Deliverable D5.1 – Identifying the needs and requirements of the Blueprint

WP5 – BLUE4ALL Blueprint Platform

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Acronyms

AI: Artificial Intelligence
GUI: Graphical User Interface
IS: Information Sites
LL: Living Lab
MPA: Marine Protected Areas
NA: Needs Assessment
SEGS: Stakeholder Engagement Groups
WP: Work package

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1. Executive Summary

This deliverable reports on the process of identifying the needs and requirements of the Blueprint Platform, defining the concept of "user-friendliness" in the context of the BLUE4ALL project. This definition was obtained by analysing the overlap of the principles of user-friendliness for a web platform and the usability needs, i.e., the ability of the platform itself to provide tools useful to the site-specific needs of the MPAs. The definition of user-friendliness in this context was obtained through the identification of five key elements (simplicity/intuitiveness, efficiency and effectiveness, user satisfaction, accessibility, assistance and support) that will have to be integrated into the platform through a series of features and characteristics.

In accordance with the bottom-up approach, a co-creation workshop was held in Lecce during the General Assembly in January 2024. The co-creation workshop allowed us to preliminarily identify a series of features necessary for the platform, which were then subsequently categorized using the user-friendliness key elements.

In addition to the co-creation workshop process, a questionnaire was developed to have better understanding of the needs of the LLs effectively. The questionnaire is instrumental to the process of defining the basic principles of user-friendliness. The list of features obtained from the workshop was used to prepare the questionnaire that was administered to the 14 LLs of the project. The results of the questionnaire were then compared with the identified features, allowing us to assess the degree of importance from the point of view of the MPAs themselves. The analysed features have been divided into four different themes (Blueprint Platform Interface, Blueprint Catalogue Functionality, Blueprint Platform Networking Functionality and Blueprint Platform Sustainability), identifying which could be the functional characteristics of the platform, and which should be the non-functional elements, mainly related to the sustainability of the platform after the end of the project.

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2. Introduction

2.1 The BLUE4ALL objectives

The ultimate outcome of the BLUE4ALL project is the interactive project's Blueprint Platform i.e. a guide for effective, efficient and resilient (networks of) MPAs, generically applicable to MPAs at the pan-European level but also beyond the EU, with the aim to support EU leadership in international efforts to combat marine biodiversity loss. The Blueprint Platform will be co-created as a web-based platform that will be a guidance in a user-friendly manner to end-users (i.e., MPA (network) managers and authorities) for robust and replicable social, governance, ecological and environmental tools to meet conservation and or restoration objectives in sustainable ways. The interrelations of the BLUE4ALL work packages are shown in Fig.1.

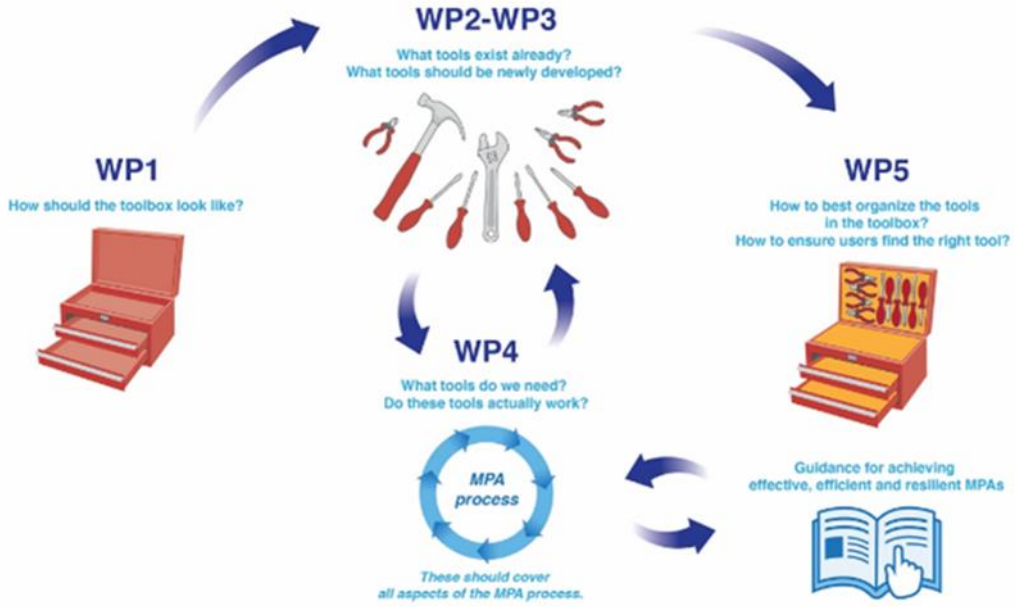

Figure 1. The interrelations of the BLUE4ALL work packages (WPs). The tools to improve MPA management identified and co-created in WP1-WP4 will be placed in the Blueprint Platform, which will provide the online user interface for MPA managers to access this knowledge hub. The development of the Blueprint Platform is done under WP5.

