



ENGAGING CITIZENS IN SOIL SCIENCE:  
THE ROAD TO HEALTHIER SOILS



Co-funded by  
the European Union



UK Research  
and Innovation

[ECHOSOIL.EU](https://echosoil.eu)

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## Disclaimer

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## The ECHO Project Handbook

The ECHO Project Handbook contains information deemed useful to support the smooth operation and delivery of the project. It summarizes important management and coordination aspects of the ECHO Grant Agreement and its Consortium Agreement and lays out the working methods with regard to periodic and continuous reporting, deliverables and milestones, project internal communication, risk management, conflict prevention and resolution, including IPR.

The Project Handbook does not replace or supplement any obligations under official project documents, such as the Grant Agreement or Consortium Agreement, but provides guidelines and information intended to facilitate the collaboration among the ECHO beneficiaries and associated partners.

### Versioning and contribution history

Version	Date	Modified by	Notes
0.1	13/06/2023	Annika Kress (unibz)	Draft version
0.2	19/06/2023	Mara Longhini, Tanja Mimmo, Monika Stufferin (unibz)	Review
0.3	28/06/2023	Annika Kress, Mara Longhini, Tanja Mimmo (unibz)	Reviews and comments by Roy Neilson (Hutton) and all partners
1.0	30/06/2023	Annika Kress, Mara Longhini, Tanja Mimmo (unibz)	Final version

## Foreword

Soil is a vital, yet often disregarded, resource that supports life on Earth by providing the foundation for agriculture, forests, and various other natural ecosystems. However, soil degradation is a growing concern around the world, and it can have severe consequences for our planet like reduced crop yields, increased greenhouse gas emissions, and decreased biodiversity. The ECHO project aims to prevent this by bringing together citizens and volunteer scientists from around Europe to work towards a common goal of protecting and preserving our soils, thus contributing to the transition towards healthy soils of the EU Mission: “A Soil Deal for Europe”.

ECHO will generate new data on the health status of EU soils, complementing existing soil mapping and monitoring in EU Member States and Scotland, including the EU Soil Observatory (EUSO). The project will develop and deploy 28 tailor-made citizen science initiatives across EU Member States and Scotland, taking into account different land-uses, soil types, and biogeographical regions, as well as stakeholder needs. With 16 participants from all over Europe, including 10 leading universities and research centres, 4 SMEs, and 2 Foundations, under the coordination of the Free University of Bolzano-Bozen, ECHO will assess 16,500 sites in different climate and biogeographic regions to achieve its ambitious goals.

The project aims to engage citizens in protecting and restoring soils by building their capacities and enhancing their knowledge. Citizens will thereby not only actively contribute to the project’s data collection but also promote soil stewardship and foster behavioural change across the EU. The ECHOREPO, a long-term open access repository with a direct link to the EUSO, will make the citizen science data available for exploitation not only by scientists but also by citizens, policy makers, farmers, landowners and other end-users, providing added value to existing data and other relevant soil monitoring initiatives. ECHOREPO will thus provide valuable information about the state of soil health in various regions, and help citizens make informed decisions about land use and conservation.

We believe that the ECHO project will have a significant impact on soil health and citizen engagement across Europe and become an important step towards protecting and preserving our soil for future generations. By working together, we can ensure that our soil remains healthy and productive, and that we continue to enjoy the many benefits it provides.



## Contents

<b>Management structure</b> .....	6
<b>Partners</b> .....	6
<b>General Assembly (ART 6 CA)</b> .....	7
<b>Steering Committee (ART. 6 CA)</b> .....	7
<b>Coordinator (ART. 6 CA)</b> .....	8
<b>Project Management Team</b> .....	8
<b>Work Package Leaders</b> .....	8
<b>Task Leaders</b> .....	8
<b>Soil Health Advisory Board</b> .....	8
<b>Preliminary composition of the Shab</b> .....	9
<b>ECHO Organizational Chart</b> .....	9
<b>Project collaboration</b> .....	10
<b>Internal communication</b> .....	10
<b>Teams channels</b> .....	10
<b>E-mail settings and targeted messages</b> .....	11
<b>Interactive calendar</b> .....	11
<b>Document sharing and storage</b> .....	12
<b>Internal Meetings</b> .....	12
<b>Project Reporting</b> .....	13
<b>External Reporting</b> .....	13
<b>Periodic Reporting</b> .....	13
<b>Continuous Reporting</b> .....	13
<b>Milestones</b> .....	14
<b>Deliverables</b> .....	14
<b>Communication and Dissemination activities</b> .....	15
<b>Other output/indicators/activities</b> .....	15
<b>Internal Reporting</b> .....	15
<b>Risk Management</b> .....	16
<b>Conflict prevention and resolution</b> .....	16
<b>Innovation management and Intellectual Property Rights</b> .....	16
<b>Annex 1: List of Deliverables</b> .....	17
<b>Annex 2: List of Milestones</b> .....	18
<b>Annex 3: List of critical risks</b> .....	19
<b>Annex 4: Deliverable template</b> .....	20
<b>Annex 5: Deliverable review form</b> .....	21
<b>Annex 6: Progress Report</b> .....	22

## Management structure

### Partners

Role	Name	Abbreviation	Country
Coordinator; WP7 Leader	Libera Università di Bolzano	<b>UNIBZ</b>	Italy
	Universität Hohenheim	<b>UHOH</b>	Germany
	FCiências.ID – Associação para a investigação e Desenvolvimento de Ciências	<b>FC.ID</b>	Portugal
WP4 Leader	Alma Mater Studiorum – Università di Bologna	<b>UNIBO</b>	Italy
	Solutopus – recursos e desenvolvimento LDA	<b>SOLUTOPUS</b>	Portugal
WP1 Leader	Fundaciòn Ibercivis	<b>IBERCIVIS</b>	Spain
WP6 Leader	Plantpress SP.Z O.O.	<b>PLANTPRESS</b>	Poland
	Ita-Suomen Yliopisto – University of Eastern Finland	<b>UEF</b>	Finland
WP5 Leader	Quanta Systems SL	<b>QUANTA</b>	Spain
WP3 Leader	American Farm School Post Secondary Educational and Training Association	<b>AFS</b>	Greece
	Universitatea Stefan cel Mare din Suceava	<b>USV</b>	Romania
	Re Soil Foundation	<b>RESOIL</b>	Italy
WP2 Leader	Universidad de Extremadura	<b>UEX</b>	Spain
	Ambiente Ingenieria y Servicios Agrarios y Forestales SL	<b>AMBIENTA</b>	Spain
Associated Partner	The James Hutton Institute	<b>HUTTON</b>	United Kingdom

