



D 4 R U N O F F

Data driven implementation of hybrid nature-based solutions for preventing and managing diffuse pollution from urban water runoff

D6.3 Intermediate update of the communication and dissemination strategy and reporting actions done in the first project period

February 2024

Evdokia Bairampa (Three o'clock)

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		<p>detailed strategy, analysis of the past actions/achievements and a roadmap</p> <p><u>Section 4</u>: This section has been rewritten addressing the objectives/ expected impact/ key actions per target group + a dissemination and communication roadmap until M29</p> <p><u>Section 6</u>: Conclusions have been added</p>
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R=Document, report; **DEM**=Demonstrator, pilot, prototype; **DEC**=website, patent fillings, videos, etc.; **OTHER**=other
PU=Public, **SEN**=Sensitive, limited under the conditions of the GA

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Executive Summary

Urban water runoff, a threat to public health and biodiversity, worsens with changing rainfall patterns and the discovery of new contaminants. Collaboration among urban planners, policymakers, and water utilities is essential to mitigate diffuse pollution. Implementing scalable hybrid Nature Based Solutions (NBS) offers potential. By identifying and monitoring water pollutants, NBS can be tailored to social needs, policies, and urban design. Insights from three pilot locations will be crucial in developing effective and scalable hybrid NBS solutions.

This report (D6.3) provides a comprehensive insight into the dissemination and communication activities that have been carried out in the first 18 months of the D4RUNOFF project by the consortium partners. In parallel, it continues the initial deliverable D6.1, which presents the overall dissemination and communication strategy and serves as the basis for the activities and work to be performed in the upcoming 18 months (D6.8).

A complete listing of communication activities and methods will be presented, along with their impact on different target groups and the progress made in relation to the major Key Performance Indicators (KPIs) defined in D6.1. An analysis of the results and strategies will allow the project to evolve, increasing its dissemination and communication efficiency.

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1 INTRODUCTION

1.1 The purpose of the document

This report presents the status of the Work Package 6 (WP6), led by Three o'clock (3OC) integrating all the activities defined in D6.1 covering the first period of the project from September 2022 until February 2024 as well as the achievements, the impact of the implemented actions and future actions until M29.

Taking into consideration that until M18, the project was in the initial stage, the goal was to predominately **inform and explain** the key innovations and objectives of the project. Therefore, this report presents the implemented actions, the means that have been utilised to engage with different target groups and their impact as well as the upcoming plans which are aligned with the 2nd stage of the project – the implementation phase.

To achieve its goals, D4RUNOFF deployed various means of communication (offline and online) such as website, social media, blog posts, partners' participation and presentations in workshops and conferences, Open Days and collaboration with sister initiatives. As mentioned in the executive summary, these activities need be evaluated using the defined KPIs and find potential ways of improvement.

With respect to dissemination, the following activities have been implemented:

- Participation to 17 local, national and international events
- 2 scientific publications
- 1 Open Day in Santander

As far as communication, the achieved values are:

- 2,557 unique visitors
- 342 followers on X and LinkedIn
- 26,333 interactions on both social media channels
- 1 general roll-up, 1 rollup produced for the Open Day, 1 poster designed for the TNOC festival, 3 factsheets (and 2 updated ones) linked with the project's pilots
- 1 press release
- 1 project video
- Various communication/ awareness campaigns linked with the project's updates and results, and International Days

Concerning the clustering activities, the project achieved to:

- Set up a Cluster with our sister project WATERUN (aiming to expand this synergy with STOPUP)
- Co-organise joint awareness activities with four sister projects
- Create links with ARCADIA, PARC, WATER4ALL, LIFE RESEAU, REWAISE

1.2 The scope of the document and objectives

This document will cover the following topics:

- Define the methods and tools of shared information and their strategies

- Present all the activities performed in the first 18 months of the project
- Analyse the impact of the activities and determine areas of improvement, if needed
- Provide a timeline of communication and dissemination activities for the upcoming months in respect to the project's target audience

2 Communication and Dissemination Strategy

2.1 A summary

The dissemination and communication strategy of D4RUNOFF aims to:

- **Reach out and engage** with the project's target groups (technical operators, policymakers, academia and scientific community and civil society) addressing their needs
- **Effectively communicate** the project's objectives and the future technological solutions which will be tested in the three case study areas; Odense, Santander and Pontedera
- **Create brand guidelines** and develop a distinctive and broadly recognised visual identity
- **Raise awareness** on sensitive environmental topics such as urban runoffs, water pollution, climate change, floodings which have health implications for the life and well-being of the inhabitants.

To achieve these goals, the project uses a wide range of dissemination tools and channels.

During this first period, the dissemination and communication strategy has been focused on supporting and effectively communicating the following specific objectives (SOs):

- **Increase the knowledge of urban runoff pollution** sources and the impacts of Contaminants of Emerging Concern (CECs).
- **Share information** on new advanced methods for detecting Contaminants of Emerging Concern (CECs) in stormwater sources, identifying major CECs and pollutants, and assessing their fate in Nature-Based Solutions (NBS).
- **Raise awareness** of online sensors for targeted CECs, metals and microplastics for improving the monitoring of the water pollution derived from urban runoff.
- **Inform about the D4RUNOFF approach in the 3 case study sites** - Odense, Santander and Pontedera.
- **Engage with local stakeholders and citizens** through different activities.
- **Create synergies, collaborate, and exchange knowledge** with other EU-funded projects and experts on D4RUNOFF objectives, technologies and solutions.

These objectives were reached by using different dissemination means and channels which will be analysed in the next sections.

In the second phase of the project implementation, communication and dissemination efforts transition to a more mature phase, with a focus on disseminating the significant research results and technological solutions developed by the partners. During this phase, the dissemination efforts as well as the collaboration and clustering activities will be enhanced

aiming to maximise the project's outreach capacities and impact in the respective target audiences and above.

The table below lists the project results (KERs) in relation to the interested target groups and the means of dissemination and communication.

Table 1 Project solutions and results, linked with target groups and ways to disseminate these solutions and results

Project solutions/results	Target groups	Involved partners	Diss/comms channels
Suspect and non-target screening methods	<ul style="list-style-type: none"> • Technical operators (water utilities, engineering companies) • Universities, laboratories • Policymakers (environmental authorities) 	UCP GEUS	Website, blog posts/ short reports, social media, local stakeholder meetings, events, publications, Norman Network partnership, EuroGeoSurvey Group
Cost-effective online sensors	<ul style="list-style-type: none"> • Technical operators (water utility companies) 	INL	Website, blog posts/ short reports, 1 video, social media, conferences, scientific publications, Water Quality Group
Innovative multi-criteria decision making analysis (MCDA) methodology	<ul style="list-style-type: none"> • Technical operators • Policymakers (municipalities, urban planners, waste water managers & decision makers) • Universities/ research communities 	UCA	Website, blog posts/ short reports, social media, conferences, scientific publications, EU researchers' night
AI-assisted platform for urban runoff management	<ul style="list-style-type: none"> • Technical operators, • Policymakers (public authorities, EU regulatory bodies), citizens and civil society • Multipliers (EU associations, 	ITG, UCA, KLK, MTG	Spanish and international forums and networks, publications, conferences, website, social media, short report
Risk mapping methodology	<ul style="list-style-type: none"> • Technical operators (water utilities, insurance companies, risk managers), policymakers (municipalities, urban planners), 	MTG	Website, social media, blog posts, publications, white paper

2.2 Key messages

In the first period of the project implementation, key messages were mainly focused on increasing the project's visibility, raising awareness on environmental problems and mobilising the local stakeholders and citizens.

Some examples of key messages shared on D4RUNOFF social media can be found below.

Curious about our findings within the #D4RUNOFF project? We've made some interesting preliminary discoveries and workflow progress at the Odense case study site. You can read all about in our latest article: <https://d4runoff.eu/early-progress-from-the-d4runoff-projects-work-package-one/>

[Link of the post](#)

What is the link between runoff and water pollution? Since we replaced green areas and forests with buildings and extensive urban infrastructure, when it rains, we often face the phenomenon of runoff or storm water. But, what is runoff and how can we prevent it? Check the short video

[Link of the post](#)

On World Cities Day, let's remember that cities are our homes! We live better in more sustainable cities. Today D4RUNOFF, LIFE RESEAU and REWAISE join forces to raise awareness on this day and what we do to put cities in the heart of its citizens. Read the blog post <https://d4runoff.eu/celebrating-world-cities-day-building-stronger-connections-with-citizens/>

[Link of the post](#)

Our first factsheet is here! Dive into our Italian Pontedera case study, featuring the #NBS solutions we will implement, the challenges of the area and our plans to tackle urban waste water. Check out the factsheet below

[Link to the post](#)

In the second phase, the dissemination efforts will be channeled to effectively disseminate the key outcomes of the project. Results related to online sensors, identification of the major CECs and microplastics and the AI-based platform will be included in the promotion on the D4RUNOFF digital platforms and beyond highlighting the impact of these results and services to certain target groups.

Additionally, the project will continue to acknowledge and promote messages for the general public in relation to International Days, local actions and events, environmental problems and expert interviews/opinions.

Some examples of messages can be found in the table below.

Table 2 Key messages to disseminate D4RUNOFF results to stakeholders (M18 onwards)

Title	Title
Municipalities	<p>The D4RUNOFF MCDA methodology will contribute to the implementation of hybrid urban drainage solutions for better performance and efficiency at local level. It will ensure compliance with regulations, cost reduction, energy consumption reduction, and promotion of environmentally friendly management. The methodology will lead to fewer pollutant events and lower energy usage in municipal sewer systems.</p> <p>D4RUNOFF will develop a Risk Mapping methodology that will enhance municipalities' ability to reduce the impact of water pollution from urban runoff. The identification of risk areas will enable municipalities to support targeted preventive actions in the short, medium, and long term and mitigate the risks from contaminants.</p>
Technical operators	<p>D4RUNOFF will introduce remote real-time sensors capable of detecting and quantifying metals, microplastics, and CECs (Contaminants of Emerging Concern) in wastewater and urban runoff. These sensors will offer multiple environmental benefits by enabling the detection of water pollutants and minimising risks.</p> <p>Water engineering companies benefit from the D4RUNOFF AI-Assisted Platform by receiving faster updates to pollutant regulations and gaining knowledge on trade-offs and externalities related to Nature-Based Solutions for water infrastructure investments.</p> <p>The Risk Mapping methodology developed in D4RUNOFF will provide a significant advantage in identifying and preventing water pollution risks, considering the effects of climate change in emergency and risk planning.</p>
Policymakers	<p>D4RUNOFF's AI-Assisted Platform will calculate and provide data that can be used to better monitor pollutants, allowing policymakers to take informed decisions faster and update urban runoff management policies.</p> <p>Suspect and Non-Target Screening Methods help identify pollutants, reducing re-sampling and aiding environmental authorities in understanding urban water pollution and selecting effective NBS solutions.</p>
Scientific community	<p>The Suspect and Non-Target Screening Methods will empower and enable universities to identify water pollutants, particularly Contaminants of Emerging Concern (CECs) without the need for resampling. Researchers will gain a better knowledge and understanding on water quality dynamics which will lead to advancements in environmental research and sustainable water management practices.</p>

Citizens	The optimisation of the regional urban runoff management system and the faster monitoring and regulation of water pollutants will highly impact the health and wellbeing of inhabitants, as they will have higher quality of water in their city.
Multipliers	D4RUNOFF's innovative services and methodologies provide EU stakeholders with new knowledge and tools to address water pollution risks from urban runoff, considering the evolving impacts of climate change. Additionally, they enable the provision of targeted policy guidelines and reports for dissemination to other EU members and institutions.

2.3 Visual identity

In the first 18 months of the project, D4RUNOFF has developed a consistent visual identity to ensure easy recognition. The initial six months witnessed the creation of the first set of dissemination and communication materials, including the D4RUNOFF project logo, brand elements, and the project's PowerPoint template. This standardisation aims to harmonise all communication and dissemination actions among project partners, as outlined in deliverable D6.1.

Furthermore, D4RUNOFF has designed and developed additional dissemination materials, such as a deliverable template, factsheets, infographics, visuals, videos, and a flyer. Screenshots of these materials are included in the following section.

The flyers and roll-ups were distributed by partners at various events, such as the Open Day in Santander and the SOILite conference) informing attendees about the project's objectives, case study areas, and major innovations.

Additionally, communication materials (videos, GIFs, infographics, visuals) aimed at maximising outreach and engagement in the online communication campaigns organised by 3OC and the joint awareness campaigns co-organised with sister projects.

2.4 KPIs – where we stand

Table 3 KPIs template – progress

Communication/ dissemination measures	Project KPIs	Where we stand (M18)
Website	+500 visitors monthly +150 downloads	2,557 visitors 3,635 views
Social media / social media campaign (M19- M20)	+50 followers monthly +200 interactions	342 followers, 26,333 interactions on X and LinkedIn
Communication materials	+400 brochures distributed/download	50 flyers

Gamification challenge	+50 citizens per pilot	Pending (TBO between M24-M36)
Media coverage	3 press release	1 st done, 2 nd in M20-22
Stakeholder gathering forum	200 members	TBO
Deliverables	4 to be transformed to briefing papers	M18 onwards
Publications	5 in total	2 publications
Events	10 presentations, posters	2 posters, 17 presentations
1 Open Day in each pilot	100 participants, 3 EU projects	62 participants in the 1 st Open Day, next Open Day in Pontendera
Board Game	Deployed in 3 schools	TBO (M30-M42)
Policy briefs	2 in total	TBO (1 st policy brief on M24)
Videos	2 in total (1 produced by 3OC, 1 produced by INL)	1 developed by 3OC

2.5 External communication

Objectives: Raise awareness of sensitive environmental topics such as urban runoffs, water pollution, climate change, floodings which have health implications for the life and well-being of the inhabitants, increase visibility of D4RUNIFF and its research

Means of dissemination: website and social media management

Target groups: All target groups

Impact:

- Social media campaigns to raise awareness of urban water runoff pollution have increased the number of followers on D4RUNOFF accounts
- Social media campaign for the Open Day has increased the number of stakeholders participating in Santander event
- Social media and website activity have led to direct inquiries from PhD students looking for more information about the project and our solutions for their research, organisations in the water sector have contacted the project for more information and collaboration opportunities (these organisations include Austrian Institute of Technology, The Cube Madrid, Technical University of Denmark, University of Montreal, Hydro international)

2.5.1 D4RUNOFF website

The D4RUNOFF project website was rolled out in the initial months of the project (January 2023) and has served as the main communication and dissemination channel for informing and educating stakeholders and the public.

In the last months, the website has been updated to incorporate new design elements and updated content. The revamped website is anticipated to draw more visitors and prominently showcase the project's key outcomes.

