



D2.2 — Plan for Communication & Dissemination

**WP2 — Communication, Dissemination &
Innovation Management**

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ABSTRACT	This deliverable presents the first updated version of the plan for Communication & Dissemination of the PathoCERT project.		

Document History

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0.9	09/02/2022	Draft	1 st updated version of the plan for communication & dissemination	Maria Mirachtsi
1.0	25/02/2022	Final	Final version, minor corrections	Demetrios Eliades

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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 emergencies. 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) aims to suggest a strategic and targeted dissemination plan on how we can promote the activities and results of the project, ensuring their long-lasting visibility and impact. This plan aspires to define the goals and objectives of the communication and dissemination actions; the target audiences, stakeholders and interested parties we intend to focus our communication efforts 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 living document that determines how the project communicates with the outside world and with key target audiences and defines the mechanisms needed to ensure the long-last visibility of the project after its closure. This is the first updated version of the communication and dissemination plan produced on month 6 of the project, before it evolves into its final version on month 30 of the project. In this first updated version, the most important updates are related to:

- Activities carried out for each project's communication and dissemination tool, e.g. the website, social media, newsletters, promotional materials.
- New supporting activities for the promotion of the Communities of Practice.
- Assessment strategy enriched with current figures.

1 Framework of Action

1.1 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 emergencies 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 the 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.

This document is the first updated version of the plan for Communication and Dissemination initially drafted on M6. This first update of the plan for Communication and Dissemination aims to present the activities undertaken by the consortium for the promotion and diffusion of PathoCERT results and findings to target audiences, as well as the available materials that are created and used for this goal. In parallel with this, a chapter has been added, dedicated to the supporting communications activities for PathoCERT's Communities of Practice. Apart from the above-mentioned additions, the assessment strategy of the plan has been enriched with the available information for the target achieved up to month 18 of the project.

The current updated version of the plan for Communication and Dissemination is outlined in detail in the following eight 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: Communications Activities for PathoCERT's CoPs.
- 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.
- Chapter 8: Calendar of events

As the second version of the plan for Communication and Dissemination, this document will further evolve during the project into the final version D2.3[M30], based on the project's progress and developments.

1.2 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 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 different field-validated tools, technologies and approaches involving first responders in (real-life) scenarios.

1.3 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.

1.4 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) to maximize the exposure of the project and ensure its long-lasting visibility.
- Disseminate the project information in 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.

1.5 Stakeholders and Target Audiences

Engaging stakeholders in PathoCERT’s developments and results is of vital importance for the project’s success and impact. The PathoCERT project aims to reach out to 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 categories described below:

1. Scientific community
2. Government and policymakers
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.

Table 1/ Target group 1: Scientific community

TARGET ACTORS	<ul style="list-style-type: none"> • Members of the academic and research community (e.g., in IWA, ASCE, IEEE) • Members in other research and innovation projects
OBJECTIVES	<ul style="list-style-type: none"> ➤ 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

TARGET ACTORS	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ➤ Increase awareness of the problem of pathogen contamination in water ➤ Promote policies that 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 policymakers

TARGET ACTORS	<ul style="list-style-type: none"> • SMEs and large enterprises • Consultants, professional association of companies who specialize in relevant technologies (e.g., DLR)
OBJECTIVES	<ul style="list-style-type: none"> ➤ 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ➤ Increase citizens' awareness of the problem of waterborne pathogens ➤ Expand the number of volunteers informing FR during pathogen contamination events ➤ Influence and pressure policymakers

Table 4/ Target group 4: Public and citizen NGOs

2 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 project, namely Digital Dissemination; Face-to-Face Dissemination and Printed Dissemination.

2.1 Digital Communication

PathoCERT website: The website of the project (<https://pathocert.eu/>) is considered the main channel for all communications. It embraces not only identity and objectives but also ongoing updating of results, case studies, training resources and project partners. The website is regularly updated sharing project dissemination material, results, news, documents and pictures. Engagement and traffic within the website are also monitored to evaluate the overall performance.

