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Socio Bee

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Wearables and drones for City Socio-Environmental Observations and Behavioral Change

Deliverable

D8.1. Communication and dissemination plan and activities (first release)

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Disclaimer

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List of definitions & abbreviations

Abbreviation	Description
CS	Citizen Science
CSH	Citizen Science Hive
CPDP	Computers. Privacy and Data Protection Conferences
DB	Drone Bee
ECSA	European Citizen Science Association
FB	Facebook
HB	Honey Bears
ICT	Information and Communication Technology
IEEE	Institute of Electrical and Electronics Engineers
IG	Instagram
IoT	Internet of Things
LK	Linkedin
PoC	Proof of concept
QB	Queen Bee
RTOs	Research and Technology Organisations
TW	Twitter
WB	Worker Bee
YT	YouTube



Table of Contents

List of definitions & abbreviations	4
Table of Contents	5
List of Tables	6
Executive Summary	7
1. Introduction	8
1.1. Purpose of the document	8
1.2 Relationship with other deliverables	9
2. Dissemination and communication plan	9
2.3. Dissemination tools	12
2.4. Partners main actions	16
3. Summary and roadmap Summary and roadmap	25
4. Monitoring	26
5. Conclusions	26
6. References	26
Annex I	27



List of Tables

Table 1. Main objectives of the dissemination and communication activities	10
Table 2. List of social media channels and website links of all consortium partners.	27



Executive Summary

With this communication and dissemination plan, we aim to pave the roadmap for successful empowerment and engagement of the different players that will make SOCIO-BEE possible. This means beekeepers (BK), queen bees (QB), worker bees (WB), drone bees (DB), larvae and honey bears (HB). Following an example from nature, SOCIO-BEE builds on the metaphor of bee colonies to develop effective behavioural and engagement strategies with a wide range of stakeholders. Citizens (queens, workers, drone bees and larvae), interested stakeholders (honey bears) and citizen science hives will be tested in three different pilot sites.

In order to be successful, this plan has to be flexible in order to be easily adaptable to different contexts. “One size fits all” approaches do not work and a strategy that considers this is fundamental for the success of any project. Different stakeholders should hear relevant information about the project at the right time so that it is clear how it connects to their aims and interests. This document is the first deliverable of WP8 towards achieving those aims and it is led by ECSA, the European Citizen Science Association. It presents a set of different actions that the project will develop for partners to promote air quality and facilitate behavioural change towards more sustainable practices in favour of the environment.



1. Introduction

According to the European Environmental Agency, air pollution is a major cause of premature death and disease and is the single largest environmental health risk in Europe¹. Shockingly the majority of people pay very little attention to it, are mostly unaware of how it affects their quality of life, and therefore seldom take action. In SOCIO-BEE we aim at changing that.

As a related silver lining of the current COVID-19 pandemic, the first lockdowns drastically altered our patterns of energy demand, with a drop in emissions up to 17%². This decrease was a direct cause of a reduction in the use of surface transportation. This beautifully highlights the potential that policy measures can have on emissions. SOCIO-BEE wants to tap on this potential by **developing a dissemination strategy that is able to speak to different stakeholders and adapt to the project's needs at different time points**.

SOCIO-BEE is designed taking into account the different interests and needs as well as the potential of all participants. Flexibility and adaptability are at the core of this project and will also be reflected on the dissemination and communication strategy. With a robust communication and dissemination roadmap, we will ensure that throughout the project duration we maintain the conversation between citizen scientists, air quality experts, policy makers and different relevant stakeholders always active and topical (queen bees, worker bees, honey bears and larvae). We will produce content to engage those that just want to learn about the topic but not necessarily take action (drone bees), convert larvae into any of the bees, and finally we will keep all the project partners engaged, active, and eager to continue working towards empowering others to take ownership of their responsibility for healthy air.

Finally, all the actions described in this deliverable are those that we have identified as being successful in achieving our set of goals. This will certainly change throughout the project and we will adjust this plan accordingly.

1.1. Purpose of the document

SOCIO-BEE aims to empower individuals to change their behaviour in favour of the environment. In order to make that a reality, with this deliverable we aim to establish a communication and dissemination strategy that enables fruitful interactions between the project partners and the different stakeholders throughout the project. This document therefore sets out the following for the project:

- Four objectives to ensure communication and dissemination targets are met to maximise the reach of the project outcomes and associated policies.
- Tools and Communication guidelines for all partners to help them identify and take advantage of opportunities.
- Campaign strategy to disseminate and promote the project phases, results and policies to different target audiences.
- This plan will be reviewed regularly to ensure it is relevant and fit for purpose, with the flexibility to modify it based on engagement needs in the different project phases.



As part of the development of this deliverable we had a consortium meeting where we highlighted some of the project's key messages (a-f, below) followed by a brainstorming exercise focussed on dissemination tools and their reach.

Projects key messages:

- a) Reducing air pollution requires engagement of, and behavioural change by, all stakeholders;
- b) Wider citizen engagement and awareness is necessary to ensure public acceptance of measures proposed;
- c) Top down and bottom up approaches should be fused through co-creation, co-execution and co-exploitation;
- d) Our communication strategy should contribute towards making scientific findings more accessible to non-scientists, ensure research questions are seen in a societal context and openly encourage public participation;
- e) We need to find innovative ways of engagement such as artistic exhibitions, games, etc.;
- f) CS initiatives lack the connection with their local and regional sponsors that could multiply impact. We should work towards combating that.

