Subsurface Water Solutions

D 4.4 Communication and dissemination plan

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2. Introduction

The objective of SUBSOL is to establish a market breakthrough of subsurface water solutions as robust, effective, sustainable, and cost-efficient answers to the freshwater challenges in coastal areas worldwide. We will achieve this by developing a practical approach which will accelerate acceptance of subsurface water solutions and will broaden the market reach and uptake. This approach consists of continuation and replication of successful full scale pilots, development of decision support tools and business cases, assessment of market readiness and of policy and legal framework conditions, and capacity building activities. The commercialization of our eco-innovative water solution will be completed by the SUBSOL consortium in close cooperation with policy makers and end-users (water utilities, agriculture, industries) inside and outside Europe.

Key for the success of SUBSOL is that generated knowledge is:

(1) efficiently exchanged among the consortium members to leverage the capability of each member, and …
(2) … successfully transferred to external stakeholders, to bridge the gap between science and practice in order to turn generated knowledge into innovative market opportunities and form a basis for follow-up research.

This document summarises the plans and strategies within SUBSOL to fulfil these objectives. All activities are classified according to the definition of dissemination, exploitation and communication as specified by the European Commission[1]:

- **"Dissemination** is the **public disclosure** of the results of the project in any medium. […] It **makes research results known** to various stakeholder groups (like research peers, industry and other commercial actors, professional organisations, policymakers) in a targeted way, to enable them to use the results in their own work."
- **"Communication** means taking **strategic and targeted measures for promoting the action itself** and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange. The aim is to reach out to society as a whole and in particular to some specific audiences while demonstrating how EU funding contributes to tackling societal challenges."

2.1. Data management plan

Data from the SUBSOL project will be documented in a data management plan (D5.1). The data management plan will elaborate in detail how data can be used beyond the time frame of SUBSOL and thereby, allow long-term exploitation of project results. In order to ease reuse of data as well as tools, both will be available on the SWS online platform (D3.3). Continued use of developed tools will be ensured through their compliance with open standards.

[1] https://ec.europa.eu/research/participants/portal/desktop/en/support/faqs/faq-933.html 19.12.2016

3. Internal Communication

Effective internal communication among consortium members is of high importance to jointly specify and achieve common objectives as well as to leverage from each other's experiences. Most communication will be done via monthly telephone conferences and email exchange.

In addition, personal bilateral and multilateral meetings between selected consortium members as well as general meetings for all consortium members are key means to facilitate consortium internal exchange and communication. General meetings are organised every six to twelve months. Moreover, work package internal exchange among consortium members is organised along monthly telephone conferences.

The SUBSOL website (including its internal members' area) allows quick and efficient exchange of generated SUBSOL knowledge among consortium members.

4. External Communication

The communication activities target a wide range of audiences beyond the SUBSOL consortium and direct stakeholders (although direct stakeholders are also targeted by the planned communication activities). All activities are a measure to promote SUBSOL as a project and aim at maximising the visibility of SUBSOL in order to increase the amount of prospective SWS technology users as well as to enlarge the professional SUBSOL network.

Moreover, the communication activities facilitate knowledge sharing and build up trust between the SUBSOL consortium and prospective end users. Some of the planned activities will address the general public and focus on the societal benefit and environmental relief which SWS technologies are intended to bring about.

Table 1: Summary of communication activities that are planned over the course of the SUBSOL project.

Activity	Objective	Target audience	Pertinent message	Medium
Website	Provision of a central platform for the SUBSOL project	Laypersons but also experts who would like to access public SUBSOL materials/project outcomes	Functionality, benefits and successful implementation of SUBSOL technologies but also project progress	Website
Project Brochure	Describe objectives/ activities	Stakeholders, general public	Introduction to the project objectives and activities	Brochure in multiple languages
Additional Information materials	Increasing the visibility of SUBSOL	Participants of events/workshops, networking	Material dependent but mostly a brief introduction to SUBSOL	Briefings, handouts, etc.
Promotional film	Increasing the visibility of SUBSOL	Laypersons and experts	SWS technologies offer novel and innovative solutions for pressing societal/environmental issues	Audio-visual
Newsletter	Sharing SUBSOL relevant information	Individuals who have shown interest in SUBSOL by proactively signing up to the newsletter	Updates on conducted activities and project outcomes	Email
Conferences and networking events	Increase the visibility of SUBSOL; knowledge sharing and networking	Expert audiences; Stakeholders who are involved in research, technology implementation or public policy making, etc.	SWS technologies function effectively and are fit for replication	Presentations, face-to-face meetings, focus group discussions, expert workshops

4.1. Website

The SUBSOL website is a valuable tool to increase the general visibility of SUBSOL. For many stakeholders, the SUBSOL website will either be their first glimpse of SUBSOL in general or will be their first point of contact to clarify questions. Therefore, the SUBSOL website aims at holding information for anyone who is interested in SUBSOL. Laypersons are able to access introductory information whereas experts may utilise scientific publications or data reference and replication sites. The website includes a regularly updates news section which features recent project activities and thus stays attractive for repetitive visits.

4.2. Project Brochure

The project brochure provides an introduction to the project objectives and its activities and briefly explains the technologies in the reference sites. It is produced in English, Chinese and Spanish to increase the accessibility for stakeholders in the various target regions.

4.3. Information materials

Information materials are tailored according to audience specific requirements and focus on increasing the visibility of SUBSOL. In general, the information materials rather have an introductory purpose and will refer to the SUBSOL website for additional information. Presentations are produced in English and Spanish.

