the deliverable

The piloting helps to evaluate technical performance in various environments and monitor environmental aspects of operated sites. During the pilot, valuable environmental information on microplastic occurrence is gathered, analysed, and passed to the target groups (national and local authorities) and the public at the transnational level. New options to collect and render harmless oil pollutants and microplastic in a non-invasive manner are presented to the target groups. Using obtained pilot data, the operating costs and the cost-efficiency of the upscaled solution can be estimated. The piloting of the new modules of the solution not demonstrated previously are devoted to enhancing the operational capacity of the associated organizations and the partners. For instance, each partner for the first time in BSR demonstrates:
-a real-time monitoring module for microplastic (the lead partner, MITY);
-a new methodology for assessment of environmental state related to chosen pollutants (Partner 3, AEC);
-software for automatization of the purification system (Partner 4, PureOceans);
-applications of sustainable materials and recycling practices (Partners 2 and 5, KAMK and Terrawaste).

Deliverable 2.1 is essential in terms of post-project implementation of the solution. Without extensive user experience, it is not possible to:
- improve the state-of-the-art piloting system technically,
- implement a user-friendly and accessible for clients tool to keep the water bodies clean
- receive a target group feedback from the piloting system or performed operations,
- receive experience from the realized permission processes.

The aim is to level up the TRL of the prepared solution and to provide the ready-to-use solution for WP3 dissemination. Experience gained from the piloting in three countries of the Baltic Sea region could be distributed across the programme area.

1,889 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution

23 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions						
A.2.1: Operating piloting system						
D.2.1: Piloting of the prepared solution						

5.6.7 This deliverable/output contains productive or infrastructure investment

WP 2 Group of activities 2.2

5.6.1 Group of activities leader

Group of activities leader PP 3 - University of Warsaw

A 2.2

5.6.2 Title of the group of activities

Analysis of preliminary results

31 / 100 characters

5.6.3 Description of the group of activities

The collected data sets are processed into information. The information is visualized. The solution and the solution process are compared to alternative approaches or known reference cases, if applicable. Preliminary results are discussed with target group representatives. The collected requirements are developed for verification. Using the verified requirements, the solution is made transparent to the target groups. Within the project consortium, the project partners review and evaluate the results remotely. Separate discussions are held with the target group representatives.

Thanks to the information collected in WP1 on the pollution of the waters of the Baltic Sea and selected lakes, as well as the development of methods for their detection, analyses will be carried out by AEC. In two locations: in Latvia in The Freeport of Riga and in Finland in Oulu port, samples will be collected before and after the implementation of the cleaning technology. The technology's impact on the environment will be assessed, with particular emphasis on heavy metals and persistent organic pollutants. In the other two locations: Vesijärvi lake (Lahti, Finland), and Masurian lake (Poland), water samples will be collected for analysis of contaminants that have an affinity for microplastics.

Ease of operation of the overall purification system, its performance, and robustness will be analyzed KAMK and Terrawaste in Activity 2.2 in order to generate data for a solution handbook. Saturated adsorbents (with oil and/or microplastic) passed to Partner 5 during the piloting will be subjected to comprehensive analysis, and characteristics of secondary raw materials, which could be produced from exhausted adsorbents, will be presented. Based on the analysis, the best possible option in terms of future application, recycling, and availability will be offered to the target groups (SMEs and large enterprises).
Contaminated collected samples will be tested and characterized accurately (pre-testing) and a series of tests on contaminated samples on all 3 different types of absorbents will be conducted.
Different engineering teams at TW will work on the design of the reactor considering basic and detailed design during the piloting phase. The aim is to find a sustainable solution, collected microplastics will be converted into raw material recycled plastic to be injected back into the plastic circular economy. The output product will look like synthetic oil, the product samples needed to be tested and characterized accurately (post-testing). The value of the final product will be evaluated by petrochemical partners.

Data on the automation of the treatment of the bottom of the waterbody by the technology will be analyzed by PurOceans to evaluate the effectiveness and efficiency of the automatic method compared to the manual method. Optically detectable particles are preliminarily characterized and grouped utilizing VIS and NIR channels by MITY.

2,965 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 2.2

Title of the deliverable

Data sets

9 / 100 characters

Description of the deliverable

The purpose of the preliminary results is to provide concrete evidence of the proposed solution. The collected data becomes comprehensible information. The results become more accessible and understandable for representatives of target groups not related to the scientific community. The more transparent form of the results also facilitates the exchange of knowledge and discussion between representatives of the business and scientific sectors, as well as authorities and non-governmental organizations.
Transnational value is the transparency of the information and the process itself. Missing transnational knowledge and opportunity for transnational dialogue and joint reviews on achieved results will also be provided.