## General Assembly (ART 6 CA)

The General Assembly is the ultimate-decision-making body of the consortium.<sup>1</sup> It consists of one representative of each partner:

- |                                |                              |                                |
|--------------------------------|------------------------------|--------------------------------|
| - Tanja Mimmo, UNIBZ           | - Francisco Sanz, IBERCIVIS  | - Ciprian Palaghianu, USV      |
| - Siegmar Otto, UHOH           | - Monika Witek, PLANTPRESS   | - Margherita Caggiano, RESOIL  |
| - Silvana Munzi, FC.ID         | - Jukka Tikkanen, UEF        | - Manuel Pulido Fernández, UEX |
| - Davide Viaggi, UNIBO         | - Ivan Rodero, QUANTA        | - Federico Julian, AMBIENTA    |
| - Ana Maria Ventura, SOLUTOPUS | - Elisavet Papadopoulou, AFS | - Roy Neilson, HUTTON          |

The General Assembly will convene at least once a year. The representatives may appoint a substitute or a proxy to attend and vote at a meeting.

## Steering Committee (ART. 6 CA)

The Steering Committee is the supervisory body for the execution of the project. It reports on the progress of the project to the General Assembly and collects information to that matter every six months<sup>2</sup>. It also supports the coordinator in preparing meetings with the Granting Authority and in the preparation of communication, dissemination and exploitation activities. It consists of the Coordinator and the WP leaders:

<b>COORDINATOR and WP7</b>	Tanja Mimmo, UNIBZ
<b>WP1</b>	Francisco Sanz, IBERCIVIS
<b>WP2</b>	Manuel Pulido Fernández, UEX
<b>WP3</b>	Evdokia Krystallidou, AFS
<b>WP4</b>	Davide Viaggi, UNIBO
<b>WP5</b>	Ivan Rodero, QUANTA
<b>WP6</b>	Adam Paradowski, PLANTPRESS

The Steering Committee will convene at least once every three months.

<sup>1</sup> See Art. 6.3.1.2 of the Consortium Agreement for the Decisions to be taken by the General Assembly

<sup>2</sup> See page 14 of this Handbook and Annex 6 Progress Report

### Coordinator (ART. 6 CA)

Prof. Tanja Mimmo acts as project coordinator on behalf of Unibz. The Coordinator is the intermediary between the ECHO partners and the Granting Authority and will ensure the smooth operation and delivery of the project in line with its tasks as described in the Grant Agreement and the Consortium Agreement.<sup>3</sup>

### Project Management Team

The project management team at Unibz supports Prof. Mimmo in her tasks and day-to-day project management in close cooperation with the WP leaders and the consortium as a whole. A project manager is currently being recruited. For financial and administrative concerns, please communicate via the WP7-Teams channel (see below “Project collaboration”) or make direct contact with annika.kress[at]unibz.it.

### Work Package Leaders

Work Package Leaders have responsibility to coordinate their WPs tasks and activities and ensure the timely completion of tasks, deliverables and reports. In order to monitor the effective and efficient implementation of ECHO, WP leaders will report on their WP progress at least every six months in the Steering Committee.<sup>4</sup> Based upon this information, the Steering Committee will assess the compliance with ECHO’s work plan and budget distribution and, if necessary, will propose modifications thereof to the General Assembly.

### Task Leaders

Task leaders are responsible for the work planned for each task and its timely delivery and will report to the respective WP leader.

### Soil Health Advisory Board

The Soil Health Advisory Board will act as a consulting and advisory board for the implementation of specific project activities, and particularly in the co-design of the initiatives and in promoting synergies with relevant initiatives and stakeholders. It will be steered by the General Assembly.

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<sup>3</sup> See Art. 6.4 of the Consortium Agreement and Chapter 4 Section 1 of the Grant Agreement

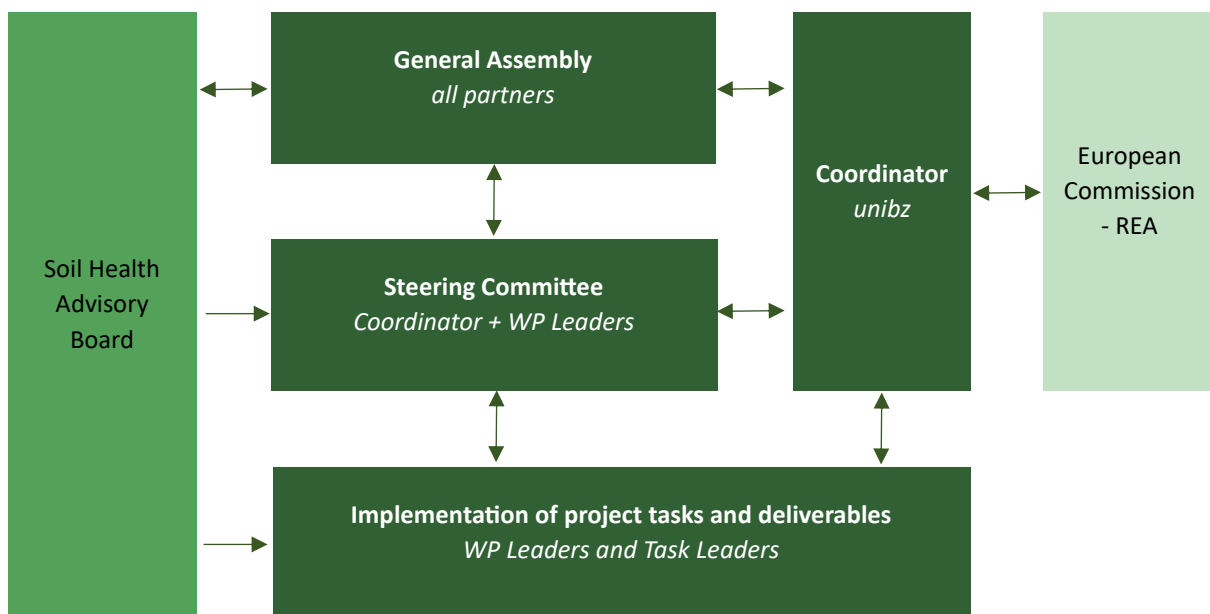
<sup>4</sup> See page 14 of this Handbook and Annex 6 Progress Report



### Preliminary composition of the Shab<sup>5</sup>

SHab MEMBER	Affiliation	Field/Sector/Category
██████████ ████████████████████ ██████████	Intergovernmental Technical Panel (ITPS) of Global Soil Partnership GSP at FAO	████ provides scientific and technical advice and guidance to the GSP on global soil issues
██████████ ████████████████████	Farmfluencers	Association of small farmers, promoting eco-social transformation for sustainability
██████████ ████████████████████	FACCE JPI Advisory Board	
██████████ ████████████████████	Environment online ENO	ENO is an Association of schools, public organisations and enterprises for sustainable development. The network is active in over 100 countries.
██████████	Joint Research Centre (JRC) will act as EUSO representative	████ will provide scientific and technical advice on the collection of soil health data and link to the LUCAS monitoring programme. █████ will also be the formal link between ECHO and EUSO and act as liaison.

