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## **Preventing Recalcitrant Organic Mobile Industrial chemicals for Circular Economy in the soil-sediment-water System**

Start date of the project: **1<sup>st</sup> November 2021**

Duration: **42 months**

### **D6.1 – Strategic Communication Plan (SCP) and Plan for Exploitation and Dissemination of Results (PEDR) – First Update M12**

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## Executive Summary

The PROMISCES project, “Preventing Recalcitrant Organic Mobile Industrial chemicals for Circular Economy in the Soil-sediment-water system” is funded by European Commission under the Horizon 2020 Framework Programme. The *Strategic Communication Plan (SCP)* and *Plan for Exploitation and Dissemination (PEDR)* are part of Work Package 6: Communication, Dissemination and Exploitation. Both plans together outline the project’s *Communication, Dissemination and Exploitation Strategy*, ensuring that the project consortium has a clear guideline for how to communicate and interact with external stakeholder groups.

Specifically, the SCP and PEDR present:

- The process used to identify and analyse relevant stakeholder groups
- Communication and Dissemination channels, including online and social media presence
- Relevant journals, events, and related projects
- The individual exploitation strategies of each partner
- The role of the European Committee for Standardisation (CEN) Workshop Agreement and the Associated Partners in furthering the transfer and application of results

Both the SCP and PEDR will be updated every six months.

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## 1 Strategic Communication Plan

### 1.1 The context of the project

The PROMISCES project - Preventing Recalcitrant Organic Mobile Industrial chemicalS for Circular Economy in the Soil-sediment-water system – is funded by the European Union under the Horizon 2020 Framework Programme to support Europe’s Green Deal. PROMISCES will identify how industrial pollution, specifically industrial persistent, mobile and potentially toxic (iPM(T)) substances prevent the deployment of the circular economy and which strategies help overcome key bottlenecks. This will directly contribute to the targets of the Sustainable Chemicals Strategy and the Zero Pollution Action Plan. Part of work package 6 (Communication, Dissemination and Exploitation) is a Strategic Communication Plan (SCP). Complemented by the Plan for Exploitation and Dissemination (PEDR), the SCP will ensure that the project consortium has a clear communication guideline and mission. The plan will be updated every six months. It includes:

1. defining the communication objectives;
2. identifying the target audience;
3. establishing and engaging in communication channels to consistently deliver the key messages, i.e. online and social media presence, publications, thematic initiatives and events;
4. defining roles and responsibilities for the core communication activities; and
5. outlining an assessment and monitoring plan

### 1.2 Communication objectives

The overall objective of the communication, dissemination and exploitation activities is to reach the greatest possible impact from the PROMISCES project and to uptake the research results by increasing the outreach and visibility of the project activities and its results. The term impact refers not only to economic or commercial aspects, but includes scientific, technical, and especially societal areas. In line with the concept of open research, open access to results will be provided for more transparency and efficiency.

Figure 1 shows which role communication and dissemination activities play in reaching the overall objective, mainly through the establishment of targeted communication channels (see 1.5 Communication and networking activities). This means raising public awareness, engaging stakeholders, and providing transparent solutions (Figure 2).

Figure 1: Overall strategy to maximize the impact (Communication & dissemination)

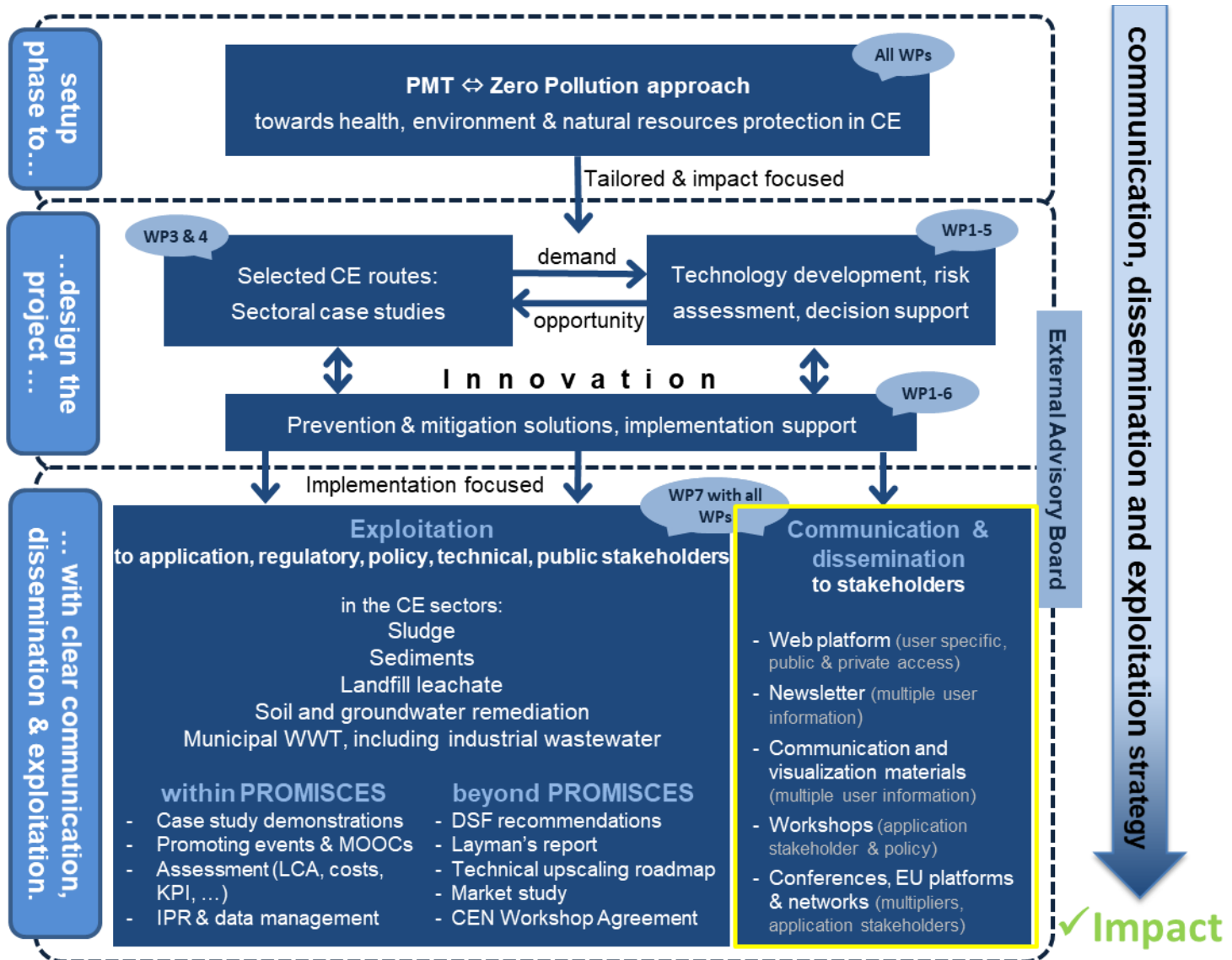
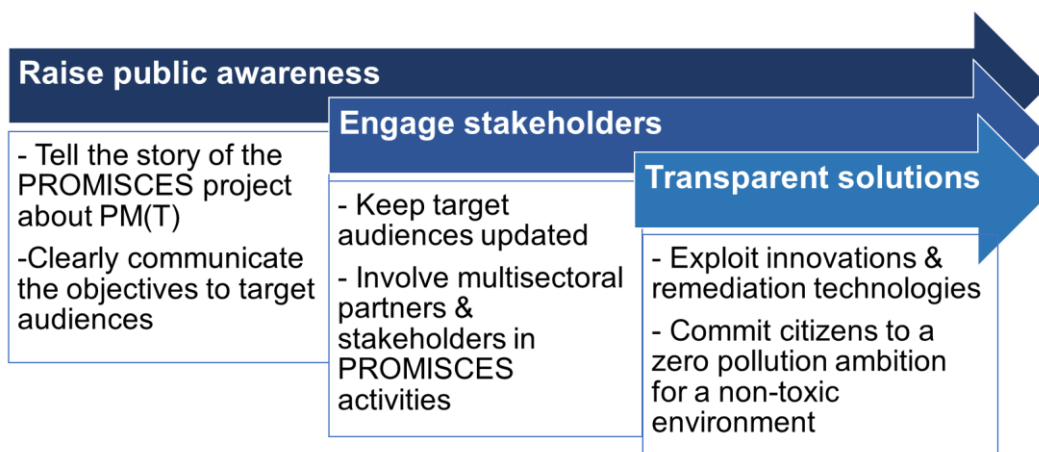


Figure 2: Communication Strategy



The communication strategy includes the dissemination and exploitation of results (e.g. transparent solutions) and will be further elaborated in the PEDR. Here, raising public

awareness and engaging stakeholders are the focus, leading to the following communication objectives:

- building smart communication channels (website, social media, publications, events) to inform about the activities, benefits, and results of the project;
- interacting with stakeholder groups to identify needs and possibilities for the further dissemination and exploitation of results; and
- creating synergies with related projects and initiatives.

The SCP explains how we intend to reach these objectives by:

- presenting the core communication activities;
- defining roles and responsibilities for the communication activities;
- defining the target groups;
- providing examples for key messages regarding different stakeholders;
- creating and providing communication materials to support stakeholder engagement (logo, templates, presentations, etc.); and
- outlining monitoring and assessment of the communication activities throughout the project.

Since the boundary between communication and dissemination activities is fluid, the communication and dissemination objectives and strategies presented in the SCP and PEDR will partially overlap and complement each other.