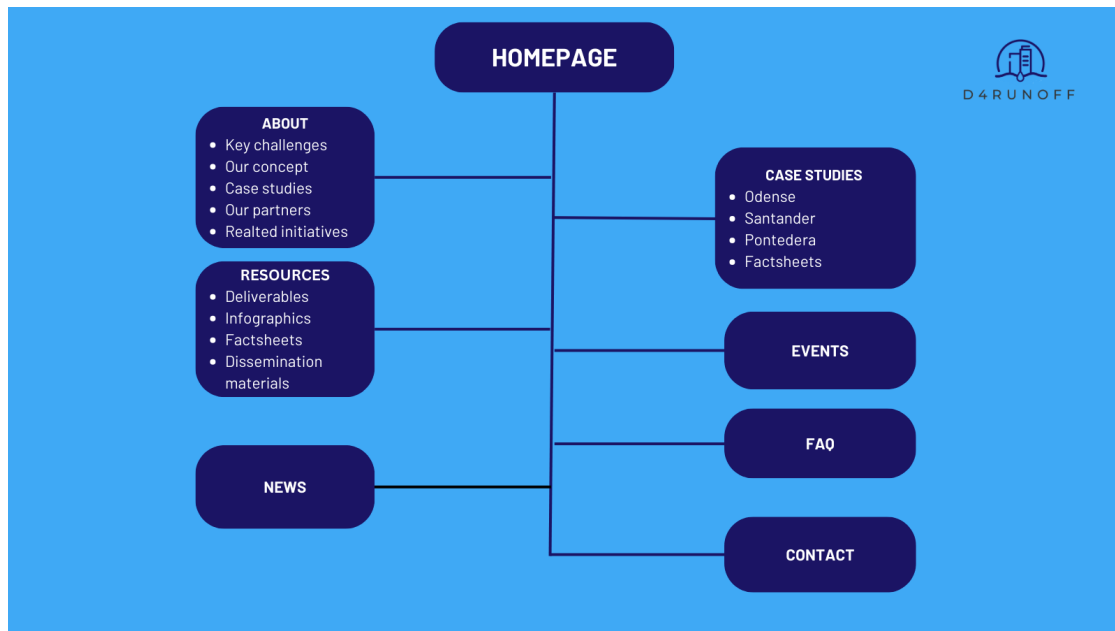


Figure 1 Updated website structure

Figure 1 shows the updated website structure, which is detailed below.

Homepage: This page has been modernised and restructured. It contains a comprehensive overview of important project related information, including the major problem that D4RUNOFF is called to solve, the objectives and exploitable results, the project video, a news and events section and the logos of the consortium members.

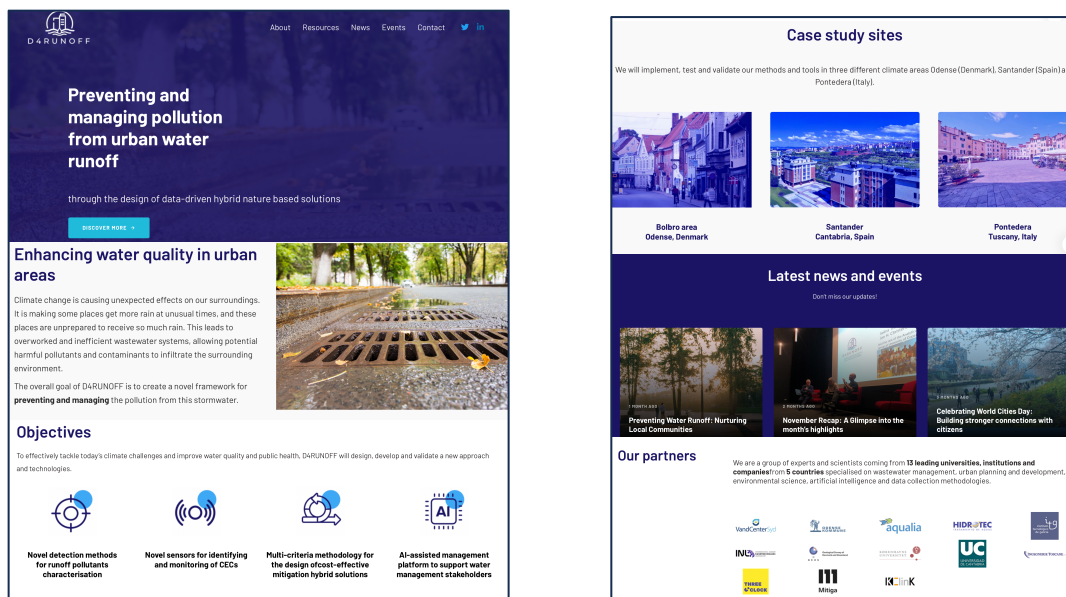


Figure 2 Homepage

About: This page has been updated to provide further and more technical information about the project. It is divided into six sections:

- Problem statement and general framework
- Key challenges that the project needs to face in the implementation
- D4RUNOFF concept and Key Exploitable Results
- An overview of the case studies and the linkage with D4RUNOFF technological solutions
- The partners
- The related initiatives and sister projects

Case study pages: These 3 case study pages have been added ([Odense](#), [Santander](#) and [Pontedera](#)) to provide detailed information about their context, objectives and the technological solutions implemented during the lifetime of the project.

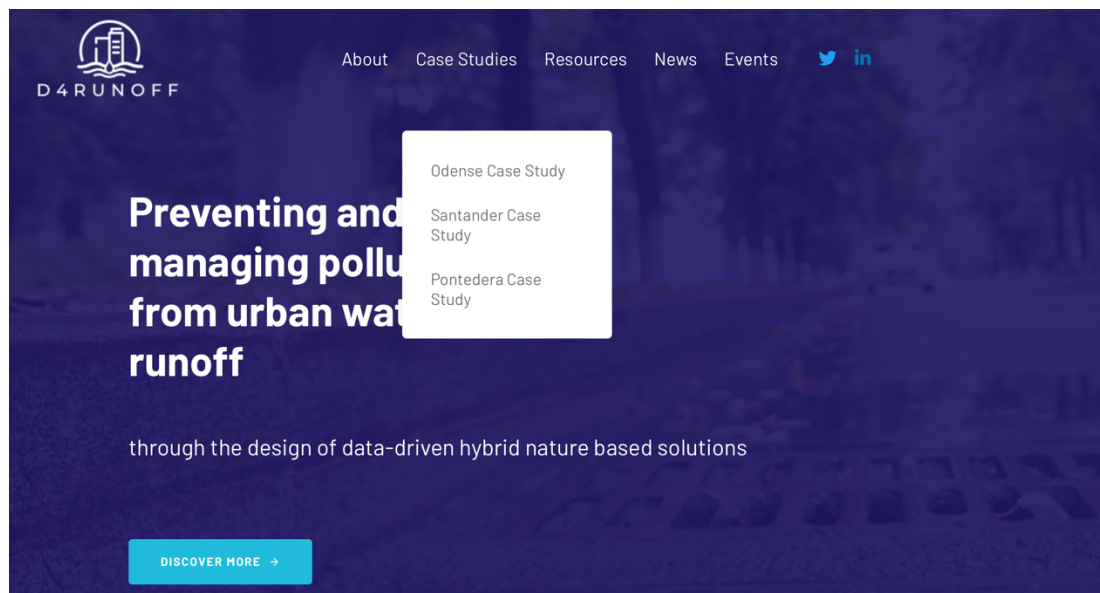


Figure 3 Case study pages

Resources page: This page has been slightly modified to enhance the accessibility and visibility of communication and dissemination materials. All files can be downloaded in PDF formats.

Events/News pages: These pages have not been altered and continue to host general news, project updates, and blog posts produced by the partners. Additionally, they feature events organised in the respective case study areas. In the future, the events page will provide information about either online or physical events in collaboration with other sister projects.

FAQ: This is a new page. It will include the most frequently asked questions and answers regarding key terms such as runoff, diffuse pollution, receiving waters, etc.

Contact: This page has remained unchanged. The only minor edit includes the reference and contact information of the Dissemination and Communication Work Package (WP) leader in case there are media or press requests.

2.5.1.1 Website analytics and KPIs

The Key Performance Indicators that have been included in the proposal and the D6.1 are the following: +500 visitors per month, +150 downloads direct website. In total, in the past months, the D4RUNOFF website has gathered 2,557 visitors

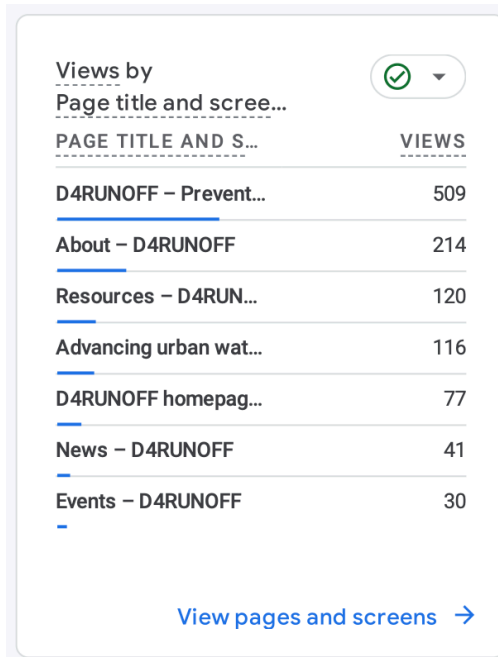


Figure 4 Website analytics – page views

The most viewed blog post that was published on the website was titled, [Preventing water runoff: Nurturing local communities](#) followed by another blog post named “[Advancing urban water runoff management: 1st year progress](#)”.

According to the demographical data, D4RUNOFF visitors are coming from different European countries including the countries where our consortium partners are coming from.

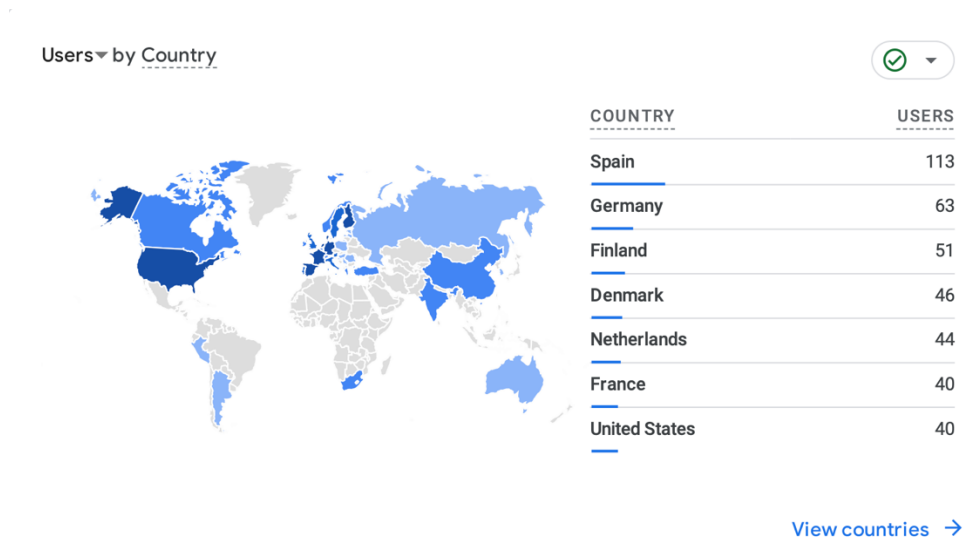


Figure 5 Website analytics - demographics

2.5.1.2 Further actions and improvements

Taking into consideration further website improvements and development, the initial goals include disseminating partners' results produced from the 18 months of project implementation onwards, and featuring more actions organised between D4RUNOFF and other EU-funded projects.

To fulfill these goals, a clear and well-structured blog post plan has been developed in collaboration with the partners and sister projects. The objective is to generate content for the public but also for specific target groups interested in D4RUNOFF's topics.

Below is the six-month content plan. This planning will be updated every six months, and the topics will be decided upon agreement with the partners. In the planning, the topics are not finalised, but they are based on the submitted deliverables. Partners might elaborate and slightly change the titles. To facilitate the work of the partners, 3OC will provide blog post guidelines in terms of language, structure, and visuals.

Month	January	February	March	April	May	June
Communication actions		1. International Day for Women and Girls in Science – sis projects (contribution from the female researchers of the projects) 2. Microbial antibiotic resistance in stormwater	1. Blog post – Water sampling 2. A blog post A recap of D4runoff project meeting in Braga 3. World WaterDay / International Women's Day	Blog post – AI-assisted platform and its benefits for the local stakeholders/communities	Blog post: Integrating Sustainability: Balancing NBS Impact in Urban Environments	World Environment Day
Assigned partner(s)		GEUS, 3OC - sis projects - partners	INL, 3OC	ITG	UCA	3OC - sis projects

Figure 6 Blog post calendar

As mentioned below, the transformation of public deliverables into shorter and more appealing reports and blog posts is considered a high priority for the upcoming months. In collaboration with the authors of the deliverables, 3OC will convert the specific public deliverables into briefing papers, infographics, short videos (GIFs), and any other material appropriate to ensure

effective dissemination. All these materials will be stored on our website and promoted on the project's social media.



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SUBSCRIBE

To strengthen these efforts, there will be close monitoring of the website's performance, and should the need arise, specific pages will undergo further development or restructuring. This proactive approach aims to ensure that the website remains dynamic and responsive, continuously adapting to the evolving requirements and preferences of its users.

Finally, the Stakeholder database will be created in the upcoming months. The objective of this database or group is to be systematically updated on the project's progress and development, receive information about news and upcoming events in the field, and gain a comprehensive picture of the work happening in parallel to other sister initiatives. The content and materials shared with the stakeholders will be uploaded on the website, under the respective pages, and will be easily accessible.

The registration form has been created and a Call to Action (CTA) button will be added on the homepage. This CTA will be named "Join us or Engage with us" and it will be linked with the below form.

Further improvements will also be considered such as changing the letter fonts, creating a separate space to feature the clustering activities, including articles and presentations under the resources page and separating the past and future events in the events page. These additional interventions will provide further structure and increase the readability and impact of the website.

Figure 7 Subscription form

2.5.2 Social media

D4RUNOFF has launched two social media accounts, X and LinkedIn. According to the initial plan, no further social media platforms were about to be opened. The progress made in social media is remarkable and is clearly reflected in the engagement rate and the number of followers. Currently, the social media followers are 258 on LinkedIn and 84 on X. LinkedIn is a more popular social media platform than X is mainly because the project aims to attract professionals in the water management sector, as well as scientists and researchers of this field who are more active on LinkedIn than X. In addition, due to recent developments and ethical considerations with X, many individuals have decided to stop using it. This is also reflected in the screenshots from the LinkedIn analytics below.

Table 4 Social media metrics overview (January 2023 – middle February 2024)

Metrics	LinkedIn	X
No. of followers	258	84
Impressions	22,994	9616
Likes	895	234
Reposts	67	100
Engagement rate	10.8%	4,3%

In relation to the Key Performance Indicators (KPIs), as mentioned, there is stable progress. In the past few months, the project has nearly reached the goal of 50 followers per month. Considering the systematic work on organising and sharing campaigns, informational materials, interviews, and international reports, there is a considerable increase in followers at the level of 85%.