### ECHO Organizational Chart



<sup>5</sup> See Grant Agreement Part B Table 3.2.1. To be appointed by General Assembly. NDAs to be executed.

## Project collaboration

### Internal communication

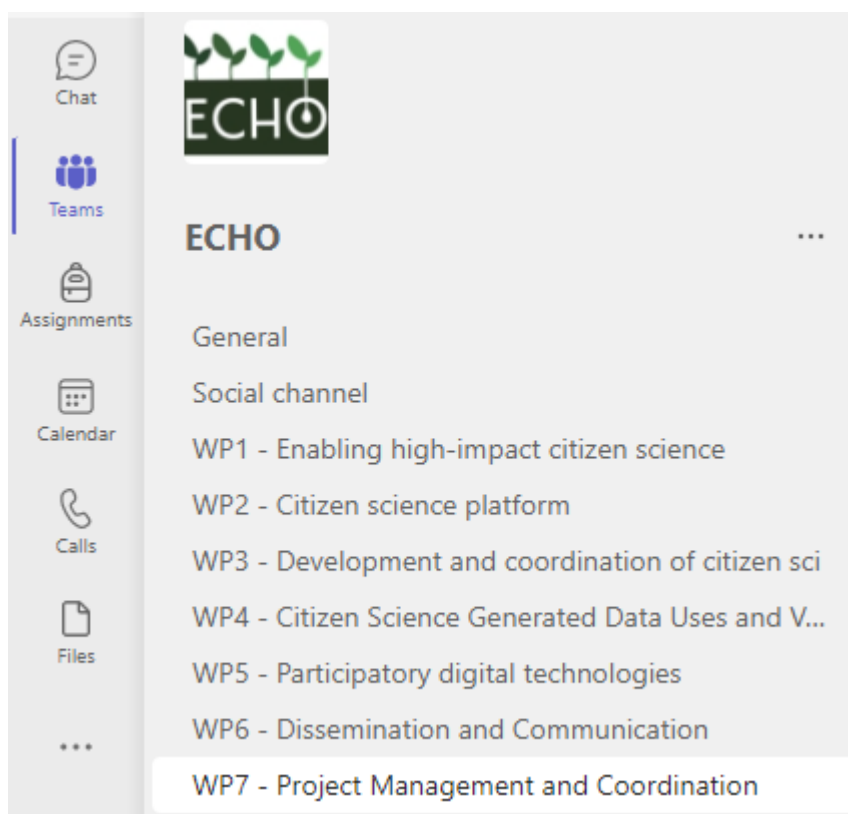
Unibz has established a Microsoft Teams and Teams channels for the ECHO project in order to facilitate communication and collaboration among the ECHO consortium. The ECHO Teams functions as the **primary access point and project management tool** for project tasks and activities across all work packages. Partners shall ensure that all relevant project collaborators from their organization have access to the ECHO Teams.

### Teams channels

In addition to the general channel, each work package has been assigned a channel for **WP-internal communication, sharing of relevant documents and other data**.

In the channel chats, partners can discuss specific tasks, research progress and share important work package related information. The “**reply-function**” helps to organize and keep track of conversations.

A **social channel** was set up for posts and messages not strictly related to project tasks, where relevant initiatives, conferences and other news can be shared with the consortium.



## E-mail settings and targeted messages

We recommend **personalizing the e-mail settings** in the Teams channels in order to receive the kind of communication and the amount of communication needed to stay on top of ECHO tasks.

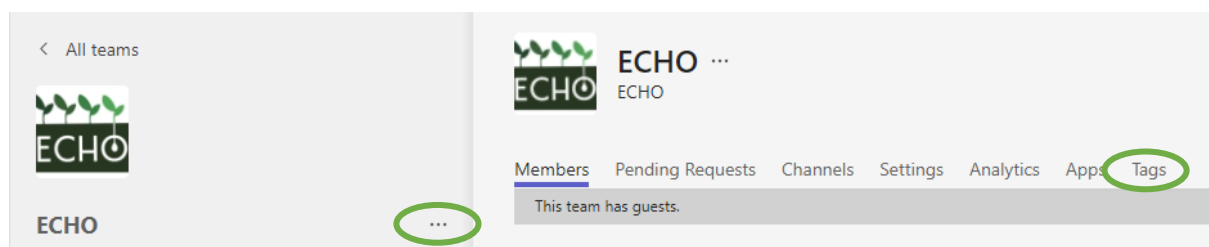
For important messages and questions, tag specific groups or persons by mentioning them in the message text. NOTE: **@-mentions should be used sparingly.**

- To write to all ECHO team members, write **@ECHO** in your message and select the ECHO team from the suggestions that pop-up.
- To write to the members of one channel specifically, write e.g **@WPX** and select the relevant group.
- To reach a specific person, include **@name** in your message and select the correct person from the suggestions.