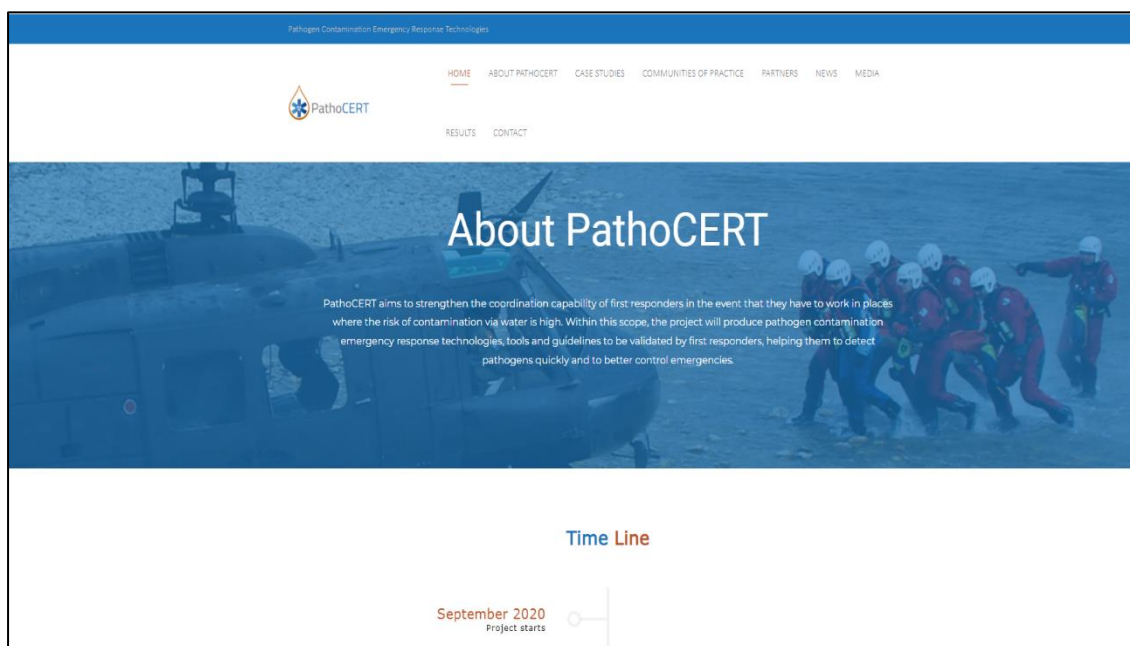


Figure 1. PathoCERT Project Website Homepage

A significant addition to the project’s website that took place throughout the first year of the project was the new section dedicated to the project’s Communities of Practice. Within this section, the website user has the opportunity to learn about the six Communities of Practice, their role and their stakeholders. In addition to this, a page for each Community of Practice has been created to offer the website users specific information for the objectives and scenarios of each CoP. Beyond this, a members’ area for stakeholders who are interested in getting involved in the CoP’s activities is currently under construction. To acquire access to the members’ area, a button is already featured on the CoP’s dedicated section.

Furthermore, the results tab of the website has been restructured and divided into two parts, one focused on the available project’s results and the other one on the open-access publications. PathoCERT results are constantly uploaded and are freely available to website visitors and a wide audience.