4.4. Promotional film

The SUBSOL promotional film is meant to stimulate interest during conferences, bilateral meetings and other suitable occasions. It will be permanently accessible on the SUBSOL website and provides a brief introduction to SUBSOL technologies. The conveyed message is that SUBSOL technologies pose novel and innovative solutions to urgent societal/environmental freshwater scarcity issues and have successfully applied in different contexts.

SWS technology users are depicted as first movers and thus, shown in a positive light. This is meant to stimulate other prospective end-users to consider implementation of SWS technologies for their own purpose.

The promotional film is accessible via: http://www.subsol.org/home/article/subsol-project-movie

4.5. Newsletter

Throughout the 36-months SUBSOL project period, newsletters will be produced bi-yearly, once stakeholders are identified in the target markets. The newsletters will contain background information about progress within the SUBSOL project (e.g. results from the reference sites, updates from the replication sites, outcomes of annual general meetings) as well as additional background information (e.g. interviews with SUBSOL consortium members).

Target group are individuals who have already shown interest in SUBSOL as they signed up to the newsletter proactively. Only one newsletter exists which therefore, addresses a rather broad audience of interested parties.

4.6. Conferences and networking events

Members of the SUBSOL consortium will attend various international conferences and networking events. Their attendance will increase the visibility of SUBSOL, allow knowledge sharing and building bridges with expert audiences such as researchers,

prospective end-users as well as policy makers. These face-to-face meetings will allow sharing success stories of SUBSOL technologies at the reference sites and promoting the opportunity of SUBSOL technology application in various geographic and socioeconomic contexts. SUBSOL consortium members participate in various conferences which is then reported in the periodic and final report. The following conferences have been identified to be of interest for the Subsol consortium.

Table 2: List of conferences with potential links to the SUBSOL project.

Date	Event	Place	Website
Oct 30 - Nov 2, 2016	AWWA Water Infrastructure Conference & Expo	Phoenix, AZ, USA	http://www.awwa.org/conferences-education/conferences.aspx
02 - 03 Nov 2016	IWA New Developments in IT & Water Conference	Telford/UK	http://www.wwem.uk.com/it2016/
03. Nov 16	Groundwater and climate resilience : lecture	Oxford	http://www.water.ox.ac.uk/w-mike-edmunds-memorial-lecture/
6 -10 Nov 2016	International Water Conference	San Antonio, TX, USA	https://eswp.com/water/overview/
7 - 9 Nov 2016	International CCWI Conference	Amsterdam, NL	http://www.iwcconferences.com/14th-international-ccwi-conference/
9 -11 Nov 2016	VietWater	Saigon, Vietnam	http://www.vietwater.com/
15 Nov - 17 Nov 2016	IWATER – International Integrated Water Cycle Show	Barcelona/ Spain	http://www.iwaterbarcelona.com/en/
17. Nov	Southern California Salinity Management Summit	Los Angeles, USA	http://www.socalsalinity.org/
17-18 Nov 2016	10th World Aqua Congress: Smart water solutions for India	New Delhi, India	http://www.worldaquacongress.org/
18 - 19 Nov 2016	International Conference on Technology and Environmental Science	HCMC, Vietnam	http://iceti2016.tdt.edu.vn/
17 - 20 Nov 2016	2nd Science Summit on Urban Water-	Beijing/China	http://www.iwa-summit2016.org/
21-25 Nov 2016	Ecosystem Services for SDG in Africa	Nairobi, Kenya	http://www.espconference.org/africa2016
28-30 Nov 2016	International Forum on Water 2016	Sanya, China	http://conf.1000thinktank.com/ifw/
6-8 Dec 2016	Groundwater Week	Las Vegas	http://www.groundwaterweek.com/
17 - 18 Feb 2017	ECOLOGY '17 / International Conference on Ecology, Ecosystems and Climate Change	Istanbul, Turkey	http://www.dakamconferences.org/ecology
16 - 17 Mar 2017	1st IWA Conference on Algal Technologies for Wastewater Treatment and Resource Recovery	Delft, NL	

19 -22 Mar 2017	AWWA Sustainable Water Management Conference	New Orleans, USA	http://www.awwa.org/conferences-education/conferences/sustainable-water-management.aspx
22 - 24 Mar 2017	Water Philippines	Manila, Philippines	http://www.waterphilippinesexpo.com/
22 - 24 Mar 2017	IWA Regional Symposium on Water, Wastewater and Environment: The Past, Present, and Future of the World's Water Resource	Izmir, Turkey	http://www.iwa-ppfw2017.org/
28 -31 Mar 2017	Wasser Berlin International	Berlin	http://www.wasser-berlin.de/en/
6-7 April 2017	1st WSSP conf: Water and Sanitation Safety Planning	Netherlands	http://www.iwcconferences.com/wssp-and-extreme-weather/
24 - 26 April 2017	Coastal Cities 2017	Cadiz, Spain	http://www.wessex.ac.uk/conferences/2017/coastal-cities-2017
2-5 May 2017	ALTER-net 2017 : Nature and society: synergies, conflicts, trade-offs	Gent, Belgium	http://www.alter-net.info/outputs/conf-2017
10-12 May 2017	4th Water India Expo	New Delhi, India	waterindia.com
22 - 24 May 2017	IWA Symposium on Lake and Reservoir Management	Shanghai, China	http://www.2017iwa-lrm.com/
24-25 May 2017	Global Water Summit 2017	Madrid, Spain	
25 - 27 May 2017	9th IWA Eastern European Young Water Professionals Conference	Budapest, HU	http://iwa-ywp.eu/
29 May-3 Jun 2017	XVI World water congress	Cancun, Mexico	http://worldwatercongress.com/
29 May-1 Jun 2017	LuWQ2017 – International conference on land use and water quality	The Hague, Netherlands	http://www.luwq2017.nl/
29 - 02 Jun 2017	LET 2017- The 14th IWA Leading Edge Conference on Water and Wastewater Technologies	Florianopolis/Brazil	http://www.let2017.org/
5 - 7 June 2017	Water and Society 2017	Seville, Spain	http://www.wessex.ac.uk/conferences/2017/water-and-society-2017
11-14 June 2017	AWWA ACE17	Philadelphia, USA	http://www.awwa.org/conferences-education/conferences/annual-conference.aspx
20 - 22 Jun 2017	Leading Edge Conference for Sustainable Asset Management – LESAM 2017	Trondheim, Norway	http://www.ntnu.edu/lesam2017/
26 - 29 June 2017	The 3rd International Conference on Water Resource and Environment	Qingdao, China	http://www.wreconf.org/