2.2 Co-creation principles and interaction design

The principles of interaction design form the foundation of the co-creation processes and the bottom-up approach proposed by the BLUE4ALL project. In this context, D.5.1 constitutes the first step in the process of elaboration, design, creation, and testing of the Blueprint Platform. In general, the interaction design process can be schematized considering the following four basic activities (Preece et al., 2022).

1. Identifying the needs and establishing requirements.
2. Developing alternative designs that meet those requirements.
3. Building interactive versions of the designs so that they can be communicated and assessed.
4. Evaluating what is being built through the process.

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Furthermore, the three fundamental characteristics that the interaction design process must include in the above activities are (Preece et al. 2022):

a) Users should be involved in the development of the platform.

b) Specific usability and user experience goals should be identified, clearly documented, and agreed upon at the beginning of the project.

c) Iteration between the four activities (described above) is inevitable.

Considering the above principles, the primary goal of a co-creation process of a platform is understanding the needs of the users. A main reason for having a better understanding of users is that different users have different needs and interactive products need to be designed accordingly. In the case of the Blueprint Platform, the different possible tools that can be used by the various users are essentially represented by the different site-specific characteristics of the various Living Labs involved as MPAs and partly by the different training or specialization background of the manager or staff user who will have to use the platform.

In general the BLUE4ALL project, considering the set of planned actions and the processes of co-creation and application of bottom-up principles, is in line with the points previously exposed since it envisages actions involving MPA managers and stakeholders at the beginning of the project, the identification and evaluation of needs, and an iterative process of verification and progressive development of the Blueprint Platform.

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2.3. Content and format of the ideal user-friendly Blueprint Platform

The goal of this task (T5.1) is to define the content and format of the ideal user-friendly Blueprint Platform for effective, efficient and resilient MPAs and MPA networks through: (1) Organization of a key actor/stakeholder co-creation workshop, aiming at identifying the needs and requirements of the ultimate Blueprint, (2) Identification of the Blueprint's main functionalities on the basis of user requirements, and (3) Organization of seminars and interviews in order to define and analyse requirements together with the users. Table 1 provides a schematic description of how this report addresses the task objectives.

This task is part of the co-creation process and application of the bottom-up approach in the design of the Blueprint Platform. As such it is connected both with the activities related to WP2 and WP3 and with the Needs Assessment process in the Living Labs currently conducted in WP4 of the BLUE4ALL project (Figure 2). This deliverable (D5.1) presents the results of the preliminary interaction design process of the Blueprint Platform to identify the main functionalities of the platform based on the needs of the target users, who in this specific case are represented by the MPA managers involved in the BLUE4ALL project through the participation in the Living Labs.

D5.1 constitutes the first step in the design process of the Blueprint Platform that will be finalized during WP5 through subsequent activities. The structure of the Blueprint Platform and the subsequent development of the Blueprint Platform prototype will be progressively defined and optimized through the process of progressive versioning.

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Table 1. summary of the relations between the review tasks in this report and the proposal text.

Proposal descriptions	Activities in this report
(1) Organization of a key actor/stakeholder co-creation workshop	The co-creation workshop and the preliminary analysis of the key elements defining the user-friendliness of the Blueprint Platform are described.
(2) Identification of the Blueprint's main functionalities based on user requirements.	The main functionalities are identified, classified and described through the definition of the "user-friendliness" in the context of the BLUE4ALL project
(3) Organization of seminars and interviews to define and analyse requirements together with the users	The user-friendliness questionnaire is described, and the results analyzed in relation to the feedback obtained from the responses of the project Living Labs.

