

D6.5 – Exploitation plan - initial version

Deliverable 6.5 31.05.2023





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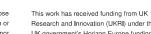
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² PU=Public, CO=Confidential, only for members of the consortium (including the Commission Services), CI=Classified





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¹ R=Document, report; DEM=Demonstrator, pilot, prototype; DEC=website, patent fillings, videos, etc.; OTHER=other



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List of acronyms

MS - Milestone

WP - Work Package

DMP - Data Management Plan

KER - Key Exploitable Result

FAIR - FAIR principles: Findable, Accesible, Interoperable, and Reusable

DMO - Data Management Officer

NBS - Nature Base Solution

NBSOIL - Nature Based Solutions for Soil Management

IP - Impact Pathway

MOOC - Massive Open Online Course

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Executive Summary

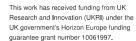
The present report includes the first version of the Exploitation Plan of the NBSOIL project that focuses on the definition of the actions to maximize the impact of NBSOIL through the exploitation of the results and methods of the project, taking into account legal and security aspects, as well as identifying the potential for adaptation of the products beyond the project partnership.

The document includes a brief introduction to the objectives of the NBSOIL project (section 2), a first draft of the methodology adopted by NBSOIL consortium for the development of both the Exploitation Plan and the Sustainability Plan (section 3) and a first presentation of the NBSOIL's key exploitable results (KER) initially identified by partners, which will be used as the basis for the definition of exploitation pathways (section 4) and sustainability plan of the project (section 5). Detailed specifications are foreseen to be provided in the middle (M18) and final (M36) versions of this report.

This document will be used to gather the KERs identified in the GA and agreed by the NBSOIL consortium, as well as intellectual property aspects, the proposed markets to exploit them, and the potential end-users and barriers they may meet. This information will be used as a basis for the appropriate definition of the action plan for the exploitation and sustainability of the KERs in coordination with EU IPR Helpdesk - Horizon results booster (HRB) service. An application will be submit to the HRB service to get support for the development of the exploitation, sustainability and dissemination of the NBSOIL's KERs.













2 Introduction

Over 60 – 70% of EU soils are estimated to be unhealthy (Orgiazzi et al, 2016), threatening ecosystem services essential to the interrelated challenges of climate change mitigation and adaptation, halting and reverting biodiversity loss, sustainable management of the water and nutrient cycles, preventing disasters such as floods, droughts, and forest fires, and providing timber, fiber, and food for healthy diets and adequate living environments for the population. In this regard, different strategies such as The Farm to Fork, EU 2030 Biodiversity and Soil Mission have set ambitious targets for pesticide (-50%) and fertiliser (-25%) reduction, increase in soil organic carbon (SOC, 0.1 – 0.4 % annual increase), and achieving 75% healthy or improving soils by 2030. Modelling exercises such as Ten Years for Agroecology (TYFA) modelling exercise (Poux and Aubert, 2018) show that would be achievable which considers that EU agriculture could give up synthetic inputs and still provide a healthy diet for all Europeans in spite of a decrease in production by 30%. To catalyse the transition towards sustainable soil management, the Soil Mission relies on increased cooperation and cocreation of solutions among researchers, land managers, soil advisors, the business sector, local authorities, and policymakers which must be aligned with the CAP, EU, and national post-pandemic recovery funds, and the measures taken to mitigate the crisis caused by the invasion of Ukraine.

In this context, NBSOIL project has defined its ambitions to generate impact and contribute to achieving the Soil Health Mission by integrating soil management knowledge and advice. The NBSOIL project develops a blended learning programme to enable soil advisors to implement a holistic vision of soil health, aligned with agroecology through Nature Based Solutions (NBS) and fully in line with the IUCN Global Standard for NBS (IUCN, 2020). To this end, NBSOIL consortium has focused their Impact Pathways (IP) building on previous research results and available Open Source technology (Impact Pathway 1 (IP1), providing Soil Health Living Labs facilitators (IP2), making soil monitoring and mapping tech user friendly and inclusive (IP3) and embedding soil care across all land management and land related decision making processes (IP4).

For the adequate mainstreaming of the products of the project, this report describes the tasks foreseen in the Task 6.3 "Exploitation, replication and business plan" within the WP6 "Communication, dissemination and exploitation" to maximize the impact of NBSOIL through the exploitation of the results and methods of the project, taking into account legal and security aspects, as well as identifying the potential for adaptation of the products beyond the project partnership. Finally, a sustainability plan for the commercialisation of the products to ensure their long-term sustainability is also included in this report. Task 6.3 has been already launched and is planned to be completed by the end of the project. The current report is the first version of the "Exploitation Plan" (Deliverable 6.5) which will outline the basic plan for the exploitation and the potential adaptation of the NBSOIL results, procedures, and methods in order to achieve the expected impacts and for sustainability plan to ensure the exploitation of the results after the project. It will be later updated as the project evolves with the submission of the intermediate version in M18 (Deliverable 6.3) and the final version in M36 (Deliverable 6.4).