Based on the above, we have planned this communication and dissemination strategy according to four different main objectives as can be observed in Table 1.

1.2 Relationship with other deliverables

The communication and dissemination plan and activities will change throughout the duration of the project according to the delivery and release of results from different WPs and associated deliverables. An important input will come from deliverable D2.1 (Profiling and instruments for CS Bees and Bears identification) which will inform us of important characteristics of the different stakeholders we are trying to engage. In addition, D2.3 (Target user behaviours and determinants for citizen science driven green behaviour) will provide grounds for potential recruitment and supporting strategies to reach a wider audience of queen bees, worker bees, drone bees and larvae. As we strive to be inclusive in all our initiatives, D6.6 & D6.7 (Framework for developing social inclusion participation in citizen engagement and behavioural change platforms - 1st & 2nd release respectively) will be paramount in guiding us in this journey towards creating spaces where everyone feels included. Finally, D3.1 - Report on Legal and Regulatory requirements and D7.3 - Cost-benefit analysis guidelines will provide the necessary information to enable a successful maximization of the project's outputs.

2. Dissemination and communication plan

In this section, we outline the target audiences and the key messages that will be communicated and disseminated. This section also covers the dissemination tools that we will need to reach such audiences, as well as the roles each individual partner will play during the project lifetime. Finally, we also highlight our vision for the dissemination and communication efforts throughout the project.



Table 1. Main objectives of the dissemination and communication activities.

Main objectives	Methods	Related tasks / deliverables	Additional actions
Overall enhancement of SOCIO-BEE's visibility	Social media, website, and videos. Additionally, relevant newsletters, journals and conferences.	T2.1 - profiling and hives creation & T2.2 engagement methodologies. Furthermore, T6. 3 Inclusive participation in SOCIO-BEE (D6.6 & 6.7)	We will offer all the consortium the opportunity to gain knowledge in tools and strategies of engagement
Promotion of the importance of air quality for our health and wellbeing	Social media, website, and videos.	Task 4.3 City pollution, citizen exposure and citizen behaviour analytics and profiling components. Task 4.4 Wearable air quality module.	We will run an air quality crash course for the consortium that will be available to the public through SOCIO-BEE's channels and the EU-Citizen.Science platform.
Stakeholder engagement throughout the project	WP2 outcomes, brochures, workshops, website, Newsletter, networking.	T2.2 (engagement methodologies) and Task 4.1 Citizen engagement and co-creation services	We will lead co-creative workshops with the pilot leads to understand their needs. Interviews and 1:1 discussions with the stakeholders are needed.
Maximisation of the projects results and policies	workshops, courses, publications, press	Linked to D3.1 - Report on Legal and Regulatory requirements and D7.3 - Cost-benefit analysis guidelines.	We will upload all projects results in the EU-Citizen.Science platform. Scientific partners will deliver results to their research communities. Involve journalist in dissemination at some point.



2.1. Target Audiences

With this dissemination and communication strategy, we aim to reach (BK, QB, WB, DB, HB and larvae):

- The general public as potential citizen scientists of different specific demographic groups. We will put special focus on Young adults, commuters and elderly communities;
- a broad variety of HB: stakeholders in industry, government, academia, NGOs;
- scientists and other citizen science practitioners (BK), particularly in the field of air quality;
- policy makers and regulators at European and national levels;
- media, journalists, editors and news reporters that will increase the reach and credibility of the project.

2.2. Key Messages

Most of the messages that we will use for engagement will be informed by the outcomes of WP2 and other relevant scientific literature. We provide in this section some examples about the potential content to use to the different target audience.

To the general public

- Everyone can become part of the solution to air pollution;
- Let's keep cities and neighbourhoods liveable and healthy;
- Your contribution is necessary and incredibly valuable;
- Act now.

To industry stakeholders

- Industry needs to meet the world's ever-growing environmental needs. Stop being part of the problem and become part of the solution;
- Clean air is one of the most basic human rights and currently, air pollution is one of the five main drivers of biodiversity loss and the cause of 400000 premature deaths due to ambient air in the EU¹;
- CS data is a reliable source of data with the added benefit of having engaged communities to want to help devise solutions to problems.

To the scientific community

- Scientific literacy of citizens towards air quality topics will help them better understand their role in promoting a more sustainable future;
- Crowdsourced data with SOCIO-BEE provides an untapped potential to see in deeper detail air pollution in urban environment in relation to citizen behaviour patterns;



- Deploying CS initiatives as part of their research will contribute to the democratization of science and therefore will increase public trust in the scientific process.

To public organizations, governments and NGOs

- The SOCIO-BEE approach is enabling decision makers to tap into new sources of information, knowledge and perspectives on a bigger scale about the pollution in the urban and suburban environment at very low cost;
- SOCIO-BEE helps cities to develop pragmatic solutions to solve the air pollution problems by integrating economic, social and environmental parameters;
- NGOs have an incredible potential to enable the communication between CS practitioners and the general public. This connection is one of the cornerstones of CS and therefore paramount for the success of the project.