### 1.3 Identification and analysis of target and stakeholder groups

A close exchange with stakeholders right from the beginning and throughout the lifetime of the project plays a crucial role in the project's success. This requires a comprehensive identification and analysis of potential stakeholders, which is an important component of the project. In PROMISCES, three stakeholder categories are defined:

1. PROMISCES participants (the whole consortium consisting of 27 partners);
2. Stakeholders attached to the project (External Advisory Board EAB and associated partners); and
3. External stakeholders

The knowledge and individual networks of the PROMISCES participants are very valuable for PROMISCES' communication activities. Their networks can be used to contact relevant external stakeholders, e.g. for sending out targeted questionnaires to explore the demands and views of stakeholders (subtask 5.1.1). To give an overview of the networks of each partner, several steps have been/will be taken. As mentioned below, the general public is also considered an important target group. PROMISCES will therefore reach out to society, especially to explain the health risks of PFAS.

#### 1.3.1 Procedure

The first step was to hold a stakeholder identification activity, which took place during the PROMISCES Kick-off meeting in November 2021. The participants were divided into five groups according to the five circular economy routes and they discussed the stakeholders



relevant for their route. Table 1 shows the results from these discussions and forms a preliminary identification for relevant stakeholder groups.

All groups agreed that regulators and authorities at the European, national and local scales belong to the focus group, especially considering PROMISCES' aim to provide policy advice and to contribute to regulations. Strategic/technical managers and practitioners in the industries related to the circular economy route were identified. The scientific community was also identified as relevant, as it can take up findings for further research and problem solving. In addition, several networks were brought up in the groups, since they can act as a multiplier for communication and dissemination activities. General society as a water consumer was also identified as another key stakeholder.

The second step was to further elaborate upon these initial findings by sending out **communication questionnaires** to the entire consortium with the request for the following information:

- Each partner's contact information including communication channels (website, social media, newsletters, and press department), asking whether these channels can be used for PROMISCES' dissemination purposes;
- Relevant events and publications for targeting stakeholders - the involvement of each partner throughout the project will be recorded in a "**Dissemination monitoring table**"; and
- Relevant networks, which will be used for stakeholder outreach.

The third step was to summarise the information collected on potential stakeholders in a "stakeholder list" which the consortium can access internally, where every partner can add additional institutions and contacts. Based on this inventory, suitable stakeholders for planned activities can be selected and contacted in a coordinated approach which respects data protection rights. This procedure avoids overlaps in communication which could result in stakeholder fatigue and helps identify gaps in the stakeholder networks of the consortium partners. Personal data of potential stakeholders will be handled according to the principles laid out in the Protection of Personal Data Plan (D.8.1).

Checking the pertinence of the defined target groups and refining the target-group specific communication is a constant process that requires the involvement of the PROMISCES partners with their input from their Work Packages and Case Studies. Communication topics are discussed in the monthly TMC meetings with all Work Package leaders and the feedback from the technical WPs is integrated in the communication planning. In addition, a Communication Workshop for the whole consortium is foreseen (see chapter 1.5.4).

If important stakeholder groups are missing, existing events and conferences will be used to reach out to these groups. Additionally, associated partners and their networks are very important, therefore a close exchange with them will be maintained throughout the project, as well as for the uptake of results (see PEDR 2.4.4 Close cooperation with associated partners).

### 1.3.2 Communication aimed at strategic/ technical managers and practitioners from related industries

The term 'related industries' distinguishes between industries which discharge PM(T) chemicals into the environment, such as pharmaceutical firms and textile manufacturers (polluters), and industries which must deal with PFAS (control, remediate) since they rely on non-contaminated raw materials (problem owners). Most polluters are simultaneously also problem owners because they must manage the pollution they cause. Problem owners include, for example, drinking and wastewater utilities using technical processes to remove PFAS from water, dredging and soil remediation companies, building and road construction companies, and the energy sector.

Strategic managers are responsible for the long-term planning of the companies, overseeing the entire business processes and aiming to find new, effective management techniques and business designs. Technical managers deal with the application of technical solutions and are interested in new research results. Especially for the specific recommendations of the decision support framework (DSF) concerning implementation, a close exchange with both managers to get information about existing needs, problems, and solutions is indispensable.

Communication activities aimed at strategic/technical managers will include measures such as:

- Presentations and the integration of stakeholder workshops into technical and zero pollution-oriented conferences and events;
- Technical and business-oriented articles in relevant magazines;
- Organizing workshops and stakeholder meetings; and
- Sending out targeted questionnaires to explore the demands and views of stakeholders.

Table 1: Key stakeholders per CE route

CE route	Semi-closed water cycle (A)	Wastewater reuse (B)	Nutrient recovery (C)	Material recovery (D)	Soil & groundwater remediation (E)
Strategic and technical managers / practitioners from related industries	<ul style="list-style-type: none"> <li>Wastewater utilities</li> <li>Drinking water companies</li> <li>Waterboards</li> <li>Chemical/pharma producers</li> <li>Industry producing/using PFAS/PMT</li> <li>Technology sector that provides remediation technologies</li> <li>Soil remediation companies</li> <li>Industry using groundwater/surface water</li> <li>Dredging companies/sludge treatment</li> </ul>	<ul style="list-style-type: none"> <li>Designers of new chemicals (source of pb)</li> <li>= Manufacturing plants, pharmaceutical firms</li> <li>National WWTP operators</li> <li>Water utilities (e.g. Veolia)</li> </ul>	<ul style="list-style-type: none"> <li>Waste utilities</li> <li>Water utilities</li> <li>Waterboards</li> <li>Chemical industry</li> <li>R&amp;D/ design departments of chemical industries</li> <li>Organisations within a particular industry (e.g. fertilizer europe)</li> </ul>	<ul style="list-style-type: none"> <li>Waterboard authorities</li> <li>Water utilities associations</li> <li>Public waste management</li> <li>Wastewater utilities managers</li> <li>Building and road construction companies</li> <li>Managers of public infrastructures</li> <li>Companies involved in dredging sediments</li> <li>Energy sector</li> </ul>	<ul style="list-style-type: none"> <li>Public water managers</li> <li>Drinking water companies</li> <li>Water agencies</li> <li>PFAS industries</li> <li>Surrounding industries</li> <li>Public health managers</li> <li>remediation specialized service companies</li> <li>Real estate developers</li> <li>Land developers</li> <li>Firemen</li> <li>Farmers</li> <li>Green growers</li> <li>Problem owners</li> <li>Environmental consulting companies</li> </ul>
Policy makers & regulators	<ul style="list-style-type: none"> <li>local policymakers</li> <li>Regulators, drinking water</li> <li>regulators, emissions (PMT)</li> </ul>	<ul style="list-style-type: none"> <li>Authorities Water/Health</li> <li>Regional Health Agencies, Catalanian</li> </ul>	<ul style="list-style-type: none"> <li>Local policymakers</li> <li>Politicians and ministries of finance</li> <li>EU regulators safety food/products</li> </ul>	<ul style="list-style-type: none"> <li>Local authorities</li> <li>Public authorities managing sediments</li> </ul>	<ul style="list-style-type: none"> <li>Local administrations</li> <li>Public authorities</li> <li>Environmental protection agencies</li> </ul>

	<ul style="list-style-type: none"> <li>• <i>environmental agencies</i></li> </ul>	<p>Health Department</p> <ul style="list-style-type: none"> <li>• National Health Agencies</li> <li>• Water Administration (EU, national, river basin, local)</li> </ul>	<ul style="list-style-type: none"> <li>• EU regulators safety fertilizers</li> <li>• EU regulators water/soil/sediment</li> <li>• Life cycle EU regulation</li> </ul>	<ul style="list-style-type: none"> <li>• Port authorities</li> <li>• Health agencies</li> <li>• Environmental protection agencies</li> <li>• Other public agencies</li> </ul>	
General public	<ul style="list-style-type: none"> <li>• Water consumers</li> </ul>	<ul style="list-style-type: none"> <li>• Community members (end-user)</li> <li>• NGOs</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs and consumers</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Citizens/civil society</li> <li>• consumers</li> </ul>
Scientific community		<ul style="list-style-type: none"> <li>• Universities</li> </ul>	<ul style="list-style-type: none"> <li>• Universities</li> <li>• R&amp;D institutes</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• researchers</li> </ul>
Networks <b>Include associated partners</b>	<ul style="list-style-type: none"> <li>• Nicole</li> <li>• International Commissions for Rivers</li> <li>• EC PMT (working group)</li> <li>• STOWA (dutch water authorities)</li> <li>• SEDNET</li> <li>• IWA (micro pollutants special group meeting)</li> <li>• Universities/research institutes H2020</li> <li>• Water Europe</li> </ul>	<ul style="list-style-type: none"> <li>• ECETOC (Centre for chemical safety assessment)</li> <li>• EUREAU (European Federation of National Associations of Water Services)</li> <li>• Perfluoro Council</li> <li>• Water Europe</li> <li>• Catalan Water Partnership (CWP)</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable Product Initiative (SPI)</li> <li>• Roundtable Sustainable Chemicals</li> <li>• ECBPI initiative</li> <li>• SETAC</li> <li>• IWA</li> </ul>	<ul style="list-style-type: none"> <li>• Norman Network</li> <li>• NonHazCity</li> <li>• VEWIN - Dutch National association of water companies</li> <li>• ESPP - European Sustainable Phosphorus Platform</li> </ul>	<ul style="list-style-type: none"> <li>• Dechema working groups</li> <li>• Nicole Network</li> <li>• EUROGEOSURVEYS - European Geological surveys</li> <li>• DBU - German association of clinical environmental medicine</li> <li>• COMMON FORUM on Contaminated Land in Europe</li> </ul>

	<ul style="list-style-type: none"> <li>• Bank Filtration Community</li> <li>• European Commission (working group)</li> <li>• WHO</li> <li>• European network drinking water regulators (EndWare)</li> </ul>	<ul style="list-style-type: none"> <li>• ANSES (France)</li> <li>• RECORD (France)</li> <li>• EU Phosphorus Platform</li> </ul>			
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### 1.3.3 Communication aimed at policy makers and regulators

PROMISCES aims to translate its zero pollution strategies into policy recommendations for relevant EU directives, strategies, and action plans. For instance, developing and testing the Decision Support Framework (DSF) within WP5 based on input from different stakeholder groups will result in insights and thus recommendations relevant for EU regulation stakeholders. Communication with policy makers and regulators is very important for maximum impact of the research results. On a regional and local scale, PROMISCES will benefit from the regional networks of the partners from 9 different European countries. At the same time, some key policy actors on a regional scale, such as the Umweltbundesamt in Germany, are part of the consortium.