More precisely, on social media channels, there is a great variety of content that has been published. Topics addressed by D4RUNOFF:

- Objectives
- Events, activities and news
- Facts on urban water pollution, success stories
- Related news
- Featured partners, key stakeholders
- Content related to the international days

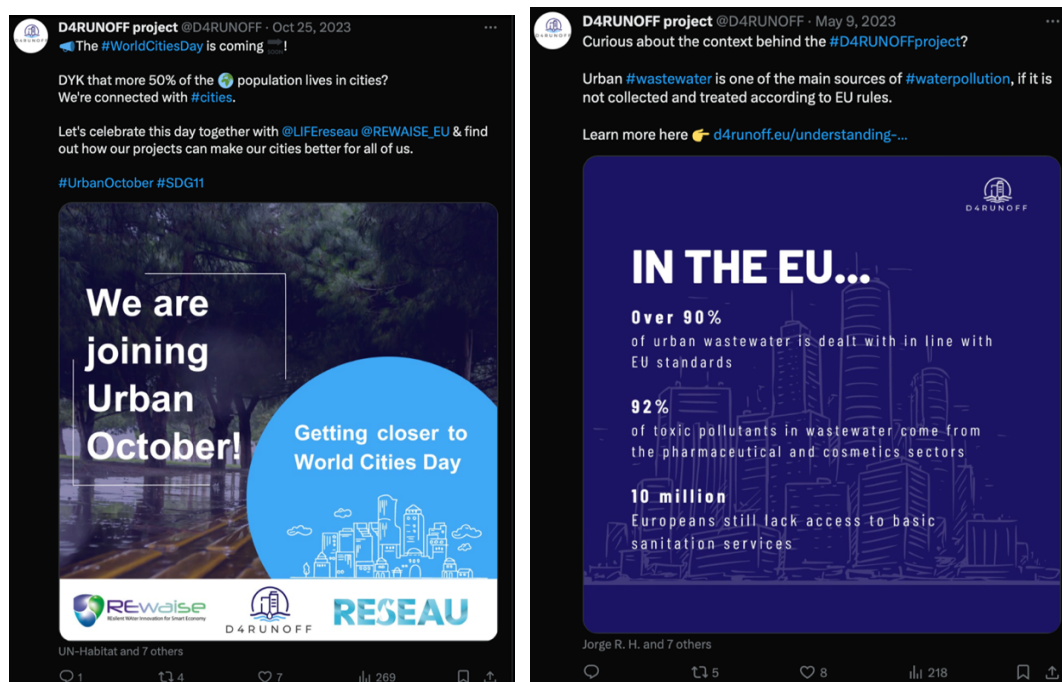


Figure 8 Social media posts

2.5.2.1 Social media analytics

2.5.2.1.1 LinkedIn

Thanks to LinkedIn analytics, there is a comprehensive overview of the progress that has been made on the LinkedIn account in terms of impressions and reactions.

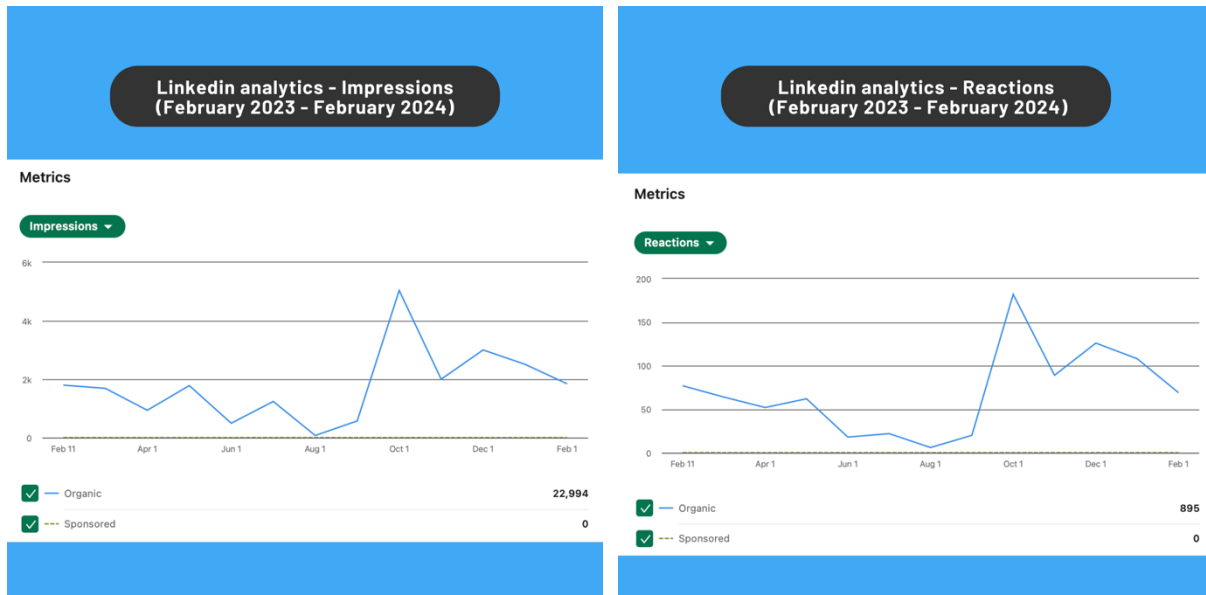


Figure 9 LinkedIn analytics: impressions, reactions

Both screenshots prove that in February–March 2023, there was the first high interaction, as the project promoted its first Open Day in Santander. For this event, four social media posts were translated into Spanish to ensure a greater reach and maximise the impact of the posts on local stakeholders.



Figure 10 LinkedIn post – Santander Open Day promotion

Another peak happened in May 2023, when the project produced three blog posts. One acknowledged [the importance of the Biodiversity Day and its connection with the sustainability of the urban water management systems](#), another focused on the [objectives of Work Package 1](#) and the third one addressed [the topic of water pollution and runoffs](#).

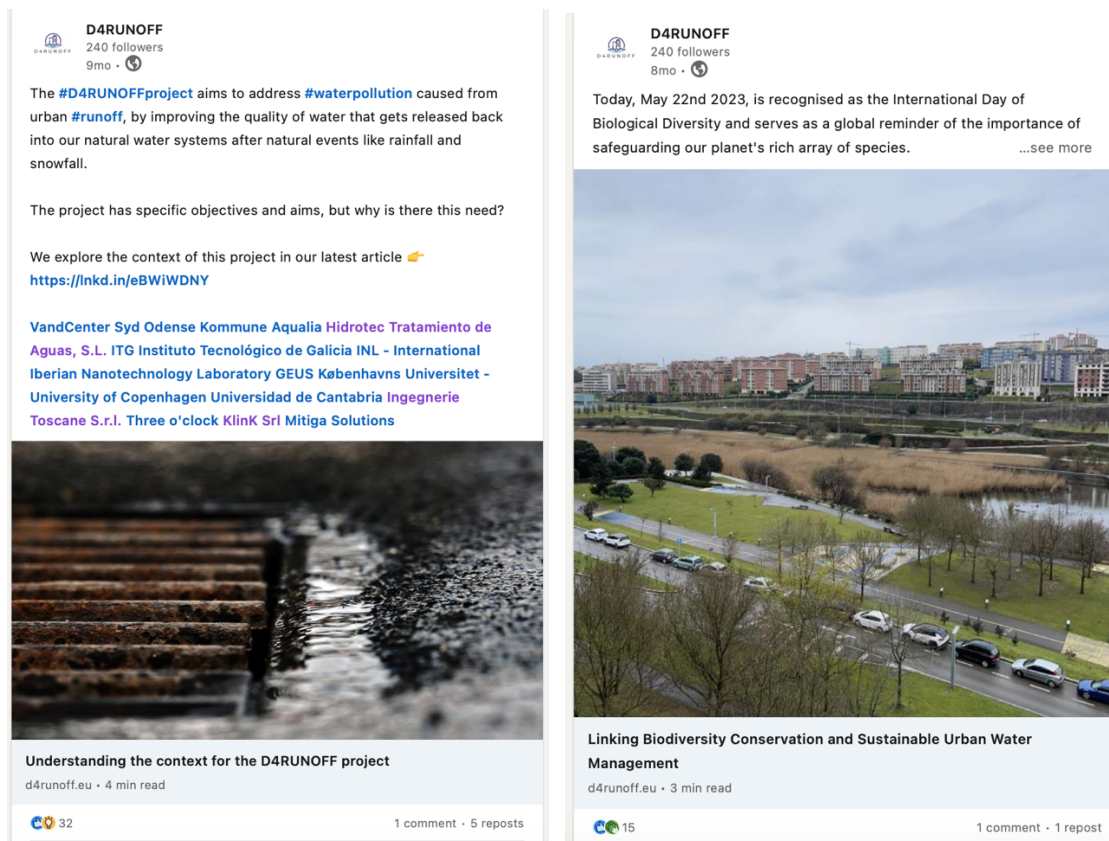


Figure 11 LinkedIn posts: May 2023

According to analytics, another remarkable peak happened in October 2023 when a combination of different topics and materials such as short videos, creative visuals, joint campaigns with sister projects, and informative reports gave an additional boost to the LinkedIn numbers.

D4RUNOFF
240 followers
3mo · 🌐

The [#WorldCitiesDay](#) is coming 🗓️ !

Did you know that more 50% of the world's population lives in cities?

We're connected with [#cities](#).

Cities are centres for economic growth and development but also face demographic, environmental, economic, and social challenges. This signals a growing demand for resilient [#urban](#) infrastructure.

Join us! Let's celebrate this day together with [LIFE Reseau](#) and [REWAISE EU project](#) and find out how our projects can make the cities we live better.

Stay tuned with us until the next post for [#UrbanOctober!](#)

[#SDG11](#) [#WCD2023](#) [#ResilientCities](#)

UN-Habitat (United Nations Human Settlements Programme) LIFE Programme [EU PROJECT WATERUN NICE Nbs VandCenter Syd Aqualia Odense Kommune Ingegnerie Toscane S.r.l. INL - International Iberian Nanotechnology Laboratory GEUS Københavns Universitet - University of Copenhagen Universidad de Cantabria Mitiga Solutions Hidrotec Tratamiento de Aguas, S.L. KlinK Srl](#)



We are joining Urban October!

Getting closer to World Cities Day

Chloe Chavardes and 16 others · 4 reposts

D4RUNOFF
240 followers
3mo · 🌐

📢 We have exciting news to share with you!

Foreign students from the Erasmus Mundus Joint Master MBU ...see more




Chloe Chavardes and 27 others · 12 reposts

Like Comment Repost

D4RUNOFF
240 followers
3mo · 🌐

What is the link [🔗](#) between [#runoffs](#) & [#waterpollution](#)? [...see more](#)



The D4RUNOFF project aims to prevent and manage the pollution stemming from this water runoff in urban areas.

23 · 2 reposts

Figure 12 LinkedIn posts: October 2023

January and February 2024 have been quite busy and engaging months as the project has shared posts on the launch of the first project video and the case study page, the campaign for International Day for Women and Girls in Science and updates on the latest European legislation on water pollution.

D4RUNOFF
258 followers
4d · Edited ·

Have you seen our latest project video yet?

Dive into the world of urban runoff and discover its impact on our environment with D4RUNOFF!

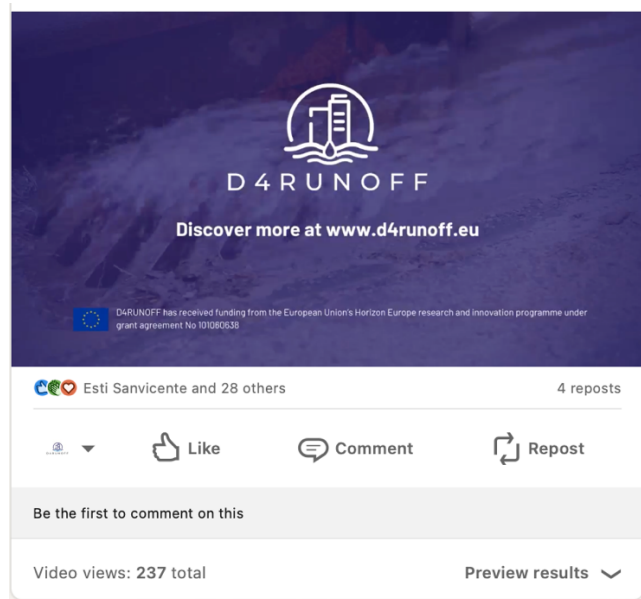
Join our coordinator, Uffe Linneberg from [VandCenter Syd](#), as he unveils our innovative technologies and the role of nature-based solutions in combating water pollution.

Explore our case study areas and stay tuned for exciting updates! 💧

Where can you find it? Visit our website <https://d4runoff.eu/>
Do you like it? Give a ❤️

[#D4RUNOFF](#) [#UrbanRunoff](#) [#WaterPollution](#) [#NatureBasedSolutions](#) [#EnvironmentProtection](#)

EU Environment and Climate EU Health and Food Safety VandCenter Syd Aqualia Odense Kommune Ingegnerie Toscane S.r.l. GEUS Københavns Universitet - University of Copenhagen Universidad de Cantabria Mitiga Solutions Hidrotec Tratamiento de Aguas, S.L., Klink Srl Three o'clock



D4RUNOFF
Discover more at www.d4runoff.eu

D4RUNOFF has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101090938

Esti Sanvicente and 28 others 4 reposts

Like Comment Repost

Be the first to comment on this

Video views: 237 total Preview results

Figure 13 LinkedIn post: February 2024

Finally, it is worth looking into the LinkedIn demographics. The analytics confirm that our followers come from key geographic areas addressed by our project, where our partners are based, as well as experts from non-European countries such as Kenya, the United States, and Indonesia.