724 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution

23 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions						
A.2.2: Analysis of preliminary results						
D.2.2: Data sets						

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 2 Group of activities 2.3

5.6.1 Group of activities leader

Group of activities leader PP 5 - SIA TERRAWASTE

A 2.3

5.6.2 Title of the group of activities

Dissemination activities and exploitation plan

46 / 100 characters

5.6.3 Description of the group of activities

Activity 2.3 includes preparations of project newsletters, participation in external seminars, social media updates, and workshops with the target groups. It will support and enhance the key project objectives related to the effective exploitation of the results. To ensure that the ideas and developments within the project correlate with the end-users demands and that the solution would be successfully launched on the market, dissemination and exploitation activities will be enhanced.

As a result of the solid interaction between project partners and target groups, solution requirements should be formed and validated. Solution requirements are verified by representatives of the associated organisations and industry experts from the technical aspects. In addition to that, target group representatives are invited to the workshops and the site visits. Discussions with the target groups provide an additional means for requirement verifications.

Activity 2.3 will be led by Partner 5 (Terrawaste) and will consist of (i) assessments of communication plan fulfilment, (ii) organisation of the project workshops including the identification of potential external participants within the networks of the beneficiaries and the documentation of the workshop results and finally (iii) monitoring of additional events, which could be considered within the project.

The exploitation plan will be developed to ensure the assessment of exploitable results throughout the project, guide and foster the exploitation routes for all results and partners, guidance on IPR issues for all partners, including IPR agreements for each partner. The target group representatives can compare preliminary results, practices, and procedures received from different countries.

1,765 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 2.3

Title of the deliverable

Verified requirements

21 / 100 characters

Description of the deliverable

The purpose is to make the prepared solution transparent and in line with the needs of the target groups and stakeholders. Solution vision will be communicated to the target groups, associated organisations, and the general public via the communication channels and at the external seminar. Project video, pictograms, newsletters and promotional materials (project leaflets and posters) will be designed in an accessible way to the general public and professionals outside the project area.

The communication package at this stage includes project stories, quotes, pictures of the solution and piloting. The communication activities are aimed at demonstrating the effectiveness of the proposed solution and its positive impact on the environment.

During the piloting phase implementation, it would be essential to communicate the results locally and internationally to promote transnational collaboration and knowledge sharing. To capitalize on the potential of reaching targeted audiences, social and local media channels will be used to spread project news and videos to draw the attention of the general public to increase understanding and promote environmental awareness.

The project achievements will be communicated at the EU-wide event/campaign assisting in wider approval of the solution in the BSR. The deliverable 2.3 contributes to the output 3.2 (roadmap) through verification of requirements, permits, IPR issues by a wider audience and expert community. That way, the final version of the roadmap would include feedback from stakeholders about tackling the identified challenge.

1,601 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution; O.3.3 Communication product (Roadmap)

62 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions						
A.2.3: Dissemination activities and exploitation plan		■	■	■	■	
D.2.3: Verified requirements					■	

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

Work package 3

5.1 WP3 Transferring solutions

5.2 Aim of the work package

In Work Package 3, communicate and transfer the ready solutions to your target groups. Plan at least one year for this work package to transfer your solutions to the target groups, considering their respective needs. Select suitable activities to encourage your target groups to use the solutions in their daily work.
Organise your activities in up to five groups of activities. Describe the deliverables and outputs as well as present the timeline.

5.3 Work package leader

Work package leader 1 PP 5 - SIA TERRAWASTE

Work package leader 2 PP 3 - University of Warsaw

5.4 Work package budget

Work package budget 10%

5.5 Target groups

	Target group	How do you plan to reach out to and engage the target group?
1	Infrastructure and public service provider Port operators: Logistics infrastructure provider: Every country: Responsible for the environmental load. Water utility operators: water provider: Every city: Responsible for healthy water and environmental load. 213 / 500 characters	The target group will be reached out to by communication channels - emails, direct communication as well as information provided in the communication package, stating the development of the project, as well as the next steps and their required involvement. They will be one of the target auditory members for the roadmap (output of the WP3) on best practices for cleaning up the oil and microplastic residues and preventing pollution of the BSR. 446 / 1,000 characters
2	Large enterprise Industry: Chemical industry: Global: Responsible for an environmental load. 75 / 500 characters	Large enterprises will be involved in the final evaluation of the project development. They will be expected to generate feedback (evaluation) and suggestions for the market potential and commercialization capabilities of the projects' technologies. They will be reached via seminars, networking and EU events. 312 / 1,000 characters
3	National public authority Ministries of the Environment: Provide national policy guidance: Every country: Responsible for regulation. 107 / 500 characters	This target group will be reached via follow up survey in the latter part of the project, interviews, and seminars. They will be engaged in visioning and the integration of the roadmap. 185 / 1,000 characters
4	Local public authority Local authorities: Approval body: Every country: Responsible for proving and monitoring permit limits for operations. 117 / 500 characters	The interest of municipalities was examined and confirmed before the submission of this proposal. Other local authorities will be involved by directly approaching them, having mapped the relevant institutions at the beginning of the project). Also, web pages and the social media channels of the partners will be used for wider outreach. This target group will be involved in the national/regional workshops and targeted meetings-round tables with policymakers. 461 / 1,000 characters
5	Small and medium enterprise SME: Technology providers: Every country: Responsible for proving technological solutions for the marketplace. Associations: Civil society and the circular economy, Every country: Active operator in the field of civic and community engagement 243 / 500 characters	The target group will be reached via seminars, networking events and exhibitions where the development and results of the project will be shared and a potential partnership might arise from having valuable feedback from relevant industry players that would determine the capabilities of the project for entering the market. 323 / 1,000 characters