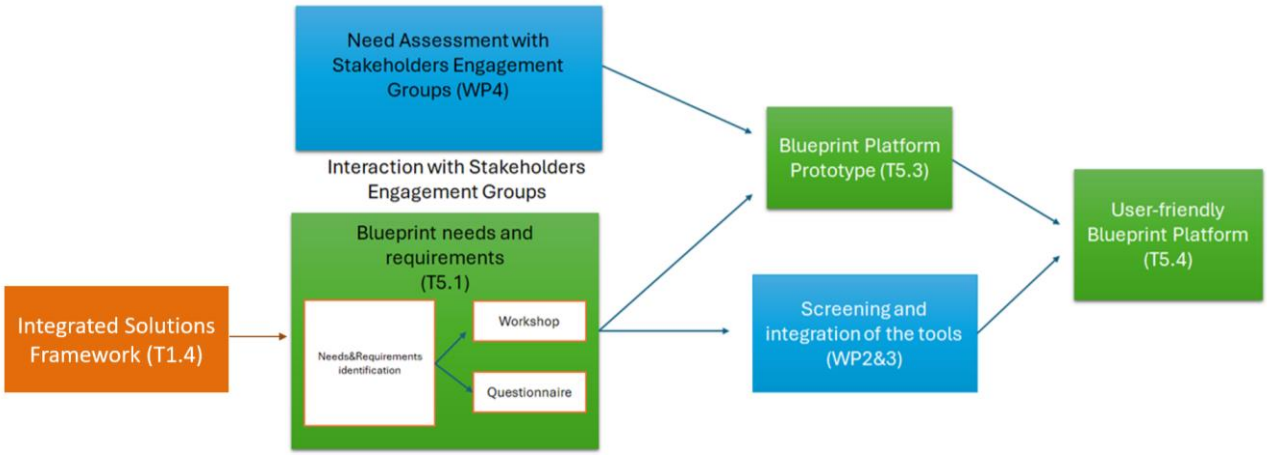

Figure 2. A simplified workflow in the Blue4All project, with some parallel tasks involving the co-creation process of the Blueprint Platform

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3. Methodology

3.1. Overview

The identification of needs and requirements for the Blueprint Platform was carried out through three subsequent steps:

1. Definition of the concept of user-friendliness in the context of the BLUEALL project and identification of key elements that describe this concept.
2. Use of the identified key elements to categorize the inputs obtained through the wrap-up process of the co-creation workshop into features and division of the identified features into 4 themes.
3. Use of the identified features for the elaboration of a user-friendliness questionnaire to be administered to the 14 LLs of the project.

Considering the definitions of user-friendliness and usability, some key elements have been preliminary identified. These key elements are derived from what was proposed in Preece et al. (2002) and adapted to the context of the BLUE4ALL project in which the future users of the platform will be the MPA managers represented by the project's Living Labs. The identified key elements are:

1. **Simplicity and Intuitiveness**: The platform should be easy to use and understand. It should be designed with the user's convenience and ease of interaction in mind. The interface should be intuitive, enabling users to accomplish tasks with minimal effort and frustration.
2. **Efficiency and Effectiveness**: The platform should allow users to achieve their goals effectively and efficiently. It should consider the features that are expected by the users to reach their goals.
3. **User Satisfaction**: The platform should measure how happy or satisfied users are after their interaction with the platform. This can be done through feedback mechanisms or user surveys.
4. **Accessibility:** The platform should be accessible to all users, regardless of their technical skills or abilities.
5. **Assistance and Support**: The platform should provide help and support to users when they encounter difficulties. This can be in the form of FAQs, tutorials, or a dedicated support team.

It is important to emphasize that the identification of the key elements is project-oriented and is to be understood as the basis for the progressive development of the platform through the co-creation process. This means that during the project activities and the interactions and exchanges with the Living Labs and various stakeholders, these elements can be further defined and described in more detail. This process is in accordance with the principle of progressive versioning of the future prototype of the Blueprint Platform, considering also the site-specific in-depth analysis that will be conducted during the project.

3.2. Co-creation workshop

The workshop brought together actors, stakeholders, MPA managers and staff from the project Living Labs and experts within the consortium. The primary objective of this workshop was to identify the needs and requirements of the BLUE4ALL Blueprint Platform. Participants engaged in lively discussions, shared their experiences, challenges, and expectations. They provided valuable input on what they would like to see in the BLUE4ALL Blueprint Platform, with a special focus on its content and format as well as the Blueprint Platform in the context of Blue4All project legacy.

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The co-creation workshop represents the first step in identifying needs and establishing the requirements for a user-friendly Blueprint Platform. The outcome of the workshop lays the foundation for the process of creating alternative designs that meet these requirements, allowing for the subsequent construction of interactive versions of the platform designs and the consequent evaluation process according to the bottom-up principle.