	(WRE 2017)		
3 - 5 July 2017	International Conference on Water, Informatics, Sustainability and Environment	Ottawa, Canada	https://www.sciencetarget.com/iwise2017/
5-9 July 2017	10th world congress of EWRA on Water Resources and Environment	Athens, Greece	http://www.ewra.net/
10-13 July 2017	International Forum on Water	Athens, Greece	http://www.atiner.gr/water
11 - 13 July 2017	Australasian Groundwater Conference 2017	Sydney, Australia	http://www.groundwater.com.au/pages/australian-groundwater-conference-2015
18 - 20 July 2017	Water Resources Management 2017: surface and subsurface water mgmt.	Prague, Czech Rep.	http://www.wessex.ac.uk/conferences/2017/water-resources-management-2017
25 - 29 Jul 2017	11th IWA International Conference on Water Reclamation and Reuse	Long Beach, California	http://iwareuse2017.org/
13 - 18 August 2017	37th IAHR World Congress 2017 : Hydro-environmental sciences and practical applications	Kuala Lumpur, Malaysia	https://www.iahr.org/worldcongress2017
30 Sep - 4 Oct 2017	WEFTEC2017 90th Technical Exhibition and Conference	Chicago, IL USA	http://weftec.org/
30 Oct - 3 Nov 2017	4th International Water Week	Amsterdam, NL	http://internationalwaterweek.com/
16-17 Feb 2018	ICSWRM 2018	London	https://www.waset.org/conference/2018/02/london/ICSWRM
10-12 April 2018	AsiaWater 2018	Kuala Lumpur, 0Malaysia	http://www.asiawater.org/
June 2018	25th Salt Water Intrusion meeting	Gdansk, Poland	
(?) 2018	8th world water forum	Brasilia, Brazil	http://www.worldwaterforum8.org/main/en/
29 Sep - 3 Oct 2018	WEFTEC2018 Technical Exhibition and Conference	New Orleans, USA	http://weftec.org/

5. Dissemination

Dissemination of SUBSOL related knowledge among and beyond the consortium is crucial in order to capacitate external stakeholders to support SWS technology replication and initiation of SWS projects in the target areas and beyond. Hence, dissemination activities focus on conveyance of knowledge to various stakeholder groups in order to allow utilisation of SUBSOL knowledge for their own work. Benefits for potential end users and a lasting impact can only be achieved if dissemination activities are implemented successfully.

Table 3: Summary of dissemination activities that are planned in the course of the SUBSOL project.

Output/Activity	Envisioned impact	Covered needs	Potential users
Web-based knowledge environment	Empowering stakeholders to apply knowledge created through SUBSOL	Ubiquitous access to SWS related knowledge (including SUBSOL)	Various, local, national and international stakeholders, including the research community
Online SWS platform	Facilitate exchange among parties that are interested in SWS technologies	Link SUBSOL to existing networks, as well as experts, companies etc.	Various, local, national and international stakeholders, including the research community
Participatory technology assessment (pTA)	Conflict prevention and facilitation of SWS technology implementation	Facilitate decision making	Stakeholders for participation;
Policy briefs	Assist decision makers to overcome legislative barriers	Address current policy shortcomings of specific markets	Policy makers, politicians
Publications	Share lessons learned from the SUBSOL project	Share knowledge on: Development of SWS technologies, specific challenges in SWS, lessons learned from the SUBSOL project	Scientific community
Missions on awareness generation and framework condition assessment	Identify potential project options and its development partners in target markets	Verification of the problem, inform stakeholders, introduce SWS to a broader audience, discuss feasibility SWS implementation and cover existing knowledge gaps	Stakeholders in target markets and consortium members
Missions on solution promotion and capacity development	initiation of future SWS projects in target markets	SWS solution demonstration, capacity building to enhance commitment, hosting of promotional events and trust building activities	Stakeholders in target markets and consortium members

5.1. Web-based knowledge environment (D3.1)

The web-based knowledge environment functions as an online collection of SWS relevant materials (open repository) and will be updated continuously throughout the SUBSOL project. It contains e.g. the outcomes of the first two work packages (SWS reference sites and SWS market replication) such as field monitoring data from the reference sites, geochemical and hydrogeological performance assessments as well as *solution packages* from *participatory technical assessments* (pTAs; cost-benefit analysis, stakeholder engagement approaches).