To policy makers and environmental agencies

- The active participation of citizens has the potential to renew the relationship between policy makers and citizens by improving openness and reliability of policy implementation;
- Policies have to reflect what people need. Let us all work together towards reaching a consensus.

To media, journalists, editors and news reporters

- SOCIO-BEE solutions will benefit each modern citizen and provide transparency on climate change policies.
- The media's role is crucial through endorsements and as amplifiers of the project's goals.

2.3. Dissemination tools

Dissemination will take place through various channels to account for the differentiated demographic digital and offline presence, as well as the specific objectives. The multiple languages of the different pilot locations, and countries involved in the project will also be considered, as well as accessibility and representation.

Both accessibility and representation will be at the core of all communication and dissemination actions. This means we are committed to taking all necessary measures to insure nobody is left behind and that nobody feels like this isn't for them. We want to ensure that with SOCIO-BEE there is the opportunity for everyone to participate and for every voice to be heard.

Legal requirements will be considered during all dissemination activities according to the activities in WP1, WP3 and WP6. We will put particular emphasis on the data protection requirements and will include a data protection statement as well as a legal notice whenever necessary.



Website

The project will have a website located at the URL <https://sociobee-h2020.eu/> (domain to be confirmed). Websites are an important avenue for creating a presence and remain a good central meeting point throughout the project. At this stage the aim of the website is to bring together potential citizen scientists and stakeholders, so they can get information about what SOCIO-BEE is, what we do and how they can get involved. This will also serve as a landing page, for people that want to receive the SOCIO-BEE Newsletter to subscribe. A news section will show the latest interesting articles regarding Air quality and a highlight of the most relevant Tweets from our Twitter account. This is going to display news in “real time” as compared to the Newsletter’s frequency. The contact form will be visible and intuitively available so that anyone interested can quickly contact us, including journalists.

Additionally it will serve the purpose of informing the general public about the current challenges of air quality, what affects it and what can be done to slow down and reverse to a certain degree the damage. The webpage will be designed to attract and engage all kinds of bees and bears. Additionally, by being showcased within the EU-Citizen.Science platform we will reach the citizen science community and therefore create the opportunity for citizen scientists and CS practitioners (BK) to get involved.

The website will be available in English, as this is the main language of the project, but also in Spanish, Greek and Italian, being the languages of the countries where pilots will take place. Social media sharing buttons will be available on relevant pages, as well as links to our social media. The full website will be ready by 31.03.2022, including translations of the static pages into all relevant languages.

Accessibility and representation will be considered throughout the design process. All legal requirements will also be taken into account.

Social Media

The main objective across social media channels is to engage interactively with our target audiences to promote the project and to engage them with the respective key messages. The accounts will be connected to the website. Project participants will be invited to be regular feeders of our social media accounts and website blogs. We will have an editorial calendar with content and pictures that will be reviewed during the WP meetings and that can be relevant for each channel.

We will also launch several Social media campaigns consisting of a series of posts with images or videos that aim to keep target audiences engaged and interested in SOCIO-BEE. These campaigns are very effective due to the wide reach that is allowed in the platforms we have chosen to work with (other offline campaigns will also take place using brochures and in person workshops, when the target groups do not have a strong digital presence and when the broad reach is not a priority). The objective of the campaigns will depend on the project phases and needs. For example during the stakeholder engagement we will focus on campaigns that attract the right stakeholders for each pilot and make sure they remain interested. For this a first phase of understanding the needs and wishes of the stakeholders is important. A close collaboration with WP2 will be crucial for this phase. During the pilot phase and recruitment of citizen scientists, depending on the target group of each particular pilot (young adults, elderly, and



commuters) we will launch campaigns on the appropriate platforms together with co-creative workshops with the pilot leads.

Twitter

SOCIO-BEE's Twitter account @socio_bee was created to attract followers from different backgrounds. On the one hand citizen science practitioners, especially from the field of air quality and on the other hand the general public, interested in air quality or citizen science. The aim is to be part of the CS landscape, take part in debates and discussion and position SOCIO-BEE as a central player in the field.

All tweets containing images will include a description of the images to account for followers with visual impairments. Tweets containing videos will either already have subtitles with commentary or a CC file will be attached to account for followers with hearing impairments.

The language of most tweets will be English.

Facebook

The facebook page @SOCIO-BEE (to be confirmed) will be created with the aim of reaching potential citizen scientists, as well as the general public. The purpose is to create events, share news, and write longer posts about our activities, so that people stay in touch and are curious and excited to take part. Although the language will be mostly English, there will be events created in the local languages of the pilot's cities.

Linkedin

The aim is to stay updated with the citizen science landscape. Communicate with other citizen science practitioners, especially in the field of air quality. Activities and workshops will also be announced through this channel, and press attention is also expected to be gained here.

Instagram

At this point it is still uncertain whether an instagram account will be a useful tool to fulfil our dissemination and communication goals. We will further investigate its reach and understand if this will give us a broader reach.

TikTok

Through this channel, short videos aimed at younger audiences will be shared. For example, videos created using drones. There will be different content pillars: 1) General information about air quality 2) Information about SOCIO-BEE in general 3) Information about SOCIO-BEE's activities where we want people to participate.