Based on the registration list of the Blue4All General Assembly meeting, 67 participants attended the event, in presence and online, including partners, advisory board and representatives from Living Labs (LL) and Information Sites (IS). The participation of LL and IS are considered crucial for the co-creation process, also as stakeholders who bring in diverse perspectives and insights into the project.

The discussions of the Blueprint Platform occurred on the second day of the workshop (24/01/2024), with 46 people registered in presence. Most of these participants (34) were partners of the project, with representants from all Working Packages (WP). There were also nine participants from LL, IS and MPAs, and 3 from advisory board / Europe Commission. So, the discussions outcomes represent mostly the insights from the Blue4All partners.

The participants were divided into four discussion groups, each tasked with analysing five pre-set questions with one leader responsible for summarizing the discussions on A1 sheets. One group was exclusive with all the LL representatives present during the discussion session. This method ensured that all important points were noted and could be referred to later.

The questions were designed to provoke thought and discussion about the necessity, usability, unique features, differentiation, and longevity of the Blueprint Platform, considering the results of the tasks of WP1. They were as follows:

- Why is the implementation of this platform necessary?
- How can the utilization of this platform be facilitated for non-technical users?
- What is the primary feature that the platform must incorporate?
- In what ways can the platform distinguish itself from existing alternatives?
- How can the Blueprint Platform be sustained beyond the Blue4all project?

Following the group discussions, a further discussion took place for 40 minutes between the group leaders and the WP5 CMCC (Euro-Mediterranean Centre on Climate Change) coordination team. This team was tasked with wrapping up the indications received and summarizing the elements provided by the discussions. The wrap-up session was crucial as it allowed for the establishment of some features for the co-creation of the basic principles that will characterize the Blueprint Platform. The results obtained from the co-creation workshop are then analysed by evaluating which of the features identified could be associated with the definitions of key elements for a user-friendly web platform. Specifically, two different degrees of association were used to analyse the existing relationships between the platform's features and the key elements, considering also the possible overlapped associations, since the identified features may relate to multiple key elements. This preliminary analysis was also useful for assessing any existing gaps in the alignment between the foreseen features and the basic definitions of platform user-friendliness.

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3.3. User-friendliness questionnaire

The decision to conduct the surveys online was considered the most efficient for acquiring the necessary feedback, considering what was achieved in the previous co-creation workshop and the concurrent interaction activities with the Living Labs carried out during the Need Assessment of WP4. Considering that the workshop outcomes from the past session were mainly obtained from Blue4all partners, a questionnaire was applied to complement with the contribution of the LL representatives in the co-creation of the Blueprint platform.

The use of questionnaires is a common strategy for analysing the needs of communities or groups (McClanahan et al. 2004 and Perea-Munoz et al. 2021). In this specific case, this tool is used to guide the design of the Blueprint Platform to best support MPA managers. Questionnaires allow data to be collected directly from MPA managers, who are the main future users of the platform. This approach allows for the identification of specific needs and operational challenges they face daily in the context of defining the necessary criteria for a user-friendly Blueprint Platform.

The questionnaire delves deeper into the topics discussed during the workshop. It was distributed to the contact points of the Living Labs of the project, functioning as an instrument to define the basic principles of user-friendliness and some expected content to be integrated into the Blueprint Platform. The questions seek to understand the challenges and barriers that users might face when using the platform and solicit suggestions for overcoming these. It asks respondents to rank the importance of various features, suggest additional ones, and provide feedback on potential design layouts.

The responses provide a wealth of data that can be used to fine-tune the design of the BLUE4ALL Blueprint Platform. The development of the questionnaire followed these main elements:

- The results and insights from the co-creation workshop were used to plan the overall structure of the questionnaire and to identify three different classes of questions that can define in more detail of the user-friendliness from the perspective of the platform's end users;
- The detailed items discussed during the workshop were used to formulate the questions.

The series of questions formulated consist of three different levels of investigation:

- Open-ended questions, formulated through the results of the workshop and through interaction with the process of elaboration of the Need Assessment of WP4. Open end questions allow space for the respondents to provide further detail;
- Multiple choice questions on some key elements for the development of the platform consisting of various elements that can constitute the user-friendliness with a priority index of the platform to obtain a hierarchy of the elements for the living labs regarding the possible technical solutions for the Blueprint platform;
- Rating questions to understand the importance of certain aspects of the platform. Some of the rating questions were followed by open end descriptive questions to allow space for the respondents to provide further detail.