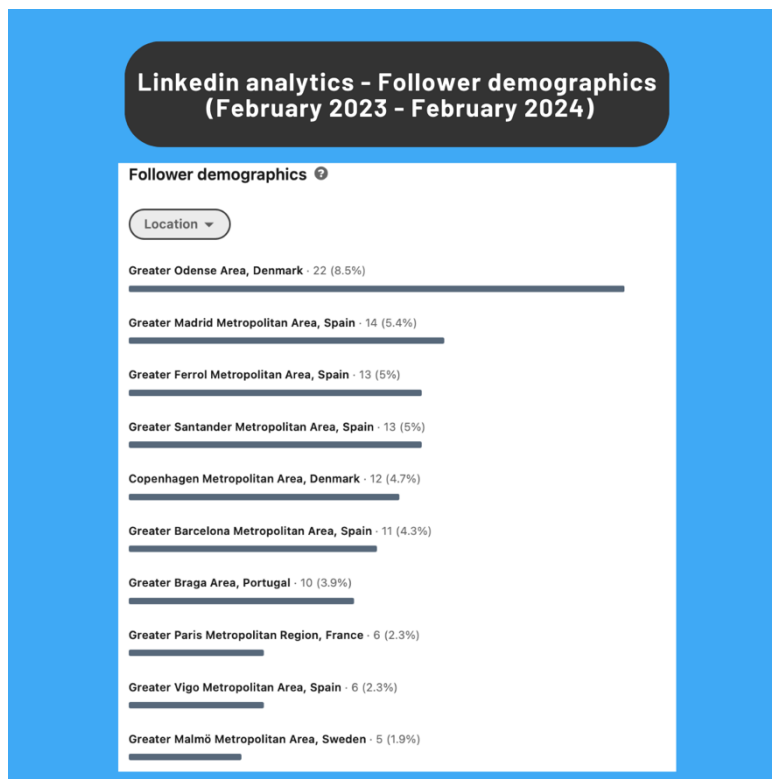


Figure 14 LinkedIn analytics: follower demographics (location)

The expertise of D4RUNOFF followers is very relevant to the target groups the project aims to approach and disseminate the results. Therefore, the largest number of our followers comes from academia and research, with a considerable number working in water management and the environmental industry. It is also evident that there are followers working in administration, which is crucial for D4RUNOFF, as municipalities are one of the project's key target groups.

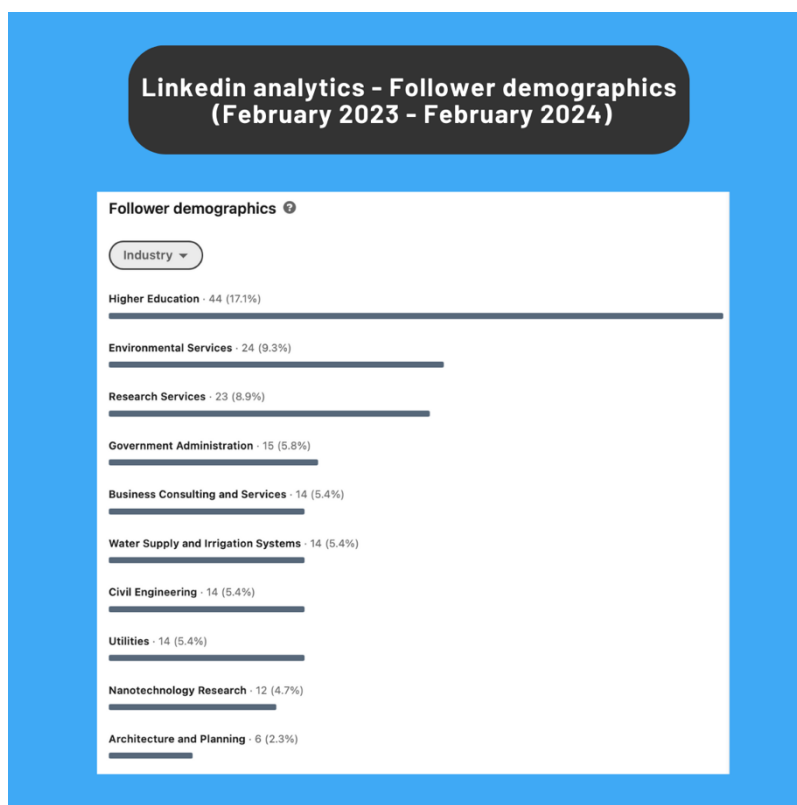


Figure 15 LinkedIn analytics: Follower demographics (industry)

The above analytics reassure that the content produced by D4RUNOFF attracts the attention and addresses the needs of the right target audience with the relevant professional background in the correct locations.

2.5.2.1.2 X (ex-Twitter)

X has also grown in the past months gaining more followers and establishing a more systematic presence on the social media channel. The overall number of posts is 118. Unfortunately, the X does not provide as many insights as LinkedIn, however, it is possible to show the most successful posts in the past year. Below there are four screenshots. These four screenshots have higher impressions and engagements compared to other posts.

The first and second screenshots present moments from the Open Day that was organised in Santander. These posts have higher engagements because they present relevant informational content and show the people who work behind the D4RUNOFF project.

Tweet activity




Impressions	511
Total engagements	49
Media engagements	36
Likes	7
Retweets	2
Detail expands	2
Profile clicks	2

Tweet activity




Impressions	276
Total engagements	26
Media engagements	9
Likes	8
Retweets	4
Detail expands	3
Profile clicks	2

Figure 16 X posts with high engagement and impressions (part I)

The third and fourth screenshots clearly prove that when a post presents the human element and engage people has higher success.

Tweet activity




Impressions	279
Total engagements	40
Media engagements	16
Likes	9
Detail expands	7
Retweets	3
Link clicks	3
Profile clicks	2

Tweet activity




Impressions	879
Total engagements	62
Media engagements	35
Likes	8
Profile clicks	6
Follows	5
Detail expands	5
Retweets	3

Figure 17 X posts with high engagement and impressions (part II)

Having a closer observation and analysis on D4RUNOFF’s X followers, it is worth highlighting that followers are predominantly:

- Researchers and experts from the water management, sustainability, and environmental field,
- EU-funded projects
- Companies providing water solutions and services,
- Civil society organisations working on Nature-Based Solutions (NBS) and climate,
- News portals featuring water-related topics and other media agencies,
- D4runoff partners

These data confirm that the project engages stakeholders and communities with a clear interest in the project’s results and solutions. The diverse and specialised composition of the followers indicates a targeted and impactful outreach, fostering a community that aligns closely with the project’s objectives and themes.

2.5.2.2 Further improvements and plans to implement in the upcoming months

One of the key priorities for the next months is to increase the X followers to create a broader community to reach out and promote D4RUNOFF solutions. The content will be enriched with further topics such as policy updates, deliverables, and briefing reports, as well as more extensive collaborative campaigns with sister initiatives.

As mentioned in the website section, there is a clear content plan that will help organise social media activities. All blog posts and materials will be shared on both social media accounts, tagging the relevant partners and stakeholders interested in the results.

Between 20-22M, D4RUNOFF will launch a social media campaign aiming to effectively transform the submitted deliverables into comprehensive articles and visually attractive materials. The objective is to inform our target groups about the project’s progress and the results we produce.

2.5.3 Communication materials

Objectives: Effectively communicate the project's objectives and the future technological solutions that will be tested in the 3 case study areas; Odense, Santander and Pontedera & create brand guidelines and develop a distinctive and broadly recognised visual identity

Results/ activity disseminated: various dissemination/communication materials

Target groups: All target groups, specifically scientific community in conferences, and local stakeholders including decision-makers in Santander

Impact achieved: Increasing visibility of the D4RUNOFF project, its objectives and expected impacts.

- Roll up was used in Open Day in Santander
- A total of 50 flyers were distributed in SOILite event with QR codes to visit website
- Poster was presented at Nature of Cities event to > 500 participants
- > 400 views of D4RUNOFF video (website and LinkedIn)

The project has developed communication support materials to support consortium partners in communicating about D4RUNOFF. Materials such as a flyer and a rollup have been designed in M6 and they were included in D6.2. Additionally further materials such as rollups focused on the case study areas (Santander) has also been designed.



Figure 18 Rollups



Figure 19 Flyers

Also, the project prepared two versions of factsheets which focus on the case studies and the Nature-based Solutions that will be implemented. The 2nd version is more modern and presents the work and the technological solutions in a more constructive way. These factsheets aimed to inform the public and local authorities. Another set of infographics and factsheets will be produced towards the end of the project, possibly translated in the languages of the stakeholders in the case study regions. This way the project will ensure the highest engagement and comprehension of the content.



Figure 20 New factsheets

The factsheets can be found on the website under the resources page.

Further communication materials can be considered visuals and shorts videos which accompany the blog posts and the social media campaigns.

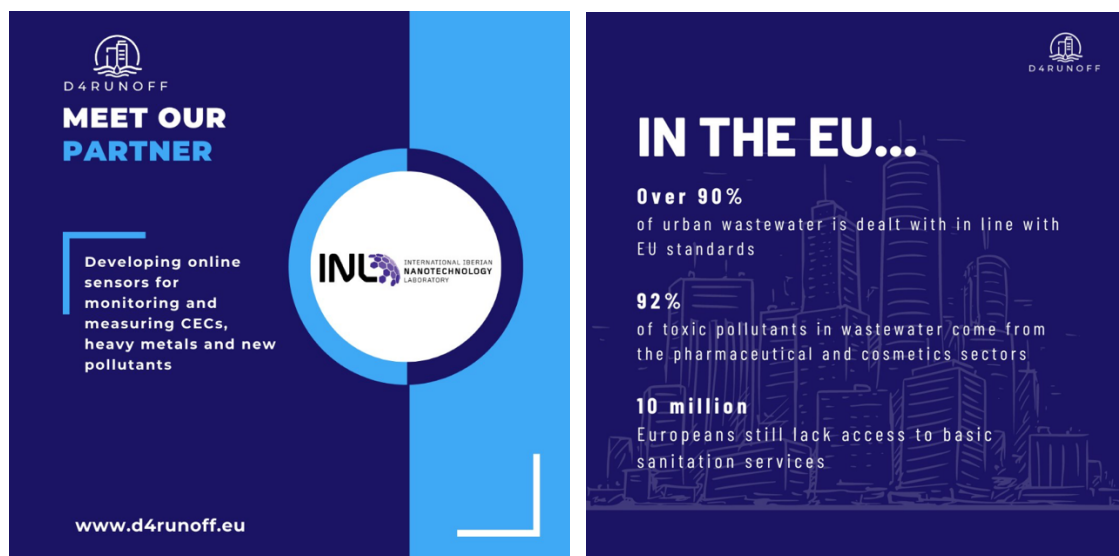


Figure 21 Branded visuals and videos

A dedicated poster was designed to support the application for the [Nature of Cities Festival 2024](#), organised in Berlin with the theme "The distance between dreams and reality is action." The word 'action' means the translation of knowledge from various resources to results on the ground. D4RUNOFF submitted a poster for [the show-and-tell session](#), and if the poster is accepted, it will be presented in the physical exhibition in Berlin. The submission was completed in December 2023 and the results will be announced in the spring.



Figure 22 D4RUNOFF poster for the Nature of Cities Festival

Finally, D4RUNOFF has produced its first project video (produced by 3OC). The video lasts nearly 2 minutes and clearly presents what urban runoff means, why it causes environmental pollution, and how the project can address these environmental challenges with the development and application of its innovative technological solutions and their testing in 3 locations. Additionally, in the video, the project coordinator, Uffe Linneberg, outlines the scope of the project and its key outcomes.

The video has been published [on the website](#)'s homepage and on social media platforms ([X](#) and [LinkedIn](#)), and it has been shared with partners for further dissemination.

2.5.4 Media mentions

Objectives: Increase visibility of D4RUNOFF and knowledge regarding urban runoff pollution sources, NbS, and the impacts of Contaminants of Emerging Concern (CECs).

Results/activity disseminated: project's press release was shared, and the project was featured on different scientific/academic/partner pages and portals

Target groups: All target groups, mainly NbS professionals, scientific community, policymakers

Impact achieved: Raised project awareness about D4RUNOFF objectives and results, enhanced credibility and connectivity with major professionals and stakeholders (local, national, EU/international), through the mention of D4RUNOFF in highly visible portals such as Nature Network, OPPLA, BBVA.

In the past 18 months, partners have done a considerable effort to showcase and promote the project's objectives and its technological solutions. Additionally, D4RUNOFF case studies have been featured by OPPLA, the EU-Repository of Nature-Based solutions (Nature Network), Interlace Hub, an EU-funded hub focused on nature restoration and OPENAIRE.

Table 5 D4RUNOFF mentions on media portals, partners' website, scientific magazines

Media/organisation	Link
Interlacehub	https://interlace-hub.com/es/network-nature-case-study-keywords/3926
Three o'clock	https://threeoclock.co/portfolio/d4runoff
OPPLA	https://oppla.eu/casestudy/29507
Nature Network	https://networknature.eu/d4runoff
ENER MAPs	https://enermaps.openaire.eu/search/project?projectId=corda____he::5e146b0e82a8840283df498abc66b35d
University of Cantabria	https://www.giteco.unican.es/projects.php
University of Cantabria	https://web.unican.es/noticias/Paginas/2023/02/proyecto-D4RUNOFF.aspx
INL	https://www.news.inl.int/blog/worldwaterday
INL	https://inl.int/projects/d4runoff/
INL	https://www.inl.int/braga-public-companies-meet-with-inl/
Retema	https://www.retema.es/revista-digital/septiembre-octubre-9
BBVA	https://www.bbva.com/es/sostenibilidad/emprendedores-que-abren-el-grifo-de-la-innovacion-para-acabar-con-la-crisis-del-agua/
South Denmark European Office	https://southdenmark.eu/wp-content/uploads/2023/10/Arsrapport-2022_opdateret_compressed.pdf
Danish Environmental Agency	https://mudp.dk/nyheder/2022/juli/mudp-projekt-om-vejbede-baner-vej-for-stoette-fra-eu-paa-25-mio-kroner

2.5.5 Education

Objectives: Raise awareness on sensitive environmental topics such as urban runoffs, water pollution, climate change, floodings which have health implications for the life and well-being of the inhabitants.

Activity: *not yet started*

Target groups: Citizens, kids

Expected Impact: Educate and comprehend the impact of daily actions on water pollution and discover new urban solutions to cope with water runoff events. 100+ children gain understanding of urban water pollution and what are NBS.

A card game tailored for children, aimed at fostering awareness of water pollution in urban areas, will be developed between M30 and M42 of the project timeline. This educational initiative will be designed for children of a specific age to help them understand the impact of water pollution in their city or neighborhood, discover which pollutants pollute the environment they live and learn how individual actions can protect water. Also, the game will aim to integrate D4RUNOFF solutions which will be used to tackle environmental challenges.

3OC is currently carrying out a comprehensive desktop research to gather ideas about existing water and environmental aimed at different children age groups. This research is essential to gain a deep understanding of the complexity levels, design elements, and the diverse range of games within this thematic domain. The insights gathered from this research will serve as the framework, guiding the team as we move on to the next phase of development. When this initial step is complete, the concept and the design elements will be developed. The objective is to design a card game that is both educational and fun.

As part of our outreach efforts, D4RUNOFF plans to distribute the educational game to a minimum of 3 schools in each pilot region, ensuring a wide-reaching impact and engagement.

2.6 Dissemination

2.6.1 Stakeholder engagement in pilot sites

Objectives: Engage with local stakeholders to inform, share knowledge and best practices, and involve them in the project's case studies' implementation.

Activities: meetings, events, site visits

Target groups: local decisionmakers, researchers, water utilities, students, scientific community

Impact: Increased interactions and communication with local audiences, local stakeholders were kept informed of the case study developments regarding technical aspects and some decisions were made in a collaborative way and improved understanding and awareness of the impacts of urban runoff, promoting the project's research and activities.