Longhini Mara 08.05 11:18

ECHO you might find useful info in this publication <https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility/psf-challenge/mutual-learning-exercise-citizen-science-initiatives-policy-and-practice>

The full list of tags can be found here:



## Interactive calendar

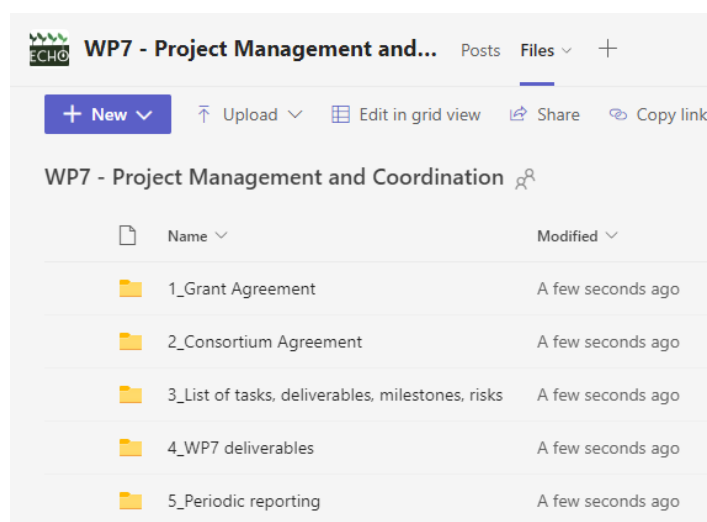
A shared interactive calendar in the ECHO Teams will help the partners keep track of deadlines for project tasks, deliverables and milestones, as well as project meetings and events, periodic reviews and other potentially interesting, project related conferences, workshops and webinars. Through the calendar, relevant partners will receive reminders of upcoming deadlines well in advance which will further ensure the timely and smooth project implementation and serve as a risk prevention mechanism.

## Document sharing and storage

Documents shall be shared and stored in the ECHO Teams channels to which all partners have access. All uploaded documents and files shall comply with Article 15 of the Grant Agreement and the approaches laid out in the Ethics-Self-Assessment, especially with regard to personal data. Please therefore note that no personal data may be uploaded to this shared repository. Each partner is responsible for the content of the uploaded documents and files.

Where applicable, uploaded files shall comply with ECHO's data management plan (7.2; 7.4; 7.5). WP Leaders have responsibility for monitoring the compliance of documents uploaded to their respective WP channels.

Upon the execution of the non-disclosure agreements (NDA), documents can be shared with the Soil Health Advisory Board (SHAB) members.<sup>6</sup>



## Internal Meetings

Project meetings can take place both in person and via video conference and all partners should make use of the shared calendar and call function in Teams to schedule and hold internal project meetings as necessary for the implementation of project activities.

Unibz as WP7 leader will organize periodic annual meetings and prepare the related documentation in collaboration with the other WP leaders. General Assembly and Steering Committee meetings shall be convened according to the provisions laid out in the Consortium Agreement. For other meetings, the partner who convenes shall be in charge of agenda setting and meeting minutes.

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<sup>6</sup> See Art. 6.5 of the Consortium Agreement and specifically Attachment 5

## Project Reporting

### External Reporting

External reporting means the reporting obligations to the European Research Executive Agency (REA). The REA distinguishes between continuous project reporting and periodic project reporting. Both types of reporting are managed in the Grant Management portal that is available through the European Commission's Single Electronic Data Interchange Area-SEDIA.

The specific rules regarding project reporting to the REA are laid out in the ECHO Grant Agreement and in further detail in the Annotated Grant Agreement. Both documents are available in the WP7-Channel in the ECHO Team.

This section of the Project Handbook will deal with the consortium internal processes that refer to the preparation of the reporting to the REA. All partners remain responsible for their obligations under the Grant Agreement, specifically Articles 7 and 21. For country specific information, you can refer, for example, to your National Contact Points and UKRI, respectively.<sup>7</sup>

### Periodic Reporting

ECHO is divided into three reporting periods. 60 days after the end of a reporting period, a technical report (by the coordinator) and financial statements (by each beneficiary) have to be submitted to the REA and UKRI, respectively.

#### *Reporting periods and deadlines*

	Reporting period		Report due dates
<b>1</b>	M1-18	Jun 2023-Nov 2024	1st interim report due in <b>January 2025</b>
<b>2</b>	M19-36	Dec 2024-May 2026	2nd interim report due in <b>July 2026</b>
<b>3</b>	M37-48	Jun 2026-May 2027	Final report due in <b>July 2027</b>

Unibz WP7 leader (Project Management and Coordination) will organize preparatory meetings approximately two months before the end of each reporting period. All partners provide the coordinator with the necessary information for the compilation of the technical report.

### Continuous Reporting

According to the Grant Agreement, "the beneficiaries must continuously report on the progress of the action (e.g., deliverables, milestones, outputs/outcomes, critical risks, indicators, etc.; if any)[...]." Annex 1 to the Grant Agreement clearly states the partners who are responsible for the implementation of specific project activities, tasks, deliverables and

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<sup>7</sup> See <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/ncp>

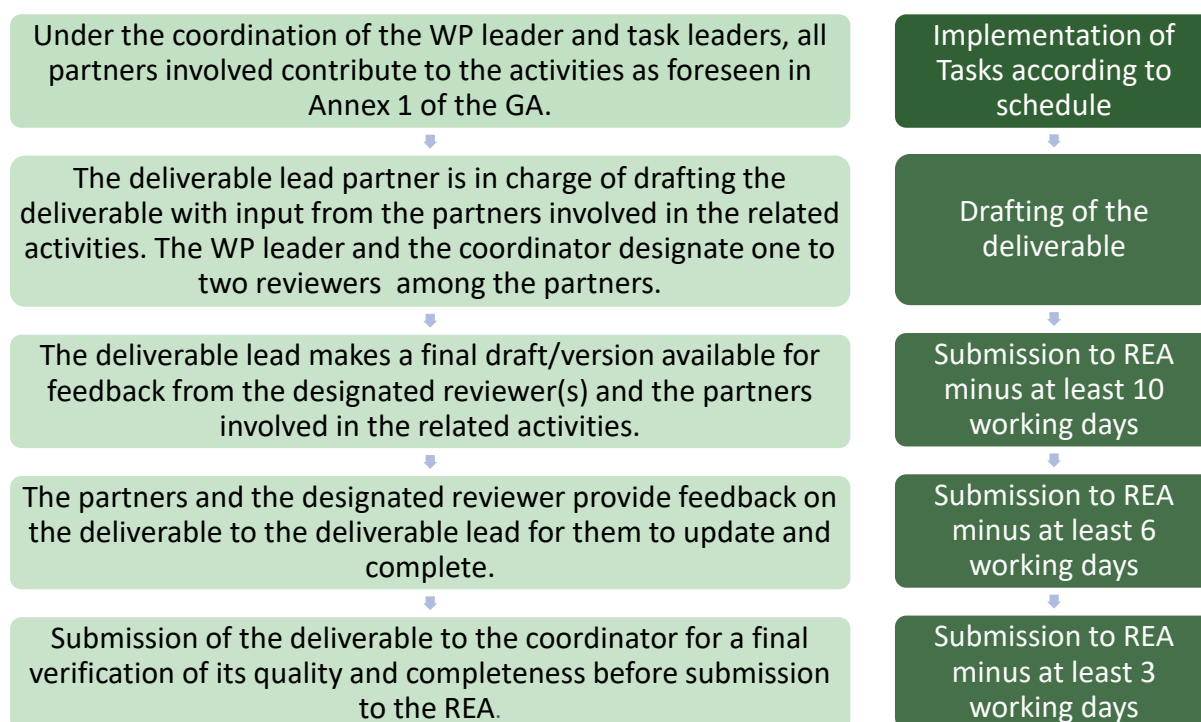
milestones, as well as their timing and conditions. See also Annexes 1-3 of this handbook for the list of deliverables, milestones, and critical risks. These documents are furthermore available in the WP7 channel of the ECHO Team and the deadlines have been added to the shared calendar.