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The questionnaire was designed to allow the Living Labs to respond comprehensively in an adequate amount of time. It was structured into three distinct sections: “Background”, “the Blueprint Platform” and “A user-friendly Blueprint Platform” which integrate the groups identified during the co-creation workshop and recognized as functional elements of the Blueprint Platform:

- The “Background” section, which contains the largest number of open-ended questions, is aimed at investigating the roles and specific skills of MPA managers, with reference to any previous experience in using tools for MPA management and an assessment of the actual usefulness of these tools in specific cases.
- The “Blueprint Platform” section, consisting of rating and multiple-choice questions, is aimed at investigating specific aspects of the future Blueprint Platform, with reference to the features analysed during the co-creation workshop and described in the “Blueprint Platform main functionalities” group.
- The "A user-friendly Blueprint Platform" section, consisting mainly of rating questions, delves deeper into possible choices regarding the aesthetic aspects of the interface and the implementable features, particularly focusing on accessibility, assistance and support, and simplicity.

The full questionnaire can be found in annex A.

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4. Results

4.1 “User-friendliness" Needs and Requirements Identification

The "user-friendliness" of a web platform refers to how easily users can interact with it to achieve their goals and access the information they need efficiently and effectively, without frustration or difficulties due to the platform's design structure. It defines the platform's ability to be intuitive, accessible, and enjoyable for the user throughout the entire user experience (Bessems et al., 2022). In the context of this deliverable and considering the other co-creation activities planned within the project, we can still define a distinction between the concepts of user-friendliness and usability. We could define the concept of “user-friendliness” as an umbrella term that also includes aspects specifically related to usability.

1. User-friendliness: This concept is understood in a broader sense than just the utility and effectiveness of the system, encompassing aspects such as aesthetics, ease of learning, overall user satisfaction, and problem-solving ability during platform use. It thus goes beyond the simple concept of functionality, offering a richer and more rewarding overall experience.
2. Usability: Usability can be described as the degree of effectiveness and efficiency provided by the platform in completing a task by the users. It includes elements such as ease of navigation, clarity of instructions, and ease of understanding the features.

We could define the concept of usability as more related to the functional and practical aspects of a web platform, while the concept of user-friendliness is more related to the subjective aspects of the user connected to the interaction with the platform itself. Both the concepts of usability and the aspects of user-friendliness, together contribute to the effective achievement of the objectives of a web platform. User-friendliness in this sense goes beyond the mere aesthetic aspect and includes areas of overlap with usability such as accessibility and the general satisfaction of the user in using the tool and in achieving the objectives.

Given the described distinction, it is therefore essential to have a development framework that includes the concept of interaction design, where the needs and objectives of the platform can be carefully defined considering the needs of the users and the level of user-friendliness, although subjective factors come into play. The definition of “user-friendliness” in the context of the BLUE4ALL project and of the Blueprint Platform was used to categorize the features obtained from the wrap-up session during the co-creation workshop and to correlate each identified feature with the identified key elements that are described in section 3.1.

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4.2. Co-creation workshop results

The breakout session of the co-creation workshop was a significant step towards the development of the Blueprint Platform. It provided valuable insights into the needs and expectations of the stakeholders and paved the way for the co-creation of a platform that is truly user-centric and effective in achieving its goals.

The key elements identified and described in Section 3.1 were used to evaluate the results of the co-creation workshop. The main elements that emerged from the discussions were divided into 4 main themes:

- **Blueprint Platform Interface**
- **Blueprint Catalogue Functionalities**
- **Blueprint Platform Networking Functionalities**
- **Blueprint Platform Sustainability**

The first three themes (Blueprint Platform Interface, Blueprint Catalogue Functionalities, Blueprint Platform Networking Functionalities) represent the **functional** features of the Blueprint Platform, while the group related to Blueprint Platform Sustainability analyses the **non-functional** elements developed through the co-creation workshop. For each identified theme, the main features that should be included in the future Blueprint Platform are also identified and for each theme a list of features is presented separately.

Blueprint Platform Interface

One of the key aspects of the platform is its **user-Friendly Interface**. The design philosophy is "**grandma-to-use**", meaning it's so intuitive and easy to navigate that even a grandmother with limited tech experience would find it comfortable to use. The interface will be clean and intuitive, with clearly labelled buttons and menus, and a layout that's easy on the eyes. The functions and features will be self-explanatory, and the user flow is logical and natural. This reduces the learning curve and allows users to get started quickly. The aim is to provide a powerful tool without overwhelming the user with complexity. To support and enhance the user experience, it is considered an AI-based user Interaction. This functionality would provide personalized recommendations of the tools based on the user's needs and preferences.

