

D2.1 – Plan for Communication & Dissemination

WP2 – Communication, Dissemination & Innovation Management

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ABBREVIATIONS/ACRONYMS

UCY University of Cyprus

FR First responders

CDP Communication and Dissemination Plan



1 Executive summary

PathoCERT is a project that aims to strengthen the coordination capability of first responders when they work in places where the risk of contamination via water is quite high.

Within this scope, the project will produce pathogen contamination emergency response technologies and tools to be validated by first responders, helping them to detect pathogens quickly and to better control emergency situations. To attain its overall goal, PathoCERT will need to address several multidisciplinary and interlinked objectives and to achieve this, Communication and Dissemination activities play a pivotal role.

The Communication and Dissemination Plan (CDP) is a strategic and targeted dissemination plan to promote the activities and results of the project, ensuring their long-lasting visibility and impact. This plan defines the goals and objectives of the communication and dissemination actions; the target audiences, stakeholders and interested parties that communication efforts will focus on; the activities, tools and channels that will be used to showcase the PathoCERT achievements and research results; the timeline of the dissemination actions.

The CDP is a 'live' document that will determine how the project communicates with the outside world and with key target audiences and will define the mechanisms needed to ensure the long-lasting visibility and impact during and beyond the project duration. The document will be reviewed and updated on a periodic basis.



2 Framework of Action

2.1 Introduction

The overall objective of the PathoCERT project is to strengthen the coordination capability of the first responders in handling waterborne pathogen contamination events. This will increase the first responders' capabilities, allowing the rapid and accurate detection of pathogens, improving their situational awareness, and improving their ability to control and mitigate emergency situations involving waterborne pathogens.

To achieve this objective, the project will research and demonstrate Pathogen Contamination Emergency Response Technologies (PathoCERT), a collection of novel, cost-effective and easy-to-use technologies and tools which will be field-validated by the first responders.

To build up the success of the PathoCERT project and ensure the sustainability of its results in the long run, effective communication and dissemination are crucial. In this regard, the communication and dissemination plan summarises the actions that will be undertaken within the project to fulfil these objectives.

The major aim of the PathoCERT dissemination strategy is to ensure that the project research and practical outcomes are widely communicated to each target community, at appropriate timing, via appropriate channels, and that those who can contribute to development, evaluation, uptake and exploitation of the PathoCERT results will be encouraged to participate. This is exactly what this plan aims to pave the way for. The Communication and Dissemination plan is outlined in detail in the following seven chapters:

- Chapter 2: Why we communicate: Goals, objectives, and target audiences
- Chapter 3: What are the tools and channels to reach PathoCERT dissemination objectives.
- Chapter 4: How PathoCERT's tools correspond and reach the appropriate target audiences.
- Chapter 5: How PathoCERT partners' expertise and role contributes to the strategy's implementation.
- Chapter 6: The suggested timeline of PathoCERT dissemination & communications activities.
- Chapter 7: How we monitor and evaluate PathoCERT outreach.

2.2 PathoCERT's Framework of Action

According to a study by the US Department of Homeland Security, worldwide, there are more than 7.5 million First Responders serving in various agencies, such as the fire service, law enforcement and the emergency medical services. Their total budget exceeds 400 billion euros, and around 15 billion euros are spent on equipment and other needs.

The analysis identified a capability gap, specifically for the ability to rapidly identify hazardous agents and contaminants. According to the study, "a myriad of identification, detection and analysis solutions currently exist within the market. However, there appears to be a limited number of technologies that address multiple responders needs on an integrated platform, or are suitable for enhanced first responder use.".

PathoCERT is here to address this capability gap, through its outputs that will reach up to TRL6 and will be validated by FR across different countries. These outputs will form the basis for



developing innovations (new products and services), with significant potential for further development and commercial exploitation after the completion of the project.

As a result, the PathoCERT project is expected to make significant contributions through:

- > Novel tools, technologies, guidelines and methods aimed at facilitating FR operations.
- New knowledge about field-validation of different tools, technologies and approaches involving first responders in (real-life) scenarios.