Communication activities aimed at policy makers and regulators will include:

- Presentations or sessions at high-level European water/circular economy events;
- Policy oriented articles in relevant magazines;
- Provide a policy brief on PM(T) concerns and actions in EU; and
- Taking part in the CEN Workshop (CWS) procedure and establishing a close exchange with the “Joint Group on Circular Economy (JG-CE)”.

### 1.3.4 Communication aimed at the general public

The general public is considered to be all citizens that are interested in the project and affected by chemical pollution (e.g. through drinking water or the food chain). Raising public awareness by explaining the wider societal relevance of the results, including the health risks of PM(T), is a core objective of PROMISCES.

Therefore, PROMISCES will develop a risk communication item for the general public (D6.3) under the leadership of partner BWB (Berliner Wasserbetriebe). This item will be a video or related online communication tool which translates the results of the project into language and terms intelligible to the general public, especially concerning risks related to drinking water consumption.

The project website is one important platform for reaching the general public and special attention will be paid to ensuring an appealing web design and use of simple language. Another communication channel targeted at the general public is social media (LinkedIn, Twitter) as described in 1.5 Communication and networking activities.

### 1.3.5 Communication aimed at the scientific community

The scientific community is an important target group since it can uptake PROMISCES' results for further research and problem solving. The communication of detailed information, the quality and accuracy of the data is in the foreground.

Communication activities aimed at the scientific community will include:

- Publication of articles in relevant scientific journals;
- Organizing workshops and seminars; and
- Close collaboration with the topically related projects, especially with the sister projects ZeroPM and SCENARIOS, is foreseen (e.g. joint organisation of events, aligning project

communication channels, cooperation in the frame of the CWA). To date, two cluster meetings with the five sister projects from Green Deal topics 8.1 and 8.2 have taken place. Synergies between the projects have been assessed and first ideas for joint communication and dissemination activities have been discussed.

### 1.3.6 Communication aimed at associations and networks

Close communication with relevant associations and networks is an important aspect of the communication strategy to transfer information and multiply impact. PROMISCES will use the connections of the consortium to reach out to these target groups. Table 2 summarizes an initial list of networks which the consortium has deemed to be relevant. These networks can provide advice on regulatory and technical needs and act as multipliers. For instance, the Norman network will include a section promoting the Green Deal Projects on their website.

Table 2: Networks and associations considered to be relevant for PROMISCES

Name of the network/association	Target audience
<b>AFES – French association of International Union of Soil Sciences (IUSS)</b>	Soil management, researchers and academia
<b>ALLENVI - alliance nationale de recherche pour l'environnement</b>	Environmental sciences, French researchers and academia (food, water, climate)
<b>Asociación Española de Abastecimientos de Agua y Saneamiento (AEAS)</b>	Industry, researchers and academia in the water sector
<b>Asociación Española de Reutilización Sostenible del Agua (ASERSA)</b>	Professionals and water authorities
<b>ASTEE</b>	Industry, researchers and academia
<b>Austrian Association for Water and Wastewater Management (ÖWAV)</b>	Industry, researchers and academia
<b>Catalan Water Partnership (CWP)</b>	Industry, academia, service providers in water sector
<b>CLAIRE Research Network</b>	Industry
<b>Comité Français d'Hydrogéologie (CFH)</b>	Groundwater management, researchers and academia
<b>Deutscher Verein des Gas- und Wasserfaches (DVGW)</b>	Industry, researchers and academia
<b>Eurogeosurveys</b>	European geological survey association
<b>European Geosciences Union (EGU)</b>	Researchers and academia
<b>European Sustainable Phosphorus Platform (ESPP)</b>	Industry, researchers
<b>France Water Team</b>	Water management, industry
<b>German Association for Water, Wastewater and Waste (DWA)</b>	Industry, researchers and academia
<b>German Drinking Water Commission</b>	Public health agencies, water suppliers, government institutions, academia
<b>German Water Partnership (GWP)</b>	industry
<b>International Association of Hydrogeologists (IAH)</b>	Groundwater management, researchers and academia
<b>International Water Association (IWA)</b>	Industry, researchers and academia

<b>NICOLE Network</b>	Industry, academia, service providers in soil remediation management
<b>Norman Network</b>	Authorities, research centers, industry stakeholders, standardization bodies, etc.
<b>OECD working parties on chemical safety</b>	Public authorities, etc.
<b>Société francophone de santé environnement (SFSE)</b>	Health Environment researchers and Environmental managers and industry
<b>Société Hydrotechnique de France (SFH)</b>	Water management, industry
<b>Sustainable Remediation Forum (SurF)</b>	Industry
<b>Wasserchemische Gesellschaft /Water Chemistry Society (Fachgruppe der GdCh)</b>	Researchers, water and wastewater companies and authorities
<b>Water Europe</b>	Industry, R&D
<b>WATER JPI/WATER4ALL</b>	Water research
<b>Water Reuse Europe</b>	Water utilities, industry, tech providers, academia, etc.
<b>Watershare</b>	Researchers

#### 1.4 Developing PROMISCES' key messages

For clear and effective communication, it is necessary to formulate key messages. The content and language of the messages should be matched to the respective target group. For instance, when addressing the general public, it makes sense to avoid technical terms and to create links between the project goals and people's daily habits. This will help raise awareness and ensures that the goals of the project are better received. Examples for key messages targeted at the general public are *importance of the circular economy, risks of PFAS in water cycles and for human health, and how small changes in behaviour can mitigate risks.*

The consortium will jointly discuss and agree on key messages to be used throughout the project for communication, dissemination, and other purposes.

This process already started at the PROMISCES kick-off meeting in November 2021, where project partners brainstormed potential key messages in groups. This resulted in a collection of ideas that was used as a basis for further clustering of the messages in certain topics. These are depicted in table 3 and will be presented and discussed with the consortium during the planned Communication Workshop (see chapter 1.5.4).

Table 3: Key messages

<b>Topic/Position</b>	<b>Key message (example)</b>	<b>Target group</b>
<b>Circular Economy</b> It is of utmost importance to build up a Circular Economy. However, PFAS can delay/prevent this.	"Have a holistic view across environmental compartments"	General Public
	"Proposed technology trains for each CE route"	Strategic/ technical managers and practitioners
	"New pathways allowed for sediments reuse, boost for new material recovery options"	Policy Makers, regulators, Authorities
	"The project should have helped to know if we can reuse those recovery materials safely"	



<p><b>High risks</b> PFAS are a serious threat to human health and the environment.</p>	<p>“PFAS safe ground water and drinking water / your water is safe to use”</p>	<p>General Public</p>
<p><b>Minimize and avoid dangers</b> Even small actions can help reduce or eliminate the dangers from PFAS.</p>	<p>“Promisces will help you to prevent new PMTs becoming a problem”</p> <p>“Combined efforts are needed in reducing PMT emissions, EVERYBODY can do something to make things better (everybody is part of the solution, establishing trust)”</p> <p>“Every decision causes costs. Prevention is usually less expensive than regaining”</p> <p>“Changing habits can avoid contamination”</p>	<p>General Public</p> <p>Strategic/ technical managers and practitioners</p>
<p><b>New solutions and technologies</b> In order to be able to remove PFAS from the environment or avoid them in the first place, new solutions and technologies must be researched and tested.</p>	<p>“Use of improved QSPR, QSAR and grouping method in a strategical way in R&amp;D have high potential to prevent use of "dangerous" PMs by smarter design”</p> <p>“Innovative green and cost-effective (PFAS) remediation technologies exist for soil, water, ...”</p> <p>“New pathways allowed for sediments reuse, boost for new material recovery options”</p> <p>“New insights on measuring the extent of the PFAS issue (identification, quantification)”</p> <p>“Safer umbrella developed for known and unknown (i)PM(T)s”</p> <p>“New ways to gain insight in source - pollution pathways help to define smart solutions, examples for case studies”</p> <p>“New insights on how to manage legacy contaminations”</p> <p>“New insights on how to prevent future potential legacy contaminations”</p> <p>“Tools to help decision making on best remediation solutions available.”</p>	<p>Scientific Community</p> <p>Strategic/ technical managers and practitioners</p> <p>General Public</p>
<p><b>Containing the problem By regulating and assessing in advance, as</b></p>		<p>Policy Makers, regulators, Authorities</p>

<p><b>well as by monitoring, risks can be identified and measures can be developed in a timely manner.</b></p>		<p>Strategic/ technical managers and practitioners</p> <p>Scientific community</p>
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## 1.5 Communication and networking activities

After outlining the objectives, the target audience and potential key messages, the initial plan of core activities is outlined below, which consists of setting up a visual identity and several communication and dissemination channels. Information about the communication channels of all PROMISCES partners was gathered via the Communication and Dissemination Questionnaire. The input will be used for more detailed planning. The following section presents the relevance of each communication activity, its specific target audience, and its goals.