The target audience is defined by the specific content of the web-based knowledge environment. Therefore, the SUBSOL consortium will aim to provide content for as many stakeholders as possible e.g. knowledge institutes, end users, technology developers as well as policy makers.

Web-based accessibility to the knowledge environment will empower local, national and international stakeholders from within the SUBSOL consortium as well as external ones to utilise produced knowledge. Ideally, the generated knowledge will be applied by stakeholders to either support or initiate a SWS implementation at a specific location.

5.2. Online SWS platform/Virtual Marketplace (D3.3)

The online SWS platform will function as a virtual market place and will be linked to the web-based knowledge environment (D3.1) as well as a SWS toolkit (D3.2). The toolkit contains a range of decision support tools for the implementation of SWS technologies in new locations.

The notion virtual market place is derived from the platforms ability to store crowd sourced information on SWS related subjects.

Building up a *self-help community* will allow engagement of local, national and international stakeholders which are either interested in the implementation of SWS technologies or the improvement of SWS framework conditions.

A linkage to the EIP market place as well as other existing networks will allow benefiting from their popularity and existing user groups.

The platform will strongly increase the accessibility to SWS knowledge and thereby, encourage prospective end users to implement SWS technologies in new markets.

5.3. Participatory technology assessment (pTA)

Participatory technology assessments (pTAs) are a methodology for focus group meetings with stakeholders applied at the replication sites. Subject of discussion are e.g. the suitability of a specific SWS technology for the respective area (supported by e.g. cost benefit analysis and life cycle analysis) as well as possible stakeholder conflicts.

Outcomes of the pTAs are used to develop solution packages and policy briefs and support stakeholder engagement and capacity building in the selected target region.

Hence, the broader aim of pTAs is threefold: (1) To support decision making by examining whether and how SWS solutions would meet the concerns and needs of stakeholders – and, hence, to ensure that the eventual implementation happens in ways that receive support among stakheholders. 2) To stimulate exchange and cooperation among stakeholders. And (3) to derive conclusions on how to communicate with specific stakeholders in the target regions.

The envisioned impact of the pTAs will be to support decision making, ensure an inclusive process and prevent conflict among stakeholders at the replication sites. Furthermore to transfer lessons learned into target markets to support stakeholder approaches, adjust future SWS projects to the local settings and smoothen their initiation and implementation.

5.4. Policy briefs and Solution packages

Because of the novelty of SWS technologies, in some target markets, laws may only insufficiently cover legislative aspects of SWS technology implementation. Legislative shortcomings will be identified and addressed through policy briefs which contain recommendations on how to promote an enabling legislative environment for SWS in a specific area. The policy briefs intend to encourage decision makers in the target areas to facilitate a legislative environment that enables the implementation of SWS technologies and thereby support the market uptake of SWS technologies.

5.4.1. Solutions package(s)

Target group: Decision makers (Politicians, government officials at different levels, head of industry…)

Objective: To provide methodological recommendations to SWS decision makers in the form of a strategical and practical step-by-step participatory Technology Assessment implementation guide on how to carry through the assessment and implementation process.

Based on experiences from the pTA's at the 4 replications sites (Part of Task 3.1) the content of the solutions package includes description of approach and recommendations for:

1) Identification of the challenge in the particular area
2) Identification, analysis, mapping and prioritization of key-stakeholders
3) Identification of appropriate methodological approach for involving stakeholders including:
    - Establishing Initial contact with stakeholders and analyzing the local implementation barriers at hand

- Practical execution of a stakeholder-workshop regarding the issues at hand and solutions proposed and subsequently analyzing the output of the process.

4) Ensuring an implementation of SWS solutions which stakeholders consider successful and satisfying.

Examples from the 4 replication sites are incorporated into the guide and case-descriptions of these will be added.

5.4.2. Policy briefs

Target group: SWS stakeholders, potential clients in target region.

Objectives:
Assessing the critical standards and framework conditions for applying SWS in order to:

- facilitate acceptance of SWS solutions and subsequently broader market reach and uptake
- Gain market shares and potential clients.

The policy briefs depend on the findings from the market scan, analysis and penetration route in Task 4.1 as the regions to target the policy briefs at are determined based on these findings.

Dara will be gathered from following analyses carried out by partners present in the target regions:

- Analysis of local legal and policy frameworks and gaps and barriers in each of the 6 target regions
- Analysis of the technical gaps and barriers
- Analysis of economic gaps and barriers
- Analysis of other gaps and barriers?

Based on the above analyses, 6 policy briefs are prepared, each addressing a specific target region, containing:

- Presentation of the issue at hand and description/presentation of SWS technologies
- Proposed solutions based on SWS-technologies in this context (Sales-pitch), recommended framework conditions.
- Mini SWOT-analysis on local implementation (strengths, weaknesses, opportunities, threats).

5.5. Publications

Peer reviewed publications will increase the accessibility to SUBSOL project knowledge in the scientific community and increase awareness towards SWS technologies.

5.6. "Mission series" for awareness and promotion at target sites

The strategy to further commercialise SWS solutions and penetrate new markets has a 4 step approach in dealing with stakeholders and organising activities in the target markets. In the following this 4 step approach is described in 4 mission series.

Conducting the mission Series I-IV ties in with the overall goal of SUBSOL's WP4, namely: "to increase the uptake of Subsurface Water Solutions (SWS) on European and global markets and to disseminate project results and experiences with the goal of sensitizing potential clients." This mission concept functions as a gradually developing roadmap for some of the interactive approaches in the market penetration strategy in D4.1 which is further elaborated and submitted as part of the Communication and Dissemination Plan (D4.4).