5.6 Activities, deliverables, outputs and timeline

No.	Name
3.1	**Final results**
3.2	**Exploring the future**
3.3	**Knowledge transferring and exploitation of the results**

WP 3 Group of activities 3.1

5.6.1 Group of activities leader

Group of activities leader PP 1 - University of Oulu

A 3.1

5.6.2 Title of the group of activities

Final results

14 / 100 characters

5.6.3 Description of the group of activities

Analysis and reporting of the final results will be carried out. The results will be collected and documented in the form of a case report that will provide concrete evidence of the proposed solution and its effectiveness. Directions for exploring future actions will be identified. The results obtained in the form of a case report will be presented to target groups. The stakeholders' feedback will be collected. The cleaning solution is made available to target groups and they are encouraged to implement the necessary policies and practices into their national toolboxes to take advantage of this solution.

All project partners will contribute to the final result and the case report. This output can also be articles intended for the scientific community, marketplace, and general public as well as presentations in external seminars and exhibitions. The final result can also have the form of a service business model.

The results prepared by AEC as a final report on the environmental impact of seawater oil purification technologies will be important for both technology developers and target groups, including potential users and authorities, who need to be aware of how the technologies are used to affect the environment. Information on what contaminants have an affinity for microplastics is crucial for developers of waste recycling and water purification technologies and contributes to the advancement of knowledge about microplastic water contamination. The MITY final report discusses the observed microplastics (MP). The MPs will be classified and categorized. The number of MPs in different piloting locations will be estimated.

The PurOceans's final report on how the removal solution of oil/oil products and microplastic pollutants from waterworks, will be presented to target groups, with particular emphasis on logistics facility providers and water utilities. The KAMK's final result includes guidance in the form of a case report on how to apply the solution in a universal yet flexible way. This case will guide the target groups on how to integrate the desired components and modules into the solution in order to get the required efficiency and performance of the cleaning procedure for particular cases. TerraWaste's final report will be presented to the target groups with information about chemical evaluation and suitability diagnosis for different plastic product development and production. It is planned to continue the engineering development and manufacturing of the plant also after the project, to ensure a valid proof of concept plant for associated partners to test and evaluate for future collaboration and improvement.

Activity 3.1 enlightens the value chain for the cleaning solution from the determination of needs and requirements for problematic areas to recycling of the waste streams generated. Each partner contributes equally by providing essential information for the target groups on how to apply the particular part of the solution.

2,993 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 3.1

Title of the deliverable

Case report

11 / 100 characters

Description of the deliverable

The results are collected and documented in the form of the final reports. A case report will be created based on the final reports of all partners.
The case report includes:
- technical results,
- description of pilot cases,
- piloting results,
- validated requirements,
- evaluation of the performance of the cleaning system.

The benefits and suitability of the cleaning solution are communicated to stakeholders with a concrete report.
The multinational project team and broad target groups will increase acceptance of the cleaning solution.

544 / 2,000 characters

Which output does this deliverable contribute to?

O.3.2 Cleaning solution

23 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.3: WP3 Transferring solutions						
A.3.1: Final results					■	■
D.3.1: Case report						■

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 3 Group of activities 3.2

5.6.1 Group of activities leader

Group of activities leader PP 4 - PurOceans Technology SIA

A 3.2

5.6.2 Title of the group of activities

Exploring the future

21 / 100 characters

5.6.3 Description of the group of activities

It is clearly visible that one organization only - neither a public nor a private - is not able to solve this wide-spreading contamination issue of the Baltic Sea. By taking the private-public-partnership approach to this underlying problem and potential hazard, the project introduces and invokes debate on an open-minded vision to proactively improve water quality and eliminate identified bottlenecks from technical solutions and approval processes to the high costs of nowadays' solutions and client's inability or absence of the will to overpay for them.

The project encourages the target groups to contribute to the roadmap development to clean up contaminated areas and remove microplastics from the Baltic Sea and lakes. The construction of the roadmap enables all participants to provide their observations and knowledge and to express their needs and hopes to overcome this challenge.

The target groups are representing operators from ports to water utilities and from authorities via civil activities to large enterprises. Their needs vary. To serve these groups widely the technical cleaning solutions and sub-solution shall be made available either commercially subcontracting services or other alliances, or in a form of academic or service research. To focus future actions cost-effectively continued discussions with the target group representatives to prepare the roadmap are essential. In addition, continual interaction is mandatory to lead to the development of the validated requirements, so that they are applicable as widely as possible.