The purpose is to inform young potential citizen scientists about the current challenges of air quality. to inform them about what SOCIO-BEE is and to attract them to participate in the pilots or other activities.



These videos will be available in different languages and Accessibility as well as representation will be considered throughout the process.

Other dissemination tools

Newsletter

The aim of the Newsletter is to inform anyone who is interested in the most recent activities, results, meetings, etc of SOCIO-BEE. There will be 2 editions per year. The website will serve as a landing page for people that want to subscribe to the newsletter, but it will also be available in the news sections of the website. The language of the newsletter will be English.

Press releases

Press releases will be used throughout the timeline of the project to gain media attention and inform about public activities, milestones and results. The aim is to get attention at different levels: European, national, regional and local. Partner institutions are also encouraged to write press releases to promote and communicate about relevant events at a local level as well as to consider translating other partners' press releases. Larger project press releases will be coordinated by the Consortium collectively.

Events

The consortium members will attend European conferences, exhibitions, workshops, seminars and other external events on topics related to the project (e.g. GovTech, regulations, environment, wearables, IoT, citizen science, participatory approaches), where they will promote the SOCIO-BEE project and its outcomes. SOCIO-BEE aims to be present at a minimum of three relevant multidisciplinary events per project year, including ECSA conference in 2022. For this purpose, a dissemination package will be prepared consisting of a set of branded materials that the consortium partners are encouraged to use when presenting the project.

Clustering events

We aim to take advantage of being part of the Horizon 2020 scheme to build bridges between projects with similar aims. Such a process has already started with [CompAir](#), a sister project from the same call who is currently also working towards profiling different stakeholders for their pilots. In addition, we are also working towards the event being organized by the project officer to talk about synergies between other projects from this call.

These bridges bring added value to all projects involved. We will strive throughout the project to fuel these partnerships and foster a relationship of mutual learning where resource and knowledge sharing is present together with the opportunity to co-create dissemination activities together.



Publications and book chapters

Peer-reviewed journal publications and book chapters are envisioned in order to engage with the scientific community. It is not clear at this point, which journals or specific topics will be covered, as this will depend on the findings and conclusions as the project advances. Publications will be considered during the second and third year.

Courses, workshops and webinars

The idea of creating a crash course about air quality became obvious, as not all partners involved are “air quality experts”. Furthermore, as the idea keeps developing, we considered using the EU-Citizen.Science platform as a tool to disseminate this and other courses and training resulting from our project, taking the advantage of the effort to not only inform the consortium partners, but also anyone interested in air quality. Using this platform, we will be able to reach other CS practitioners, stakeholders and even citizen scientists (QB).

Promotional material:

Videos

Two videos are planned. These will be available to watch at ECSA’s YouTube channel, as well as SOCIO-BEE website. The aims of the videos are:

- 1) Inform the public about the project's aims: Serves several purposes, increasing engagement for the pilots. Inform different stakeholders in an easy format the projects aims and methods
- 2) Video highlighting the projects outcomes:

Brochures

Brochures will be created to reach the local public. Seek the engagement of locals. The distribution will be supported by the local stakeholders. They will contain general information about air quality, as well as specific information about SOCIO-BEE and how people can get involved. These will be available in the local language.

2.4. Partners main actions

Partners will also play a key role in increasing the reach of the dissemination and communication activities by using their own tools and methods to reach various interested parties and communities. Partners will log interactions and successes in a shared document.

As the lead beneficiary of this deliverable and corresponding WP. ECSA will provide information, training and guidelines to all project partners on how to best use the dissemination and creation tools.



Partner's social media accounts and guidelines

Each post from the main SOCIO-BEE channels should be short and use clear and concise language. A good tool for checking language is the [Hemingway App](#)⁵, as recommended by the Simple English Wikipedia project. The use of relevant photos or videos is more likely to increase interactions and engagement, so is strongly recommended. All posts should include alt text for images or videos:

- [Instagram help](#)⁶
- [Facebook help](#)⁷
- [Twitter help](#)⁸

All relevant partners should be tagged – the associated accounts are named in Annex 1.

Use relevant hashtags to help spread the work further, but limit to a maximum of three to ensure the text is readable.

Tag SOCIO-BEE when using your own account.

Share press articles published on the project in local media

Share the project's press releases, e-newsletters, the videos, the toolkit and policy recommendations on your own accounts

Press releases

Partners should send out press releases to their contacts and make sure that the relevant local, national and international press receives the message in collaboration with their institutional press department.

Events

Each partner and third party is encouraged to use branding that was created by the project. Partners will ensure they have permission to share photos or videos on social media or with other partners. All events should be announced on the website and social media as well as partners websites and social media.

Tweet during the event.

Take high quality pictures during the event, when possible, and share with all Partners.

Individual dissemination

CERTH

As a leading European Research Institute in the ICT domain and its contribution to the dissemination strategy for SOCIO-BEE project results and advances will focus on a multi-scale approach with the central axes being academia, research and the services industry. CERTH will deploy its SOCIO-BEE dissemination activities through

- presentations in major European and international conferences
- publications in high-impact scientific journals
- its extensive European network of Research and Technology Organisations (RTOs), and its business network of innovative companies around Europe.