2.3 Dissemination Goals

PathoCERT Dissemination and Communication Plan revolves around three main goals:

- 1. To raise awareness of the research results across different audiences: scientific community, industrial stakeholders, policy actors and society, beyond the consortium.
- 2. To ensure appropriate IP management for the PathoCERT results, and their appropriate protection for commercial use.
- 3. To promote the use of the project results for further research.

2.4 Dissemination Objectives

The cornerstone of the PathoCERT success is based on how the goals of the dissemination and exploitation plan are translated into specific objectives that are then successfully integrated into the daily activities of the project. The main dissemination objectives of the project are:

- Design and operate a variety of different communication tools (website, social media, leaflets, posters, brochures, newsletters, videos etc) with the aim to maximize the exposure of the project and ensure its long-lasting visibility.
- Disseminate the project information on a targeted and customised manner, increasing the visibility of the project through a multichannel communicational approach at a regional, national and international level.
- > Empower targeted stakeholders to take up the project results.
- > Implement the Open Access and Open Research Data Strategy.
- > Implement the Innovation Management strategy.

The communication and dissemination objectives will be reached with the use of different communication tools that fully cover a wider range of audiences and can channel a variety of messages.

2.5 Stakeholders and Target Audiences

Engaging stakeholders into PathoCERT's developments and results is of vital importance for the project's success and impact. The PathoCERT projects aims to reach out a wide range of stakeholders with tailored communication and dissemination activities according to the target audience that is needed to be involved at each stage of the project. The target audiences of PathoCERT can be divided into the four main categorizes described below:

- 1. Scientific community
- 2. Government and policy makers
- 3. Industry
- 4. Public and citizen NGOs



To specify the target audiences and the objectives of the project for each occasion, four detailed tables are featured below for this purpose. In addition to this, a stakeholder database is intended to be developed to strengthen the stakeholders' outreach and to facilitate partners to build and maintain relationships with the target audiences.

TARGET ACTORS	 Members of the academic and research community (e.g., in IWA, ASCE, IEEE) Members in other research and innovation projects
OBJECTIVES	 Stimulate further use of results for research in the areas of PathoCERT Identify new research partners for new projects Identify and expand new research avenues Educate on first responder technologies

Table 1/ Target group 1: Scientific Community

TARGET ACTORS	 Elected officials in governments, national and EU parliament, public administrators, regional authorities, local authorities (municipalities) Agencies etc (e.g., Central Macedonia Administration, Municipality of Granada, Cyprus Water Development Department).
OBJECTIVES	 Increase awareness of the problem of pathogen contamination in water Promote policies which support new technologies for FR Enforce procurements of first responder technologies based on open standards Consider PathoCERT expert consultations when needed

Table 2/ Target group 2: Government and policy makers



TARGET ACTORS	 SMEs and large enterprises Consultants, professional association of companies who specialize in relevant technologies (e.g., DLR)
OBJECTIVES	 Prove potential of PathoCERT results in new or existing products Identify groups producing IP related to their businesses Contribute to standards

Table 3/ Target group 3: Industry

TARGET ACTORS	 Citizens and network of professionals Citizen-led NGOs having a special interest in emergency response (e.g., first responder volunteers), in environmental protection or in water safety or have an interest in influencing policy making for these goals (e.g., EurEau, Water Europe, St. John Ambulance).
OBJECTIVES	 Increase citizens awareness of the problem of waterborne pathogens Expand the number of volunteers informing FR during a pathogen contamination even Influence and pressure policy makers

Table 4/ Target group 4: Public and citizen NGOs



3 Communication & Dissemination Tools

To ensure the efficiency of the project's communication and dissemination plan, a range of communication tools and channels will be used in the context of the three main dissemination actions that will be implemented throughout the duration of the project, namely Digital Dissemination; Face to Face Dissemination and Printed Dissemination.