D4RUNOFF's approach in engaging with stakeholders in the case study sites is based on two principles: consultation and information. A two-way consultation and participatory process (WP4) included local stakeholders to contribute to the development of the AI-assisted platform, directly affecting the direction of its functionalities and user experience (see section 2.6.3).

Case study leaders informed stakeholders of decisions, progress and status of the project and the solutions/technologies to be implemented in their case study (WP3 and WP5). An informative approach was also undertaken with the organisation of an Open Day event, which included a Climate Fresk Workshop, presentations and a site visit (see section 2.6.2).

The objectives of these stakeholder engagement activities are to enhance interaction and communication with local audiences to maximise the impact of the project, ensuring local stakeholders are kept informed of the case study developments regarding technical aspects, and improved understanding and awareness of the impacts of urban runoff, and promote the results and outputs of the project.

Odense

VCS, leading the case study in Odense, already has a track record in collaborating with the municipality, community and researchers for nature-based solution projects, and will build on their experience and existing ties to engage with them/.

Engagement activities in the case study area as part of D4RUNOFF are pending on the start of WP5. Among these planned activities is an **open day event which will take place post M25**.

In addition, a stakeholder event related to **Bolbro Rende another project of Odense municipality involving blue-green infrastructure** in the area will be arranged by the municipality in early fall 2024. This event will include a presentation of related projects such as D4RUNOFF and include a session focussing on the interests of stakeholder with regards to the future planning of the neighbourhood. The expected impact of these activities are increased awareness of nature-based solutions to tackle the issue of urban stormwater runoff and to foster uptake of D4RUNOFF solutions in other regions and cities.

Santander

In Santander, a practical approach to nature-based solutions is taking place. The University of Cantabria already collaborates with water companies, civil society organisations, and the municipality to assess NBS' impact on environmental challenges, in addition to work performed in the D4RUNOFF project.

Several meetings have taken place to communicate, disseminate and inform local stakeholders of the work carried out in the D4RUNOFF project:

- **On 29 November 2022, representatives from D4RUNOFF partners AQUALIA and the University of Cantabria and the Santander City Council met** at the Civil and Environmental Engineering School of the University of Cantabria. The objectives of this meeting was to collaborate on the initial stages of the project, distribute the photos from the visit to the Odense Case Study conducted during the Kick-off Meeting (to share knowledge about the activities implemented in terms of NBS), engage in conversations about the key stakeholders involved in the decision-making process (information crucial for Work Packages 3 and 4), and coordinate the planning for the Open Day in Santander in March 2023
- **A followup meeting was held on 9 January 2024** at the University of Cantabria involving AQUALIA and the Santander City Council to provide updates on the project

status, including work accomplished since March 2023, such as D3.1 and tasks completed in WP3. Also discussed was the monitoring programme for the Case Study in Llamas Park, addressing the preparation of the site for the sensors currently under development in WP1. Additionally, a comprehensive review of the key actions associated with WP5 took place during the meeting.

- **A meeting with SEO BirdLife**, an organisation working on the conservation of birds and their habitats, is planned for February to exchange on what will be done in the project.
- **The University of Cantabria has also engaged with students** to foster awareness and community engagement in sustainable urban development. Various visits to the NBS facilities situated in Las Llamas Park, Santander were organised. In the next months, more visits are planned. For example, in May 2024 15 students from the Senior Programme (retirees in the region who are studying at the University of Cantabria) will visit the facilities.

The University of Cantabria and Aqualia will continue to engage with local stakeholders through followup meetings to keep them informed of development, reinforcing ties and continuing close collaboration, to ensure continued support and engagement with the project.

Pontedera

In Pontedera, a collaborative effort is made by the Municipality, water companies, consultancies and research teams from the University of Pisa and Florence. This collective approach aims to address challenges related to stormwater runoff and improve water management practices in the region.

A proposal is on the table to incorporate measures for stormwater runoff prevention through a parallel pathway facilitated in collaboration with the D4RUNOFF project. This parallel initiative provides an opportunity to align municipal plans with sustainable practices advocated by the D4RUNOFF initiative and examples of good practices from other two case studies.

A collaboration with Pontedera Municipality for the selection of an existing NBS in the town area to be considered in projects activity and on defining authorisation procedures for sampling activities in public areas has taken place.

Engagement with the local stakeholders will continue, with a view to reinforce collaboration in the implementation of the case study and share best practices with other regions.

More detailed information about stakeholder engagement activities at local level can be found in **D6.4 Initial progress report on the actions carried out in the case studies**.

2.6.2 Open Days - Santander

Objective(s): Inform about D4RUNOFF, its research and results in the 3 case study regions, Odense, Santander and Pontedera, and engaging with stakeholders.

Results/ activity disseminated: 1st Open Day

Target groups: Local authorities, water management companies, associations, universities and citizens

Impact achieved:

- Direct engagement with 12 students (bachelor, master and PhD students participated in Climate Fresk, they learned about climate change and its impact on environment and water sources and about D4RUNOFF
- >50 local stakeholders in Santander including decision-makers attended Open Day, engaging in discussions and learning about what is being implemented in Las Llamas Park. Strong connections have been established and followup actions include keeping them informed about developments.

The first Open Day was organised in Santander between February-March 2023. The Open Days in the second and third case studies (Odense and Pontedera) will be held later in the project (expected dates 2024-2025), when the NbS solutions selected in the project have started to be implemented. This approach was chosen to maximise visibility and knowledge transfer, by organising site visits with local stakeholders and citizens to really show what has been achieved and how it works.

Extra activities are scheduled for these Open Days, including creating an educational game for children that will be distributed and played in a live session. Additionally, there will be a gamification challenge designed to assess the social module in the AI-assisted platform and gather feedback for further enhancements. If relevant, other activities like a Lego Serious Play session may also be conducted.

The first Open Day event was held at the case study in Santander and lasted two days, on 28 February and 1 March 2023. The University of Cantabria hosted several activities:

- A Climate Fresk workshop with students
- Presentations of D4RUNOFF activities and technological solutions to students, local stakeholders and citizens
- A visit of the case study of Las Llamas Park and the observation of the implemented nature-based solutions in the area

The Open Days were advertised on website and social media. [On the website](#), all the information were shared in Spanish and English language to maximise the visibility of the event and the number of participants.

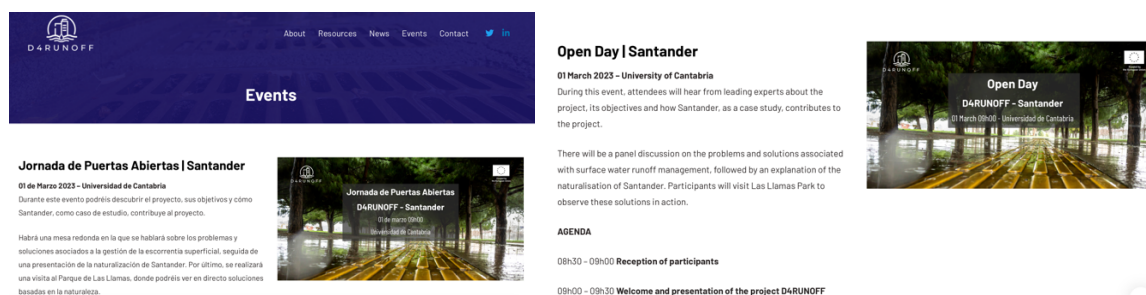


Figure 23 Santander Open Day promotion on D4RUNOFF website

On social media, the event promotion kicked off on February 8, 2023, and it lasted for three weeks. The communication was predominantly in the Spanish language, given that the event took place in Spain. In total, eight posts were published on X and eight posts on LinkedIn.

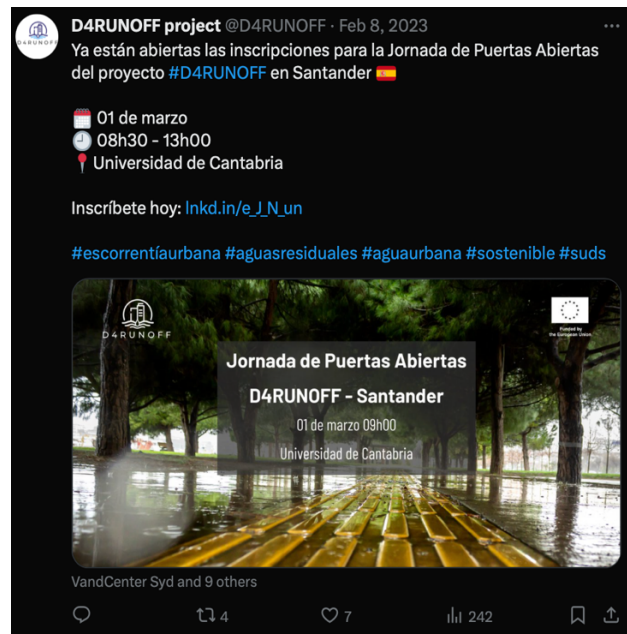
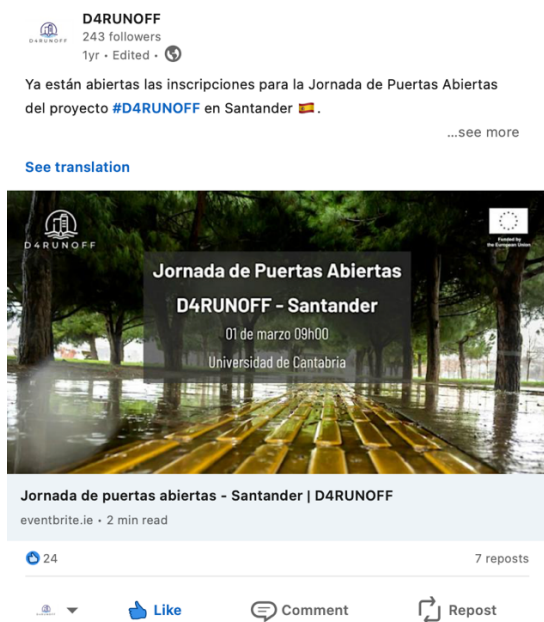


Figure 24 Santander Open Day promotion on social media

This communication campaign was well-received and shared by our Spanish partners, helping our efforts reach local associations, authorities, urban planners, and water management companies. According to the registrations, representatives from [Patronato municipal de educacio](#), Centre of Marine and Environmental Sciences, [Camino Paisajistas](#), [SEOBirdLife](#), Fcc Aqualia, [CITOP](#), [Santander City Council](#) attended the event and had the opportunity to learn about the objectives and the key innovations of the project.

Throughout the event, continuous updates and information were provided regarding the activities, presentations, and the site visit at Las Llamas Park



Figure 25 Posts during the Open Day

A detailed reporting concerning the Santander Open Days is included in D6.4.

2.6.3 Co-design workshop of the AI-assisted platform

Objective(s): Reaching out and engaging with the project's target groups (technical operators, policymakers, academia and scientific community and civil society) to include them in the development of the platform and ensure that it addresses their needs

Results/ activity disseminated: Co-design workshop

Target groups: Technical operators, local authorities, scientists, citizens

Impact achieved: Valuable feedback and suggestions on the actual functionalities of the platform were received from the participants, eagerness to actively engage in later stages of validation and testing of the platform, better understanding of the project, its objectives and future impact.

The first co-design workshop was also organised in the afternoon of the first Open Day event in Santander. During the afternoon session, consortium members and external stakeholders engaged in a co-design workshop for the development of the D4RUNOFF AI-assisted decision-support tool. The workshop aimed to enhance the user experience by prioritising functionalities, validating proposed platform features, and co-developing prototypes. Divided into two exercises, participants first prioritised three relevant functionalities out of 15 and then selected two functionalities per stakeholder type. Working in groups, they co-designed storyboards and framework mock-ups for key phases in the functionalities. Each group presented their outcomes to the wider audience, involving a total of 35 participants.

The workshop's results and collected feedback directly contributed to WP4 and the platform's development, detailed in deliverable D4.1 with further references in D6.4.

2.6.4 Gamification challenge

Objective(s): Reach out and engage to the project's target groups (technical operators, policymakers, academia and scientific community and civil society) addressing their needs

Results/ activity disseminated:

Target groups: Citizens and civil society

Expected impact: Meaningful feedback and suggestions from citizens on the social module of the platform, future active participation and engagement with the platform, ensuring its uptake

A gamification challenge will be launched at the last Open Day event to get direct feedback from citizens on the social module of the AI-assisted platform. University students from UC will have tested it previously. Moreover, after this launch, the gamification challenge will be adapted to the other two case studies with the objective of collecting results in the three case studies.

At least +50 participants are expected to participate. D4RUNOFF partners will aim to involve city councils to promote citizen participation in the challenges. In addition to the results collected on the best possible solutions for urban drainage problems, a survey or interview will collect participants' feedback about the game (improvements, lessons learned, barriers, difficulties, etc.). Their experience in the decision-making process for water pollutant management will be key to evaluate the consideration of their opinions into the social module of the AI-assisted platform.

This is expected to take place between M24-M36.

2.6.5 External events and publications

Objective(s): 1. Increase the knowledge regarding urban runoff pollution sources, NbS and the impacts of Contaminants of Emerging Concern (CECs) 2. Exchange knowledge with other EU-funded projects and experts/stakeholders about D4RUNOFF objectives, research, new technologies and solutions implemented.

Results / activity disseminated: Participation in events and and presentation (including poster exhibitions) of the project in

Target groups: technical operations, scientific community, policymakers, citizens

Impact achieved:

- D4RUNOFF presented in 17 events, reaching nearly 1500 participants (water sector professionals, scientific community, decisionmakers)
- 2 papers in scientific publications

These activities have contributed to increasing the project's visibility and disseminating first results. Impacts include the interest of participants to continue engaging with the project and its activities and staying informed of progress. This will be done through the creation of a stakeholder database that will be used to send D4RUNOFF updates on progress, achievements, and invitations to events and activities.

Example of feedback received at events:

Event in GFF School in Ghana: "The attendees were young students (teenagers) and teachers from Ghana and they found very interested how permeable pavements could mitigate the flooding events and the environmental pollution. For them the D4RUNOFF project is far from their needs but they understand the value of NbS to make urban drainage easier."

NOVATECH Conference; "Water management professionals at NOVATECH conference left positive comments on the results shared about the permeable pavements in the Santander D4RUNOFF case study."

In the past 18 months, D4RUNOFF partners have done a considerable effort to participate in local, national and European/international events and conferences where they had the opportunity to present the project's objectives and technologies.