1,563 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☐

O 3.2

Title of the output

Cleaning solution

17 / 100 characters

Description of the output

The purpose of the solution is to provide the water cleaning technological system for oil residues and microplastics utilizing micro floating technique, purification system, and material treatment process to produce secondary raw material, as well as environmental monitoring scheme for the operating site. The solution is a functional, tested, and economical water cleaning technological system. The solution has a relatively widely accepted permitting process. The solution has transnational value when it can be deployed promptly in the Baltic Sea region, the cleaning capacity of the solution is high enough, the solution can be used safely, and the solution can be implemented within a service business model.

714 / 3,000 characters

Target groups and uptake of the solution presented in this output

Target groups	How will this target group apply the output in its daily work?
Target group 1 Infrastructure and public service provider Port operators: Logistics infrastructure provider: Every country: Responsible for the environmental load. Water utility operators: water provider: Every city: Responsible for healthy water and environmental load.	The authorities of the port partner are currently experiencing negative brand development due to the historically highly polluted areas and unsuccessful and costly attempts to clean the area up. The partner is willing to find a financially and technologically sustainable solution, that will help them mitigate the problem at a low cost, and keep it that way going forward. Once one of the main ports in the region equips its service fleets with our technology - the others will follow. It shall spread the message, and our solution will potentially become a must-have technology to keep the water ecosystem clean. 614 / 1,000 characters
Target group 2 National public authority Ministries of the Environment: Provide national policy guidance: Every country: Responsible for regulation.	National authorities, being responsible for the implementation of the environmental regulation, are the key players in the national and transnational policy-making processes. By having transparent piloting activity, they can implement policies and guidelines more efficiently. 276 / 1,000 characters
Target group 3 Large enterprise Industry: Chemical industry: Global: Responsible for an environmental load.	Large enterprises will be responsible for the support in the scale-up process of the technological system. The scale-up of the system is capital intensive which means that the project partners will require large enterprise support. Not only financially but also by sharing their knowledge and manpower support to develop the BSR clean-up technological system in scale. 368 / 1,000 characters
Target group 4 Local public authority Local authorities: Approval body: Every country: Responsible for proving and monitoring permit limits for operations.	Local authorities, as policymakers and as key players when conservation and environmental protection actions are planned in the region, may be interested in using the technology we have developed as well as the results of its environmental impact. Local authorities representing e.g. port cities can include the developed solution in their water protection plan. 362 / 1,000 characters
Target group 5 Small and medium enterprise SME: Technology providers: Every country: Responsible for proving technological solutions for the marketplace. Associations: Civil society and the circular economy, Every country: Active operator in the field of civic and community engagement	Small and medium-sized enterprises benefit from ready, widely discussed approval processes, gain opportunities to perform cleaning operations, and have the possibility to license the technology. Associations gain visibility and opportunities to engage the civil community in fields of civil society and at the circular economy. 328 / 1,000 characters

Durability of the output

The cleaning solution and roadmap created as an end result of the project activity will be valuable for the local and transnational authorities, private sector businesses and the general public. Therefore, in a successful project realisation scenario, there will be new partners reached and added to the project team. These partners would be able to co-finance the further development of the project as well as co-invest their knowledge and technological capabilities in the development of the cleaning solution. New partners attracted will help the consortium with the best market strategy development and will be valuable for approaching other, EU grants, such as the EIC accelerator and EIT grant programs. Both SMEs of the project team is planning to commercialise their technologies within EU territory, and with the help of the associated partners, the rest of the technologies from the consortium will start the commercialisation journey in parallel with other consortium partners.

988 / 1,000 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.3: WP3 Transferring solutions						
A.3.2: Exploring the future						
O.3.2: Cleaning solution						

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 3 Group of activities 3.3

5.6.1 Group of activities leader

Group of activities leader PP 5 - SIA TERRAWASTE

A 3.3

5.6.2 Title of the group of activities

Knowledge transferring and exploitation of the results

54 / 100 characters

5.6.3 Description of the group of activities

The project plan is to continue the discussions on permit processes, requirements, results, case reports, and roadmap with the target groups and associated organisations at national and international levels. Having verified the solution requirements, the final project seminar would be held. The target group representatives are invited to the seminar to discuss in-depth the core of the problem, the results of the pilot as well as future developments. The purpose of the seminar would be to present the pilot results, using the collected data prior to the project's start and on pilot completion. Demonstration of the solution's benefits and positive environmental impact is one of the key ways to promote the integration of the solution into the daily activities of the target groups. During the open event discussions, the commercial feasibility of the service business models will be disclosed in order to make the solution available to the target groups.