**HYP**

Hypertech will inform its clients regarding project developments within communication campaigns through its corporate social media accounts, website and blog post. Several posts are to be generated at regular intervals to disseminate project progress. Additionally, once the SOCIO-BEE platform is running, HYP will contact its clients that are Municipalities to investigate their interest for proof-of-concept demonstrations. Furthermore, HYP will disseminate the project outcomes to partners in other H2020 projects in which it also participates. Finally, during the first year of the project HYP will contribute to the development of an initial short video that summarizes the general concept, the objectives and expected results of the project in a simple and non-technical way and comprehensible way for reaching the general audience.

VUB

VUB will put particular emphasis on the dissemination and communication of on the one hand the legal research carried out during the SOCIO-BEE project in relation to data protection and privacy and its cross-disciplinary aspects, and the research on engagement and behavioural change strategies on the other hand. VUB will participate in and/or lead the drafting of scientific publications and vulgarizing blog posts, to make research outcomes as visible and accessible as possible. The work on engagement will also be valorised and disseminated through the different CS and Living Lab networks (SCIVIL, ENoLL, etc.). VUB will also promote selected SOCIO-BEE-related activities through VUB research groups (LSTS & SMIT) press office and social media and website.

Conferences / eventsComputers, Privacy and Data Protection Conferences (CPDP)

VUB, on behalf of SOCIO-BEE, will organize a panel at its annual Computers, Privacy and Data Protection Conference, one of the largest events in the field of privacy and data protection law worldwide. The panel will discuss the progress achieved by the SOCIO-BEE project to tackle legal and ethical challenges and open questions to accelerate the uptake of citizen and open science. The panel will include distinguished and highly experienced representatives from the EU institutions, academia, the civil society and local government. This dissemination and communication activity is planned for 2023.

Knowledge Powerhouse

It aims to communicate the project's work in relation to law and ethics, its cross-disciplinary impact assessment and subsequent lessons learnt to the general public, encouraging the uptake of citizen science by creating a publicly available knowledge hub hosted on the project's website. The Knowledge Powerhouse will attract stakeholders with guidelines, useful resources, and best practice, focusing on law and ethics and compacting and expanding the existing knowledge basis. This dissemination and communication activity is planned for 2022 as the VUB-LSTS will hold a launch event. Cooperation with ECSA and in synergy with other EU projects will also be explored.



Publications

Articles and blog posts

VUB will participate in and/or lead the drafting of scientific publications and vulgarizing blog posts, to make research outcomes as visible and accessible as possible. There will be at least two journal articles or book chapters. If all goes well, the first one is planned to be finalized around June 2022 and the second one in March 2023. Furthermore, at least two blog posts will be created. Depending on the content and audience, this is a dissemination or communication activity.

Press office / social media / website

Selected SOCIO-BEE-related activities will be promoted through VUB research groups (LSTS & SMIT) press office, social media and websites. These posts can include (re)posts of news/events on the LSTS website/ LSTS twitter account when for example VUB-LSTS gives a SOCIO-BEE related talk.

Extra

Other communication or dissemination activities include presenting VUB-LSTS work on legal and ethical topics in the SOCIO-BEE project during events. At least two talks will be held for this purpose in 2022 and 2023. Furthermore, the research group will also support activities organised by other partners. These can be events or publications.

DEUSTO

This project represents a good opportunity for enhancing DEUSTO expertise on research and innovation in tools to foster Open Governance and Citizen Science. Bigger scientific impact in the form of publications and transfer to society through assets that can be adopted by PAs or private companies will be produced. DEUSTO will contribute to the dissemination strategy of SOCIO-BEE by publishing research articles in the areas of citizen engagement, co-creation, behaviour change, tailored interaction, data analysis, and persuasive strategies. DEUSTO will attend to major European and international conferences (2 per year), e.g., Internet of Things conference which we have already organized in the 2019 edition in DEUSTO (<https://iot-conference.org/iot2019>), plus organization of special issues in impact journals (at least 1 per year) addressing the challenges of progressing towards human-centric computing, engaging Citizen Science and Internet of People (IoP).

HKU

HKU has extensive experience in coordinating and participating in pan-European and international projects and fully understands the need for coherent dissemination and branding for project communication. HKU will engage with several of its main European networks, including the European Association of Institutes of the Arts ELIA (role: board member), ERRIN (Design & Creativity Group),



European Network of Living Labs ENoLL, OECD Working Group Creativity & Critical Thinking, European Forum for Advanced Practices EFAP Cost Action, European Creative Business Network (ECBN) and many others. HKU will assist in the creation and dissemination of targeted materials.

UNIPD

UNIPD will focus on disseminating the findings of the project among the scientific community, especially pointing to the changes that ICT and the participatory approaches have on public policies and on public decision processes. This kind of dissemination will be carried out through participation in conferences, publication of scientific articles and of UNIPD press releases. Furthermore, information and updates on the project will also be published on the CRIEP (Interuniversity Research Centre on Public Economics) website. UNIPD will also disseminate the SOCIO-BEE findings towards local institutions. This aspect will be addressed through the organization of dedicated workshops.

ECSA

ECSA will focus on promoting the project to the citizen science community through the established channels: social media accounts, and our European citizen science events, for example the biannual conference. Initially, the focus will be on highlighting opportunities for citizen scientists to get involved (phase 1). As the project progresses, ECSA will communicate the outputs to the citizen science community and other citizen observatories (phases 3 and 4).