One of adelphi's main tasks in SUBSOL is to arrange meetings and workshops (summarised as missions) with stakeholders in the reference, replication and target sites. The cornerstone of the missions relates to **six capacity building and awareness raising (Series III)** and **six promotional missions (Series IV)** at the target sites. Series III concentrates on assessment of information, identification of cooperation partners, and verification of desk research for the market scans and elaboration of capacity development approaches. Series IV has the goal to promote SWS solutions. Stakeholders are to be convinced to implement a SWS project, for this purpose promotion and lobbying work or conveyance of policy briefs and recommendations to improve framework conditions are taken up. The aim is to equip local stakeholders with helpful knowledge, tools and consulting services with the help of solution packages. While activities requested in Series III are initiated (e.g. feasibility study for a SWS project), these efforts are continued, deepened and complemented before and during Mission IV with policy briefs and solution packages.

At **the reference sites (Series I)** and **replication sites (Series II)** m**issions,** the goal is to acquire experiences with existing approaches with the development, implementation and operation of SWS solutions, from which approaches for the Mission Series III and IV are derived. The assessed information will be used to produce the communication and dissemination material which will be essential in setting up capacities in the target markets which are needed in commercialising the solutions and a lasting market penetration. The inquiry in Series I will mostly target aspects concerning the implementation and operation of SWS, and it should make use of long-standing experience with the technology and the data availability on aspects such as technical performance, socio-economic feasibility, or environmental impacts. The inquiry in Series II covers experiences made with the replication in new markets (e.g. with respect to market-specific technological standards or legal framework conditions). The results feed into the **knowledge base** that will help the stakeholders in the target sites to carry out SWS-related activities. Their content will be

oriented towards the stakeholder's needs and preferences specific to the target markets. First results of mission I are part of this report in the form of the synthesis of existing SWS experiences. The information in mission II is mainly acquired with the pTA methodology.

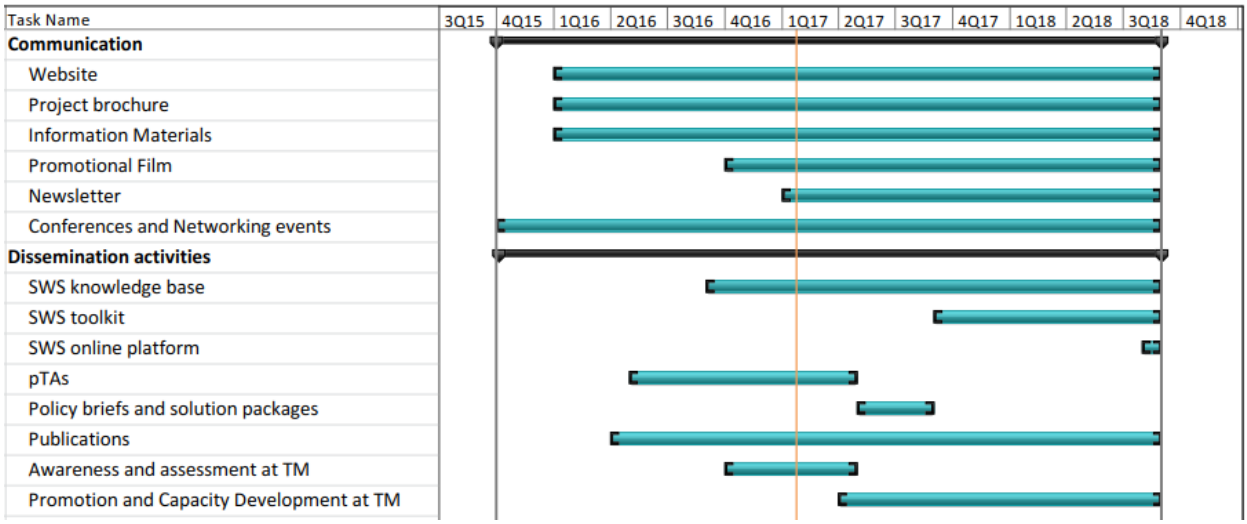

Figure 1 Availability of communication material and dissemination activities

6. Appendix

6.1. Dependencies of tasks in WP4 in relation to the mission series

The objective of work package 4 is to “increase the market reach of SWS and promote their uptake on European and global markets, and disseminate project results and experiences with the aim of sensitizing potential clients”. Hence, the work package is of key importance for dissemination and communication activities within SUBSOL. Figure 2 summarises all WP4 related activities as well as interlinkages. Most activities are built around the mission series which are pivotal for WP4 and grouped into the 3 stages of the mission series : 1. Assessment of existing and replication sites 2. Assessment of conditions in target markets, 3. Development of solutions for target markets.