### 1.5.1 Visual Identity

A visual identity of PROMISCES is very important for homogenisation and branding of the communication. Presentation templates, Microsoft Word templates for internal use, flyers and leaflets will always include the funding acknowledgement (Figure 3) and the PROMISCES logo (Figure 4) which is shown below. This will be made available for and deployed by the entire PROMISCES consortium via different channels and languages. Next to communication, PROMISCES' visual identity will be applied in all dissemination and exploitation activities.

Figure 3: Funding acknowledgement

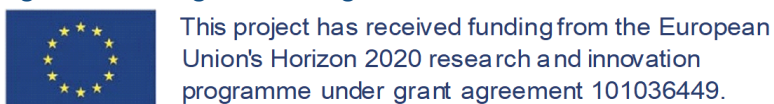


Figure 4: PROMISCES Logo



### 1.5.2 Website

The PROMISCES website ([www.promisc.es.eu](http://www.promisc.es.eu)) will serve as a focal point for all the project's communication activities, and targets both the general public and an expert audience. It is a public platform for visitors to learn about the added value of PROMISCES, and to support dissemination and exploitation activities by providing the full range of information (non- and technical) related to PROMISCES and PFAS/PM(T) substances.

The website will be continuously updated with input from all partners and will raise public awareness about the risks of iPM(T)s in the environment. The section "Media Kits" provides the project's documents (e.g. flyers, logo pack, fact sheets), while the sections "Results" offers the possibility to download project results (e.g. public reports, communication item). The section "News and Events" provides information about dissemination activities (seminars, meetings and conferences) and the

section "About us" gives information concerning the partners and external stakeholders (e.g. EAB). Information on the project's work packages, objectives and case studies are presented in the "Project" section. These are structured in a target group-specific way so that different target groups can benefit fully from the website. For example, the "Circular Economy Routes" section with simple explanations of the individual routes is intended for the "General Public" target group, while the "Work Packages" section is primarily of interest to an "Expert Audience". In addition, there is a registration area for engaged stakeholders to become part of the PROMISCES community by subscribing to a newsletter. Through the contact form on the website, questions and requests will directly reach the project team.

For high visibility and dissemination, the website link will be included in all communication materials.

### 1.5.3 Social media

Apart from the PROMISCES website, social media is a crucial and powerful tool for reaching a wider audience and disseminating project updates and important events in an easy and creative way. To this end, PROMISCES has already established a LinkedIn account <https://www.linkedin.com/company/77030448/admin/> as it is the most widely used international professional network covering many different sectors. In addition, DECHEMA has set up a Twitter account for also reaching citizens and non-experts. [https://twitter.com/Promisces\\_EU](https://twitter.com/Promisces_EU) DECHEMA will be responsible for creating posts and obtaining the required input from project partners.

A social media editorial plan has been set up in order to plan posts for LinkedIn and Twitter and to get an overview of upcoming events which are relevant for PROMISCES social media channels. It is planned to post two to three times per week. In addition, a Social Media template was developed and sent to the project partners from the work packages and case studies so that the partners could name possible topics for social media posts. Among other things, it was asked for successes, milestones (past and future), goals or the motivation of the partners. In addition, it is planned to introduce each team or project partner on the social media channels. This series will be called "Meet the Team". A template has also been developed for this purpose and sent to each partner asking for the tasks and goals of each team and their role in the PROMISCES project.

### 1.5.4 Communication Workshop

The goal of this internal workshop is to discuss the initially defined target groups and to further develop stakeholder specific key messages. It is aimed to make the PROMISCES consortium aware of the importance of communication and social media: Why is target-group-oriented communication important? What kind of content can be communicated to which target group? Why are photos and videos important?

For a productive exchange and to support co-creation processes it is planned to organize the workshop in presence expected at the beginning of 2023. The agenda is not defined yet, but first ideas are as follows:

- Re-evaluate the pre-defined target groups (group work). The goal of this activity is to find out if stakeholder groups are missing that need to be involved in PROMISCES activities or to whom PROMISCES results need to be communicated.

- Create personas for each target group (group work). Personas are fictitious persons who are intended to help better understand target groups and to align communication specifically to them. Among other things, names, age, gender, origin, interests, expectations, motivations, etc. are determined.
- Develop key messages for each persona (group work, if possible, divide according to Work Packages/Case Studies)
- Exercises for communicating with target groups. This can include preparing articles for LinkedIn or Twitter about a topic related to PROMISCES, or explaining the own activities in the project so that even a layman can understand them.

#### 1.5.5 Project releases and materials

Dedicated materials for creating awareness and promoting project events will be created. A project flyer is currently under preparation. This should be distributed or displayed at events and the aim is to draw attention to the project and arouse curiosity. At this stage, the following materials are planned:

- A PROMISCES project poster and a short presentation slide deck introducing the project;
- Laymans report, fact sheets; and
- Materials provided by the massive open online course (MOOC) (Need for further materials will be determined during the lifetime of the project).

#### 1.5.6 Online seminars

Online seminars include a MOOC and will be targeted at young professionals and future end-users with the goal of making the scientific and regulatory community aware of PROMISCES' main findings and results. Lectures for professionals will focus on PFAS/iPM(T) substances in the water, soil, and sediment cycles. Course content will range from PFAS characteristics, fate and transport in the environment, to PROMISCES technologies and management solutions. PROMISCES will provide material (PowerPoint presentations, videos of the case studies, and self-assessment study) with the project's results. The self-study online course (4-6 weeks), examination and self-assessment tests will be held in English and will be available even after the project concludes.

#### 1.5.7 Publications

Technical and scientific publications are an important channel to raise awareness about the project, foster public acceptance and disseminate information for the uptake of solutions. Table 4 and 5 show a selection of scientific journals and journals targeted at experts from policy and industry as well as magazines for the general public, which could form a channel for diffusion of PROMISCES results. The KPI targeted at the end of the project are  $\geq 10$  publications in peer-reviewed journals and  $\geq 8$  publications in technical magazines (Table 8).

Table 4: Scientific journals

Name of the scientific journal
Chemical Engineering Journal

Earth System Governance
Environment International
Environmental Pollution
Environmental Science and Technology
ES&T Water
Green Chemistry
Hydrogeology Journal
Journal of cleaner production
Journal of Environmental Management
Journal of Hazardous Materials
Journal of Hydrology
Urban Water Journal
Waste Management
Water
Water International
Water Policy
Water Research

Table 5: Technical magazines

Name of the magazine	Target audience	Language
<b>Vallès Visió</b>	General public	Catalan
<b>Vallès Oriental TV</b>	General public	Catalan
<b>Diari SOM</b>	General public	Catalan
<b>Nació Digital</b>	General public	Catalan
<b>Fundació Rivus</b>	General public	Catalan
<b>El Periódico Digital</b>	General public	Catalan, Spanish
<b>Speciality Chemicals Magazine</b>	Fine and speciality chemicals industry	English
<b>Freshwater Blog</b>	General public	English
<b>Danube Watch</b>	Management in water pollution control	English
<b>Le Moniteur</b>	Construction magazine	French
<b>Journal du Geek</b>	New technology magazine	French
<b>Géosciences or Géorama</b>	Earth sciences magazine	French
<b>Techniques Sciences et Méthodes (TSM)</b>	Environment technology magazine	French
<b>Actu-Environnement</b>	Global environmental concerns (cross target)	French
<b>Environnement Magazine</b>	Global environmental concerns (cross target)	French
<b>L'Usine nouvelle</b>	Industrial, energy and chemical scopes for decision maker	French
<b>Science et Avenir</b>	Popular science – cross target	French
<b>Environnement, Risques &amp; Santé</b>	All disciplines converging between environment and health	French
<b>L'actualité chimique</b>	Chemical sciences, and its relations with other sciences, industry, society and education	French
<b>Revue Techniques Sciences Méthodes</b>	Water and wastewater stakeholders	French
<b>DECISIONS DURABLES</b>	Environment	French

<b>AEF DEVELOPPEMENT DURABLE</b>	Environment	French
<b>L'eau l'industrie les nuisances</b>	Environment	French
<b>Green Univers</b>	Environment	French
<b>KA (German magazine of DWA)</b>	Management in waste and water industry	German
<b>wwt Wasserwirtschaft Wassertechnik</b>	Management in waste and water industry	German
<b>GWF Wasser   Abwasser</b>	Management in waste and water industry	German
<b>Vom Wasser</b>	Testing laboratories; authorities; water supply and disposal companies; environmental monitoring in industry and for applied research	German
<b>Wasserspiegel</b>	Employees of Berliner Wasserbetriebe	German
<b>Der Standard</b>	Non-scientific community	German
<b>Die Presse</b>	Non-scientific community	German
<b>Analytik News</b>	Analytical laboratories	German
<b>HyWa – Hydrologie und Wasserbewirtschaftung</b>	Hydrology and water resources management	German
<b>ÖWAW Fachzeitschrift</b>	Management in waste and water industry	German, English
<b>Ilsole24ore.com</b>	Professionals in the technological and environmental sectors	Italian
<b>Recycling demolizioni&amp;riciclaggio (Edizioni PEI S.r.l.)</b>	Industry	Italian
<b>Servizi a rete</b>	Professionals	Italian
<b>Ingegneria dell'ambiente</b>	Professionals	Italian
<b>RETEMA</b>	Management in environment	Spanish
<b>La Vanguardia Digital</b>	General public	Spanish
<b>Aguasresiduales.info</b>	Management in waste and water industry	Spanish
<b>Tecnoaqua</b>	Management in waste and water industry	Spanish
<b>FUTURENVIRO</b>	Environmental technologies	Spanish, English

### 1.5.8 Face-to-face and online events

Face-to-face, online or hybrid events are an important communication channel to reach experts, build trust, and encourage technology providers, utilities, and decision-makers to trust, promote and use PROMISCES' results. The partners of the PROMISCES consortium have already and aim at participating in several events for networking activities to give presentations and distribute material. A summary of planned and potential events is depicted in table 6.