Local events

- Educational project: Systems Thinking & Fuzzy Logic: Participative Modeling for Policy Making (1st edition) & (2nd edition) – KLINK Srl
- Danish Municipalities Annual Nature and Environment Conference – VCS
- NOVAFOS – VCS
- LIFE DrainRain Project workshop – University of Cantabria
- Students' visit at Las Llamas Park – University of Cantabria
- Visit of GFF School in Ghana – University of Cantabria
- Regional event in Asturias – University of Cantabria

Educational project: Systems Thinking & Fuzzy Logic: Participative Modeling for Policy Making (1st edition) & (2nd edition) – KLINK Srl

Our partner, KLINK Srl, in collaboration with the Faculty of Political Science at the University of Pisa, integrated a special educational project into the university's formal magistral course entitled "Analysis of Public Policies and Organisations." The project, named "Systems Thinking & Fuzzy Logic: Participative Modeling for Policy Making (1st Edition)," consisted of six mini-lessons (both online and in-person) and ran from October 25 to December 1 2022. During this period, 8 participants explored systems thinking approaches applied to public policy modeling to understand complex scenarios and create management strategies involving active stakeholder participation. The students applied tools of systems thinking and fuzzy logic (FCM) to a hypothetical case study inspired by D4RUNOFF, learning about the project's objectives and ambitions.

Following the success of the first project, the University of Pisa approved a second edition held from November to December 2023. This edition followed a similar format, utilising D4RUNOFF case studies but engaged a larger group of 15 students. These educational initiatives successfully engaged students, who expressed a keen interest in further participation in the project's local stakeholder activities and updates on the progress of the Pontedera case study.



Figure 26 Photos from KLINK educational activities

Danish Municipalities Annual Nature and Environment Conference – VCS

At the Danish Municipalities Annual Nature and Environment Conference, which drew around 4,000 participants, VCS and our coordinator presented "NBS: Raingardens – They Are Multifunctional" (in Danish: "LAR Vejbede – De er for fede"). During the breakout session and panel discussions, our coordinator introduced the D4RUNOFF project, leading to reflections

on filter capacity, cation exchange capacities (CECs), and pollution sources from the attendees. Additional discussions delved into biodiversity impacts, legal considerations, city-scale planning for NBS implementation, the role of NBS in sustainable design, and the use of life cycle assessment (LCA) in decision-making.

NOVAFOS – VCS

At the [NOVAFOS](#) conference, Uffe Linneberg Gangelhof presented a new approach to stormwater management to 30 water company professionals. After the presentation, discussions centered on the transformative potential of Nature-Based Solutions (NBS) for financial and environmental strategies. Attendees explored how NBS could provide a broader perspective on economic considerations, water quality, ecological and chemical status, pollution management, and biodiversity.

LIFE DrainRain Project workshop – University of Cantabria

Jorge Rodriguez Hernandez presented at the LIFE DrainRain Project workshop with a presentation titled “How to Improve the Environmental Efficiency of New Constructions?” The event was attended by approximately 40 participants. During his presentation, our partner highlighted the D4RUNOFF project as a reference for permeable pavements, showcasing its relevance and contributions to the field. Invited as an external expert, he provided valuable insights into the project, which was well-received by the attendees, emphasising its significance in improving environmental efficiency in construction.

Students’ visit at Las Llamas Park – University of Cantabria

In October 2023, Jorge Rodriguez Hernandez from the University of Cantabria led a visit to Las Llamas Park with 23 international MBUILD master’s students, focusing on the D4RUNOFF project from a Civil Engineering perspective. Although there was no formal presentation, Jorge discussed the project’s impact and relevance.



The students emphasised the importance of understanding constructed NbsS in city drainage systems, noting it was their first in-depth analysis of these significant issues.

Figure 27 Student visit at Las Llamas park

Visit of GFF School in Ghana – University of Cantabria

Ebenezer Yiwo, a member of the D4RUNOFF exploitation and stakeholder panel, along with Jorge Rodriguez Hernandez (University of Cantabria), presented at the GFF School in Ghana to an audience of approximately 30 participants, including young students and teachers. Their

presentation, titled “Sponge Cities: Improving Flood Management in Urban Areas through the Implementation of Permeable Pavements,” focused on how permeable pavements can mitigate flooding and reduce environmental pollution. The attendees found the topic intriguing, recognising the value of Nature-Based Solutions (NBS) in urban drainage. Despite the great importance of the project and its vital impact for the environment and society, the attendees noted that the D4RUNOFF project is currently beyond their immediate needs.

Regional event in Asturias – University of Cantabria

At a regional event in Asturias, approximately 100 participants attended Valerio Andres Valeri's presentation titled "First Investigations in Gijón and RedSUDS Spain." This event aimed to introduce a local guide for designing Sustainable Urban Drainage Systems (SUDS). The D4RUNOFF project was featured and well-received, with attendees expressing a keen interest in how SUDS, as Nature-Based Solutions (NBS) for stormwater, can help address Contaminants of Emerging Concern (CECs) within urban drainage hybrid systems.

National events

- Danish Water Political Conference – VCS
- Natur & Miljø event – University of Copenhagen
- CONAMA2022 – AQUALIA
- REDSUDS National Conference – University of Cantabria

Danish Water Political Conference – VCS

At the Danish Water Political Conference, VCS presented D4RUNOFF to an audience of 90 participants, including CEOs of water management companies, members of the Danish Parliament, university professors, CEOs from large Danish water tech producers, and representatives from the industry association for Danish Water and Danish Water Technology. The presentation highlighted VCS's work on Contaminants of Emerging Concern (CECs), which led to further discussions with Parliament members about urban pollution management. Key topics included integrating non-target suspect screening results into regulations, aligning with EU environmental directives, and addressing political statements on environmental issues, pollution, and the water framework directive in Denmark.

Natur & Miljø event – University of Copenhagen

At the event Natur & Miljø which took place in May 2023, Selina Tisler from the University of Copenhagen presented the topic “Is the water safe to drink? Expand the knowledge about the unknowns in drinking water”. The presentation was attended by 50 participants.

CONAMA2022 – AQUALIA

[At CONAMA2022](#), our partner AQUALIA represented by the Director of the Department of Technological Transformation and Operations, José Gabriel Lumbreras Martínez, had a presentation on D4RUNOFF in the session of circular water economy: How can it support digitalisation? The session gathered approximately 150 attendees and the focus of presentation was on digital aspects of water treatment, Big Data, AI – topics related to WP4.

REDSUDS National Conference – University of Cantabria

At the [REDSUDS National Conference](#), three researchers from the University of Cantabria presented their work to an audience of approximately 150 participants. Valerio Andres Valeri delivered an oral presentation titled “SUDS as Nature-Based Solutions for Urban Runoff Water

Management Integrated into Hybrid Drainage Systems.” Additionally, Sara García-Argüelles presented a poster titled “New Challenges for Water Quality Restoration: Characterising the capacity of SUDS to Remove CECs in Urban Runoff,” and Alejandro Roldan Valcarcel showcased a poster on “Serious Games for the Implementation of SUDS: Knowledge Transfer and Decision Support.” This Spanish national event for sustainable urban drainage experts featured D4RUNOFF alongside the WATERUN project and CO-UDlabs, highlighting the ZEROPOLLUTION objectives of the European Commission and key urban drainage research topics under Horizon2020. Attendees provided feedback, noting the alignment of these projects with broader environmental and urban drainage goals.



Figure 28 D4RUNOFF poster at REDSUDS National Conference

European/ International events

- 20th International GCXGC Symposium – University of Copenhagen
- HPLC 2023 – University of Copenhagen
- NOVATECH International Conference – University of Cantabria
- SOILite conference – University of Copenhagen
- WATER4ALL workshop - ITG

20th International GCXGC Symposium – University of Copenhagen

Between May 28 – June 1 2023, the University of Copenhagen represented by Jason Devers joined the [20th International GCxGC Symposium](#) in Canada (800-1,000 participants) giving a presentation on targeted and non-targeted analysis of Contaminants of Emerging Concern in wastewater using GCxGC-QTOFMS based on D4RUNOFF results.

HPLC 2023 – University of Copenhagen

Between June 18-22 2023, the 51st International Symposium on High Performance Liquid Phase Separations and Related Techniques ([HPLC 2023](#)) took place in Dusseldorf where our partner, the University of Copenhagen represented by Kristoffer Kilpinen, had a presentation in front of 50 attendees on the workflow for selection of the optimal internal standard for suspect screening of organic micropollutants in environmental samples.

NOVATECH International Conference – University of Cantabria

At the [NOVATECH International Conference](#), Valerio Andres Valeri from the University of Cantabria presented on the "End-of-Life Approach in Permeable Pavement Systems: A Forensic Study of the Particle-Related Pollutants Retained in Porous Concrete and Porous Asphalt Surface Layers." The conference, which attracted approximately 610 participants, is a leading event in urban drainage, bringing together global experts to discuss topics such as the role of Nature-Based Solutions (NBS) in urban drainage and pollutant fate. Attendees positively received the results shared from the Santander D4RUNOFF case study, emphasising the significance of permeable pavements in managing urban runoff and pollutants.

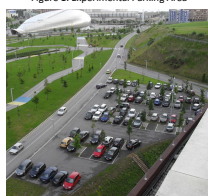
Fin de vie des systèmes de chaussées perméables : une étude médico-légale des polluants liés aux particules retenus dans les couches de surface en béton poreux et en asphalte poreux

End-of-Life approach in permeable pavement systems: A forensic study of the particle-related pollutants retained in porous concrete and porous asphalt surface layers

• Introduction

Permeable Pavement systems (PPS) are one of the most used and studied Sustainable Drainage techniques, providing great benefits in pollutant reduction. However, the fate of filtered pollutants in these systems is still not fully considered. For these reasons this experimental work analyzed the sediments deposited over two permeable surfaces commonly used in PPS and collected by vacuuming in an experimental parking area in the city of Santander (Spain) after 10 years of continuous use.

Figure 1. Experimental Parking Area



• Materials and Methods

By using an industrial vacuum cleaner, 6 parking bays were fully vacuumed: 3 parking bays for each permeable surface (Porous Concrete (PC) and Porous Asphalt (PA)). The collected sediments were grouped in three size fractions: <125µm, 125-500 µm and 500-2000 µm, and analyzed by ICP-MS looking for potential pollutants.

• Results and Discussion

Figure 2. Sediments Size Distribution

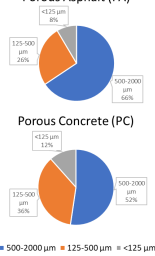


Figure 2. Sediments Size Distribution

Table 1. Concentration of metals and metalloids found in sediments

	Al	Ba	Bi	Cd	Cu	Fe	Hg	Mn	Ni	Pb	Sr	Ti	Zn
	%	ppm	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	%	ppm	ppm
PA2000	0,05	76,6	0,04	0,19	8,65	0,54	14	158	23,9	22,62	249,3	0,003	18,6
PA500	0,08	335,5	0,11	0,28	60,61	0,85	20	267	8,8	12,27	232,3	0,005	112,3
PA125	0,2	395,9	0,74	0,76	258,62	1,11	80	812	28,2	45,57	170,3	0,008	407,8
PC2000	0,18	91,9	0,06	0,22	14,24	0,61	17	287	6,2	28,29	276,6	0,011	48,8
PC500	0,31	277,7	0,36	0,35	88,15	1,18	40	541	118,8	26,81	178,5	0,013	344,2
PC125	0,78	294,4	1,01	0,87	216,62	1,63	152	1321	28,4	56,78	164,1	0,026	589

A higher amount of fine sediments has been found in PC surfaces, probably due to the different pore structure in both surfaces. On the other hand, the highest concentration of practically all constituents was found in the finer fraction for both PC and PA. Additionally, it was found that most of the pollutants found in the collected sediments are related to automotive industry (Cu, Pb, Zn, Ni, Mn and Ba). Finally, enriched concentrations in the finer fractions were found for Cu, Pb and Zn, showing the fraction <125µm concentration 100% higher than coarser fractions.

• ACKNOWLEDGEMENTS:



Horizon Europe
Grant Agreement Number: 101060638



Andrés-Valeri, V.C.*; García-Argüelles, S.; Sañudo-Fontaneda, L.A.; Rodríguez-Gallego, J.L.; Rodríguez-Hernandez, J.; Sierra, C.

Figure 29 Poster presented at NOVATECH conference

SOILite conference – University of Copenhagen

On November 9 2023, our partner from the University of Copenhagen, Thomas Malte Molnár Karlsson, took part in the [SOILite conference](#). This event focused on aiding consultants, landowners, property developers, and infrastructure partners in advancing towards the SDGs, particularly SDG6, while revitalizing their estates by tackling water and land pollution. During this year's event, D4RUNOFF made its mark as Thomas Malte actively engaged in the afternoon session, titled "PFAS Panel Discussion," addressing the challenges posed by PFAS for environmental monitoring and regulation. Information about this event and the dissemination of the project was also shared on the [website under the news](#) section and on social media.



Figure 30 D4RUNOFF presentation at SOILITE conference

WATER4ALL workshop - ITG

The Water4All Workshop on Data Sharing and Digitalisation was held on Monday, November 13, 2023 in Paris. The workshop aimed to discuss the importance of data sharing and access as crucial components for the digital transformation of the European water sector. It launched the Water4All data sharing initiative, focusing on topics such as the necessity of accessible data for developing digital solutions, the technical aspects of data sharing, the Water4All Data Management Plan, and obligations for Water4All partners. During this event, Dr. Juan Luis Sobreira Seoane, ITG's Business Development Manager and Ph.D., provided practical insights into advancing the digital transformation of the European water sector. He highlighted outcomes from initiatives like D4RUNOFF and LIFE RESEAU, emphasising practical measures to foster digitalisation within the sector.