In order for the project results to be disseminated sufficiently reaching all relevant target groups, final beneficiaries and the general public, it is planned to participate in the EU event (campaign) as well as an external seminar. As a part of dissemination and exploitation activities, articles in professional and scientific journals such as Uusiouutiset and Vesitalous (Finland), Ilustreta Zinatne (Latvia), Chemia i Biznes (Poland) will be published. The participation in conferences and trade fairs is planned to deliver and distribute output: Annual International Conference on Environmental Pollution and Remediation, IWA World Water Congress & Exhibition, Aquatech, etc.

1,644 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☐

O 3.3

Title of the output

Communication product (Roadmap)

31 / 100 characters

Description of the output

The purpose of the output is to compile and disseminate knowledge about the expanding ubiquity of pollutants and treatment practices for oil residues and microplastics in the BSR in an accessible and comprehensible manner. The generated knowledge would be documented as a roadmap that will include: (i) results of target group surveys reflecting their needs and major constraints in the legal and non-legal field; (ii) water cleaning innovations and practices applied in the BSR; (iii) future vision for integrated waste and water management in the BSR concerning oil residues, plastic litter and microplastic. (iv) suggestions for the interested target groups on how to decrease the pollution in the first place, basing it on the interviews and research done during the project run.

The piloted solution is one of the innovations and practices of water purification for the BSR, the functionality and economic significance of which are provided to the target groups within the framework of the roadmap. The roadmap will be published as an open access material hosted by the partners and/or on publicly available platforms.

The roadmap is used for expanding the project visibility at a post-project stage, increasing environmental awareness among residents and policy-makers, and improving the knowledge of the microplastic and oil residual pollution in the Baltic sea.

1,373 / 3,000 characters

Target groups and uptake of the solution presented in this output

Target groups	How will this target group apply the output in its daily work?
Target group 1 Infrastructure and public service provider Port operators: Logistics infrastructure provider: Every country: Responsible for the environmental load. Water utility operators: water provider: Every city: Responsible for healthy water and environmental load.	Innovative water treatment technologies are also included in the roadmap. The target group representatives such as municipal wastewater treatment plants, logistic hubs and ports, and emergency services can use the roadmap as a tool to find out suitable treatment technologies, their pros and cons, and possible providers in the region. Based on that knowledge, they may use those technologies in their daily operations. 419 / 1,000 characters
Target group 2 Local public authority Local authorities: Approval body: Every country: Responsible for proving and monitoring permit limits for operations.	The roadmap will be beneficial for local authorities within the BSR and not only. This will provide insights into the current status of the Baltic Sea pollution and existing technologies and waste recycling practices. Also, it will provide a solution for future implementation of the cleaning solution that will be described in the roadmap. It can serve as a basis for future modifications of permits and activities around the BSR clean up plan. 445 / 1,000 characters
Target group 3 National public authority Ministries of the Environment: Provide national policy guidance: Every country: Responsible for regulation.	The project delivers reusable knowledge. The associated network will also continue discussions on permit processes, requirements, results, case reports, and roadmap. These can be used to refine and initiate next phase studies, research, and pilot cases. Knowledge can also be used to prioritize cleaning operations and plan future regulation improvements. 355 / 1,000 characters
Target group 4 Small and medium enterprise SME: Technology providers: Every country: Responsible for proving technological solutions for the marketplace. Associations: Civil society and the circular economy, Every country: Active operator in the field of civic and community engagement	Delivery of the output to the target group should be carried out by introducing a clear information campaign. It can be in the form of posters, leaflets, and multimedia presentations that will allow presenting the most important results and concepts from the roadmap in such a manner that the target group could pass to its customers. This approach helps to increase the interest in the discussed topic among the customers of the SMEs. The target group could use the output as a guide to find a sustainable solution to the challenge or to adapt part of the cleaning solution if needed. Environmental permits, requirements, needs of other target groups, and bottlenecks listed in the roadmap help SMEs find the niche in the market for their products. 750 / 1,000 characters
Target group 5 Large enterprise Industry: Chemical industry: Global: Responsible for an environmental load.	The needs and plans of large enterprises seeking to improve their inclusion in the circular economy agenda will support the output promotion and use among the target group representatives. The roadmap helps to identify new sources of secondary raw materials for the chemical industry whereas other players could find ways for by-products valorisation. Participation of BASF leads to primary validation of the output vulnerability and the possibility of its verification by independent entities in future. 504 / 1,000 characters

Durability of the output

The output will be promoted to business support organisations and NGOs across the BSR (not only in partner countries). Since the output will be in a form of open access material, its availability is guaranteed by the distribution of the roadmap via partners' information platforms (websites, programme subpage). The roadmap will be used as a basis for level-up and expending of the project results to EU-wide and transnational (India, Latin America) levels.