Table 6: Planned Events

Name	Date	Location	Potential Participating partner	Potential activity

<b>Sanierungstagung (Strategies for the remediation of Soil &amp; Groundwater 2022)</b>	28. - 29.11.2022	Frankfurt, Germany	DECHEMA	Material distribution, poster, networking
<b>13th IWA International Conference on Water Reclamation and Reuse</b>	15.-19.01.2023	Chennai, India	KWB, others	Presentation, attendance, networking
<b>EGU General Assembly 2023</b>	23. - 28.04.2023	Vienna, Austria & online	TU Wien	
<b>SETAC Europe 33<sup>rd</sup> Annual Meeting</b>	30.04. - 04.05.2023	Dublin, Ireland & online		
<b>EXPOQUIMIA</b>	30.05.-02.06.2023	Barcelona	CSIC	Presentation, attendance
<b>Goldschmidt</b>	07.2023	Lyon, France	BRGM, IPGP	Presentation (WP2)
<b>EUROTOX 2023</b>	10.-13.09.2023	Ljubljana, Slovenia		
<b>International Symposium on Halogenated Persistent Organic Pollutants</b>	Early September 2023	Liege, Belgium		
<b>AQUACONSOIL</b>	11.-15.9.2023	Prague	BRGM, IPGP, EURECAT, DECHEMA	dedicated parallel PROMISCES session (to be discussed with Deltares) Presentation (WP3)
<b>IAH conferences</b>	17.-22.09.2023	Cape Town, South Africa		
<b>Sanierungstagung (Strategies for the remediation of Soil &amp; Groundwater 2023)</b>	27. - 28.09.2023			
<b>Scenarios Project Summer School</b>	Autumn 2023 (tbd.)	Tbd.		

<b>AIH</b>	2023		BRGM	Presentation - material distribution
<b>Water Europe Project</b>	2023-2024	Brussels		Networking, presentation on various events
<b>Intersol</b>	2023-2024?	France	BRGM, IPGP	Presentation (WP3)
<b>AQUAREF annual meeting</b>	?		BRGM	
<b>AGU – fall meeting</b>	2024?	USA	BRGM	Presentation - material distribution
<b>ISMAR</b>	2023-2024	Long Beach, CA, USA	KWB, others	Held annually or biannually (2023-2024)
<b>Fachsektion Hydrogeologie e.V. in der DGGV (e.V.)</b>	2024	Jena, Germany	KWB, other German partners	Held bi-annually (next in 2024)
<b>IWA International Conference on Urban Drainage</b>	19.-23. 06.2024	Delft, the Netherlands	KWB, others	Presentation, attendance, networking
<b>ACHEMA 2024</b>	10.-14.06.2024	Frankfurt	DECHEMA	Organisation of special session in ACHEMA congress

### 1.5.9 Additional opportunities for networking

In addition to the topics named above and the collaboration with associations and networks as important target group (see Table 2), connections the consortium has established through related projects are also an important communication channel. Related projects and the respective contacts of each partner are depicted in table 7.

Table 7: Related Projects

Name of the project	Coordinator	Possible synergies & opportunities for cooperation	Contact partner within PROMISCES
<b>ZeroPM</b>	NGI (Stiftelsen Norges Geotekniske Institutt)	Cluster meetings, invitations to workshops/events, CENWorkshop agreement	



<b>SCENARIOS</b>	UPO	Cluster meetings, invitations to workshops/events, CEN Workshop agreement	
<b>PFASTwin</b>	HORIZON-CSA	Invitation to events	Julie Lions (BRGM)
<b>ULTIMATE</b>	KWR	Valorising resources within the water cycle, water and industry, joint communicating events	Ulf Mieke (KWB) Francesco Fatone (UNIVPM) (Nicole Heine, DECHEMA)
<b>NextGen</b>	KWR	Circular water solutions	Ulf Mieke (KWB)
<b>IMPETUS</b>	EURECAT	Climate change, circular economy	Hella Schwarzmüller (KWB)
<b>FlexTreat</b>	RWTH Aachen	Agricultural water reuse (German project)	Michael Stapf (KWB)
<b>Life AskReach</b>	UBA	Raising consumer awareness about substances of high concern (SVHC) in articles; improving supply chain communication processes with the aim of substituting SVHC with safer alternatives; etc.	Sandrine Andres (Ineris)
<b>PARC (Partnership for the Assessment of Risks from Chemicals)</b>	Anses	Task 4.2 on « Environmental and multisource monitoring » est very relevant. One aim is to “Set up the overall process of environmental and multisource monitoring in PARC with the help of a pilot study on PFAS and endocrine disrupting chemicals (EDCs)”	Valeria Dulio, Sandrine Andres (Ineris)
<b>Life VERMEER</b>	Istituto di Ricerche Farmacologiche Mario Negri IRCCS	VERMEER developed software which integrates hazard evaluation with exposure assessment for human and environment	Enrico Mombelli, Sandrine Andres (Ineris)
<b>PROTECT</b>	UFZ	Persistent mobile organic chemicals in the aquatic environment: Sources, occurrence and technical processes for their removal in the drinking water supply	Jochen Kuckelkorn (UBA)
<b>TrinkWave</b>	TU München		Dr. Thomas Track (DECHMA)
<b>AquaNES</b>	FH Nordwestschweiz		Dr. Alexander Sperlich (BWB) Dr. Ulf Mieke (KWB)
<b>SOuRCE</b>	EURECAT	Invitation to events, use of project website for communication, etc. Share of results about tech performance in PFAS removal.	Carme Bosch (EURECAT)
<b>USETOX</b>	UNEP/SETAC	Global consensus tool for using output for Life Cycle Impact Assessments of products and product systems	Leo Posthuma (RIVM)

<b>Life cycle Initiative</b>	UNEP/SETAC	Global consensus process to develop methods for output for Life Cycle Impact Assessments of products and product systems	Leo Posthuma (RIVM)
<b>Sunshine</b>		Work together on case study (e.g. alternatives for PFAS coatings)	Willie Peijnenburg (RIVM)
<b>MAGO</b>	CETAQUA	Invitation to events, sharing of information	Miren López de Alda (IDAEA-CSIC)
<b>NATURE</b>	CSIC	Invitation to events, sharing of information	Víctor Matamoros (IDAEA-CSIC)
<b>FATERISK Aqua</b>	TU Wien	Joint stakeholder workshops	Matthias Zessner / Julia Derx (TU Wien)
<b>Danube Hazard m3c</b>	TU Wien	Joint stakeholder workshops	Matthias Zessner
<b>WATERUN</b>	AIMEN	Invitation to events	FRANCESCO (UNIVPM) FATONE
<b>ECOSEDRA</b>	SOGEIN	Invitation to events, joined research activities	FRANCESCO (UNIVPM) FATONE
<b>BLUE LAKES</b>	LEGAMBIENTE	Invitation to events	FRANCESCO (UNIVPM) FATONE
<b>DIGITAL WATER CITY</b>	KWB	Invitation to events	FRANCESCO (UNIVPM) FATONE
<b>Emerging contaminants project</b>	CBT	Knowledge / results sharing	Josep Pascual (CBT)
<b>Microplastics project</b>	CBT	Knowledge / results sharing	Josep Pascual (CBT)
<b>WATER-MINING</b>	DELFT University of Technology	Invitation to events, results sharing, networking	Nicole Heine (DECHEMA) Josep Pascual (CBT)
<b>Center of Competence Clean&amp;Circle</b>	Sofia University St. Kliment Ohridski	Use of website and social networks for communication, invitation to events, etc.	Albena Varsano (Sofia University)
<b>BioICEP</b>	Technical University of the Shannon, Ireland	Invitation to events	Tjalf de Boer (MLS)

## 1.6 Monitoring and assessment

Monitoring and assessment of the communication, dissemination and exploitation activities is an important aspect for the communication strategy. It requires a structured procedure to ensure that the right messages have reached the right stakeholders and to measure the effectiveness of the communication activities. Key performance indicators (KPIs) will be used to compare the original goals with what has been achieved in the end. Suitable procedures for project-internal monitoring will be applied. PROMISCES will use the following categories to measure performance:

- Number of conferences/workshops/exhibitions organized and number of attendees
- Number of publications in peer reviewed journals with high impact factors
- Number of publications in technical magazines

- Number of reference documents produced
- Number of project newsletters/ contribution to newsletters of the partners/contribution to external newsletters
- Number of participants in project-linked seminars
- Number of lectures linked to PROMISCES
- Number of followers in social media channels/ social media statistics

Concrete numbers for most categories are summarized in Table 8.