Figure 2. PathoCERT Communities of Practice Page

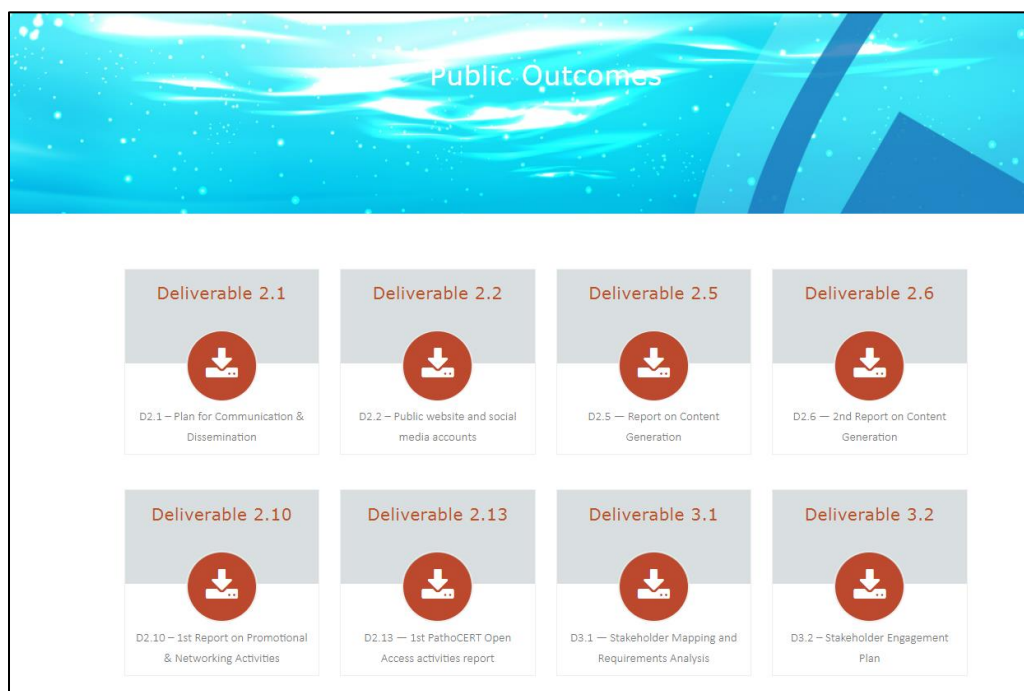


Figure 3. PathoCERT Results/ Public Outcomes page

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, case tracking and focus groups.

Social Media: The PathoCERT social media strategy currently involves 2 platforms: Twitter, and LinkedIn, whereas Facebook was not considered as a suitable means to distribute content for the PathoCERT project. LinkedIn and Twitter have been identified and selected as the best means to reach out to our target groups; 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 potentially global audience. They will focus on sharing the project's information including (PathoCERT blog articles, relevant internal and external news). By targeting communities related to or interested in emergency response and water quality, PathoCERT aims to build a solid and fruitful social community to engage with.

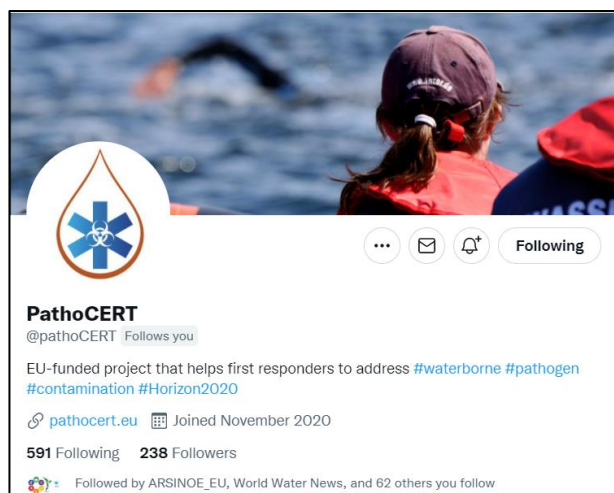


Figure 4. PathoCERT Twitter page

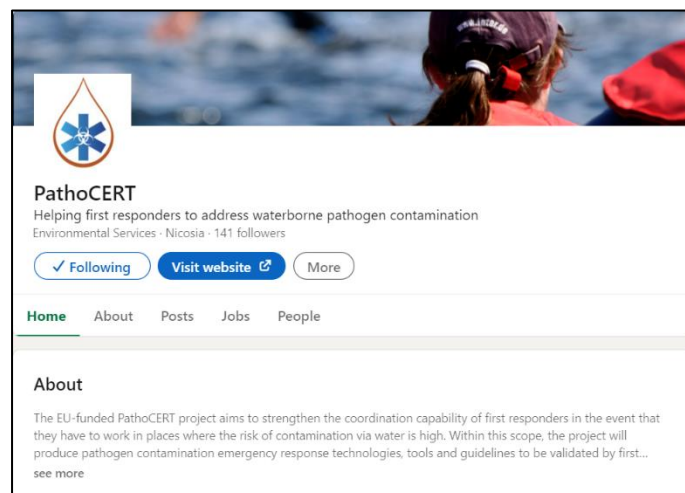


Figure 5. PathoCERT LinkedIn page

Both social media channels have attracted, so far, 379 followers. Regular monitoring takes place to observe engagements rates and trends (likes, comments, reach, followers, repost, retweets) and the conclusions of this process are included in the PathoCERT content generation reports. At the same time, the partners' social media networks are also utilised to broaden the outreach of the project's news and generate the interest of new stakeholders who could be interested in the project.