457 / 1,000 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.3: WP3 Transferring solutions						
A.3.3: Knowledge transferring and exploitation of the results						
O.3.3: Communication product (Roadmap)						

5.6.7 This deliverable/output contains productive or infrastructure investment

6. Indicators

Indicators

Output indicators

Output indicators	Total target value in number	Project outputs	Please explain how the solution presented in this output serves the target group(s).
RCO 84 – Pilot actions developed jointly and implemented in projects	1	N/A	N/A
RCO 116 – Jointly developed solutions	2	O.3.2: Cleaning solution	Target groups can use the solution the water cleaning solution for oil residues and microplastics utilizing micro floating technique, purification system, and material treatment process to produce secondary raw material, as well as environmental monitoring scheme for the operating site. The solution is a functional, tested, and economical water cleaning solution. The solution has a relatively widely accepted permitting process. The solution once received the permit in one municipal location has a high potential of receiving permits in other municipalities and countries around the BSR. The solution can be deployed promptly in the Baltic Sea region. The cleaning capacity of the solution is high enough and can be further scaled up. The solution can be used safely. The solution can be implemented with a service business model. 836 / 1,000 characters
		O.3.3: Communication product (Roadmap)	Target groups can realize their own vision with the developed roadmap and design concrete implementation steps both inside the target group organization, nationally, and transnationally. The target groups can take the roadmap into the strategy process of the organizations and adjust their operations. 302 / 1,000 characters

Result indicators

Result indicator	Total target value in number	Please explain how organisations in the target groups within or outside the partnership will take up or upscale each solution.
RCR 104 - Solutions taken up or up-scaled by organisations	2	The road map can be taken into practice from policymakers to civil activists. Target group organizations can develop the roadmap and vision further with and for a larger community. Organizations can perform cleaning campaigns using the piloted cleaning solution and utilizing service providers to scale up their capacity. 323 / 2,000 characters

Output indicators		Result indicators			
Output indicator	**Total target value in number**	**Result indicator**	**Total target value in number**	**Please describe what types of organisations are planned to actively participate in the project. Explain how this participation will increase their institutional capacity. These types of organisations should be in line with the target groups you have defined for your project.**	
RCO 87 - Organisations cooperating across borders	13	**PSR 1 - Organisations with increased institutional capacity due to their participation in cooperation activities across borders**	73	Project partners and associated organisations	The project partners are university-level research organizations and SMEs. Associated organizations are port and water utilities, public authorities, large companies, and associations. The project will provide these organizations with reusable knowledge to further develop their expertise and institutional capacity to leverage advanced technologies, provide services, and act as pioneers and champions in challenging operations. In addition, the associated organizations can act as thought leaders when shaping general policies, practices, and procedures. 557 / 1,500 characters
				Other organisations	Other organizations like research organizations (90), small to large companies, logistics facility providers (200 ports), water utilities (95 cities), authorities (100), associations and foundations (100) will benefit from the debate and available knowledge and can take advantage from shorter implementation time to the related practices and procedures. They can also utilize the developed service offering (such as research services, environmental monitoring services, hardware services, operating hardware services, sustainable practice services, consultation services, etc.) to increase their capacity and operational capability. The number 60 is estimated to be 10% of the total mass of the organizations (about 600). 723 / 1,500 characters

7. Budget

7.0 Preparation costs

Preparation Costs

Would you like to apply for reimbursement of the preparation costs?	Yes

Other EU support of preparatory cost

Did you receive any other EU funds specifically designated to the development of this project application?	No

7.1 Breakdown of planned project expenditure per cost category & per partner

No. & role	Partner name	Partner status	CAT0 - Preparation costs	CAT1 - Staff	CAT2 - Office & administration
1 - LP	University of Oulu	Active 22/09/2022	6,000.00	510,840.00	76,626.00
2 - PP	Kajaani University of Applied Sciences Ltd	Active 22/09/2022	5,000.00	273,686.40	41,052.96
3 - PP	University of Warsaw	Active 22/09/2022	5,000.00	270,977.40	40,646.61
4 - PP	PurOceans Technology SIA	Active 22/09/2022	4,000.00	338,496.00	50,774.40
5 - PP	SIA TERRAWASTE	Active 22/09/2022	4,000.00	332,304.00	49,845.60
Total			24,000.00	1,726,303.80	258,945.57

No. & role	Partner name	CAT3 - Travel & accommodation	CAT4 - External expertise & services	CAT5 - Equipment	Total partner budget
1 - LP	University of Oulu	76,626.00	99,000.00	15,000.00	784,092.00
2 - PP	Kajaani University of Appl	41,052.96	77,000.00	73,500.00	511,292.32
3 - PP	University of Warsaw	40,646.61	20,500.00	100,000.00	477,770.62
4 - PP	PurOceans Technology S	50,774.40	138,000.00	64,000.00	646,044.80
5 - PP	SIA TERRAWASTE	49,845.60	140,500.00	67,800.00	644,295.20
Total		258,945.57	475,000.00	320,300.00	3,063,494.94