3.1 Digital Communication

- 1. PathoCERT website: The website of the project (https://pathocert.eu/) will be considered as the main channel for all the communications. In fact, it embraces not only identity and objectives but also ongoing updating of results, case studies, training resources and project's partners. The website will be regularly updated sharing project dissemination material, documents, pictures, links and videos. Engagement and traffic within the website will be also monitored to evaluate the overall performance.
- 2. Project intranet: The project hosts a private platform of SharePoint (https://ucy.sharepoint.com/sites/PathoCERT-All/) to allow partners and limited stakeholders to gain access to confidential documents, group communication, actions planning, cases' tracking and focus groups.
- 3. Social Media: The PathoCERT social media strategy currently involves 2 platforms: Twitter, and LinkedIn, whereas Facebook is not among the channels that will be used at this stage of the project. LinkedIn and Twitter have been identified and selected as the best means to reach out to our target groups at the moment; to attract the relevant stakeholders for the project's progress; to increase and maintain our stakeholders' engagement and productivity throughout the whole duration of the project; and to give PathoCERT exposure and visibility not only to a European but also a potential global audience. It will focus on sharing project's information including (PathoCERT blog articles, relevant internal and external news). By targeting communities related or interested in emergency response and water quality, PathoCERT aims to build a solid and fruitful social community to engage with. A regular monitoring will be made to observe engagements rates and trends (likes, comments, reach, best time to publish, followers, repost, retweets).
- 4. Newsletter: The newsletter will be released to subscribed contacts as well as public authorities, once a year. The effectiveness will be monitored by observing number of subscribers/unsubscribes, open/forward rate, bounce rate, time spend and evaluating surveys.
- 5. Video/Animations: Two videos will be developed, summarising PathoCERT's challenges, objectives and expected outputs. The videos will be uploaded on YouTube and disseminated on Social Media afterwards.
- 6. Media coverage: PathoCERT aims to attract local, national and EU media attention on its activities and progress. The strategy to achieve that consist in publishing press releases, demonstrating the project achievements and impact to the society on newspapers, television, radio and internet-based media. Yearly, it is foreseen that PathoCERT will publish minimum 3 press releases and 2 special feature articles.
- 7. Open access publications in high-rank academic journals: PathoCERT partners will publish their scientific results in international high-rank journals and conference proceedings, that support open access (e.g., through the "green open access" route). The PathoCERT Zenodo Community will be created to support the maintenance of these publications. A list of some



pre-selected journals to submit are provided in the Table in Section 2.2.1. At least 5 papers will be produced on a yearly basis.

An indicative list of high-impact journals is featured below as the identified channels to disseminate the PathoCERT results:

Journal of Electroanalytical Chemistry, Electrochimica Acta, Biosensors and Bioelectronics, Electrochemistry Communications, Biosensors, TrAC Trends in Analytical Chemistry, Sensors and Actuators B: Chemical, Electroanalysis, Sensors, IEEE Transactions on Robotics, Journal of Field Robotics (Wiley), Journal of Intelligent and Robotic Systems (Springer), ASCE Journal of Water Resources Planning and Management, Hydroinformatics, IEEE Transactions on Control Systems Technologies, International journal of hygiene and environmental health, Water, Water Research, Urban Water Journal, Pathogens, Environmental science & technology, Engineering Applications of Artificial Intelligence, Automatica, Environmental Science & Technology.

Table 5/ Indicative list of high impact journals

3.2 Face-to-face communication

PathoCERT will also organize and participate in various networking events, for communicating the project outputs to a broader audience. Some of the planned activities include:

- 1. Participation in conferences, workshops, exhibitions, and other events: PathoCERT will establish its presence in several conferences to increase awareness and dissemination of the project activities and outputs to end-users and the public at large. This will be accomplished by also joining special sessions along with other EU-funded projects. An indicative list of high impact conferences is featured in Table 6 below.
- 2. Training school for First Responders: PathoCERT will set up a 4-day school for FR who want to learn how to use various technologies for pathogen contamination awareness (e.g., drones for situational awareness and water quality sampling). At least 15 First Responders and other experts will attend the course.
- 3. Info-days: PathoCERT will organize info-days in Cyprus, Spain, the Netherlands, Greece and Bulgaria, before and after the field pilots, to introduce the project and its technologies, and to demonstrate its results. Local stakeholders and policy makers will be invited. Moreover, an info-day will be organized in collaboration with Water Europe in Brussels, where the project results will be presented to their members, as well as to European Policy Makers and European Commission Staff. To measure its effectiveness, surveys, monitoring of engagement and uptakes will be organised afterwards.
- 4. Seminars for internal partners and PathoCERT webinars: Academic and research partners will organize internally presentations to discuss the research results of the project (UCY, NTUA, CERTH, KWR, CET, UMF and others), as part of their seminar series. Moreover, a PathoCERT webinar series will be established to present the new scientific results among all the project partners. At least 100 participants are expected to attend these webinars.