BETTAIR

As an opportunity to broaden the presence of Bettair in environmental and air-quality-aware efforts, Bettair will contribute to the dissemination of SOCIO-BEE activities by means of its usual communication and social media channels (e.g. linkedin). Moreover, Bettair usually attends major national and international conferences within the fields of Smart Cities, IoT, mobility and air quality and will actively distribute any available dissemination materials such as flyers, brochures, etc.

ZKF

The Zaragoza City of Knowledge Foundation will use its regular communication channels (online and offline) for the dissemination of the project and activities.

In addition, the foundation will focus on the dissemination and communication of the Zaragoza's pilot, in cooperation and coordination with the Zaragoza City Council and the Ibercivis Foundation.

Through the communication plan, the foundation intends to promote the project at local, regional, national and European scope. In addition, the plan aims to raise awareness among the population, particularly teenagers, about the importance of air quality.



IBERCIVIS

The Ibercivis Foundation will use its usual communication channels (online and offline) to contribute effectively to the dissemination of the project activities, aligning its strategy with the communication objectives of SOCIO-BEE. In order to achieve these objectives, Ibercivis will propose its own communication actions and will disseminate the general actions of the project, contributing to its dissemination in Spain by translating its contents into Spanish.

In addition, Ibercivis will have a special interest in the dissemination of the Zaragoza pilot, of which it is the organising entity together with Zaragoza City Council and Zaragoza City of Knowledge Foundation.

The communication objectives to be achieved will be the following:

- To make the project known among the consolidated community around the foundation (local, regional, national and European)
- To help disseminate the project in Spain
- To Raise awareness about air pollution problem in the city of Zaragoza and the ways yah SOCIO-BEE proposes to tackle this problem
- Articulate, together with FZCC and the City Council, the communication of the Zaragoza pilot.
- Participate in the recruitment of the target audience for the realisation of the pilot in Zaragoza
- Contribute to the dissemination of the project results.

The communication tools available are:

- The communication tools available are:
- The Ibercivis Foundation website (40000 pageviews/year)
- The Foundation's social media channels: FB, TW, IG, LK, YT (6000 users community)
- The Ibercivis Newsletter (more than 2000 contacts reach)
- The Observatory of Citizen Science in Spain website (60000 pageviews/year)The observatory's social media channels: FB, TW (4000 users community)

Besides this online presence, the presence of the project activities through the Zaragoza pilot case in traditional media -such as local and regional radio station, newspapers and regional tv's- of will be expected during the project development.

ZGZ

The Zaragoza team will act as a common task force to disseminate and communicate the activities carried out within the SOCIO-BEE pilot. Acting as a cluster we intend to leverage the strengths of each of the institutions (ZGZ, ZKF, IBERCIBIS) to maximize the impacts and reach the maximum number of participants possible and to achieve a high level of commitment from the involved people.

Zaragoza's communication and dissemination activities will be implemented in close partnership with ZKF and IBERCIVIS. The activities carried out will be showcased and disseminated through the City Hall channels and through the Etopia center new media possibilities. A combination of traditional (press releases, radio, media, etc) and innovative dissemination tools as its digital facade will be used.



Finally, ZGZ will deliver the SOCIO-BEE project as a best practice to be replicated in other cities. In order to do so we will promote it in the European networks where they are taking part (Eurocities, CC4DR, RECI, etc...)

Zaragoza (Pilot Case)

The challenge for the city of Zaragoza is to attract the younger public (8 to 16 years old) to the SOCIO-BEE project, so that they can take responsibility in caring for their air quality. With the innovations presented by SOCIO BEE, this pilot will obtain a very positive engagement among the student communities that regularly participate in initiatives that are promoted to improve the quality of life of the people of Zaragoza through the conservation of its environment.

For this challenge in mind, the organising entities of the pilot in Zaragoza will align their communication strategy with the general strategy of the project and will use their channels and tools to achieve the following objectives:

- The dissemination of the project in the city of Zaragoza among the identified stakeholders: young people, air pollution researchers, local administration and private initiatives involved in the maintenance of the city's air quality.
- To Raise awareness about air pollution problem in the city of Zaragoza and the ways yah SOCIO-BEE proposes to tackle this problem
- Recruitment of the target audience to participate in the pilot: young people aged 8 to 16 years old.
- The dissemination of the workshops and activities carried out during the pilot case.
- Dissemination of the results obtained.

For the realisation of the proposed objectives, each of the members has its own communication channels and tools:

Ibercivis Foundation

The communication tools available are:

- The Ibercivis Foundation website (40000 pageviews/year)
- The Foundation's social media channels: FB, TW, IG, LK, YT (6000 users community)
- The Ibercivis Newsletter (more than 2000 contacts reach)
- The Observatory of Citizen Science in Spain website (60000 pageviews/year)The observatory's social media channels: FB, TW (4000 users community)

Zaragoza City Council

- Etopia website (14410 users)
- The Zaragoza City Council's Social media channels: FB, TW, LK: (129.796 users community)



Zaragoza City of knowledge Foundation

- The Zaragoza City of Knowledge Foundation website (10827 pageviews/year)
- The Etopia Kids and Foundation's Social media channels: FB, TW, IG, LK,YT (46.271 users community)
- Etopia News and Etopia Kids Newsletter (2100 contacts reach)

Zaragoza Communication action plan

- Press Releases: one at the beginning of the pilot case, one at the end of its activities to help the dissemination of results
- Besides the constant online presence, the project activities through the Zaragoza pilot case will be expected in traditional media -such as local and regional radio stations, newspapers and regional tv's- to help the dissemination of activities and results.
- The visual identity of the project will be used in all kinds of dissemination materials needed in the communication strategy, such as the design of brochures, posters, infographic, website and social media images, etc.
- The Etopia Art and Technology Center has a 600 square meter double façade that encompasses both the west and south façade of the building complex. It works as a communication support with the city and its citizens.