Newsletter: The PathoCERT newsletter is released to subscribed contacts as well as public authorities, once a year. Its effectiveness is monitored by observing a number of subscribers/unsubscribes, open/forward rate, bounce rate, time spend and evaluating surveys. So far, one newsletter has been produced, offering subscribers with an introduction to the project, insights on the most important activities of the first year and information on the interesting developments coming up. The newsletter was released to a list of 1.121 recipients, while the subscription list on the project's website is active for new contacts that wish to receive the project's updates.



Figure 6. 1st PathoCERT Newsletter

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.

Media coverage: PathoCERT aims to attract local, national and EU media attention on its activities and progress. The strategy to achieve that consists in publishing press releases, demonstrating the project achievements and impact to the society on newspapers, television, radio and internet-based media. As presented in the PathoCERT’s content generation reports, PathoCERT had the opportunity throughout its first year to attract the media attention of several newspapers and magazines as Lavanguardia, Granada Hoy, La Gaceta de Granada, Cope, Ahora Granada, Granada Digital, Europapress, Cronica de Cluj, eClujeanul, Agerpres, 360medical, Ro Health Review, Critic Național, Amos News, DC Medical, Viața Medicală, Ziare Live, Gazeta de Cluj, Cluj24, Paidia-News. In parallel with these, PathoCERT became known also through TV interviews. The efforts of partners to promote the project and attract media attention will continue diligently at each phase of the project.

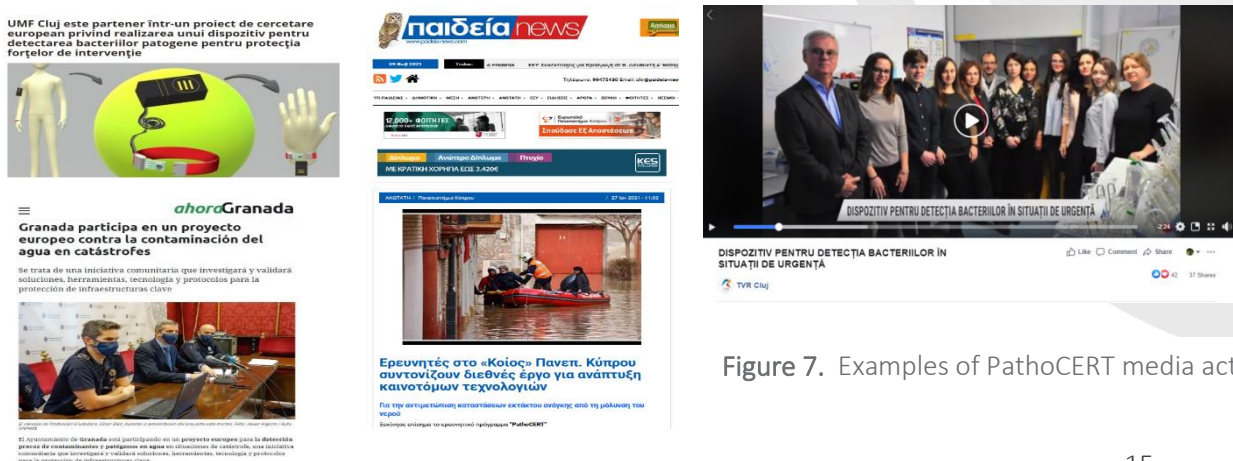


Figure 7. Examples of PathoCERT media activities

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 is created to support the maintenance of these publications. A list of some pre-selected journals to submit is provided in the Table in Section 2.2.1. At least 5 papers will be produced every year.

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

Journals	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.
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Table 5/ Indicative list of high impact journals which PathoCERT will aim to publish its research

2.2 Face-to-face communication

PathoCERT is also organizing and participating in various networking events, for communicating the project outputs to a broader audience. Some of the ongoing and planned activities include:

Participation in conferences, workshops, exhibitions and other events: PathoCERT is establishing 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 is also accomplished by joining special sessions along with other EU-funded projects. In the PathoCERT’s Networking Activities report, a list of events, workshops and exhibitions where the project participated is already presented. At the same time, the indicative list of high impact conferences which is featured in Table 6 below, functions as a guide for the events that PathoCERT partners should have on their radar to play an active role.