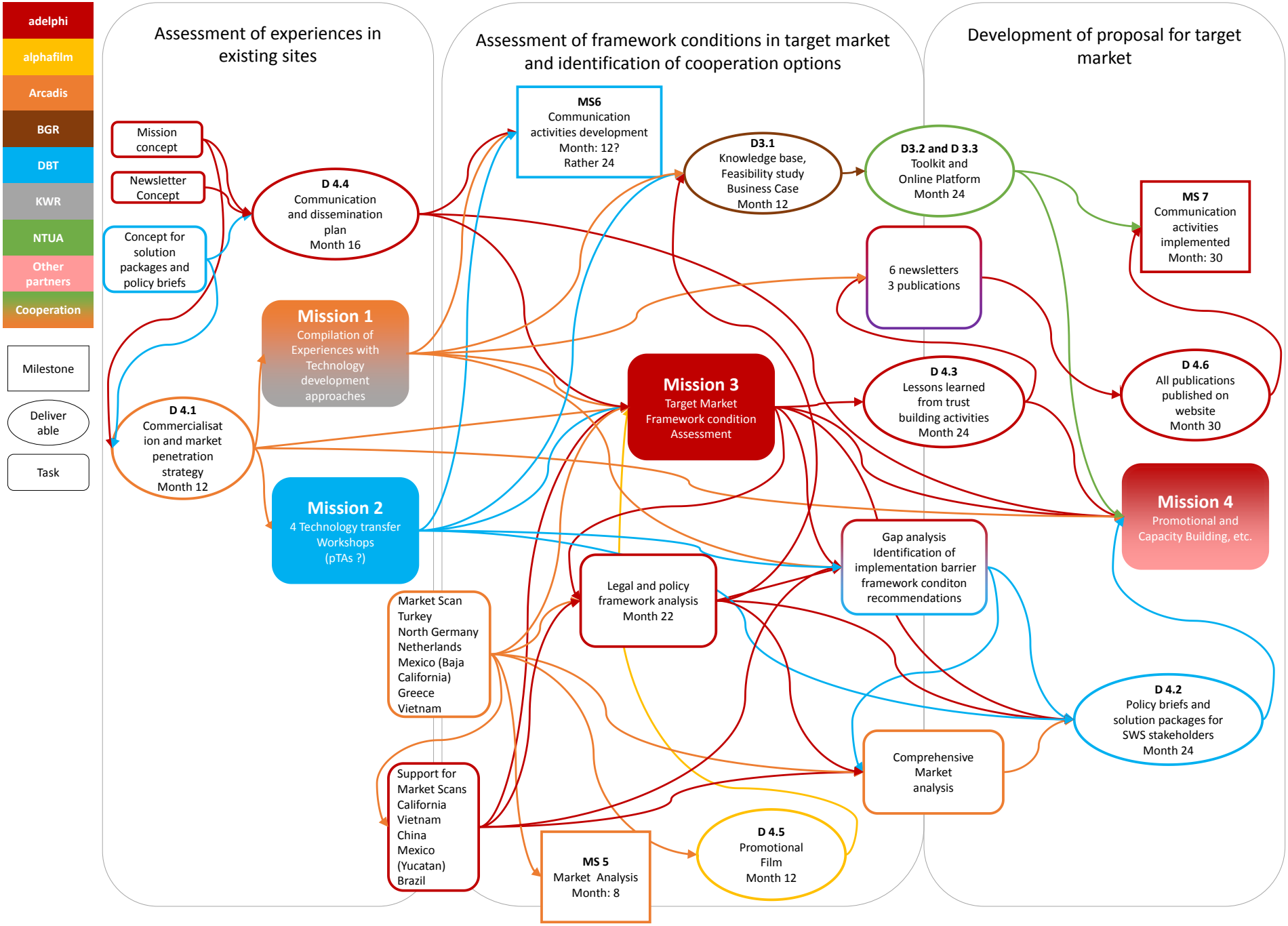

Figure 2: Dependencies of tasks and deliverables of work package 4

6.2. Mission Series I – Assessment of Development and Implementation Experiences at Reference Sites

Objective

Mission Series I has the goal to gather information and experiences about the development and implementation of SWS projects at the reference sites. The results will be used for preparing the knowledge products for mission series III and IV, and to generally enhance the understanding of SWS technologies among the SUBSOL project team.

Concept

The mission at the reference sites involves meetings with stakeholders that have been essential for realising the respective pilot site. The stakeholder meetings deal with questions that relate to development, operation and monitoring of the technology. Each site is visited to become familiar with the technology, solve technical questions and to take photographs for promotional activities. It should be noted that each reference site features a different SUBSOL technology (ASR-coastal, Freshmaker and Freshkeeper).

Step-by-step work process

Preparation phase:

- Agree with site partners on conducting the missions
- The existing collected information will be crosschecked with the desired list of information in order to identify the knowledge gap
- Identification of important stakeholders and arrangement of meetings
- Preparation of interview guides to build up a knowledge base for the planning of the missions at the target sites. The knowledge collection will cover a broad range of information as it will be difficult to correctly anticipate which information will be requested by stakeholders in the target areas

Mission phase:

- Meetings and interviews with stakeholders are held at the reference site or at the premises of stakeholders
- Site visits allow to get impressions, answer questions and contribute to a thorough understanding of the technologies as well as to clarify open questions regarding the operation of the reference sites

Follow-up phase:

- Collected information will be integrated into the knowledge base. The knowledge base will serve the preparation of the other missions as best practices regarding the

realisation of a SUBSOL project are identified and shared. The reference sites will especially be used for presenting the technologies to the stakeholders in the mission 3 series visits.

Derive lessons learned to adapt Missions for target markets

Identified drivers and barriers at the reference sites can be assessed and verified at the replication sites in order to work out general procedures in the development of a SWS solution. These general insights on drivers and barriers can be considered in the conceptualisation phase, when developing potential projects at target sites. Experiences with technology options and their applicability in varying contexts can be used for framing out better applicable concepts for target markets.

Table 4: The three reference sites are located along the Dutch coastline, from the very south to the north near Leeuwarden.