2.1 Structure of the deliverable

The present document is organised in 4 main sections:





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Section 2. Introduction (current section) includes a brief introduction to the framework and objective of the project in order to understand the ambitions and the intended pathways, with a short description of Task 6.3 (current task), and the scope of the report (Section 2.1). It is followed by some definitions and clarifications of the key terms used in this Deliverable 6.5 (Section 2.2).

Section 3. Methodology presents a first draft of the methodology adopted by NBSOIL consortium for the development of both the Exploitation Plan (Section 3.1) and the Sustainability Plan (Section 3.2) which will be updated in the following intermediate (M18) and final (M36) versions as the project evolves.

Section 4. Exploitation plan includes a first presentation of the NBSOIL's key exploitable results (KER) initially identified by partners, which will be used as the basis for the definition of exploitation pathways of the project. This section also includes preliminary requirements on the background and foreground of the partners' intellectual property and ownership of the exploitable results (Section 4.1), as well as the identification of the main market, end-users, and potential barriers or conflicts to the exploitation of KERs (Section 4.2). Detailed specifications of the Exploitation plan by KER are foreseen to be provided in the middle (M18) and final (M36) version of this report.

Section 5. Sustainability plan is foreseen to be addressed from the middle version of this report when KERs exploitation has already started and partners have declared their intentions to continue, maintain and disseminate KERs are then recorded. Thus, a description of the identified KER, their main end-users and the benefits provided, the main barriers, as well as the necessary activities, resources and time frame will be included.

2.2 Definitions

In this section, the definition of some key concepts for the understanding of the present document are given.

First of all, impact pathway (IP) are defined as the logical steps towards the achievement of the expected impacts of the project over time, in particular beyond the duration of a project. A pathway begins with the projects' results, to their dissemination, exploitation and communication (Figure 1), contributing to the expected outcomes in the work programme topic, and ultimately to the wider scientific, economic and societal impacts of the work programme destination (European Commission, 2021).



Figure 1. Steps within the Impact Pathway (IP).

In the context of Horizon 2020:

Results means any tangible or intangible output of the project, such as data, knowledge or information, that is generated in the project, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights (IPR). In this report, they are referred as Key Exploitable Results (KER).



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Exploitation refers to the use of the results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities.

Dissemination means the public disclosure of the results by any appropriate means (other than resulting from protecting or exploiting the results), including by scientific publications via any medium, industry, other commercial players and policymakers.

Target audience, i.e. end-users, are important concepts for the adequate definition of the exploitation and dissemination plan. From the Exploitation point of view, target audience can be defined as people or organisations, including project partners themselves that make concrete use of the project results. From the dissemination point of view, target audience are audiences that may take an interest in the potential use of the results (e.g. scientific community, industrial partner, policymakers) (European Commission et al., 2019). Then, clear concept of Intellectual Property are crucial. Intellectual Property Rights (IPRs) refers to the private legal rights that protect the creation of the human mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. They are commonly divided into two categories: Industrial Property Rights (e.g. patents, trademarks, industrial designs, geographical indications) and Copyright and Related rights (e.g. rights of the authors/creators and those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programmes).

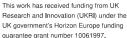
Finally, sustainability focuses on the performance of developing, creating, or marketing a product or process; creating and providing a service; or using them in standardisation activities.



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Methodology

This section focuses on the description of the overall methodology adopted in NBSOIL for the development of the Exploitation Plan (Section 2.1) and the Sustainability Plan (Section 2.2). NBSOIL will define a reliable business plan and strategy to support the correct path to the market for the exploitation outputs with special attention to the market of the NBS. An Exploitation Manager, leading the Exploitation Committee, will be appointed with the mission of ensuring the best path to achieve the market uptake of the project results who guarantee that the knowledge gained in the project will be exploited and disseminated to the benefit of the industrial companies while balancing this with the Open Research Data approach.

On the other hand, in the development of the GA, our consortium came to the conclusion of exploring the possibility to proceed with the establishment of a new legal entity the "NBSOIL Platform Cooperative" in order to capitalise the experience gained. Platform cooperative would be a non-forprofit organisation which relies on democratic decision-making and shared ownership of the platform by workers and users.

The current version presentes a provisional approach of the methodology that will be adopted for the development of the Exploitation Plan (Section 2.1) and the Sustainability Plan, as it is foreseen to submit an application to the EU IPR Helpdesk - Horizon results booster (HRB) service to get support for the development of the exploitation, sustainability and dissemination of the NBSOIL's KERs.