7.1.1 External expertise and services

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
1. University of Oul	Other	CAT4-PP1-G-0	Mechanics and customized components 35 / 100 characters	No	1.2	10,000.00	
1. University of Oul	Other	CAT4-PP1-G-0	Electronics and customized components 37 / 100 characters	No	1.2	15,000.00	
1. University of Oul	Other	CAT4-PP1-G-0	Optics and customized components 32 / 100 characters	No	1.2	40,000.00	
1. University of Oul	Events/meetings	CAT4-PP1-A-0	Conference / training fee 25 / 100 characters	No	1.1 2.2 3.1	3,000.00	
1. University of Oul	Project management	CAT4-PP1-D-0	Financial audit 15 / 100 characters	No	1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 N/A	6,000.00	
1. University of Oul	Communication	CAT4-PP1-C-0	Communication services 22 / 100 characters	No	1.3 2.3 3.3	25,000.00	
2. Kaiaani Universit	Other	CAT4-PP2-G-0	Mechanics and customized components 35 / 100 characters	No	1.2	38,000.00	
2. Kaiaani Universit	Other	CAT4-PP2-G-0	Logistics 9 / 100 characters	No	2.1	8,000.00	
2. Kaiaani Universit	Communication	CAT4-PP2-C-0	Communication services 22 / 100 characters	No	1.3 2.3 3.3	15,000.00	
	Total					475,000.00	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
2. Kaiaani Universit	Project management	CAT4-PP2-D-1	Financial audit 15 / 100 characters	No	1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 N/A	6,000.00	
2. Kaiaani Universit	Other	CAT4-PP2-G-1	Pilot site preparation and adjustment 37 / 100 characters	No	2.1	7,000.00	
2. Kaiaani Universit	Events/meetings	CAT4-PP2-A-1	Conference / training fee 25 / 100 characters	No	1.1 2.2 3.1	3,000.00	
3. Universitv of War	Events/meetings	CAT4-PP3-A-1	Conference / training fee 25 / 100 characters	No	1.1 2.2 3.1	3,000.00	
3. Universitv of War	Project management	CAT4-PP3-D-1	Financial audit 15 / 100 characters	No	1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 N/A	4,500.00	
3. Universitv of War	Communication	CAT4-PP3-C-1	Communication services 22 / 100 characters	No	1.3 2.3 3.3	13,000.00	
4. PurOceans Tech	Other	CAT4-PP4-G-1	Customized components 21 / 100 characters	No	1.2	10,000.00	
4. PurOceans Tech	Other	CAT4-PP4-G-1	Logistics 9 / 100 characters	No	2.1	16,000.00	
4. PurOceans Tech	Other	CAT4-PP4-G-1	Outsourced software development 31 / 100 characters	No	1.2	50,000.00	
	Total					475,000.00	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value
4. PurOceans Tech	Project management	CAT4-PP4-D-1	Financial audit 15 / 100 characters	No	1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 N/A	5,000.00
4. PurOceans Tech	Other	CAT4-PP4-G-2	Certification tests 19 / 100 characters	No	1.2	10,000.00
4. PurOceans Tech	Other	CAT4-PP4-G-2	Warehouse rent 14 / 100 characters	No	1.2 1.3 2.1 2.3 3.3	24,000.00
4. PurOceans Tech	Other	CAT4-PP4-G-2	Assembly of equipment 21 / 100 characters	No	1.2 2.1	7,000.00
4. PurOceans Tech	Communication	CAT4-PP4-C-2	Communication services 22 / 100 characters	No	1.3 2.3 3.3	13,000.00
4. PurOceans Tech	Events/meetings	CAT4-PP4-A-2	Conference / training fee 25 / 100 characters	No	1.1 2.2 3.1	3,000.00
5. SIA TERRAWAS	Other	CAT4-PP5-G-2	Test lab to analyse input samples 33 / 100 characters	No	1.2 2.1	35,000.00
5. SIA TERRAWAS	Other	CAT4-PP5-G-2	Mechanics and customized components 35 / 100 characters	No	1.2 2.1	27,000.00
5. SIA TERRAWAS	Other	CAT4-PP5-G-2	Logistics 9 / 100 characters	No	1.2 2.1	10,000.00
5. SIA TERRAWAS	Communication	CAT4-PP5-C-2	Communication services 22 / 100 characters	No	1.3 2.3 3.3	17,000.00
	Total					475,000.00

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
5. SIA TERRAWAS	Project management	CAT4-PP5-D-2	Financial audit 15 / 100 characters	No	1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 N/A	5,000.00	
5. SIA TERRAWAS	Other	CAT4-PP5-G-3	Test lab to analyse output product 34 / 100 characters	No	2.1	35,000.00	
5. SIA TERRAWAS	Other	CAT4-PP5-G-3	Software/Simulation 19 / 100 characters	No	1.2 2.1	5,500.00	
5. SIA TERRAWAS	Other	CAT4-PP5-G-3	Consumable 10 / 100 characters	No	1.2	3,000.00	
5. SIA TERRAWAS	Events/meetings	CAT4-PP5-A-3	Conference / training fee 25 / 100 characters	No	1.1 2.2 3.1	3,000.00	
	Total					475,000.00	