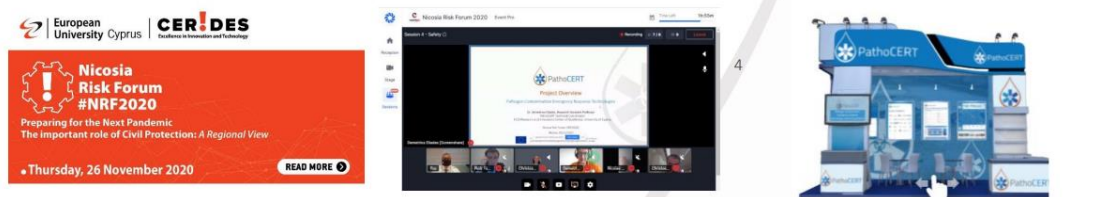


Figure 8. Extract from the 1st PathoCERT Networking Activities Report

Training school for First Responders: PathoCERT aims to 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.

Info-days: PathoCERT intends to 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 policymakers 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.

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), 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. Around 100 participants are expected to 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.
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Table 6/ Indicative list of high impact conferences to communicate PathoCERT results

2.3 Printed Communications

Printed materials: Two brochures are foreseen to be designed and published by PathoCERT at the beginning and the end of the project. The first brochure was created during the first year of the project, giving an overview of the projects' main information. The second brochure that will be designed, will illustrate results and information on the case studies. At least 2000 brochures will be printed and distributed at different venues. A project poster is also created and printed to support partner premises and events.

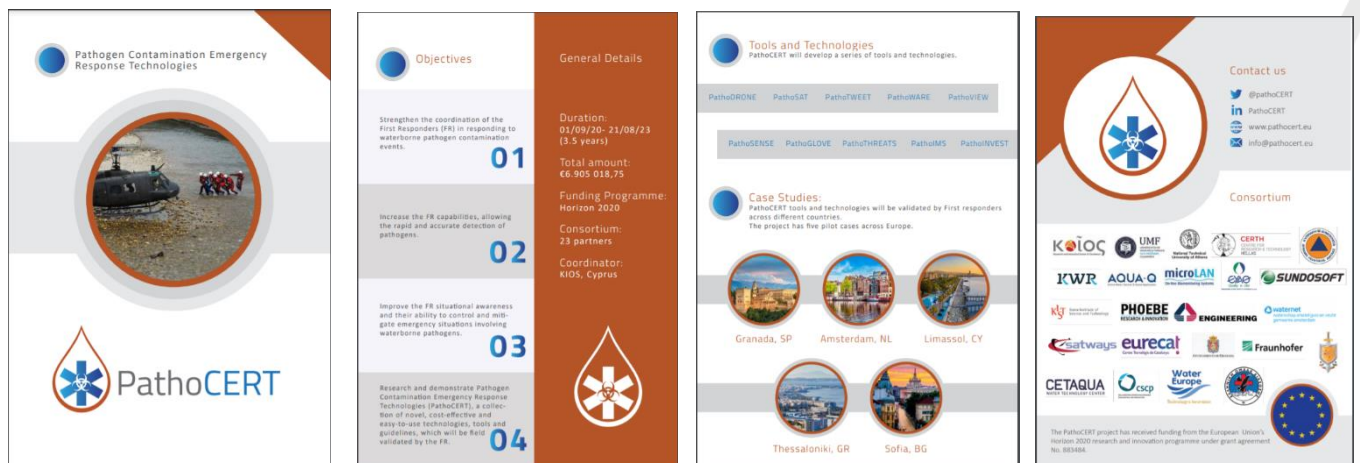


Figure 9. 1st PathoCERT Brochure

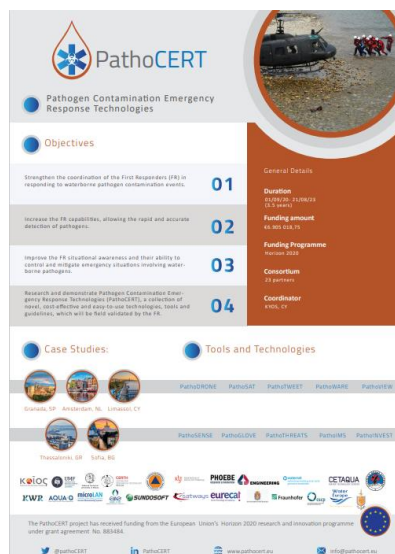


Figure 10. PathoCERT Poster

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.