Conferences

IWA World Water Congress, IWA Health Related Water Microbiology, AWWA Water Quality and Technology, UNC Water microbiology, AWWA Water pathogens, Singapore International Water Week, Computer Control for the Water Industry (CCWI), Water Distribution System Analysis (WDSA), International Conference on Hydroinformatics (HIC), IEEE Conference on Decision and Control (CDC), IEEE Conference on Control Technology and Applications (CCTA), Mediterranean Conference on Control and Automation (MED), European Control Conference (ECC), IFAC World Congress, IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), International Conference on Unmanned Aircraft Systems (ICUAS), Amsterdam International Water Week, Water Knowledge Europe, Water Innovation Europe, Singapore International Water Week.

Table 6/ Indicative list of high impact conferences

3.3 Printed Communications

- 1. Printed materials: Two brochures will be designed and published by PathoCERT at the beginning and at the end of the project. The first brochure will give an overview of the projects' main information, whereas the second one will illustrate results and case studies. At least 2000 brochures will be printed and distributed at different venues. A project poster and a roll-up will be also printed to support partner premises and events. Surveys can be made to assess the effectiveness of the publication, asking feedback regarding their relevance, the design and presentation, the branding etc.
- 2. Children's book: PathoCERT will produce a book for parents and children ages 8+ to raise awareness about the dangers of water pathogens, challenges faced by FR and technology solutions. The goal is to educate children and parents about the topic. Eventual focus groups-surveys will be used to evaluate the book's effectiveness.

3.4 Networking

PathoCERT will try to establish direct or indirect collaboration links with various networks, such as Water Europe, ERNCIP, ICT4Water, as well as the ISO and CEN standardization bodies. Through these channels, PathoCERT will be able to communicate its outputs to a broader technical audience and explore new synergies.



4 Communications tools & Stakeholders' matrix

The following table aims to outline all the Communication tools identified in the previous section matched with the target audiences (explained in the in Chapter 2.5) that are intended to reach.

Comm. Tools	Research Organiz.	Educat. Organiz.	Entrepri ses	SMEs	EC/Nat. Govern.	Standards	First Respond.	Local Govern.
Website	✓	✓	✓	√	✓		√	√
Social media	✓	✓	✓	✓	✓	✓	√	✓
Printed materials	✓	✓	✓	✓	✓	✓	✓	✓
Media			✓	✓	✓		→	✓
Papers	✓		✓	✓		✓		
Conferences	✓		✓	✓		✓		
Schools	✓						✓	
Infodays	✓		✓	✓		✓	√	✓
Seminars	✓	✓					✓	
Webinars	✓	✓		✓		✓		
Videos			✓	√	✓		*	✓
Events	✓			✓	✓	✓	✓	✓
Newsletter	✓	✓	√	✓	✓		✓	✓
Books		✓			✓		✓	✓

Table 7/ Communication tools matched with the target groups

The project aims to address different type of messages to engage with each identified target group. The messages will be shared throughout different platforms in order to reach the right audience. The table below illustrates some indicative key messages developed for each target group and the channels (social media, workshops) where these messages will be disseminated.



TARGET GROUP	KEY MESSAGE	WHERE TO SHARE THE MESSAGE
Scientific Community	 Contributions to science New methodologies New publications and presentations New job positions Educational platforms 	 ✓ Open access scientific publications ✓ Open research/source data & models ✓ Tools for reproducible research ✓ Presentations at conferences and workshops
Government and Policy Makers	 Suggestions for new policies Results produced after the pilots Role of technology in emergency response 	 ✓ Presentations at the Ministries and the EU ✓ Info-day with invited policy makers ✓ Brochures & Policy papers
Industry	 New tools and technologies Innovation potential Value added New markets 	 ✓ Industrial workshops ✓ Networking events ✓ Technology cluster meetings ✓ Brokerage events
Public and citizen NGOs	 General information about the project results Description of the use cases Potential use of technologies in other domains 	 ✓ Social media articles & interviews ✓ Researcher's Night events ✓ Science fairs ✓ Training courses

Table 8/ Indicative key messages and tools of PathoCERT dissemination plan



5 Division of Responsibilities

An effective Communication & Dissemination Plan can only be ensured if based on a joint effort across the board; all partners are therefore expected to be actively involved in implementing the plan. A suggested division of responsibilities for all the communication and dissemination activities is shown below.