Site	Site responsibility
Noardburgum (drinking water)	Vitens (L³), KWR
Ovezande (irrigation water for agriculture)	KWR (L)
Nootdorp/Westlamd (irrigation water for horticulture)	KWR (L)

6.3. Mission Series II – Assessment of technology transfer experiences at Replication Sites

Objective

Mission Series II has the goal to gather information and experiences about the development of SWS projects and (especially) the technology transfer to replication sites. The results will be used, among others, for framing Mission Series III and IV.

Concept

The Missions at the replication sites comprise meetings with stakeholders that have been of importance for the implementation of SWS technologies in a specific location. During the missions, interview with a range of stakeholders will be conducted. The aspects of inquiry are similar to those at the reference sites but particularly address the technology transfer to international markets. Ideally, each site itself is visited to receive an impression of the technology, address technical questions on the ground and to take photographs for promotional activities.

Steps-by-step work process

Preparation phase:

- Agree with site partners on conducting the missions
- The existing collected information will be crosschecked with the desired list of information in order to identify the knowledge gap
- Identification of important stakeholders and arrangement of meetings
- Preparation of interview guides to build up a knowledge base for the planning of the missions at the target sites. The knowledge collection will cover a broad range of information as it will be difficult to correctly anticipate which information will be requested by stakeholders in the target areas

Mission phase:

- Meetings and interviews with stakeholders are held at the reference site or at the premises of stakeholders
- Site visits will allow to capture impressions of the circumstances for construction and implementation, pose questions to the end users and in this way contribute to a thorough understanding of the replication of the technologies

Follow-up phase:

- Collected information will be integrated into the knowledge base. The knowledge base will serve the preparation of the other missions as best practices regarding the realisation of a SUBSOL project are identified and shared. The replication approaches will be of specific importance to the planning and conduct of the mission 4 series when presenting solutions and developing concrete project proposals.

Table 5: Overview of the replication sites

Site	Site responsibility
Falster Island, Denmark	GEUS (L), Bluecon, Orbicon
Schinias, Greece	Geoservice, GtG, NTUA (L), Ubitech
Dinteloord, Netherlands	BE, KWR (L)

6.4. Mission series III: Awareness generation and assessment of framework conditions at Target Sites

Objective and envisioned outcomes

The objective of the third mission series is to assess and verify the information missing for the market scans and the policy and legal framework analysis. According to the status of assessment which might vary for each of the target regions potential future partners are identified and the framework conditions for the development of a SWS project assessed.

Mission concept

The missions are conceptualised within the framework of visits to the target areas, during which individual and simultaneous meetings with site partners, associate partners and stakeholders are organised. Each visit will be customised in accordance to the assessment status and identified information gap as well as the stakeholders' needs and preferences e.g. with regard to the water source, water demand and their interest in involvement.

Preparatory activities

- **Coordination with site partner:** Communicate with the site partner on the activities and experiences in the target site so far and the specific interest of partners in the target site and the objectives of the framework condition assessment and awareness creation.
- **Establish communication:** Establish communication with the stakeholders at the target sites in consultation with associate partners and site partners. If required, adelphi will try to identify additional stakeholders to those contacts provided by the site partners and those who emerged from the prior conducted market research. Important stakeholders must be involved from the very beginning to ensure they don't feel neglected.
- **Problem identification:** Assess the present knowledge about the target sites and clearly identify the driving force behind the need for SWS technologies in each target area. Identifying the problem for which SWS technologies may pose a solution is crucial to tailor the missions specifically to the stakeholders' needs and interests.
- **Information gap assessment:** crosscheck available information with information desired and elaborate list of information to be assessed and verified during the mission.
- **Prepare/select information materials:** For each visit, specific information materials from the existing knowledge base will be selected.

Activities during the mission

- **Assessment and verification of problem:** in initial meetings with the project associate and core stakeholders the extend and type of problem related to SWS will be reassured in order to fine tune the introduction to the SWS solutions
- **Inform and inquire stakeholder:** Existing SUBSOL knowledge modules will be shared with stakeholders for information dissemination purposes e.g. SUBSOL brochure and presentation in the local language as well as the promotional video, and references to publications featured on the website. In addition, stakeholders will be enquired about their present state of knowledge regarding SWS technologies and given the opportunity to formulate specific questions.
- **Introduction of SWS technologies to broader audience:** Introduction of SWS technologies and information materials for awareness creation as well as to advance the prospective SWS technology users' capacity for technology implementation. Possible SWS project ideas will be brainstormed, and potential partners for further elaboration of project development and feasibility studies identified
- **Discuss the feasibility of SWS technology implementation:** Discuss for what purposes and how the prospective SWS technology user would like to implement a SWS technology. As part of this discussion, field visits may be arranged during which important information are collected on-site.
- **Covering knowledge gaps:** Knowledge gaps that were identified during the preparatory phase are intended to be covered through interviews, questionnaires, discussions and collection of documents and data during on-site visits, these contribute to completion of the market scan approach.

Follow-up activities

- **Updating project site partners:** The project site partners of the SUBSOL consortium will be informed about the activities conducted during the missions and further approach at site agreed upon.
- **Market scans/analysis verifications** are completed and shared with KWR, Arcadis and the site partners.
- **Upon a final decision** to further look into activities in the target area the **Gap Analysis, Legal and Policy Framework Assessment and Implementation Barrier Analysis are prepared** and sent to DBT for integration into the Solution Packages and Policy Briefs.
- **Continue stakeholder communication:** To assure the genuineness of the stakeholders' interest and to further increase their trust and confidence in the SUBSOL consortium, regular communication (e.g. with the newsletter) is taken up with the identified potential future local partners for SWS solution development.