2.4 Networking

PathoCERT has seized the opportunity 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 is channelling its outputs to a broader technical audience and exploring new synergies.

3 Communications tools & Stakeholders' matrix

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

Comm. Tools	Research Organiz.	Educat. Organiz.	Entreprises	SMEs	EC/Nat. Govern.	Standards	First Respond.	Local Govern.
Website	✓	✓	✓	✓	✓		✓	✓
Social media	✓	✓	✓	✓	✓	✓	✓	✓
Printed materials	✓	✓	✓	✓	✓	✓	✓	✓
Media			✓	✓	✓		✓	✓
Papers	✓		✓	✓		✓		
Conferences	✓		✓	✓		✓		
Schools	✓						✓	
Infodays	✓		✓	✓		✓	✓	✓
Seminars	✓	✓					✓	
Webinars	✓	✓		✓		✓		

Comm. Tools	Research Organiz.	Educat. Organiz.	Enterprises	SMEs	EC/Nat. Govern.	Standards	First Respond.	Local Govern.
Videos			✓	✓	✓		✓	✓
Events	✓			✓	✓	✓	✓	✓
Newsletter	✓	✓	✓	✓	✓		✓	✓
Books		✓			✓		✓	✓

Table 7/ Communication tools matched with the target groups

The project aims to address different types 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	<ul style="list-style-type: none"> - Contributions to science - New methodologies - New publications and presentations - New job positions - Educational platforms 	<ul style="list-style-type: none"> ✓ Open access scientific publications ✓ Open research/source data & models ✓ Tools for reproducible research ✓ Presentations at conferences and workshops
Government and Policy Makers	<ul style="list-style-type: none"> - Suggestions for new policies - Results produced after the pilots - Role of technology in emergency response 	<ul style="list-style-type: none"> ✓ Presentations at the Ministries and the EU ✓ Info-day with invited policymakers ✓ Brochures & Policy papers
Industry	<ul style="list-style-type: none"> - New tools and technologies - Innovation potential Value added - New markets 	<ul style="list-style-type: none"> ✓ Industrial workshops ✓ Networking events ✓ Technology cluster meetings ✓ Brokerage events
Public and citizen NGOs	<ul style="list-style-type: none"> - General information about the project results - Description of the use cases - Potential use of technologies in other domains 	<ul style="list-style-type: none"> ✓ Social media articles & interviews ✓ Researcher's Night events ✓ Science fairs ✓ Training courses

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

4 Communication Activities for PathoCERT CoPs

In PathoCERT project, Communities of Practice play a crucial role in the project’s progress and development as they focus on the gathering and exchange of knowledge including key barriers and challenges, feedback provision, and testing of newly developed technologies, tools and guidelines aiming to support the rapid and safe detection of waterborne pathogens during emergency events and thus enhance first responders’ capacities. PathoCERT has six Communities of Practice in Granada, Amsterdam, Limassol, Thessaloniki, Sofia and Seoul.

To give prominence to the activities of the Communities of Practice, the PathoCERT communications team in close collaboration with the Work package 3 leader and the coordinator identified the most suitable methods to support and promote the progress of the Communities of Practice work. Three additional tools were created and used as supporting materials for the promotion of the CoPs, as presented below. This list may be further expanded for the final update of the plan for Communication and Dissemination.

PathoCERT Website

A new section dedicated to the Communities of Practice has been added to the PathoCERT website. This section aims to give visibility to the important role that Communities of Practice play, the objectives of the CoPs and the type of stakeholders that are involved. Also, all the six CoPs are featured on the page, directing users to independent pages for each CoP where specific information for the CoPs is presented.