**Table 8: Overview of PROMISCES communication and dissemination activities and the respective KPIs**

<b>Type of dissemination (Target Audience)</b>	<b>Examples of targeted dissemination channels</b>	<b>What we want to achieve</b>	<b>KPI (targeted at the end of the project)</b>
<b>Conference / workshop / exhibitions (Policy makers, industry, public organisations &amp; associations, utilities, researchers) Conferences</b>	Conferences: AquaConSoil, IWA DWA, SedNet, EGU and AGU, SETAC, Aqua Urbanica, Water World Forum, World CE Forum, World Resource Forum Workshops by NICOLE, Micropol, JRC, ICPDR Exhibitions: Remtech Expo, Pollutec National expert groups: ÖWAV, French AQUAREF Parallel session at AquaConSoil	Dissemination of schemes and of PROMISCES scientific results among technical experts. Spread knowledge about novel RA approaches. Contribute to best practice documents on various topic (via ESPP, DWA, JRC). Connect local decision makers in water management with PFAS topic.	≥ 10 (by academic/research partners) workshops sessions organised by partners with minimum 20-80 participants ≥ 15 by R&I partners) proceedings / communications accepted at international conferences
<b>Scientific journals (Researchers, industry)</b>	Environmental Science and Technology, Environmental Pollution, Water Research, Journal of Hydrology, Journal of Cleaner, Production and others, Environment International, Water Policy, Water International, Earth System Governance	Diffusion of PROMISCES' scientific results. Acceptance of PROMISCES' results as part of the State of the Art	≥ 10 publications in peer reviewed journals with high impact factors
<b>Technical magazines (Industry,</b>	Bodem, Retema, Futurenviro, KA	Diffusion of PROMISCES scientific results.	≥ 8 publications in technical magazines

<b>researchers, general public)</b>	(German magazine of DWA), Danube watch, Servizi a rete, Ingegneria dell'Ambiente, Géologues, Techniques Sciences et Méthodes, Pour la science, Industri Ambiente, Industria Química	Update design guidelines for advanced WW treatment. Acceptance of PROMISCES' results as part of the State of the Art	
<b>Reference documents (Researchers, industry, public organisations &amp; associations)</b>	Enhancement of existing guidelines (e.g. UBA guidelines) Contributions to national reference documents	Highlight the potential to included PFAS removal in utility planning Raise Awareness on the usage of new methods for assessment	≥ 2 reference documents
<b>PROMISCES partners &amp; newsletter (Researchers, public organisations and associations, industry, utilities)</b>	Dissemination on partners' websites and newsletters. Webpage dedicated to PROMISCES (in French and English) on the institutional website of partners with pertinent links (PROMISCES website, more info, etc.)	Present PROMISCES challenges and innovations, raise awareness around the project, extend the reach of the project	Project descriptions on each partner's website ≥ 3 project newsletters ≥ 5 contribution to partners newsletters ≥ 5 contribution on external newsletters
<b>Online webinars (Researchers, universities, industry, public organisations &amp; associations)</b>	MOOC on the partners' website & PROMISCES webpage Webinars PROMISCES related guestlectures at universities Young Researcher's Forum	Outreach to young professionals and future end-users to present and promote PROMISCES innovative technologies, analytical methods, monitoring concepts and advances, raise awareness of iPM(T) substances and their fate	≥ 150 participants in project-linked webinars by academic/research partner At least 1 MOOC organised by DELFLAND ≥ 5 lectures linked to PROMISCES



## 2 Plan for Exploitation and Dissemination of Results

### 2.1 Introduction and key concepts

The Plan for Exploitation and Dissemination of Results (PEDR) complements the Strategic Communication Plan (SCP) and will be updated every six months. The PEDR outlines the dissemination and exploitation objectives and strategies to ensure the greatest possible impact from the project results.

The three key concepts of this deliverable are communication, dissemination, and exploitation. While the meaning of communication is self-explanatory and its role for the project is elaborated on in the SCP, it is worth clarifying the concepts of dissemination and exploitation in terms of what they refer to and how they can be differentiated. Both terms refer to a project's results, and are defined by the Horizon 2020 programme as:

“Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights.”

(Source: EC Research & Innovation Participant Portal Glossary/Reference Terms)

In contrast to the communication strategy, the goal of which is to reach out to and inform all identified stakeholders about the activities, benefits and impact of the project, the dissemination and exploitation strategies refer solely to the disclosure and transfer (dissemination) and uptake (exploitation) of the project results. While the dissemination channels are part of the communication channels and are therefore only briefly mentioned here, the focus of the PEDR lies on the exploitation strategy. More concretely, the EU defines exploitation as:

“.. to make use of the results produced in an EU project in further activities (other than those covered by the project, e.g., in other research activities; in developing, creating and marketing a product, process or service; in standardisation activities)”

(Source: EC Research & Innovation Participant Portal Glossary/Reference Terms)

This requires specific exploitation routes, which form an important part of the exploitation strategy (see 1.5 Communication and networking activities).

### 2.2 Dissemination and Exploitation objectives

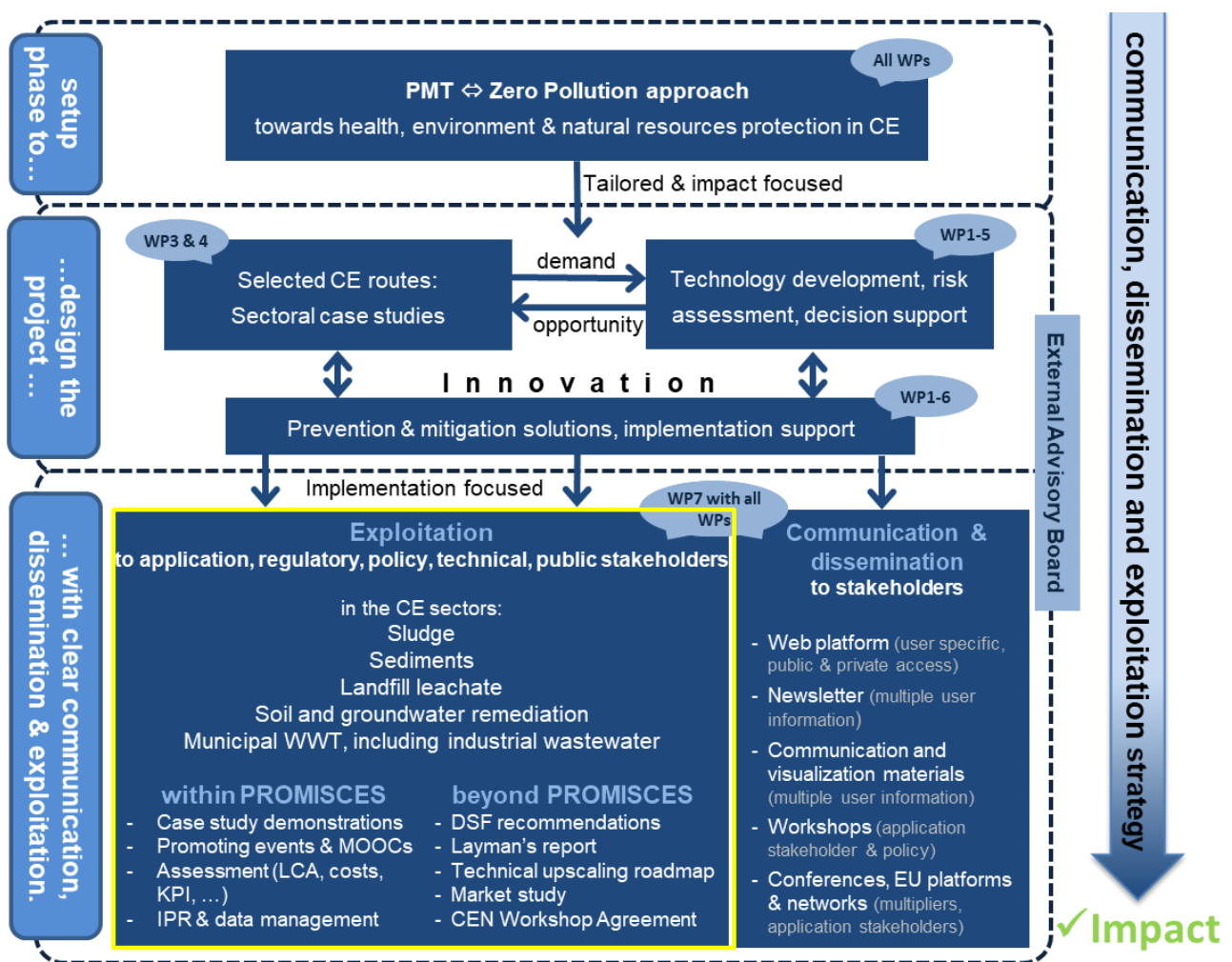
As mentioned in the SCP, the overall objectives of all the communication, dissemination and exploitation activities are to achieve the greatest possible societal impact from the PROMISCES project and to expand the uptake of the research results, by increasing the outreach and visibility of the project.

The close relationship between the project’s communication and dissemination activities and their objectives can be seen in Figure 5, which specifically addresses the objectives of the three components. The communication and dissemination activities both aim to transfer knowledge and results. The defined objectives can be found in the SCP (see 1.2 Communication objectives).

Meanwhile, the exploitation objectives are more specific, aiming to:

- Foster the transfer of research results within the circular economy routes (sludge, sediments, landfill leachate, soil and groundwater remediation, municipal and industrial wastewater treatment, drinking water)
- Support the uptake of results within PROMISCES
- Ensure the uptake of results beyond PROMISCES

Figure 5: Overall strategy to maximise the impact (Exploitation)



The following two chapters outline the specific dissemination and exploitation strategies. Since the dissemination strategy overlaps with the communication strategy (see SCP), the focus of this report lies on the exploitation strategy.