3.1 Exploitation plan

The exploitation plan has been defined with the objective of the effectively use of KERs through scientific, economic, and political exploitation routes. For this purpose, two phases have been defined in accordance with the development of KERs as presented in Figure 2:



Figure 2. Scheme of the main steps of the Exploitation Plan of NBOSOIL's KERs.

The first step focuses on updating the ambitions described in the GA to characterise KERs and identified the exploitation possibilities of each partner. This phase describes the plan of actions that will start in the following months. The actions defined are the following:

- 1. List of tentative KER from GA (in the current report).
- 2. Questionnaire A (Q.A), to collect inputs about:
 - Involvement of the partners for the results: responsible of development, interest on application.
 - Opportunities and conflicts and/or barriers for the exploitation of the product







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- Target audience and/or end-users
- 3. Map of KERs and preliminary Exploitation plan.

The second step focuses on the performance of the exploitation plan, which will be performed together with the Dissemination Plan. The actions defined are the following:

- 1. Map of KERs and preliminary Exploitation plan.
- 2. Questionnaire B (Q.B), to collect inputs for the design and performance of the exploitation of KERs:
 - Identification and characterization of project exploitable results (commercial, noncommercial, etc) (KER).
 - Review of Intellectual Property issues.
 - Selection of appropriate exploitation routes.
 - Investigation of relevant markets and target end-users and customers.
 - Screening of potential barriers.
 - Description of necessary act.
- 3. KER exploitation by partner.

The report of the first results of the exploitation of KERs within the consortium are foreseen for the intermediate version (M18) that will be together with the dissemination plan. The first results of the KER exploitation outside the consortium, as well as the sustainability plan and the dissemination plan, are foreseen for the final version (M36).

3.2 Sustainability plan

The sustainability plan will be performed late in the project before the end to ensure the exploitation of the results – up to four years after the end of the project – by using them in further research activities; developing, creating or marketing a product or process; creating and providing a service, or using them in standardisation activities. The actions defined are the following:

- 1. Questionnarie C (Q.C), to collect inputs for the design and performance of the sustainability of KERs:
 - Identification and characterization of KERs to be exploitable after the project.
 - Review of Intellectual Property issues.
 - Selection of appropriate exploitation routes.
 - Investigation of relevant markets and target end-users and customers.
 - Screening of potential barriers.
 - Description of necessary act.
- 2. KER exploitation plan by partner after the project.



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Explotation plan

This section focuses on the presentation of the NBSOIL's Key Exploitable Results (KER) which tentative list from the GA is presented in Table 1.

Table 1. List of Key Exploitable Results (KER) of NBSOIL project.

KER	Pathway to the market	Responsible partners
Introductory MOOC	Gain participants for advanced, paid workshops and courses and consultancy services.	
Academy – advanced modules	Establishment of Soil Health Living Labs and offer of new services as Living Lab facilitators.	CNA, IUCN AERES, CDR, ITAP, CAFS BOKU, IUNG
Marketplace – collaborative platform	NBS Platform cooperative: development of a matchmaking service putting land managers into contact with soil advisors, offering different services from remote consultancy to testing, field visits, and enabling collaboration to tackle complex projects.	
Handbook – Soil Nature Based Solutions	Edit as a reference handbook and commercialise both as e-book and in paper edition, including a short version. Edit as a reference handbook. Like all project results, the e.book is offered for free. Possibility to prepare and commercialise printed editions, including expanded or abridged versions.	IUCN SA, CAN, CDR, ITAP, ALCN and CSAF
GIS Tool and ARIES Soil Module	Gain a wide user base through the basic, free to use version. Develop an advanced, subscription based version for professional advisors.	AGRISAT AERES, CDR, ITAP, CAFS BOKU, IUNG UTO
Spatial planning and soil NBS toolkit	Offer services and training sessions for spatial planners and local authorities targeting cities and municipalities, coupled with taylor made bioremediation strategies.	UTO ALCN IUNG
Remote Sensing Handbook	Edit as a reference handbook and commercialise both as e-book and in paper edition, including a short version.	IUNG ILOT AGRISAT ITAP









NBSOIL Card Game

Develop visualisation and training sessions using the game. Offer the basic set of cards online and commercialise printed, water protected cards to be used in different contexts, including outdoors.

REVOLVE

KERs presented in Table 1 will be used as the basis for the mapping of KERs to define the exploitation pathways in the following months. The exploitation pathways will be completed with the background and foreground of the partners' intellectual property and ownership of the exploitable results, a brief market analysis focusing on the main markets and the customers and/or end-users identified by the partners for every KER, together with the possible barriers or conflicts and the proposed solutions to the exploitation as detailed next.

4.1 Intellectual property

Management of Intellectual Property is an important aspect of the project to ensure that results are distributed in a fair and equitable manner that recognises the contributions of the inventors and the institutions, as well as those of other stakeholders. It will be performed together with Task 7.4 "Data Management Plan".