The six PathoCERT CoPs

- » Granada (ES)
- » Amsterdam (NL)
- » Limassol (CY)
- » Thessaloniki (EL)
- » Sofia (BG)
- » Seoul (KR)



Figure 11. New CoPs section on PathoCERT Website





Case Study Details

Location: Granada, Spain

Lead partners:



AYUNTAMIENTO DE GRANADA



CETAQUA
WATER TECHNOLOGY CENTER



Objectives



Scenario


The pilot in the city of Granada is designed to simulate a scenario for the detection of possible pathogen contamination, threat assessment and incident management system following a contamination caused by the mixture of wastewater and drinking water caused by an earthquake in the city of Granada. Granada area supplies water to a population of around 600 000 inhabitants that could be affected by contaminated water in case of an earthquake as some of the pipes in the distribution network and wastewater collection could be broken and cause mixture of the water types.

Figure 12. CoP page (the example of Granada)

Factsheets for PathoCERT Technologies

Factsheets for each PathoCERT technology were also designed and developed that PathoCERT partners can make use of either in the English version or adjusted in their local language when they communicate about the project and its technologies.

PathoSAT



Aim and scope



PathoSAT monitors the formation of algal blooms on surface water using satellite images. Algal blooms can be poisonous for human and animals via skin contact, or via consumption. Through PathoSAT, the first responders have open access to recent satellite information and thus can obtain the most recent information on the quality of the water and avoid exposure to infected waters. The outcome of PathoSAT is visualised in the dashboard of PathoWARE and on the map of PathoGIS. In the case that an algal bloom event is detected, information is passed to PathoIMS and an alert is triggered via PathoALERT.

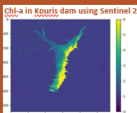
Key characteristics

- PathoSAT focuses on monitoring cyanobacteria that can cause harmful blooms, by estimating the levels of cyanotoxins.
- The input considered is satellite data including Sentinel 1, Sentinel 2 and Sentinel 3, which are provided on a free, full and open basis by Copernicus Open Access Hub with a 1-5 days revisit time.
- A series of techniques are investigated for algal bloom detection involving standard remote sensing, machine learning and novel deep learning techniques.
- In the case of machine learning and deep learning techniques, a large satellite image collection of historical events is required in order to train the respective models.
- Generation of timeseries of Chl-a concentration maps
- Visualisation of algal maps in a GIS system, supporting situational awareness

The PathoCERT project

PathoCERT project works towards the development of pathogen contamination emergency response technologies, tools and guidelines to help first responders detect pathogens quickly and accurately.

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Chl-a in Kouris dam using Sentinel 2



Chl-a in Aegean sea using Sentinel 3

The PathoCERT project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883484.

PathoTWEET



Aim and scope




PathoTWEET enables the automatic collection and analysis of citizen observations and news coverage from social media, in particular Twitter, about water-quality issues. Relevant, geotagged tweets are visualised in the dashboard of PathoWARE and on the map of PathoGIS, providing first responders with an alternative source of information (humans as sensors) for events affecting water quality, complementary to traditional means.

Key characteristics

- Real-time collection of tweets about the quality of water areas near urban regions and the clarity of drinking water, with keyword- and account-based search
- Filtering out posts that match the search criteria but are irrelevant, to decrease incoming noise
- Estimating the reliability of a tweet, to detect fake news
- Automatic geotagging based on mentioned locations in the post text
- Visualisation of filtered & geotagged tweets in a timeline or as pins on a map, supporting situational awareness

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Figure 13. Examples of PathoCERT factsheets

PathoCERT General Presentation with CoPs information

A PathoCERT general PowerPoint presentation was developed, including introductory slides on PathoCERT Communities of Practice so that partners have a homogeneous and consistent way for presenting the information on the CoPs.