## 2.3 Dissemination strategy

### 2.3.1 Target audience

A crucial part of the dissemination strategy is to identify the right audience and determine the appropriate key messages. Both the language and the content of the message have to be considered. The SCP describes the stakeholder identification process and presents five different target audiences (see 1.3 Identification and analysis of target and stakeholder groups):

- 1) Technical and strategic managers and practitioners
- 2) Policy makers and regulators
- 3) General public
- 4) Scientific community
- 5) Associations and networks

The dissemination of results will be targeted at these same groups with a special focus on practitioners, policy makers, the scientific community and networks. These groups will be reached through different communication and dissemination channels.

### 2.3.2 Dissemination channels

Most of the same channels used for PROMISCES' communication activities will also be used for the dissemination activities. Important channels for distributing results include:

- Conferences, workshops and exhibitions
- Scientific journals
- Technical magazines
- Reference documents
- PROMISCES newsletter
- Online seminars

## 2.4 Exploitation strategy

PROMISCES' exploitation strategy includes four pillars which will be used to achieve the desired objectives:

- 1) Exploitation of PROMISCES' innovative technologies and up-scaling roadmaps
- 2) Individual exploitation strategies for each partner
- 3) Transfer and application of the project results via the CEN Workshop Agreement
- 4) Close cooperation with associated partners

These pillars will be elaborated in the following sections.

### 2.4.1 Exploitation of innovative technologies and up-scaling roadmaps

PROMISCES aims to provide smart solutions for dealing with PM(T) substances in the environment, including remediation technologies and other tools for reducing PFAS contamination. A market screening during the proposal phase identified three main markets for technologies and consulting services developed by PROMISCES: 1) water, 2) soil and groundwater remediation, and 3) recycled



fertiliser. The exploitation strategy will help ease the entry of PROMISCES’ developments into these markets.

Specifically, the rapid market deployment of PROMISCES’ outputs will be facilitated via work on two levels:

- 1) Implementation by project partners
- 2) Replication outside the consortium

Some project partners can directly implement PROMISCES’ results (internal end-users), although the final goal is to provide technologies and solutions for the entire EU market. The External Advisory Board will support the exploitation of results, as will the more than 34 associated partners (see 2.4.4 Close cooperation with associated partners).

#### 2.4.1.1 Implementation by project partners

The project consortium includes all relevant actors along the innovation chain for innovative zero pollution solutions, which facilitates the fast transfer from R&D institutions to end-users. Figure 6 shows the role of each partner in the innovation chain, from technology design and development over validation/verification and integration, to solutions, and to exploitation support. As seen in the figure, several PROMISCES partners are located in the end-user phase, providing opportunities to implement the project results directly within their organisations.

Several case studies have already identified clear implementation demands for the innovative technologies they will develop. For example, some case studies include the utility responsible for follow-up investments as a partner (BWB, CBT, DELFLAND). Since the utilities are involved from the beginning, they will be able to include the project’s results into their investment strategies before the project is completed.

Figure 6: PROMISCES innovation chain actors from development to replication



#### 2.4.1.2 Replication outside the consortium

The involvement of PROMISCES' commercial partners, who act as technology suppliers on the market (BDS, ESOLVE, ACEA, COLAS, SIMAM, MLS, ISB Water and some associated partners), will strengthen the commercial exploitation of the developed technologies. Tailored exploitation plans will be generated to replicate the results outside of the consortium. Specifically, the exploitation plans will highlight the following:

- (i) Project targets
- (ii) Developed technologies/products
- (iii) Market potential
- (iv) Expected key areas of application
- (v) Customers

These plans will feed into the final up-scaling roadmaps for the commercialisation of each technology (D6.8). After the case studies successfully demonstrate and validate the results of each treatment technology, including benchmarking the costs, the roadmaps will provide the basis for the up-scaling of the technologies. The roadmaps will include pre-feasibility studies and outline plans for implementation in future commercial projects.

In addition, a market analysis (D6.9) will be conducted to focus specifically on the attractiveness, feasibility, and competitiveness of the technologies. The market study will determine the main parameters and criteria and will contribute to a macro-analysis of the whole market. The most valuable and detrimental aspects for the replicability of the technologies in other EU locations will be identified.

#### 2.4.2 Individual exploitation strategy for each partner

Through their research activities, each partner plans to increase their knowledge of iPM(T)s and their properties, fate and removal, and this information then needs to be transferred and capitalised upon. Therefore, each PROMISCES partner has developed their own exploitation strategy, with some outlining quantifiable targets to be reached by 2030. Table 9 summarises these strategies.

Table 9: Individual exploitation strategy for each partner

<b>BRGM</b>	Improve knowledge of i) analytical methods for PFAS in water and solid matrices and ii) monitoring strategies. Develop expertise in PFAS reactive transport models. Improve expertise in prioritisation of compounds of emerging concern in a circular economy context. Increase consulting services for environmental risk management for stakeholders (AQUAREF, OFB, ADEME, CEN), policy makers, French ministries and the EC. Promote new findings in national and European regulations to accompany strategies such as the Zero Pollution ambition. Establish partnerships (ex. problem-owners) to promote the use of multiple-scale experimental facilities for exploring the treatability of soils/water contaminated by PFAS and other iPM(T)s. Increase the diffusion of findings and capacity-building by including know-how relative to the treatment of water/soils contaminated by PFAS for various curricula.
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<b>KWB</b>	Increase consulting activities for drinking and wastewater utilities in terms of technology evaluation, probabilistic risk assessment, feasibility studies on PFAS and industrial chemical removal (up to ten related consulting contracts), and follow-up research projects (up to five projects on the national and European levels).
<b>INERIS</b>	Improve knowledge on the development and evaluation of tools and reference methods about understanding, predicting, and mitigating the risks caused by human activities likely to affect the safety of people, goods, and ecosystems. Increased international consultancy services based on regulatory expertise, certification and training. The institute will support the preparation and application of technical regulations (up to 5 advisory contributions to regulations).
<b>IPGP</b>	Improve knowledge regarding PFAS transfer from sewage sludge to recovered organic/inorganic fertilisers and support policy makers regarding sewage sludge and fertiliser directives. Improve experience in the application, implementation and up-scaling of hydrodynamic cavitation technology for the treatment of PFAS contaminated water in partnership with ISB Water.
<b>QSAR Lab</b>	Increase consulting activities for governmental bodies, chemical, industrial, and R&D institutions in terms of risk assessment and studies on chemicals, including PFAS, based on the developed <i>in situ</i> approaches and tools intended to identify potential risk caused by persistent, mobile and toxic chemicals. Follow-up research projects on national and European levels.
<b>UBA</b>	Improve knowledge of PM(T)s, analytical methods, toxicological assessment tools and integration in upcoming regulatory/management frameworks on multiple levels, including the German national drinking water commission, water associations (e.g., EUREAU), the European Network of Drinking Water Regulators, UBA working group 'Zero Pollution Ambition (policy advice for EU-COM strategy), the WHO Chemical Working Group, and WHO-Collaboration Center (up to five advisory contributions to policies).
<b>BWB</b>	Design, plan and tender technologies for advanced and optimised drinking and wastewater treatment for PM(T) removal (up to three related installations in DW and WWTP); integration of results in the overall urban water cycle management and investment strategy (>400 Mio €/y investments); include PROMISCES' results in the supervision of indirect dischargers.
<b>BDS</b>	The results will be used in risk assessments of both prioritised WFD compounds and their transformation products as well as applied in innovative water and soil removal technologies. BDS will integrate novel AOP, novel effect-based trigger values and operational procedures in the CALUX portfolio and the toxicology related consulting activities. BDS aims to offer service analysis directly to customers or enter into licensing

	agreements for the CALUX bioassays with partners and/or customers (up to five additional case studies and/or commercial analysis contracts).
<b>EURECAT</b>	Exploitation will be used and conducted by providing scientific consultancy services to the industrial and the urban water sector on remediation technologies for polluted GW, water treatment technologies for water reuse, and human health and environmental risk assessment. Follow-up activities will focus especially on up-scaling the developed technologies to TRL 7-8.
<b>COLAS</b>	Integration of novel treatment techniques in their own package of remediation solution, first by piloting and later by implementing a full-scale treatment (up to five commercial projects and/or remediation installations).
<b>DECHEMA</b>	Implementing results in at least two DECHEMA expert groups with industry, research, and authority representatives. Further exploitation support via at least three applied conference series (national-international) with >100 participants each. Enhanced consultancy services for the process industries water sector (up to five related consultancy services).
<b>RIVM</b>	Increased knowledge of multimedia fate and transport modelling of PM(T)s for improved risk assessment resulting in publicly available models; increased knowledge and operationalisation of novel in silico similarity tools and AI/ML approaches for prediction of PM(T) properties for single and groups of iPM(T) chemicals for improved risk assessment; increased experience with the multi-actor approaches and its use in defining solution strategies from a system perspective to be applied on both chemical and (non)chemical dossiers.
<b>CSIC</b>	Improved lab competences for analysis of PFAS, and suspect and non-target screening of organic pollutants. Improved knowledge on plant uptake of pollutants. Contributing to updating regulatory policies. Producing professionals highly qualified in the water technologies of interest for the industry and/or in education.
<b>DELTA RES</b>	Improved experience with analytical and passive samplers for PM(T) (focus on PFAS) monitoring. Improved experience on fate and transport modelling of iPM(T)s. Increased consulting activities for adapting open source fate and transport modelling software for clients, e.g. industry, government, research institutes and SME (up to five follow-up open source and consulting contracts).
<b>TU WIEN</b>	Improved predicting capacity of fate and transport modelling for PM(T) (focus on PFAS). Integration of outcomes in upcoming national and basin wide River Basin Management Plans and Water Safety Plans of water supply utilities using bank filtration along the Danube River (up to five related management and safety plans). The exploitation will be facilitated via the International Commission for Protection of River Danube (ICPDR) and the network of the International Association of Water Service