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Emphasis will be given to specific IP-related risks and opportunities that will be put forward in the Consortium Agreement (CA). The Agreement will carefully follow the EU's broad recommendations on the management of IP and knowledge transfer, and partners have agreed to the following preliminary principles:

- (i) Ownership of Background Knowledge: The general scope is to grant to the consortium partners, responsible for the production of foreground knowledge, all access rights to the background knowledge required both for the implementation of the project, and for the use of the foreground royalty-free. It is the policy of the consortium to avoid third party products and results whose licenses restrict the sharing of information or the use for further research.
- (ii) Confidentiality: Any material of a confidential nature supplied to the project will remain strictly for the information of project participants and such information will not be forwarded to any other parties without explicit authorization from the information proprietor.
- (iii) Ownership and protection of Foreground: Foreground protection will be pursued through an open-source licences by foreground owners. All documents will be available through a Creative Commons licence. Initially, all software project results will be Open Source. The code is foreseen to be published in GitHub and the products will be publicly and freely available. Data and models created by BC3 within the project will be integrated in k-LAB. Specific end user licence agreements (EULAs) will regulate access to the data and models served to ARIES users. To facilitate further commercial exploitation, licensing through the Mozilla Public Licence (MPL) will be considered as it is the least restrictive copyleft open source software licence. Code can be modified and used in closed-source and/or proprietary software, as long as any code licensed under the MPL is kept in separate files and these files are distributed with the software. The MPL also includes patent



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- grants and enforces that copyright notices be retained. Other well-established open-source software licences such as MIT or Apache might be used. There are no patents planned.
- (iv) Access rights to Foreground: Consortium members will grant on a royalty-free basis access rights regarding foreground that is required to achieve the project objectives. The terms of access rights for use (exploitation and further research) will be agreed before signing the contract.

4.2 Market analysis

The selection and knowledge of the appropriate market for each product is essential to properly target the dissemination efforts and exploitation plan of the project's KERs. Thus, in this section relevant markets will be identified by the NBSOIL consortium mainly focused on supply NBS for land management, the need for specialised advisors, and the potential of digital tools for offering training and advice services. In addition, the potential end-users of the results and the barriers identified by the consortium members that could hinder the uptake of their exploitable results are also included.

4.2.1 Markets

In the NBSOIL consortium, the Environmental Consultancy Services (ECS) market, the Nature Based Solutions (NBS) market and the educational offer have been initially identified as relevant markets to target project's exploitable outputs that will be updated with inputs from the partners. On the final list, research will be carried out for:

- (i) Analysis of the current situation of market.
- (ii) Description of market size and growth rate.
- (iii) Description of market trends and drivers.

4.2.2 End-users

In the NBSOIL consortium, Soil advisors have been identified as the main beneficiaries of the project results. Research is planned to characterise them according to different possible perspectives, such as geographical spread, domains, type of activity, interest in the portfolio of results and level of influence. In addition, other possible stakeholder groups will be identified, such as: educational Institutions and communities, researchers, land managers and land workers, multi Actor projects, Living Labs and Lighthouses, EIP AGRI Focus and Operational groups, businesses and land managers reluctant to FtF targets, local authorities and decision makers, CAP paying Agencies, local Action Groups (LAGs), policy makers at national and EU level, conservationists, consumers, etc,

4.2.3 Barriers







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Possible barriers for the dissemination and acceptance of the project products will be identified. Initially, and given that the basis of the project is to train soil advisors and to connect with other projects and databases for cooperation and co-creation of solutions that add up to the consequence of impacts, an important task is the analysis of possible conflicts of interest, in order to create a win-win situation. For the latter a specific task has been defined in Task 7.4 for the Data Management.



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5 Sustainability plan

The sustainability plan will be presented in this second part of this deliverable and will describe the plan for the sustainability of the project results after the end of the project. Firstly, the intentions of the project partners to implement the KERs in their areas of work. This includes a description of the KERs identified, their main endusers and the benefits brought, the main obstacles, as well as the necessary activities and timetable. The intentions of the project partners to continue, maintain and disseminate the KERs are then recorded, as well as the respective forms of dissemination and the necessary resources and timeframe.



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6 Conclusions

This document will be used to gather the KERs identified in the GA and agreed by the NBSOIL consortium, as well as intellectual property aspects, the proposed markets to exploit them, and the potential end-users and barriers they may meet. This information will be used as a basis for the appropriate definition of the action plan for the exploitation and sustainability of the KERs in coordination with EU IPR Helpdesk - Horizon results booster (HRB) service. An application will be submit to the HRB service to get support for the development of the exploitation, sustainability and dissemination of the NBSOIL's KERs.









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7 References

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