- **Assess cooperation:** Based on the meetings and post-meeting communication, the willingness of the stakeholders for further collaboration will be assessed (e.g. by their responsiveness).
- **Identification of prospective SWS technology users for further collaboration:** Stakeholders which emerged as being committed to the implementation of a SWS technology will be selected for continuous support during the upcoming mission.
- **Identify activities for mission series IV:** Based on the outcomes of the third mission series further activities for Mission series IV may be elaborated.

Target sites and mission planning

Mission Series III will be conducted on-site in the target areas that are specified in the grant agreement. The regions in the target sites are specified by the outcome of the market scans/analyses and the incorporation of recent developments in the site partners activities. The site visits are intended to be conducted between December 2016 and April 2017

Table 6: Overview of the target sites

Target Site	Site partner
Northwest Europe (North Germany)	DBT
Southeast Europe (Cyprus)	NTUA, KWR
Brazil (Pernambuco)	GEUS
Gulf of Mexico (Baja California, Yucatan)	Arcardis
China (Langhzou Bay and surrounding)	GEUS
Vietnam (Ho Chi Min City, Mekong Delta)	BGR

6.5. Mission Series IV: Solution Promotion and Capacity Development at Target Sites

Objectives and envisioned outcomes

The objective of the fourth mission series is to stimulate the stakeholders' interest in SWS technologies and to jointly identify and outline ideas for potential SWS projects. Activities conducted during the mission are meant to strengthen demand for SWS technologies among prospective user groups and facilitate their confidence in the SUBSOL consortium.

The activities will be conducted in close cooperation with the core stakeholders which emerged from mission series three as being most committed. Their capacity for implementation of SWS technologies will further be advanced to deal with the identified implementation barriers in order to further concretise potential SWS projects in the target markets.

Depending on the progress of the solution packages, policy briefs, feasibility studies and the development of the potential project the mission will be conducted together with the technology provider from the project consortium for framing out future cooperation options.

Mission concept

The missions are conceptualised within the framework of visits to the target areas during which individual and simultaneous meetings with local stakeholders, site partners, associate partners and technology providers are organised.

The activities depend on the outcomes of the assessment and awareness creation as well as capacity development achieved till date. Each visit will be customised in accordance with the progress of solution development and the stakeholders' needs and preferences with regard to the required technology and type of support needed (e.g. capacity building, technological assessments, framing of a feasibility study, awareness creation with decision makers or lobbying of policy recommendations). This is done with by making use of the solution packages and policy briefs. In case of smooth progress of project activities, the meetings will be conceptualised to concretise application opportunities of SWS technologies in the target sites. Framework for the development and implementation of a potential future project are elaborated: location, type of technology, partner setup, ownership and funding are identified.

In addition, prospective technology users will be invited to promotional events at the reference and replication sites in Europe for additional capacity and trust building activities.

Preparatory activities

- **Coordinate with site partner, associate partner, technology provider and WP4 partners:** coordinate the development of the solution package so that it fits to the interest of the partners of the consortium and can offer a relevant technology or service which can be provided by one of the project partners
- **Sustain stakeholder communication and reassess commitment:** Communication with prospective SWS technology users from mission series three will be continued to assure their commitment. If necessary, additional information and support will be provided.
- **Substitution:** Prospective technology users that left the project during mission series three may be substituted or re-assessed.
- **Prepare activities/content:** Activities and knowledge modules will be prepared based on insights gained during mission series three as well as under consideration of the overall project progress.
- **Specific knowledge packages:** Development of audience-specific knowledge dissemination approaches
- **Prepare promotional events in target markets with follow ups in Europe:** Promotional events including venue, logistics and invitations are to be organised with site/associate partners and stakeholders. Options for visits of the stakeholders from the target sites to the reference and replication sites in Europe are to be assessed.

Activities during the missions

(may vary and depend on project progress, are to be detailed out later in 2017)

- **Intensify commitment through capacity building:** Sharing of customised knowledge modules e.g. feasibility studies to show the potential of SWS technologies in a specific target area as well as the toolkit and training packages that were developed as part of WP3.
- **Hosting of Promotional Event:** During the promotional events, the site specific SWS solution approaches are presented in an accessible and simple way to allow participation of other interested stakeholders e.g. urban and communal decision makers or the public.
- **Elaborate a specific implementation project:** A workshop with identified future partners works out a concrete road map for the development and implementation of a potential future project including exact location, type of technology, partner setup, ownership and funding of future activities
- **Planning of trust building activities:** Study tours to the reference sites and visits to the replication pilots are planned with the future partners. This will raise awareness and allows to share experiences with SWS technology application. The locations will be chosen under consideration of the specific target group.

- Other activities as per requirements (workshops, trainings, presentations, dialogues, site visits, stakeholder awareness meetings, etc.)

Follow-up activities

- **Evaluate outcomes** with site partner and technology provider from the project consortium
- **Ensure stakeholder engagement beyond the timeframe of SUBSOL:** Local stakeholders are linked to SWS networks in which project partners are active to ensure continuous support.
- **Ensure contact establishment:** Ensure that contact has been established between stakeholders and the technology providers.
- **Generate future projects:** identify future project options in which stakeholders and consortium partners can implement SWS projects.

Target sites and mission planning

Mission Series IV will be conducted on-site in the target areas which are decided on by the project consortium. Some target sites may change as an outcome of mission series 3 and the results of the final market analyses. The missions are intended to be conducted end of 2017 to mid 2018.