Figure 31 D4RUNOFF presence at WATER4ALL workshop

Table 6 Summary of the events and conferences where partners disseminated D4RUNOFF

Partner	Title of the presentation	Target groups	Event's name	Size of the event
José Gabriel Lumbreras Martínez (AQUALIA)	Presentation "Experiences in digitalization of the water cycle"	Industry, business partners	CONAMA 2022	1000 participants (150 attendees)
Uffe Linneberg Gangelhof (VCS)	"NBS raingardens – they are multifunctional"	Local authorities	The Danish Municipalities annual nature and environment conference	4000 participants (60-100 attendees at the session)
Uffe Linneberg Gangelhof (VCS)	"New approach to storm water management?"	Industry, business partners	Meeting between NOVAFOS and VCS	30 water management experts
Uffe Linneberg Gangelhof (VCS)	"VCS /Denmark work on CECs"+ flyers	National authorities	Water Political National conference in Denmark	90 attendees
Jorge Rodriguez Hernandez (UCA)	"How to improve the environmental efficiency of new construction?"	Industry, business partners	Workshop with LIFE DrainRain Project	40 attendees
Ebenezer Yiwo & Jorge Rodriguez Hernandez (UCA)	"Sponge cities: Improving flood management system in urban areas through the implementation of permeable pavements"	Research communities	Visit of GFF School in Ghana	30 attendees
Valerio Andres Valeri, Sara Garcia Arguelles, Alejandro Roldan Valcarcel (UCA)	Oral presentation "SUDS as NbS for urban runoff water management system integrated into hybrid drainage systems + two posters	National authorities	REDSUDS National Conference	150 attendees
Valerio Andres Valeri, (UCA)	"End of life approach in permeable pavement systems: A forensic study of the particle-related	Research communities	NOVATECH international conference 2023	600 attendees



	pollutants retained in the porous concrete and porous asphalt surface layers”			
Jorge Rodriguez Hernandez (UCA)	Visit of the Las Llamas Park – no presentation	Citizens, students		23 attendees
Valerio Andres Valeri, (UCA)	”First investigations in Gijon and ResSUDS Spain”	Research communities	SUDs event	100 attendees
Kristoffer Kilpinen (UCP)	” Workflow for selection of the optimal internal standard for suspect screening of organic micropollutants in environmental samples”	Research communities	HPLC 2023	1200+ participants (50 attendees of the session)
Jason Devers (UCP)	”Targeted and non-targeted Analysis of Contaminants of Emerging Concern in Wastewater using GC×GC-QTOFMS”	Research communities	GC XGC symposium 2023	800-1000 participants, (approx.. 50 attendees at the session)
Selina Tisler (UCP)	”Is the water safe to drink? Expand the knowledge of the unknowns in drinking water”	Research communities	European regulation – local anchoring	200 participants (50 attendees at the session)
Thomas Kalson (UCP)	”Expand the knowledge of unknown contaminants in water samples by non-target screening” + flyers	Research communities	SOILITE conference 2023	70 attendees at the session
Juan Sobreira Seoane (ITG)	”Data Sharing” – D4RUNOFF	Research communities	WATER4ALL consultative workshop on data sharing	15 attendees
Eugenio Pizzimenti (KLINK SrL)	Educational project: Systems Thinking & Fuzzy Logic: Participative Modeling for Policy Making (1 st edition) & (2 nd edition)	Research communities	Special educational project in collaboration with the University of Pisa	23 attendees in both editions

In addition to the scientific presentations, D4RUNOFF has committed to publish the project's outcomes in recognised scientific journals following an open access policy. At least 5 scientific publications in relevant journals are targeted. By February 2024, 2 articles have been published, thus, other articles are under preparation. The below table can provide further details.

Table 7 Submitted and under preparation articles for publication

Topic	Journal name	Authors	Status + Link
End-of-Life approach in permeable pavement systems: a forensic study of the particle-related pollutants retained in porous concrete and porous asphalt surface layers	Publication in the conference NOVATECH 2023	Andrés Valeri, Valerio Carlos Alessio; García Argüelles, Sara; Sañudo Fontaneda, Luis Ángel; Rodríguez Gallego, José Luis; Rodríguez Hernández, Jorge; Sierra, Carlos (UCA)	Submitted Link
Quantitative Non-target Analysis of CECs in Environmental Samples Can Be Improved by Considering All Mass Adducts	Analytical Chemistry	Selina Tisler*, Kristoffer Kilpinen, David I. Pattison, Giorgio Tomasi, and Jan H. Christensen (UCP)	Submitted Link
Strategies to deal with matrix effects in LC-ESI-HRMS analysis of variable urban runoff samples	Analytical Chemistry	Thomas Karlsson, Jan Christensen (potentially more authors) (UCP)	To be submitted
Development of QSPR and response factor surface methods for concertation estimation in GC×GC-HRMS	Journal of Chromatography	Jason Devers, Jan Christensen (potentially more authors) (UCP)	To be submitted

Below is a list of future journals of interest for publishing results:

- Environmental Science & Technology
- Science of the Total Environment
- Environmental Science and Pollution Research
- Water Science & Technology
- [Water](#)
- Teknik&Miljø
- Spildevand
- Analytica Chimica Acta

Below is a list of identified topics for publication:

WP2 - INL

- Development of a detection system for triazines in water
- Development of a detection system for 6-ppd-quinone in water
- Development of a detection system for small microplastics in water
- Development of an automated monitoring system for zinc and nickel in run-off waters
- Sensors and Actuators B: Chemical /Lab
- Covalent Organic Frameworks for efficient adsorption of triazines and 6-ppd-quinone
- Online monitoring of contaminants of emerging concern and metals in nature-based solutions for run-off waters in 3 case studies across Europe (in collaboration with project partners)

WP3 - UCA

- Fate of pollutants in permeable pavements

Comments: this article is related with the participation of the University of Cantabria in the WP1 and, depending on the final contents, other authors from UCPH could participate.

- Topic: MCDA and GIS tools for the location of NBS to improve urban drainage

Comments: this article is directly related with the WP3 but if needed, some information can be added about the application in WP4 and even in WP5, involving other authors from partner organisations.

2.6.6 Policy recommendations

Objectives: Meaningful policy recommendations to be developed in collaboration with other EU-funded projects to bring together research findings and data, and better influence future policies. By integrating insights from multiple projects, these policy recommendations will address various aspects of environmental, social, and economic challenges, making them more robust and effective.

Results / activity disseminated: *not yet started*

Target groups: Policymakers/decisionmakers

Expected impact: Recommendations made by D4RUNOFF are taken into consideration by policymakers at EU level. We will aim to contribute to the SDG addressing global challenges. KIP4 - addressing EU policy priorities & global challenges through R&I; support the main EU policies related with, the Water Framework Directive, the Marine Strategy Framework Directive, the REACH Regulation or the Action Plan "Digital Single Market for Water Services as well as local policies in the pilot areas and beyond.

The knowledge generated throughout the project will undergo collection and assessment. Subsequent to the analysis, policy recommendations will be formulated concerning EU policies within the project's scope, including the Water Framework Directive, the Urban Waste Water Directive, the Bathing Water Directive, the Marine Strategy Framework Directive, the REACH Regulation, or the Action Plan "Digital Single Market for Water Services," among others. These recommendations aim to enhance the adoption of D4RUNOFF solutions.

Two versions of the policy brief will be created: an initial version at M24 (D6.7) and a final version at M41 (D6.11). The development of the final policy brief will be co-developed with our sister project, WATERUN and/or other sister initiatives to provide more comprehensive and detailed policy recommendations to the relevant European authorities.

The policy briefs will be broadly disseminated through partner networks and multipliers, as well as the European Water Association and the European Environment Agency.

3 Collaboration with sister projects

Objective(s): Exchange knowledge with other EU-funded projects and experts on D4RUNOFF objectives, technologies and solutions and enhancement of competitiveness of the EU water sector and foster the EU's position and role in the global water scene

Results / activity disseminated: Various clustering activities with eu-funded projects (7 in total), establishment of a cluster with WATERUN

Target groups: All target groups

Impact achieved: Dialogue, knowledge sharing and exchange on research findings, participation in events, collaboration on joint campaigns to raise awareness of the key objectives and key innovations of the projects.

The first months of the project were dedicated to screening, analysing, reaching out to sister projects and initiatives to develop synergies, create collaboration networks, and deliver effective collaboration/ communication activities. Until month 18, the project was going through its initial research phase. Therefore, the clustering activities were in exploratory phase and aimed to:

- Define main projects and initiatives to liaise, cooperate and collaborate with
- Identify the key areas and topics of collaboration (scientific, policy-related)
- Propose a timeline for such activities
- Initiate joint awareness campaigns and other communication actions

The main objective of T6.5 is to build a collaboration base and deliver activities that ensure a fruitful dialogue and exchange among D4RUNOFF, projects, and initiatives at the EU level where innovative and technological solutions can be developed and put to test, knowledge and lessons learned are shared to maximise impact and replication opportunities through effective dissemination and communication.

The overarching goal of the collaboration activities within D4RUNOFF is to boost knowledge transfer, share and enhance good practices, exchange and contribute to the objectives:

- enhance competitiveness of the EU water sector and foster the EU's position and role in the global water scene

- increase the EU scientific and technological base and guidance on measures to manage storm water quality and evidence for policy-making and implementation.

In the table below, a strategy plan was designed for clustering activities.

Clustering activities - strategic plan

Objectives	Key activities	Expected impact
<ul style="list-style-type: none"> • Increasing share knowledge • Creating synergies between activities already planned by each project • Pooling resources to upscale results • Disseminating shared insights , results and learnings to networks, communities and professionals • Ensuring exploitation, continuity and results uptake from the market, other projects and EU/national authorities 	<ul style="list-style-type: none"> • Joint publications, articles and policy briefs • Joint online seminars or webinars • Joint participation to physical events • Utilisation of EU tools for more effective dissemination and exploitation e.g Horizon Results Booster • Online campaigns 	<ul style="list-style-type: none"> • Better decision-making and more effective urban/ water management regulations and policies based on data to tackle climate and environmental challenges. • Ensuring scalability of the major results and projects' key innovations allowing them to be implemented in different regions and contexts • Creating a long lasting impact by embedded successful strategies and common outcomes in policy frameworks • Understanding market potential and user needs

Figure 32 Clustering activities - strategic plan

3.1 Initial stage – actions and achievements

During this initial phase of the project, D4RUNOFF has taken proactive steps to initiate discussions and establish connections with coordinators and leaders of the Dissemination and Communication Work Packages (WPs) in various EU-funded projects centered on Nature-Based Solutions (NbS) for mitigating water pollution and runoffs.

3.1.1 Clustering actions performed by the WP leaders

WP1

The University of Copenhagen has established the Partnership for the Assessment of Risks from Chemicals (PARC) (eu-parc.eu). During a PARC meeting, the Slovenian partner, Tina, who has been collecting samples to create the CEC inventory for D4RUNOFF, was contacted. Similarly, the Latvian partner, Agnese Araja, who is preparing to collect samples for D4RUNOFF, was also engaged through this partnership. This collaboration highlights the crucial role of international cooperation in advancing our understanding and assessment of chemical risks within the D4RUNOFF project.

WP3

Since the Open Day in Santander in March 2023, the University of Cantabria has been in contact with SEOBirdLife and the Santander City Council to continue collaborating with the project “Santander Capital Natural,” which is funded by NextGenerationEU.

From September 2022, the University of Cantabria has been working directly in a Spanish national coordinated project in the research area of sustainable urban drainage. This project is called, SUDSlong and has also received EU funding. Our partner is collaborating with the University of A Coruña, the coordinator of the CO-UDlabs project, and the Polytechnic University of Valencia, which participated in the GrowGreen project, both H2020 European projects. Consequently, the projects have developed meaningful connections and interlinkages providing updates on their activities and current results, with a vision to organise a joint activity.

Within this framework, at the national level in Spain, the University of Cantabria co-organised the event redSUDS 2023 in A Coruña, where the D4RUNOFF and WATERUN projects were presented.

The table below provides a summary of the actions and outcomes from the clustering activities within WP3.

Table 8 Clustering activities WP3

Communication / clustering activities roadmap until M18 – WP3		
Date	Actions	Outputs / achievements
Since September 2022	Development of collaboration framework and knowledge exchange with EU-funded urban drainage projects, SUDSlong , CO-UDlabs & GrowGreen	<ul style="list-style-type: none"> Initial discussions with these projects, research and results-sharing
March 2023	Collaboration with SEOBirdLife and Santander Capital Natura	<ul style="list-style-type: none"> Initial communication has started and further dissemination actions will be explored
April 2023	Event joint participation at redSUDS 2023	<ul style="list-style-type: none"> D4RUNOFF & WATERUN have been presented

WP6

This collaborative effort involved engaging with projects such as NICE NbS, WATERUN, Rewaise, and LIFE RESEAU. The primary goal of these interactions was to foster cooperation by organising joint awareness campaigns and creating a stable and long-term basis for future knowledge exchange and cooperation. Below, the table sketches the steps that have been taken within T6.5 to build these relationships as well as the key outputs and achievements.

Table 9 Clustering actions WP6

Communication/clustering activities roadmap until M18 – WP6		
Date	Actions	Outputs/ achievements
Oct – Nov 2023	Development of collaboration framework, exchange on communication channels, ideas, future actions with LIFE RESEAU, REWAISE, NICE NbS and WATERUN	<ul style="list-style-type: none"> • Initial discussions on collaboration activities and knowledge exchange with all the projects • Co-creation of a joint campaign with REWAISE AND LIFE RESEAU to celebrate the World Cities Day
January 2024	2 nd round of calls with WATERUN	<ul style="list-style-type: none"> • Initial discussions on creating a D4RUNOFF- WATERUN cluster (potentially involving STOP UP) • Discussions on applying on the Horizon Results Booster • Co-design the joint awareness campaigns for February / March

An initial awareness campaign with sister projects LIFE RESEAU and REWAISE was launched on October 25, 2023. During this campaign, D4RUNOFF announced the initiation of a social media campaign and the participation of the projects in the United Nations Initiative "Urban October." It was the first time that the 3 projects jointly presented their goals and environmental and societal impacts in a joint video and blog post that was shared on October 31.

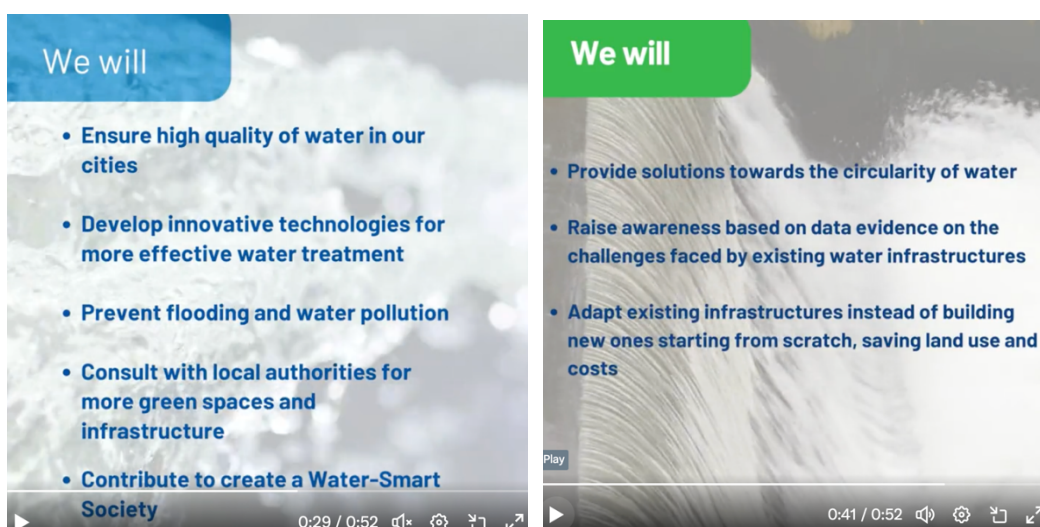


Figure 33 Joint online campaign "Urban October"

This mini campaign lasted a week. D4RUNOFF gained 23 new followers on LinkedIn coming from the higher education, research and environmental sector (according to LinkedIn analytics) and 17 news followers in X (for the total October).

Another vital point to highlight was the initiative to establish a collaboration and synergy between D4RUNOFF and WATERUN. After two fruitful online meetings with the WATERUN, the projects decided to formalise the recognition of shared scientific and technological approaches and policy recommendations, providing a structured platform for enhanced coordination and joint communication efforts between them. This strategic collaboration is expected to bring meaningful contributions to the field of Nature-Based Solutions for water management. The decision of both projects is considered as an achievement which will greatly maximise their technological, environmental and societal impact and foster the EU's position in global water scene.