	Companies in the Danube River Catchment Area (IWAD). Follow up-research (up to five related research projects on national and European level).
<b>BAFG</b>	Increased consulting and monitoring activities related to mission from German ministries, follow-up research (up to five related research projects on national and European level).
<b>UNIVPM</b>	Increased consulting activities on landfill leachate treatment and nutrient/sediments recycling projects for WWTPs, industry and municipalities (up to five related commercial consulting contracts), follow-up research in the field of circular economy (up to five related research projects on national and European level). The results will be managed by the technology transfer office of UNIVPM to support the creation of start-ups.
<b>CBT</b>	Integration of improved PFAS and iPM(T) knowledge in the water management strategies in the Besos and Tordera rivers basin; including water reuse technologies for industrially affected wastewater in the basin-wide water reuse strategy.
<b>DELFLAND</b>	Integration of PFAS and iPM(T) knowledge gained in PROMISCES in i) wastewater and sewage sludge treatment/management strategies in the selection of future advanced treatment technologies able to limit PFAS transfer to recovered CE materials and reclaimed water, and ii) the dredged sediments pre-treatment/valorisation technologies for sediment material recovery and safe reuse.
<b>ESOLVE</b>	Upscaling and commercialisation of groundwater remediation technology (T2). Through the project, ESOLVE works with administrations and other key stakeholders related to emerging contaminants. Additional turnover up to 8% expected within three years (up to five commercial contracts).
<b>ACEA</b>	Commercialisation of analytical methods and procedures for routine checks of project matrices. The experience from the project will strengthen ACEA's scientific visibility and follow-up research (up to three related research projects).
<b>UNI SOFIA</b>	Follow-up research within the Bulgarian Clean Circle innovation cluster and potential patenting (up to five related research projects on national and European level).
<b>SIMAM</b>	Upscaling and commercialisation landfill leachate treatment. Improved knowledge to increase visibility and services related to the landfill leachate treatment (up to three research or commercial contracts).
<b>MLS</b>	Upscaling and commercialisation of groundwater remediation treatment follow-up research on fungal enzyme-based bio-treatment on additional compounds and/or novel applications, such as industrial wastewater.
<b>ISB WATER</b>	Consolidation of knowledge, know-how and characterisation of hydrodynamic cavitation simultaneously increased by micro-bubbling, galvano-Fenton and UVC radiation. Upscaling and commercialisation of

	hydrodynamic cavitation technology for PFAS contaminated water treatment. New products and treatment solutions to be possibly patented.
<b>BUWW</b>	Integration of catchment scale modelling and models of bank filtration in Water Safety Plans for Budapest’s water supply. Understanding the fate of PFAS in the water cycle and benchmarking the applied technologies with innovative, new technologies.
<b>IEIC</b>	Increase knowledge and consulting activities for PFAS, LCA and market study activities (up to five related consultancy services).

### 2.4.3 Transfer and application of results via the CEN Workshop Agreement

To ensure the exploitation, transfer and replication of PROMISCES’ results and to maximise the impact beyond the project’s lifetime, a CEN Workshop Agreement (CWA) on “Implementing Zero Pollution Solutions: Realising Circular Economy routes within a toxic free environment” will be created (D6.11). A CWA is an agreement developed and approved via a European Committee for Standardisation (CEN) Workshop (WS). It offers a great platform to discuss project results with different stakeholders (including the sister projects), synthesize results and formulate key messages for future standardisation. This supports the overall exploitation of PROMISCES’ results and increases the impact beyond the project duration.

The CEN WS is open for the direct participation of all parties interested in the development of the agreement. Hence, both relevant stakeholders (e.g., decision makers, academics, municipal and industrial actors) and civil society within and beyond Europe are encouraged to contribute to the CWA. Table 10 outlines how the individual work packages and different stakeholder groups could contribute to the CWA. PROMISCES plans to work together with other projects of the EU GD 8.1 and 8.2 framework. Furthermore, CEN launched the “Joint Group on Circular Economy (JG-CE)” to support standardisation activities related to the circular economy. During the CWA procedure, PROMISCES will work closely with this joint group.

The CWA could include standardisation guidance on:

- Zero-pollution technology solutions (WP3/4)
- Governance tool and policy recommendations (WP5)
- Management recommendations in the water sector (WP2/3/4/5)
- Human health risk assessment (WP2)
- New analytical methods and monitoring strategies (WP1/2)
- Advanced toxicity assessment tool and concept (WP1/2/3/4)

Table 10: Overview on PROMISCES input, stakeholders and exploitation as part of the CWA process

<b>Project inputs in CEN workshop (related WP)</b>	<b>Relevant stakeholders</b>	<b>Exploitation potential incl. future standardisation</b>
Zero-pollution technology solutions (WP3/4)	Natural resources managers and services providers (e.g. water utilities), public and private problem owners, consultants and contractors, industries, NGOs	Technology implementation and further development, replication, see pillar (2)
Governance tool/ recommendations (DSF) (WP5)	Authorities and regulators, natural resources managers, green chemistry sectors	Improved implementation of EU policies, enhanced compliance, outreach to the EU region
Management recommendations in the water sector (WP3/4)	Water utilities, industries, local and national environmental authorities, waste and WW associations, consultants	Local/regional implementation
Human health risk assessment (WP2)	Stakeholders along the specific CE route value chain, environmental authorities	Value chain specific safety plans for water, water reuse, resources recovery, combination with antibiotic resistance and microbial risks
New analytical methods and monitoring strategies (WP1/2)	Private and public laboratories, utilities, local authorities, industry (e.g. fertiliser), national water, waste, WW, soil, sediment associations, technology providers	Local/regional implementation, application in national and EU reporting, facilitation of CE route implementation
Advanced toxicity assessment tool and concept (WP1/3/4)	Human and environmental health authorities (local, national, international)	Implementation for monitoring of derived quality targets for EU CE routes and related benchmarking

The resulting CWA will represent the consensus of the involved stakeholders, as the document will be prepared collaboratively. The integrative approach will support broad acceptance in civil society and expert communities. Once completed, the CWA will be made accessible (open access) via the CEN and the EU standardisation bodies and will be valid for three years.

Although the CWA does not have the status of a European Standard, future standardisation needs will be included in the PROMISCES CWA. Future standardisation of zero pollution CE strategies is crucial for ensuring transferability, as well as application, interoperability, and replication both within Europe and internationally.

#### 2.4.4 Close cooperation with associated partners

Not only will PROMISCES improve the innovation capabilities of its partners and introduce them to new or larger markets, but numerous other entities (listed below) interested in high performance and competitive innovations also support and will benefit from PROMISCES. These associated partners (APs) have already stated their interest either via a letter of support (LoS) or by accepting an External Advisory Board position. Table 11 outlines how PROMISCES will capitalise on its extensive AP network to broaden the exploitation of its innovations.

Table 11: Overview of associated partners and exploitation ambitions

Category	Associated partners (AP)	Exploitation destination & timeline
Technical and industrial innovations	VEOLIA, MEWT, WAPULEC LTD, GRAFORCE, GCI, VIVA SERVIZI, WITTEVEEN+BOS, MAWV, DANONE	During: Consultation on upscaling potential and market entry After: Potential market entry of technologies, application in industry
Water utilities and agencies	CATALAN WATER AGENCY, VIENNA, WATER, ASPMA, PORT OF DUNKIRK, Alto trevigiano servizi spa	During: Provisional installation/experiments with PROMISCES' innovations, testing F&T models, referral of other water utilities After: Subsequent research collaboration or implementation of PROMISCES' innovations
Research and development	BGS, CRCCARE, TU DELFT	During: Technical advice on technology development, connection with academia After: Subsequent research collaboration
Public authorities	L'Agence de la transition écologique (ADEME) (FR), L'Office français de la biodiversité (OFB) (FR), Senatsverwaltung für Umwelt, Verkehr und Klimaschutz - Berlin (Sen UVK) (DE)	During: Advice on uptake of regulatory tools, lobbying for new (national) policies After: Uptake of regulatory and decision-support tools, new national policies, referral of other public authorities for subsequent collaboration
NGOs	CAN, ICPRD, BUND	During: Deeper understanding of CE considerations After: Subsequent collaboration
Sectors and networks	NICOLE Network, NORMAN, WATER EUROPE, WATER REUSE EUROPE, SEDNET, IAWD, VEWIN, ESPP, EUROGEOSURVEYS, DBU, COMMON FORUM	During: Advise on technical, market, lobbying, regulatory needs and considerations After: Subsequent research collaboration



The APs will assist via the following activities during the project lifetime:

- Consult on up-scaling potential and market entry;
- Provisional installation/experiments with innovations, model testing and referral of other water utilities;
- Advise on technology development, uptake of regulatory tools, market, regulatory needs and considerations;
- Foster connection with academia;
- Advise on uptake of regulatory tools;
- Lobby for (new) national policies; and
- Provide deeper understanding of circular economy considerations

After the project is completed, the continued support of the exploitation activities by the APs is foreseen, such as:

- Supporting the potential market entry of technologies;
- Applying the solutions within industry;
- Conducting subsequent research collaborations;
- Supporting the uptake of regulatory and decision-support tools and new national policies; and
- Recommending other public authorities for subsequent collaborations.