MRSI

MRSI, as a public organization, will disseminate the project results to city and municipality networks. In collaboration with scientific partners the research results will be disseminated in scientific journals and presented in academic and professional conferences.

NILU

NILU will communicate the project goals and outputs through our social media channels. Scientific dissemination of the project will be also conducted by participating in conferences as well as by writing scientific papers in open science journals. NILU is working with municipalities and will use these contacts to promote the project in Nordic countries.

AUTH

AUTH as an experienced partner in digital media will disseminate and popularize the project results through different channels available to the organization as well as through scientific publications. SOCIO-BEE will be promoted in AUTH communication channels. Furthermore, AUTH has strong networks with Greek policymakers (ministries and government agencies), private sector and civil society allowing promotion of the SOCIO-BEE to the most relevant societal actors.



ANCONA

Ancona planned the following dissemination activities:

- Press conference for local project start-ups to present SOCIO-BEE to citizens and to introduce who are the partners involved.
- Meetings with Associations: meetings before and during the course of the project of the local project, for recruitment, progress monitoring and evaluation.
- Posts on social networks: At variable intervals of time, interesting contents and work in progress can be shared on social media (Telegram, Facebook).
- Publication on institutional websites: These too at variable intervals, for further dissemination of interesting aspects and the work in progress, they could be the same contents of social, formatted ad hoc for different platforms.

UNIVPM

UNIVPM planned the following dissemination activities for sharing and spreading knowledge about SOCIO-BEE

Use of social media channels

UNIVPM will post SOCIO-BEE related contents using official UNIVPM channels, i.e. Facebook, Twitter, [https://www.univpm.it/Entra/Horizon_2020 - Projects](https://www.univpm.it/Entra/Horizon_2020_-_Projects). Moreover, the Department of Industrial Engineering and Mathematical Sciences (DIISM) of UNIVPM will also share contents about SOCIO-BEE on Twitter, LinkedIn and using the official Department <https://www.diism.univpm.it/progetti-e-convenzioni>.

Publications on research journals

The achieved results within the SOCIO-BEE project will be published in peer-reviewed journals such as Building and Environment, Sensors, IEEE Sensors, and other journals related to smart cities, air quality, and CS.

Presentations during conferences, fairs, and public events

UNIVPM plans to disseminate the project during conferences, webinars and round tables. One event could be [Ecomondo](http://www.ecomondo.com/) (<http://www.ecomondo.com/>), which is the largest EU green technology Expo.

Press conference

Organized in collaboration with the Ancona municipality for recruiting people and disseminating the project among citizens.



HOPU

HOPU as a specialist in Smart Cities business sector will support the dissemination via different media, events, and fairs and via key associations, which HOPU has a key role as FIWARE Foundation (Chair of the Smart Cities Mission Committee and part of the Board of Directors).

HOPU will also support the dissemination with blogs, posts, and invited articles in key reference media such as OECD, UNESCO and ITU-T.

In detail, some activities are attendance and organization of conferences and workshops under the umbrella of IEEE (where CEO from HOP Ubiquitous is vice-chair of IEEE ComSoc IoT).

Publication of the results and innovations in the platform around IoT in relevant (ranked and high impact factor) Open Access Journals.

IEEE conferences such as IEEE AINA, IEEE IMIS, IEEE CISIS, IEEE CCNC, IEEE WF-IoT, IEEE INFOCOM, IEEE Globecom, IEEE ICC etc.

Journal publications in Gold Open access (free access) such as MDPI Sustainability, IEEE Access (Associated Editorial from HOP Ubiquitous staff), Springer Personal and Ubiquitous Computing

ID2Move

ID2Move will host the test phase linked to drones. Pictures and videos regarding the preparation phase and flights will be done. This will offer engaging and attractive content for social media.

On a more general point of view ID2Move will speak about SOCIO-BEE on its social networks (Facebook, LinkedIn, Twitter, TikTok, Instagram) where autonomous systems, related companies and citizens are in contact.

ID2Move being part of a Business Innovation Center (CAP Innove) will also use their 5000 contact persons to disseminate information about SOCIO-BEE when needed. CAP Innove social networks will also be used. They target a much broader audience.

Local and regional press may be invited, if security is guaranteed and confidentiality rules are followed.

ID2Move can also host events, demos and proof of concept.

3. Summary and roadmap

In sum, we will use a variety of tools to deliver key messages to different target audiences with different levels of engagement from the consortium partners. The first effort will be on creating our presence and establishing solid communication channels with relevant stakeholders. Several co-creative workshops will help with relevant members of the consortium to fine-tune both the key messages for the different target audiences and how we can best deliver these messages with the proposed communication tools.