### Milestones

The respective milestone leads shall notify the coordinator upon the reaching of a milestone whereupon the coordinator will report the milestone in the Grant Management portal.

### Deliverables

Before the coordinator submits a deliverable via the Grant Management portal, it will undergo a series of steps to ensure a consistently high quality of ECHO project outputs. Templates for the deliverables and review forms are available as Annexes 4 and 5 to this Handbook.



### *Communication and Dissemination activities*

PLANTPRESS, as the leader of WP6, tracks the communication and dissemination activities of beneficiaries and partner institutions and makes this information available for reporting in

the Grant Management Portal. All partners assist PLANTPRESS in this task by sharing their communication and dissemination activities in the WP6 Team Channel. If a communication or dissemination activity is expected to have major media impact, the REA must be informed beforehand via the coordinator.

### *Other output/indicators/activities*

The coordinator keeps track of the progress of other activities to be reported continuously in the Grant Management portal and requests information and assistance from partners as needed.

### **Internal Reporting**

In order to ensure the effective and efficient implementation of the ECHO project, the Steering Committee assesses the progress of the project at least every six months (Art. 6.3.2.3.5 CA). Their assessment will be based upon progress reports provided by the Work Package leaders that includes information on the progress and completion of tasks, deliverables and the reaching of milestones. If necessary, the Steering Committee will suggest modifications of the Description of the action and the related budget to the General Assembly. A template for the progress reports is included as Annex 6 in this handbook.

Besides this mechanism, all partners shall notify the coordinator and members of the Steering Committee of possible delays and other critical risks – also unforeseen – as soon as they become apparent.

## Risk Management

All partners are committed to good planning and swift implementation of project tasks according to the project schedule, as well as effective communication and early notification of potential obstacles.

Part A of the Description of the Action details the critical risks that could affect the implementation of the ECHO project. If any partner becomes aware of the heightened likelihood of a risk occurring, they will immediately notify the coordinator and the respective WP leader, so that risk mitigation measures can be applied early on and further measures can be implemented as necessary. See also Annex 3 and the WP7 Channel for the full list of critical risks.

## Conflict prevention and resolution

As with the avoidance of risks, good planning and effective communication shall also contribute to the prevention of conflicts. If a conflict nevertheless occurs, the Steering Committee shall seek a consensus among the partners. If no consensus can be reached, the matter becomes an issue for the General Assembly who – always in line with the Grant Agreement and the Consortium Agreement – will decide on the course of action to be taken.

## Innovation management and Intellectual Property Rights

The Consortium Agreement regulates questions of intellectual property and innovation management in Articles 8 – Results; 9 – Access Rights; and 10 – Non-disclosure of information. The coordinator and the Steering Committee will monitor project-related Intellectual Property Rights according to these regulations.