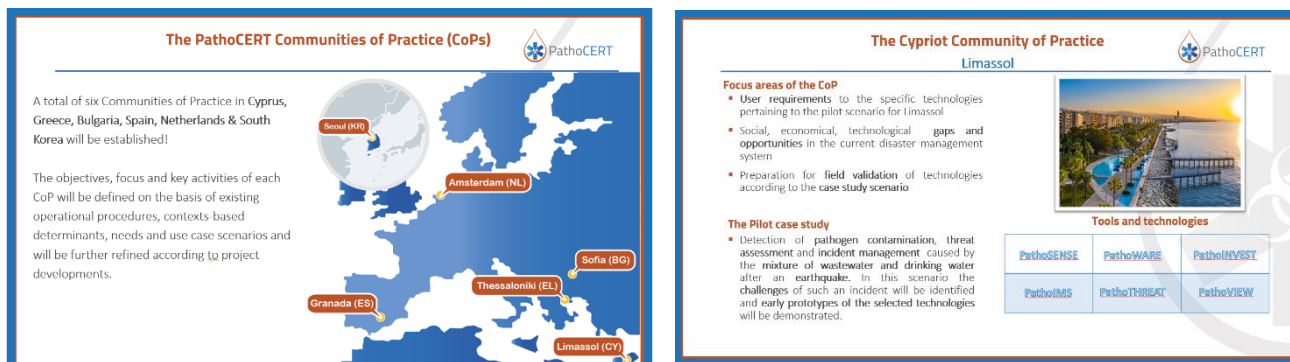


Figure 14. Extracted slides from the PathoCERT general PowerPoint presentation

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	CERTH	KWR	STWS	MLAN	AQQ	PHB	ENG	CSCP	CCD	SPEIS	MOIB	WATNL	EYATH	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		✓	✓	✓	✓			✓															✓

Dissemination outputs	WE	UCY	NTUA	UMF	CET	EUT	CERTH	KWR	STWS	MLAN	AQQ	PHB	ENG	CSCP	CCD	SPEIS	MOIB	WATNL	EYATH	HRT	SUNDO	KIST	
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Children's book		✓																					

Dissemination outputs	WE	UCY	NTUA	UMF	CET	EUT	CERTH	KWR	STWS	MLAN	AQQ	PHB	ENG	CSCP	CCD	SPEIS	MOIB	WATNL	EYATH	HRT	SUNDO	KIST	
ICT4Water Networking		✓				✓		✓															
Water Europe Networking	✓	✓			✓	✓	✓	✓			✓		✓						✓				
Standardization bodies		✓																					

Table 9/ Division of Responsibilities

6 Dissemination Timeline

Dissemination outputs	Year 1												Year 2												Year 3																						
	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																																															

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. The table below has been expanded with the targets reached up to month 18 of the project. For some of the indicators, information is not yet available, which is something taken into consideration for the final update of the plan for Communication and Dissemination.

#	Performance Indicators	Collection Method	Minimum Target	Targets Reached (M18)
1	Publications in peer-reviewed journals and conferences	DM	5/year	3
2	Number of open access publications	OD	5/year	2
3	Number of international co-authorship publications	DM	1/year	0
4	Number of joint public-private publications	DM	1/year	0
5	Number of datasets released in open access	OD	3	0
6	Median altmetric for open access publications	OD	5	N/A
7	Number of new technologies validated/demonstrated by FR	DM	10	N/A
8	Number of staff participating in CoPs and training	DM	40/year	134
9	Average satisfaction of stakeholders for PathoCERT technologies	Q	4 out of 5	N/A
10	Number of applications to register IP (patents, trademarks etc)	DM	2	N/A
11	Number of people becoming informed about the project (website, publications)	DM	2,000/year	1,000
12	Number of recipients of newsletters	OD	300/year	1.121
13	Number of followers across all social media	OD	300/year	379
14	Number of PhD and Master dissertations	DM	3/year	0
15	Number of organizations to be reached by the networking activities	DM	20/year	230
16	Number of networking events and conferences	DM	5/year	11

Table 11/ Performance metrics

8 Calendar of upcoming activities

Communications Activity	Date
Water Market Europe 2022	31 March 2022
1 st PathoCERT Video release	Estimated in Spring 2022
Singapore International Water Week	17-21 April 2022
2022 International Conference on Robotics and Automation	23-27 May 2022
Water Innovation Europe 2022	14-15 June 2022
International Conference on Unmanned Aircraft Systems 2022	21-24 June 2022
30 th Mediterranean Conference on Control and Automation	28 June-1 July 2022
14th International Conference on Hydroinformatics	2-8 July 2022
European Control Conference 2022	11-14 July 2022
IWA World Water Congress & Exhibition	11-15 September 2022
Water Knowledge Europe 2022	October/November 2022
Organisation of local info-days in Cyprus, Spain, the Netherlands, Bulgaria, Greece	TBD in 2023
4-day European Training School in Cyprus	TBD in 2023
Water Market Europe 2023	March 2023
Water Innovation Europe 2023	June 2023
Final PathoCERT Info-day in Brussels	June 2023