This process has already started and we are currently working towards having all channels up and running by month 6. As the project progresses and the focus shifts to different target audiences, we will adjust our strategy. These adjustments will be clearly stated in the second and third release of this strategy in M18 and 36 respectively.



4. Monitoring

Information will be registered using practical templates located at our Nextcloud WP8 folder, where all partners can log their activities. KPIs will be defined through a co-creative exercise to take place early 2022 and will be used to motivate and track the communication and dissemination activities carried out by the Consortium during the lifetime of the project. These KPIs will focus on targets we want to reach taking into account the specific strengths of each consortium member and therefore each will have a specific set of contributions as a way towards achieving those KPIs. A short report will be presented in every consortium meeting and will be open for discussion with the consortium partners. This information will also be considered in conjunction with the stakeholder engagement of WP2.

The website statistics and social media interactions and data will be reviewed periodically and reported in the WP meetings. Quantitative data like the number of followers, likes, post reaches, page views, time tendencies, posts success, geographical and impressions will all be considered. Any trends in the data will be explored further. The events log will be used to track data about events SOCIO-BEE partners have participated in or organised. This will be considered in combination with the number of publications and networking outputs and partners will regularly update these documents throughout the project. Reports on the reach of any media reports about the project will also be included.

5. Conclusions

Throughout the different stages of the project, we have different aims in terms of communication and dissemination. Initially we need to engage a variety of different stakeholders and create our presence in all relevant channels. We will need to ensure each pilot can raise awareness and can reach their intended target groups. At a more advanced stage, we will need to broaden our followers to show our results. This can only become a reality if we use different communication and dissemination strategies.

Active participation from all partners will be fostered throughout the project. We will continually work towards having strong communication channels and open discussions with everyone throughout the project.

The main challenges will foresee are:

- 1) reaching out to hard to reach groups
- 2) Keeping all the channels topical and active
- 3) ensuring we create spaces where everyone feels invited

We truly believe a flexible and inclusive approach will decrease these challenges together with our commitment to keep an open mind to learn and adapt our actions as we move forward.

6. References

[1] <https://www.eea.europa.eu/publications/health-risks-of-air-pollution/health-impacts-of-air-pollution>

[2] <https://www.frontiersin.org/articles/10.3389/fenvs.2019.00010/full>



Annex I

Table 2. List of social media channels and website links of all consortium partners.

Partner	Twitter	Facebook	Instagram	Linkedin	TikTok	Website
CERTH	@certhellas	@CERTHellas		Information Technologies Institute (ITI)		www.iti.gr/s
HYP	@hypertehsa			HYPERTECH SA		https://www.hypertech.gr/
VUB (LSTS & SMIT)	@LSTSBlog @imec_smit	@imecsmitvub		imec-SMIT, Vrije Universiteit Brussel		VUB-LSTS Hall (subgroup) VUB-SMIT
UDEUSTO	@deusto @IngDeusto @deustotech @deustoresearch	@UDEusto @DeustoIngenieria	@udeusto	University of Deusto		www.deusto.es www.ingenieria.deusto.es
HKU						https://www.hku.nl/en/home
UNIPD	@UniPadova @Economit_Unipd	@universitapadova	@unipd @economit_unipd	CRIEP - Interuniversit y Research Centre on Public Economics		https://www.criep.eu/
ECSA	@EuCitSci	www.facebook.com/ECSAcommunity/		eucitsci		https://ecsa.citizen-science.net
BETTAIR				Bettair Cities		https://bettaircities.com/
ZKF	@etopia_kids @FundacionZCC	@Etopia.Kids	@etopia_zgz	Fundación Zaragoza Ciudad del Conocimiento		https://www.fundacionzcc.org
IBER	@ibercivis	@ibercivis	@ibercivis	@ibercivis		ibercivis.es



ZGZ	@zaragoza_es	@ayuntamiento dezaragoza		Ayuntamiento de Zaragoza		https://etopia.es
MRSI	@dimosamarousiou	www.facebook.com/dhmos.amarousiou	@dimosamarousiou	MUNICIPALITY OF AMAROUSION		https://maroussi.gr/
NILU	@NILU_now	@NILUNorskintittuttforskninng		NILU – Norwegian Institute for Air Research		nilu.no
AUTH	@Auth_University	@Aristoteleio @Auth_University		Aristotle University of Thessaloniki (AUTH)		https://www.auth.gr/en/
ANCONA	@ComuneAncona	@ComuneDiAncona				https://www.comune.ancona.gov.it (After 31/12) https://www.comuneancona.it
UNIVPM	@UnivPoliMarche @DIISM_UNIVPM	@UNIVPM	@univpm	Università Politecnica delle Marche DIISM - UNIVPM		www.univpm.it https://www.diism.univpm.it/
HOPU	@HOPUbiquitous	@hopubiquitous				hop.eu
ID2M	@id2move_eu	www.facebook.com/ID2MOVE/ https://www.facebook.com/CAPinnove	@id2move	www.linkedin.com/company/20534072 www.linkedin.com/company/cap-innove		www.id2move.eu www.capinnove.be