## Annex 1: List of Deliverables

Year	Deliverable	Description	Lead Beneficiary	Type	Dissem. Level	Due Date	
1	D7.1	ECHO Project Handbook	The document contains detailed information on e.g., quality requirements for the project, management practices, procedures for reporting, drafting/reviewing deliverables, organisational structure, general measures and actions taken, planning and control, conflict handling and IPR (according to the CA), risk management and any other issues deemed useful to support a smooth project implementation.	UNIBZ	Doc/Report	Public	30-Jun-23
	D6.2	Project communication and visibility toolbox	An internal manual for the use of visual identification and the key message of the project description, Q&A ready to use: word text, ppt template	PLANTPRESS	Doc/Report	Sensitive	31-Aug-23
	D6.3	Project webpage	A project propose webpage supported by social media channels	PLANTPRESS	Website	Public	31-Aug-23
	D6.1	CDP (Communication, Dissemination and Exploitation Plan) - final version	The core document outlining the activities at the basis of the project's dissemination and communication and exploitation activities, in English, electronic	PLANTPRESS	Doc/Report	Public	30-Sep-23
	D1.1	Report on the state of the art of citizen science applied to soil	This report of overview of the current state of the art of citizen science initiatives and projects on soil health	IBERCIVIS	Doc/Report	Public	30-Nov-23
	D7.2	Data Management Plan (DMP)- M6	A DMP will be delivered at M 6 and revised during the project's lifetime (M24, M48) and will be reviewed as a standing agenda point at consortium meetings.	FC.ID	DMP	Public	30-Nov-23
	D3.1	Report on identified communities of stakeholders and engagement activities	This report will present an overview of the key stakeholder communities identified through a mapping exercise and the activities undertaken to engage them in the project	AFS	Doc/Report	Public	31-Jan-24
	D7.3	Ethics requirements - version M8	A dedicated document will be delivered at M 8 and revised during the project's lifetime and will ensure the correct ethical implementation and monitoring of ECHO activities	IBERCIVIS	Doc/Report	Public	31-Jan-24
	D1.2	Assessment framework for citizen science methods for soil monitoring	Report describing the factors, protocols and thresholds to evaluate citizen science methods for soil monitoring	FC.ID	Doc/Report	Public	31-Mar-24
	D1.3	Citizen-generated Soil Data Quality Assessment Framework	Report on the soil data quality assessment framework, describing the thresholds and methods to assess CGD.	FC.ID	Doc/Report	Public	31-May-24
D1.4	Monitoring and Evaluation Framework - version M12	Report on the defined processes, KPIs and workflows to monitor and evaluate the project impact. To be updated along with the project progress.	IBERCIVIS	Doc/Report	Public	31-May-24	
2	D3.2	Report on citizen science initiatives participating in the project and initiative activities	This report will provide a summary of the characteristics of the developed and engaged citizen science initiatives selected to participate in the project, together with the outcomes of cocreation sessions and the final schedules of activities created for each initiative	AFS	Doc/Report	Public	30-Jun-24
	D2.1	List of methods to leverage citizen science methods for soils	Selection of the most suitable methods to leverage existing functional citizen approaches for inclusion in the ECHO toolbox	IBERCIVIS	Doc/Report	Public	30-Nov-24
	D2.2	Citizen science soil health toolbox	Collection and integration of field guidelines, protocols for soil sampling, analysis, on-site assessments, sample storage and shipping samples to ECHO laboratories for off-site assessment	UEX	Other	Public	30-Nov-24
	D2.3	Handbook of agreed methods to assess soil health	Handbook including methodologies for assessing soil biodiversity and heavy metals	UNIBZ	Doc/Report	Public	30-Nov-24
	D4.1	Report on identification and engagement of end-users of citizen science generated soil health data	The report identifies and maps endusers groups currently interested in citizen science-generated data in each consortium country and identifies potential interested groups	IBERCIVIS	Doc/Report	Public	30-Nov-24
	D6.4	Training material on soil health	Web-based education kit on soil health	RESOIL	Other	Public	30-Nov-24
	D2.4	Training module for Citizen Science Toolbox	Online training course for toolbox use and soil health understanding	AMBIENTA	Other	Public	31-Jan-25
	D2.5	ECHO citizen science mobile app	Development of the ECHO citizen science mobile app suitable for displaying toolbox and learning materials in a gamified manner. The mobile application will contain all the field guidelines, protocols for soil sampling, analysis, on-site assessments, sample storage and shipping samples to ECHO laboratories for off-site assessment as described in D2.2.	AMBIENTA	Other	Public	31-Jan-25
	D2.6	Instructions for use of the ECHO app	Comprehensive and easy-to-use instruction manual will be developed in all EU languages	UNIBZ	Doc/Report	Public	31-Jan-25
	D5.1	Specification for interoperability and integration with existing soil monitoring systems	Report describing the interfaces and methods for connecting the digital repository with existing soil monitoring systems and databases	QUANTA	Doc/Report	Public	31-May-25
D5.2	Digital repository cyberinfrastructure code	ECHOREPO-CI source code delivered through a git-based repository using a permissive open source licence. Availability of synchronized and interoperable data	QUANTA	Other	Public	31-May-25	
D7.4	Data Management Plan (DMP) - Update M24	update of data management plan	FC.ID	DMP	Public	31-May-25	
D7.6	Ethics requirements - version M24	A revised document will be delivered at M 24 and to ensure the correct ethical implementation and monitoring of ECHO activities	IBERCIVIS	Doc/Report	Public	31-May-25	
3	D3.3	Periodic report on citizen science activities - No 1	A detailed description of the activities undertaken by each initiative participating in the project in the first 10 months (M14-M24) of their engagement will be provided	AFS	Doc/Report	Public	30-Jun-25
	D4.2	Report on Citizen science generated soil health data uses	The report evaluates the different interests for citizen science generated data and assesses potential uses by different end-users groups interested in soil health	IBERCIVIS	Doc/Report	Public	30-Jun-25
	D1.5	Monitoring and Evaluation Framework - version M32	Report on the defined processes, KPIs and workflows to monitor and evaluate the project impact. To be updated along with the project progress.	IBERCIVIS	Doc/Report	Public	31-Jan-26
	D3.4	Periodic report on citizen science activities - No 2	A detailed description of the activities undertaken by each initiative participating in the project between the M 25 and M35 will be provided.	AFS	Doc/Report	Public	31-May-26
4	D4.3	Evaluation of usefulness of CGD in the selected case studies	The report regards an analysis in the selected case studies of usefulness for different end-users of CGD taking into consideration different objectives and uses of end-users	UNIBO	Doc/Report	Public	30-Nov-26
	D4.4	Analysis of value of information for farmers, landowners and local decisionmakers	The report outlines the methodology and the assessment of value of information related to different soil health data and for farmers, landowners and local decision-makers to make a comparison between citizen science generated data and traditional and/or alternative data collection approaches	UNIBO	Doc/Report	Public	28-Feb-27
	D1.6	Monitoring and Evaluation Framework - version M46	Report on the defined processes, KPIs and workflows to monitor and evaluate the project impact. To be updated along with the project progress.	IBERCIVIS	Doc/Report	Public	31-Mar-27
	D3.5	Periodic report on citizen science activities - No 3	A detailed description of the activities undertaken by each initiative participating in the project in the final period of their engagement (M36-M46) will be provided	AFS	Doc/Report	Public	30-Apr-27
	D4.5	Policy implications of citizen- science soil-health data collection	The report outlines policy implications of citizen science generated data on soil health including potential for incorporating in current and future policies concerning soil health	UNIBO	Doc/Report	Public	31-May-27
	D4.6	Policy brief related to implications of citizen science soil health data collection	This will illustrate policy implications condensing the information reported in D4.5 in a more readable format for policy- and decision-makers. The document will be translated in the Consortium national languages to maximize diffusion.	UNIBO	Doc/Report	Public	31-May-27
	D5.3	Digital repository user interfaces code	ECHOREPO-UI source code delivered through a git-based repository using a permissive open source licence.	QUANTA	Other	Public	31-May-27
	D5.4	Digital repository documentation	User documentation that provides information architecture and a good digital repository understanding	QUANTA	Doc/Report	Public	31-May-27
	D5.5	Data quality assessment module	Process and validation of data generated by citizen scientists	IBERCIVIS	Other	Public	31-May-27
	D6.5	EIP Practice Abstracts	At least 10 EIP AGRI practice abstracts will be delivered in the common format	UHOH	Doc/Report	Public	31-May-27
	D6.6	Project liaison activities	Report on the liaison activities with EU 'sister projects' about soil health	UHOH	Doc/Report	Public	31-May-27
	D7.5	Data Management Plan - Update M48	update of data management plan - M48	FC.ID	DMP	Public	31-May-27
	D7.7	Ethics requirements - version M48	A revised document will be delivered at M 48 and to ensure the correct ethical implementation and monitoring of ECHO activities	IBERCIVIS	Doc/Report	Public	31-May-27