7.1.2 Equipment

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
1. University of Oul	Laboratory equipmen	CAT5-PP1-D-0	Computer rugged with data acquisition 37 / 100 characters	No	1.2 1.3	10,000.00	
1. University of Oul	IT hardware and soft	CAT5-PP1-B-0	Software 8 / 100 characters	No	1.2 2.1	5,000.00	
2. Kajaani Universit	Machines and instru	CAT5-PP2-E-0	Pumps 5 / 100 characters	No	1.2 2.1	32,000.00	
	Total					320,300.00	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value
2. Kaiaani Universit	Machines and instru	CAT5-PP2-E-0	Sieves 6 / 100 characters	No	1.2 2.1	7,800.00
2. Kaiaani Universit	Laboratory equipmen	CAT5-PP2-D-0	Laboratory supplies 19 / 100 characters	No	1.2 2.1	31,000.00
2. Kaiaani Universit	Tools or devices	CAT5-PP2-F-0	Delivery containers 19 / 100 characters	No	1.3	2,700.00
3. University of War	Laboratory equipmen	CAT5-PP3-D-0	ICPMS equipment 15 / 100 characters	No	1.2 2.1	60,000.00
3. University of War	Other specific equip	CAT5-PP3-H-0	Comsumed equipment materials 28 / 100 characters	No	1.2	10,000.00
3. University of War	Other specific equip	CAT5-PP3-H-0	Laboratory materials 20 / 100 characters	No	1.2	10,000.00
3. University of War	Other specific equip	CAT5-PP3-H-1	Seagents and standards 22 / 100 characters	No	1.2	20,000.00
4. PurOceans Tech	Other specific equip	CAT5-PP4-H-1	Components and materials 24 / 100 characters	No	1.2 1.3	50,000.00
4. PurOceans Tech	Tools or devices	CAT5-PP4-F-1	Tools 5 / 100 characters	No	1.2	10,000.00
4. PurOceans Tech	IT hardware and soft	CAT5-PP4-B-1	PC 2 / 100 characters	No	1.2	4,000.00
5. SIA TERRAWAS	Laboratory equipmen	CAT5-PP5-D-1	Reactors (2) 12 / 100 characters	No	1.2 2.1	50,000.00
5. SIA TERRAWAS	Laboratory equipmen	CAT5-PP5-D-1	Data Logger 11 / 100 characters	No	1.2 2.1	7,500.00
5. SIA TERRAWAS	Machines and instru	CAT5-PP5-E-1	Shredder 8 / 100 characters	No	1.2 2.1	4,800.00
5. SIA TERRAWAS	Machines and instru	CAT5-PP5-E-1	Mixer 5 / 100 characters	No	1.2 2.1	5,500.00
	Total					320,300.00

7.1.3 Infrastructure and works

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
Please select	Please select	CAT6-PP--01	0 / 100 characters	Please select		0.00	
	Total					0.00	

7.2 Planned project budget per funding source & per partner

No. & role	Partner name	Partner status	Country	Funding source	Co-financing rate [in %]	Total [in EUR]	Programme co-financing [in EUR]	Own contribution [in EUR]	State aid instrument
1-LP	University of Oulu	Active 22/09/2022	FI	ERDF	80.00 %	784,092.00	627,273.60	156,818.40	For each partner, the State aid relevance and applied aid measure are defined in the **State aid section**
2-PP	Kajaani University of Applied Sciences Ltd	Active 22/09/2022	FI	ERDF	80.00 %	511,292.32	409,033.85	102,258.47	
3-PP	University of Warsaw	Active 22/09/2022	PL	ERDF	80.00 %	477,770.62	382,216.49	95,554.13	
4-PP	PurOceans Technology SIA	Active 22/09/2022	LV	ERDF	80.00 %	646,044.80	516,835.84	129,208.96	
5-PP	SIA TERRAWASTE	Active 22/09/2022	LV	ERDF	80.00 %	644,295.20	515,436.16	128,859.04	
Total ERDF						3,063,494.94	2,450,795.94	612,699.00	
Total						3,063,494.94	2,450,795.94	612,699.00	

7.3 Spending plan per reporting period

	EU partners (ERDF)		Total	
	Total	Programme co-financing	Total	Programme co-financing
Preparation costs	24,000.00	19,200.00	24,000.00	19,200.00
Period 1	590,977.61	472,782.10	590,977.61	472,782.10
Period 2	691,894.52	553,515.61	691,894.52	553,515.61
Period 3	664,691.76	531,753.40	664,691.76	531,753.40
Period 4	580,834.98	464,667.98	580,834.98	464,667.98
Period 5	319,916.50	255,933.20	319,916.50	255,933.20
Period 6	191,179.57	152,943.65	191,179.57	152,943.65
Total	3,063,494.94	2,450,795.94	3,063,494.94	2,450,795.94