Dissemination outputs	WE	UCY	NTUA	UMF	CET	EUT	СЕКТН	KWR	STWS	MLAN	AQQ	PHB	ENG	CSCP	CCD	SPEIS	MOIB	WATNL	ЕУАТН	HRT	SUNDO	KIST
Contribute with content (articles, news) for the website	✓	✓	√	✓	✓	✓	✓	✓	✓	✓	✓	✓	*	*	✓	✓	✓	~	✓	√	✓	✓
Create content and update social media	√																					
Design and printing of flyers, posters, roll-ups	√																					
Promote PathoCERT to local media	√	√	✓	✓	√	✓	✓	✓	✓	*	✓	√	✓	√	✓	√	✓	✓	√	✓	~	✓
Publish in high- impact journals		✓	✓	✓	✓			✓														~
Participate in scientific conferences		√	√	√	✓			✓														✓



Dissemination outputs	WE	UCY	NTUA	UMF	CET	EUT	CERTH	KWR	STWS	MLAN	AQQ	PHB	ENG	CSCP	Q 22	SPEIS	MOIB	WATNL	ЕУАТН	HRT	SUNDO	KIST
Participate in networking events	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							✓	✓
Training school for FR		✓													✓	✓	✓	✓	✓	✓		
Internal Webinars		✓	✓	✓	✓	(✓)	(✓)	√	(✓)			(✓)										✓
Preparation of video animations	✓	✓																				
Participate in EC sponsored meetings	✓	✓			(✓)	(✓)	(✓)	(✓)					(√)									
Preparation of newsletter content	√	✓	~	✓	✓	√	✓	✓	✓	✓	~	√	✓									
Children's book		✓																				
ICT4Water Networking		✓				✓		✓														
Water Europe Networking	✓	✓			✓	✓	✓	✓			✓		✓						✓			
Standardization bodies		✓																				



6 Dissemination Timeline

	Year 1																	Yea	ır 2						Year 3											
Dissemination outputs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Contribute with content (articles, news) for the website																																				
Create content and update social media																																				
Design and printing of flyers, posters, roll-ups																																				
Promote PathoCERT to local media																																				
Publish in high- impact journals																																				
Participate in scientific conferences																																				
Participate in networking events																																				



Training school for FR																	
Internal Webinars																	
Preparation of video animations																	
Participate in EC sponsored meetings																	
Preparation of newsletter content			T														
Children's book																	
ICT4Water Networking																	
Water Europe Networking																	
Standardization bodies																	

Table 10/ Dissemination timeline



7 Assessment Strategy

To measure the communication activities, a set of performance indicators has been identified, along with specific, realistic targets, approved by the Executive Board. The WP2 leader together with the executive board will be monitoring the execution of the following targets through updating the respective KPI as the project progresses

		Collection	Minimum
#	Performance Indicators	Method	Target
	Publications in peer-reviewed journals and conferences		
1		DM	5/year
	Number of open access publications		
2		OD	5/year
	Number of international co-authorship publications		
3		DM	1/year
	Number of joint public-private publications		
4		DM	1/year
	Number of datasets released in open access		
5		OD	3
	Median altmetric for open access publications		
6		OD	5
	Number of new technologies validated/demonstrated by FR		
7		DM	10
	Number of staff participating in CoPs and in training		
8		DM	40/year
	Average satisfaction of stakeholders for PathoCERT		
9	technologies	Q	4 out of 5
	Number of applications to register IP (patents, trademarks		
10	etc)	DM	2
	Number of people becoming informed about the project		
11	(website, publications)	DM	2,000/year
12	Number of recipients of newsletters	OD	300/year



	Number of followers across all social media		
13		OD	300/year
	Number of PhD and Master dissertations		
14		DM	3/year
	Number of organizations to be reached by the networking		
15	activities	DM	20/year
	Number of networking events and conferences		
16		DM	5/year

Table 11/ Performance metrics