## Annex 2: List of Milestones

Year	Milestone	WP No	Lead Beneficiary	Means of verification	Due
1	15 Communication and project visibility toolbox developed	WP6	PLANTPRESS	D6.2 delivered	Aug-23
	14 The Communication & Dissemination Plan (CDP) developed	WP6	PLANTPRESS	D6.1 delivered	Sep-23
	16 Soil Health Advisory Board (SHAB) active	WP7	UNIBZ	official Confirmation of Members to participate to the advisory board and signature of the non disclosure agreement (NDA)	Oct-23
	1 State of the art research completed	WP1	IBERCIVIS	D1.1 delivered	Nov-23
	5 Identification of target citizen groups	WP3	AFS	Target citizen groups across all Member States and the UK have been identified and mapped.	Jan-24
	2 First version of the assessment frameworks	WP1	IBERCIVIS	D1.2, D1.3 and first version of D1.4 delivered	May-24
	8 A covering illustration of existing and potential end-user groups of SCG-data	WP4	UEF	A detailed list of different end-users and user groups serving a population for selecting cases for T 4.2	May-24
2	6 Engagement of initiatives across Europe	WP3	AFS	The target number of initiatives agreeing to participate in the project has been met	Jul-24
	9 Jointly and transparently defined criteria and procedure for selecting use cases from user group	WP4	UEF	Guidelines published for selecting the most potential and influential end-user communities from countries and user-groups to co-design concrete case examples in T4.2	Oct-24
	4 ECHO Citizen Science Platform available	WP2; 6; 7	UEX	List of downloads of the app and list of users registered to check/test the functioning and response of the platform	May-25
	7 Participation of initiatives in activities throughout the project's lifetime	WP3	AFS	Number of activities completed by initiatives per cycle of participation.	May-25
	13 Specification for data interoperability according to FAIR principles	WP5	QUANTA	Verification that the specification follows Findable, Accessible, Interoperable, and Re-usable (FAIR) data principles (as per Wilkinson et al., 2016; DOI: 10.1038/sdata.2016.18) and recognized initiatives such as Research Data Alliance (RDA) and GO-FAIR. Specifically, we will assess the specification of appropriate criteria inspired by community-accepted mechanisms such as the CoreTrustSeal requirements and FAIR Implementation Profiles (FIP) questionnaire (Schultes et al., 2020; DOI:10.1007/978-3-030-65847-2_13).	May-25
3	10 Questionnaire for the evaluation of current and potential benefits of CGD in the case studies	WP4	UNIBO	Questionnaire for multicriteria evaluation is developed and finalized with case study leaders	Oct-25
	11 Method for estimating costs and efforts of CGD developed and finalized	WP4	UNIBO	A method for cost and effort estimation is developed and circulated with the consortium partners for feedbacks and improvements	Oct-25
	12 Guidelines for the expert-based assessment of the value of information for farmers and landowners	WP4	UNIBO	Guidelines defining the value of information approach are developed, circulated and reviewed by case study leaders	May-26
4	3 Fine-tuned version of the assessment frameworks	WP1	IBERCIVIS	Last version of D1.4 delivered	May-27



## Annex 3: List of critical risks

Risk no.	Description	WP no.	Risk Mitigation Measures
1	Lack of information regarding citizen science initiatives on soil health (Likelihood: Low, Severity: Medium)	WP1	To mitigate the risk of missing citizen science initiatives, T1.1. deploys three different methods to gather the information of the mapping: desk research, literature review and interviews with key representatives of existing initiatives.
2	For some countries relevant material is only available in languages not spoken by members of the consortium (Likelihood: High, Severity: Low)	WP1	Scientists/citizen scientists from these countries will be invited to collaborate in the translation or professional translators will be hired (budget for translation has been foreseen).
3	Few citizen science methods provide reliable with acceptable data, in terms of quality generated (Likelihood: Medium, Severity: High)	WP1; WP2	The development of suitable training tools (WP2) and the off-site assessment will increase the quality of the data collected.
4	Citizens not willing to participate in the project (Likelihood: High, Severity: Medium)	WP4	Several activities have been designed to raise awareness about the project and engage citizens (T3.1)
5	Incorrect sampling, sample contamination and/or sample degradation (Likelihood: Medium, Severity: High)	WP3	Several training activities designed and available on the app; control samples will ensure high quality sampling and sample consistency.
6	Citizen initiatives not maintaining engagement throughout the project (Likelihood: High, Severity: Medium)	WP3	Networking and engagement activities throughout the project implementation to give a sense of community and enhance project loyalty.
7	Engagement of participants progressively fading (Likelihood: Medium, Severity: High)	WP4	Results will be published as quickly as possible following FAIR and open science principles for participants to see the progress of the work. A clear results' attribution will make citizens feel part of a real-life problem-solving activity. Interactive and entertaining dissemination activities will increase participation.
8	Difficulties in identifying and engaging end-user groups interested in ECHO (Likelihood: Medium, Severity: High)	WP4	Increase networking and awareness activities, better targeting of end-users with potential interest in ECHO in the snowball sampling.
9	Lack of consensus on scientific or technological approach due to changing/shifting or emerging issues (Likelihood: Medium, Severity: High)	WP2; WP5	The project's scientific coordinator, as well as the members work at the cutting edge of scientific developments will communicate to the consortium any emerging issues. Constant communication with relevant stakeholders and the Commission (through the PO) will ensure adaptation to EU level consensus. Mitigation Actions: Discuss and agree on a common standing in the Advisory Board (T7.1) and seek input from other specific experts.
10	Evolving priorities/objectives of the EUSO/existing soil monitoring systems (e.g., European Soil Data Centre) (Likelihood: Low, Severity: Medium)	WP5	A concept note is already available ( <a href="https://esdac.jrc.ec.europa.eu/public_path/shared_folder/euso/concept_note_euso_final_sep2021.pdf">https://esdac.jrc.ec.europa.eu/public_path/shared_folder/euso/concept_note_euso_final_sep2021.pdf</a> ) and development activities are undergoing. Mitigation Actions: Continuous connection with related governing bodies such as the JRC and the EUSO Secretariat.
11	Risks associated with technology, e.g., service outages, hardware and software failure, social media account block (Likelihood: Medium, Severity: High)	WP6	To ensure constant access to all digital resources, files will be stored in the cloud environment; backups will be created on an ongoing basis. The ECHO webpage will be tested thoroughly before being put into operation. In addition, members of the communication team have very good IT knowledge
12	Delay in delivery of products resulting in slow communication (Citizen science ICT toolbox) (Likelihood: Medium, Severity: High)	WP2; WP6	Constant monitoring of the work progress of WPs and ensure excellent internal communication.
13	Minimal interest in participating in ECHO activities (Likelihood: Low, Severity: High)	WP2; WP6	Using social medias, project website and ECHO networks to increase engagement
14	Delay and poor quality of deliverables (Likelihood: Low, Severity: Medium)	WP7	Coordinator and WP leaders will supervise the timely delivery of all aspects of ECHO. To monitor the progress of ECHO activities, draft versions of key reports will be foreseen before the official delivery month.
15	Lack of coordination, delays, and financial drift (Likelihood: Low; Severity: High)	WP7	Proper procedures, communication means and code of conduct in case of risks will be established from the beginning. A continuous monitoring of the activities will allow a timely resolution of problems
16	Non-compliance of some members/personnel turnover (Likelihood: Low; Severity: Medium)	WP1-7	The causes will be identified, and appropriate measures taken, e.g., crossover with other members, replacement. If necessary, tasks will be reassigned to the same or another partner.
17	Budgetary deviations (Likelihood: Medium; Severity: High)	WP1-7	Proper procedures, communication means and code of conduct in case of risks will be established from the beginning. A continuous monitoring of the activities will allow a timely resolution of problems
18	Delays in UK association to Horizon Europe (Medium; High)	WP1-7	The UK government has extended the financial guarantee for UK partners to Horizon Europe projects ( <a href="https://www.gov.uk/government/news/government-extends-horizon-europe-financial-safety-net">https://www.gov.uk/government/news/government-extends-horizon-europe-financial-safety-net</a> ). If EU funding is not available for UK costs, financial support will be covered for Hutton by the published UK government instruments.