In relation to the joint communication efforts, the latest campaign was co-organised with WATERUN to acknowledge the importance of the International Day for Women and Girls in Science. For the campaign, the two projects co-designed the visual elements and co-wrote the blog post. It was launched on the February 11.

Furthermore, D4RUNOFF will continuously seek to create connections with new projects and explore opportunities for joint dissemination of project outcomes in local, national, or European events. The D4RUNOFF website's ["About" page](#) has been updated to showcase the projects with which collaboration has been established. If necessary, the website can be further updated to create a dedicated space for highlighting joint activities with sister projects.

3.2 Implementation stage – ongoing and future actions

During the implementation stage, D4RUNOFF will expand its dissemination and outreach capacities to other EU-funded projects. Below is a list of the projects and water clusters where we have started preliminary discussions with the following projects and water clusters: ARCADIA, CO-UDlabs and SUDSlong. Outreach will be expanded to the following projects: STOPUP, SOSZEROPOL2023, ICT4WATER

The table below provides an overview of the main dissemination and collaboration activities expected to be delivered with the identified projects and EU initiatives throughout the project lifetime. To maximise the visibility and outreach of all dissemination and collaboration activities, these efforts are supported by the communication team of the 3OC partner, who leads WP6, and VCS, the task leader (T6.5). Additionally, all consortium partners are expected to play an active role in promoting the project's dissemination and clustering activities within their networks to increase public awareness of D4RUNOFF and its long-term expected impacts.

Table 10 Roadmap of upcoming clustering activities

Clustering activity	Timeline	Possible outputs	Communication and outreach channels and responsible partners
Webinars and online knowledge-sharing sessions	M18-onwards	Best practices, factsheets, short articles, input in the deliverables	D4RUNOFF online channels Partners: VCS, 3OC and all partners
Open Days in the pilots	M25 in Pontedera and the 3 rd Open Day TBA	Short articles, interviews, infographics/factsheets, input in the deliverables	D4RUNOFF online channels Partners: 3OC, VCS and all partners
Joint awareness campaigns	Ongoing	Short articles, short videos, visuals,	D4RUNOFF online channels Partners: 3OC and all the partners
Events: scientific conferences, fairs, and other events, organised and co-organised by EU projects/initiatives	Ongoing	Short articles, interviews, videos, visuals, input in the deliverables	D4RUNOFF online channels Partners: VCS, 3OC and all partners
Policy discussions	M18 - onwards	Policy briefs/ policy recommendations	D4RUNOFF online channels Partners: VCS, and all partners
Exploring EU dissemination tools; Horizon Results Booster (jointly with WATERUN)	M18-onwards	Stakeholder analysis; potential outreach opportunities and ideas;	D4RUNOFF online channels Partners: 3OC

In addition Begona Espina (INL) will participate to the ZeroPollution4Water Cluster event at WIE 2024 on June 17 in Brussels, and our coordinator, Uffe Gangelhof will participate to Nature Network [Task Force 2: Integrated Assessment Framework](#) on June 7.

More detailed information regarding past and future activities with sister projects is provided in D6.5.

4 Summary – impact achieved in the first 18 months

During the first period, the project has made significant strides in citizen engagement and education on various environmental topics. By equipping citizens and professionals with the necessary knowledge, the project has successfully fostered a more environmentally conscious society better prepared to address and mitigate ecological challenges.

Efforts to inform, educate, and enhance public understanding have focused on critical issues such as water pollution, urban water runoff, and contaminants of emerging concern (CECs). These educational initiatives, delivered in simple and comprehensive language, have effectively showcased the innovative solutions being implemented in the three pilot areas. Through these efforts, the project has enhanced environmental awareness, encouraged active participation in sustainability efforts, and inspired behavioral changes towards more eco-friendly practices.

The project has raised public awareness about its objectives and results, thereby enhancing its credibility and connectivity with key professionals and stakeholders at local, national, and international levels. Knowledge sharing has been a cornerstone of the project, with updated resources provided to researchers and students in the field, further promoting academic and practical advancements.

The co-creation workshop was a unique opportunity to provide first-hand information about the project's technological solutions, gaining valuable insights and feedback on the platform's functionalities. This interaction fostered eagerness to engage in future stages of validation and testing, resulting in a better understanding of the project's objectives and potential impact.

The project has also contributed to global knowledge and research on urban drainage systems, water runoff, nature-based solutions (NbS), and water pollution with other eu-funded projects.

Overall, D4RUNOFF has laid a strong foundation for continued success, demonstrating the importance of comprehensive education, stakeholder engagement, and collaborative research in addressing environmental challenges.

5 Next steps

5.1 Stakeholder engagement – key actions and intended impact

The implementation stage is crucial for further engaging with stakeholders to achieve the work package (WP) objectives and maximise the project's impact. At this stage, active collaboration and communication with stakeholders become essential. Engaging stakeholders involves keeping them informed, involved, and invested in the project's progress and outcomes. By fostering strong stakeholder relationships, the project can benefit from their insights, expertise, and support, which can help overcome potential challenges and enhance the quality and

relevance of the outcomes. Stakeholders' active participation ensures that the project remains aligned with their needs and expectations, leading to greater acceptance and uptake of the results.

Scientific community

Objective(s): Gain greater and open knowledge contributing to the advancement and enrichment of the environmental research at the EU and global levels

Expected impact: Availability of new knowledge aimed at the scientific community for further uptake and use in their research

Key actions

- Open access scientific publications in peer-reviewed journals will be published by the partners to share research results with the community (see section 2.6.4 External events and publication)
- Participation to major local, national and european/international events to disseminate the project's key innovations, engage and receive feedback from the community (see section 2.6.4 External events and publication)
- Through the stakeholder database, the registered researchers will receive updates from the project and will be invited to join all the events and activities
- Informative articles which will present the project's major outcomes will be published on different EU portals and online magazines
- The deliverables transformation to simplified short reports and dissemination through social media and our website
- Open days in the pilot areas

Policymakers

Objective(s): Provide policymakers with consistent data and evidence to better comprehend the environmental challenges and needs, facilitate dialogue and update water and urban regulations and policies

Expected impact: Uptake and consideration of the policy recommendations made by D4RUNOFF by public authorities, national/EU water regulatory bodies

Key actions

- Policy briefs (and joint policy briefs in collaboration with WATERUN and/or other sister initiatives) will include policy recommendations which will be developed in relation to EU policies and relevant with the project's scope
- The Stakeholder database will be used to keep the relevant policy-makers updated and informed
- Open days in the pilot areas will invite local policymakers to learn more about the research and solutions developed in the project
- Short reports and factsheets/infographics can be translated in the languages of the pilot areas (Spanish, Italian and Danish if requested) to enhance the communication, the engagement and dissemination of the project's results
- Local and national networking opportunities and events can be organised to build stable and consistent relationships
- Joint clustering activities such as webinars and online seminars which will provide them with more consistent reflections and policy insights.

Technical operators (water management companies, NbS professionals, water utilities, risk managers etc)

Objective(s): Effectively communicate the project's objectives and the future technological solutions which will be tested in the 3 case study areas; Odense, Santander and Pontedera

Expected impact: Enhance the operation of water facilities and understanding of stormwater runoff pollution

Key actions

- Short and comprehensive reports or factsheets which will disseminate the key innovations of the project e.g a factsheet dedicated to the AI-assisted platform (the operations / risk mapping module) including the key developments and benefits for this target group
- A video about the performance of the online monitoring system
- Focusing on events where these experts will be invited to join (such as the WATER4ALL consultative event) and disseminate specific project's results
- Open Days in the pilot areas
- The Stakeholder gathering forum can provide regularly project updates
- Targeted online magazines to publish scientific and technical articles

Civil society and citizens

Objective(s): Raise awareness on sensitive environmental topics such as urban runoffs, water pollution, climate change, floodings which have health implications for the life and well-being of the inhabitants.

Expected impact: Citizen awareness and understanding, leading to acceptance of policies and solutions, and change in behaviour

Key actions

- Water pollution board game which will help kids to understand the impact of daily actions on water pollution and discover new urban solutions to cope with water runoff events
- Open days in pilot areas during which the project will engage and educate citizens, students and younger generations by organising Climate Fresks
- Demo of the gamification module (social engagement) during the Open Day to collect feedback from citizens
- User-friendly online materials (infographics, short videos) which will inform, educate citizens on water pollution and communicate the project's outcomes in a simpler format.

5.2 A roadmap of the dissemination and communication activities (until M29)

A roadmap of the future dissemination and communication activities is necessary because it provides insight into what target values the consortium aims to reach and helps identify any issues that may arise regarding the areas that seem problematic so as to think about solutions to address them. This section includes information on project plans. It should be noted that there is always the possibility that something unexpected may occur, so the plan is subject to change.

Table 11 Overview of dissemination and communication activities until M29

Type of activity	Details	Where? When? Which partner?	Target groups
Deliverables transformation	1 st set of deliverables transformation to short reports + social media campaign + press release	May – July 2024, online, 3OC + partners	Local authorities, water management companies, universities, citizens
Article	Periodic articles on this scientific magazine on Innovation Network	May - onwards	Scientific community, water management / NbS professionals
Oral presentation	D4RUNOFF will be presented at HTC-18 conference – presentation title: Quantitative non-target screening of environmental samples - endless possibilities but with caution	May 28-31, Leuven, UPC	Scientific community & experts in chromatography & separation techniques, sample preparation, detection, and data handling.
Stakeholder forum gathering	Online activity to periodically provide updates on the project's outputs	June - onwards	Universities, scientific community, local, national, EU authorities, water/NbS/urban planning professionals
Poster exhibition	D4RUNOFF will be presented at the TNOC festival in Berlin	3-7 June, Atelier Gardens, 3OC + VCS	Nature/ environment/ NBS experts, researchers, policymakers, citizens
Roundtable discussion	WATER4ALL consultative event , D4RUNOFF will be presented	1 June, Lisbon, ITG	Water management experts (invite-only event)
Oral presentation	D4RUNOFF/ Santander case study will be presented along with NICE NbS project	5-7 June , Castellion Congreso , AQUALIA	NBS experts, urban planners, water utilities/ water management companies, local authorities, municipalities
Presentation + flyers	D4RUNOFF will be presented in YWP EU conference	16-19 June, Copenhagen, UCP	Young professionals in the water sector, water pollution, CECs

Policy brief	1 st D4RUNOFF policy brief in collaboration with WATERUN	August, online, VCS	Policymakers
Poster exhibition	D4RUNOFF poster at XXVIII ICORS	July 28-August 2, Rome, INL	Professionals in novel Raman approaches, Raman Imaging etc
NbS case study poster exhibition	Submission of D4RUNOFF poster at the Annual Nature Network event	25 August, online, 3OC	Policymakers, local authorities, researchers, innovators, land planners and managers, investors and businesses, educators, artists
2nd Open Day in Pontendera	Lego serious games, Climate Fresk, stakeholder engagement, sister projects visit	September, Pontendera, 3OC + pilot partners	Citizens, students, universities, research centres, local associations, NGOs, municipalities, local water management companies
Horizon Results Booster	Joint activity with WATERUN	September – December, online, 3OC	-
Online webinar/workshop	Joint activity with sister projects	October – November, online, 3OC + partners	Universities, research communities, other sister projects, experts in NBS, water sector
Gamification challenge	Test and get feedback from citizens and students on social module of the AI-platform	December – onwards, ITG + 3OC	Citizens, students

Potential events will be evaluated for further dissemination in 2025:

- [41st Innovative Water Engineering for Sustainable Development](#)
- [58th Conference for Water Management Modelling](#)
- [International Conference on Urban Drainage](#)
- [International Conference on Waste Water](#)

D4RUNOFF will continue performing regular communication activities such as joint awareness campaigns, social media campaigns, website updates, and the production of short blog posts reflecting the work of partners in their respective work packages. These actions aim all target groups including citizens. Also, it is also planned to translate into Italian, Spanish and Danish (if needed) the case study factsheets to increase the reach and communication with local, and regional stakeholders (water management companies, municipalities, urban planners, regulatory authorities, local associations/NGOs, potentially citizens etc) and any of production of dissemination materials will also be considered, if partners request.

Additionally, 3OC and its partners will explore the possibilities of publishing the project's innovations and results on Horizon Magazine and on the Horizon Results Platform to maximise

the project's impact and outreach. The participation in the EU Researchers' Night will also be re-evaluated to disseminate the project's outcomes to young researchers at the EU level.

6 Conclusions

The deliverable D6.3 “Intermediate update of the communication and dissemination strategy and reporting on actions done in the first project period” aims at providing information regarding the activities that have been carried out with the purpose of raising awareness of the project, as well as the impact of these activities until M18 and a clear roadmap of the future actions.

Significant work and dissemination efforts have been done towards creating a consistent and continuous online presence, collaborating with other sister projects and presenting the project in various events.

As the project transitions into a more mature phase after M18, dissemination efforts will intensify to effectively reach the target audience. In short, the next steps include publishing open access scientific articles in peer-reviewed journals, participating in major local, national, and international events, and engaging with the community through a stakeholder forum. Informative articles will be published on various EU portals and online magazines, while deliverables will be transformed into simplified short reports. Open days in the pilot areas will be organised to engage with local stakeholder and educate citizens, and younger generations, featuring activities such as Climate Fresks and Lego Serious Play workshops. Policy briefs, potentially in collaboration with initiatives like WATERUN, will offer recommendations aligned with EU policies. Additionally, the project will produce a video about the online monitoring system's performance, create a water pollution board game for educational purposes, and develop user-friendly online materials to inform and educate the public.

All the above actions will aim to make the knowledge produced readily available for the scientific community, facilitate decision-making for public authorities and national/EU water regulatory bodies, enhance the operation of water facilities, and encourage citizen behavior change.

Finally, the dissemination and communication progress will be monitored closely to ensure that KPIs are met and, when this is not achieved, to adopt other more efficient strategies. An update of this deliverable will be submitted in M30 (D6.3 “Second Intermediate update of the dissemination and communication strategy and reporting on actions done in the second project period”).

7 Reporting

All D4RUNOFF partners will be asked to report their communication and dissemination activities continuously through a shared monitoring form available on D4RUNOFF Microsoft Teams.

This tool is a form that partners will fill out and export as an [Excel Spreadsheet](#). Partners will report on events attended, papers presented at conferences, articles published in formal journals and on their websites, as well as overall social media activities, and which target stakeholders they've reached.

Partners are requested to update the reporting template every three months before the

dissemination and communication call, which is also organized every three months. The data recorded in this form will contribute to the communication and dissemination reporting to the Commission and will be shared across the consortium to track activities, KPIs, and the project's impact.

8 Acronyms

Table 12 List of acronyms

Acronyms	Complete names
AI	Artificial Intelligence
CECs	Contaminants of Emerging Concern
D	Deliverable
EU	European Union
MCDA	Multi-criteria decision-making analysis
NBS	Nature-based solutions
WP	Work Package