ENGAGING CITIZENS IN SOIL SCIENCE:  
THE ROAD TO HEALTHIER SOILS

## Project information

Project number	101112869
Project acronym	ECHO
Project name	Engaging Citizens in Soil Science: The Road to Healthier Soils
Call	HORIZON-MISS-2022-SOIL-01
Topic	HORIZON-MISS-2022-SOIL-01-09
Type of Action	HORIZON Research and Innovation Actions
Responsible Service	REA.B.2
Project starting date	01 June 2023
Project duration	48 months

## Document Details

Deliverable	DX.X – Title
Work Package	X – Title
Task	X.X - Title
Deliverable Type	[see Grant Management portal or Grant Agreement]
Dissemination Level	[see Grant Management portal or Grant Agreement]
Deliverable Lead	Partner (abbreviation)
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## Disclaimer

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Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union, UKRI, or the European Research Executive Agency (REA). Neither the European Union, UKRI nor the REA can be held responsible for them.



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ENGAGING CITIZENS IN SOIL SCIENCE:  
THE ROAD TO HEALTHIER SOILS



## Short description of the deliverable

This deliverable summarizes the work of Task X, etc.

## Foreword

Soil is a vital, yet often disregarded, resource that supports life on Earth by providing the foundation for agriculture, forests, and various other natural ecosystems. However, soil degradation is a growing concern around the world, and it can have severe consequences for our planet like reduced crop yields, increased greenhouse gas emissions, and decreased biodiversity. The ECHO project aims to prevent this by bringing together citizens and volunteer scientists from around Europe to work towards a common goal of protecting and preserving our soils, thus contributing to the transition towards healthy soils of the EU Mission: "A Soil Deal for Europe".

ECHO will generate new data on the health status of EU soils, complementing existing soil mapping and monitoring in EU Member States and Scotland, including the EU Soil Observatory (EUSO). The project will develop and deploy 28 tailor-made citizen science initiatives across EU Member States and Scotland, taking into account different land-uses, soil types, and biogeographical regions, as well as stakeholder needs. With 16 participants from all over Europe, including 10 leading universities and research centres, 4 SMEs, and 2 Foundations, under the coordination of the Free University of Bolzano-Bozen, ECHO will assess 16,500 sites in different climate and biogeographic regions to achieve its ambitious goals.

The project aims to engage citizens in protecting and restoring soils by building their capacities and enhancing their knowledge. Citizens will thereby not only actively contribute to the project's data collection but also promote soil stewardship and foster behavioural change across the EU. The ECHOREPO, a long-term open access repository with a direct link to the EUSO, will make the citizen science data available for exploitation not only by scientists but also by citizens, policy makers, farmers, landowners and other end-users, providing added value to existing data and other relevant soil monitoring initiatives. ECHOREPO will thus provide valuable information about the state of soil health in various regions, and help citizens make informed decisions about land use and conservation.

We believe that the ECHO project will have a significant impact on soil health and citizen engagement across Europe and become an important step towards protecting and preserving our soil for future generations. By working together, we can ensure that our soil remains healthy and productive, and that we continue to enjoy the many benefits it provides.

## Versioning and contribution history

Version	Date	Modified by	Notes
0.1		Name Lastname (partner)	Draft version



ENGAGING CITIZENS IN SOIL SCIENCE:  
THE ROAD TO HEALTHIER SOILS



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## Annex 5: Deliverable review form

In addition to reviewing the deliverable itself (e.g., via comments in a pdf or tracked changes in a word document), please provide general comments and constructive criticism on the deliverable, considering the following questions:

### Content

*Are any important aspects missing that this deliverable should cover?*

*Have all relevant information, data and results been included?*

*Is the information in the deliverable accurate and reliable?*

*Does the deliverable reach the proper level of detail for its target audience (too much detail – too little detail)?*

### Structure

*Are the way in which the deliverable is structured and its overall appearance conducive to its goals?*

### Language

*Is the deliverable understandable and clear?*

*Is the language appropriate to the target audience?*

## Annex 6: Progress Report

WP no.	Months covered:
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### Ongoing tasks according to the Grant Agreement

Task no.	Partners involved	Summary of progress	On schedule?
Task X.X		[briefly describe the work that has been carried out]	[Yes/no; if no, what caused the delay?]

### Deliverables submitted and Milestones achieved

Deliverable no. Milestone no.	Date of submission	Comments
DX.X		
M X		

### Activities in the upcoming six months

Task no. Deliverable no. Milestones no.	Comments
Task X.X DX.X	<i>- Is this task/deliverable/milestone affected by delays incurred in activities leading up to it? - Do foresee anything else impeding the implementation of the task/deliverable/milestone?</i>

### Risks

*Have any critical risks come up (also unforeseen)?  
Have any partners involved in your WP tasks raised concerns about the project's/WP's/task's progress or implementation to you?*

### Any other comments