The Blueprint Platform will be open access for many of the features provided to serve as a guide or source of inspiration for a wide range of users. For a personalized experience, a **user profile login** will be required, specifically to leverage the networking features that will be implemented. The platform should support **multi-language functionality to enhance the user experience and the accessibility, breaking down** language barriers and ensures that the platform is truly inclusive.

The Blueprint Platform will need to include the **user manual,** a comprehensive guide designed to help users navigate and utilize the platform effectively. It should be structured around three main components:

- *Clear Guidelines*: The user manual provides clear and concise instructions on how to use the platform. It details each feature and functionality, explaining what they do and how to use them. The guidelines are written in simple language, making them easy to understand even for users with little technical background. They serve as a roadmap, guiding users through the platform and helping them get the most out of its features.

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- *Informative Examples*: To supplement the guidelines, the user manual includes a variety of informative examples. These examples demonstrate how the platform's features can be used in real-world scenarios. They provide users with practical knowledge and insights, helping them understand not just how to use the platform, but also why certain features are useful and when to use them. The examples are carefully chosen to cover a wide range of use cases, ensuring that all users, regardless of their specific needs or goals, can find relevant and helpful information.
- *Video Tutorial:* Recognizing that some users prefer visual learning, the user manual also includes a video tutorial. This tutorial provides a step-by-step walkthrough of the platform, showing users exactly how to use each feature. The video tutorial complements the written guidelines and examples, providing users with a different way to learn about the platform. It can be helpful for new users or new visual learners.

A summary of the features identified for the Blueprint Platform interface is presented in Table 2 below.
Table 2. Summary scheme of the features and items identified for the group "Blueprint Platform Interface" during the co-creation workshop.

Blueprint Platform Interface	
GUI and design	
"Grandma to use" interface	The user interface shall be designed to be easy to understand and use even for those who do not have specific skills or experience in using platforms or tools.
User profile login	Presence of a user profile which includes personal settings and preferences, making the user's experience unique and personalized.
Multilanguage	The Blueprint Platform should provide the user with the option to choose their preferred language in addition to English.
User manual	The user manual will be characterized by clear and concise instructions and may use video as tutorial.
AI interaction to support user	AI functionality to personalize recommendations to the users and guide to the most suitable tool, considering user preferences and the available tools in the catalogue.

Blueprint Catalogue Functionalities

The Blueprint Catalogue Functionalities group includes two types of features, Tools and Filters. The Tools features will include a diverse range of tools covering the "phases" of conservation planning process (Bouvet et al., 2023) and different components identified in the deliverable 1.4. The platform will also feature a **catalogue/HUB of tools**, serving as a **one-stop-shop** for centralized information. This hub will be designed to provide users with easy access to a wide range of tools, all in one place. It features predefined tools, and users will have the option to add their own tools, subject to moderation. Each tool in the catalogue will have **non-technical descriptions**. These descriptions provide the context of the tools, explain how to get started,

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provide direct link to the tool or a description on how to access the tool and outline the next steps. This makes the tools accessible to users of all technical levels.

To help users navigate the catalogue, the platform features a variety of **filters**. Users can filter tools based on **multiple-choice options**, **keywords**, and **categories**. Users can also filter tools based on the languages they are available in.

A summary of the features identified for the Blueprint Catalogue Functionalities is presented in Table 3 below.

Table 3. Summary scheme of the features and items identified for the group "Blueprint Platform Catalogue Functionalities" in the co-creation workshop.

Blueprint Platform Catalogue Functionalities	
Tools	
Predefined tools	Needs Assessment and Tool Co-creation processes will identify the needs of the LLs for the tools. Predefined tools will match LLs' needs and the following co-creation process by WP2-WP3-WP4 and the LLs.
One stop shop	The Blueprint Platform will contain all the necessary functionalities in its system in a centralized form (not only the tools but also the other planned functionalities).
Non-technical description of tools	All the tools contained in the platform must be characterized by the presence of non-technical descriptions on their use and objectives.
Filters	
Multi layers	The feature will allow users to narrow down a large set of data based on specific criteria and will be based on multiple choice (the filter can handle more than one option) and multi layers (application of a filter on top of already filtered results).
Predefined framework and Keywords	The feature will allow the users to filter results using key words
Languages of the tools	The search for available tools can be filtered based on their availability in different languages

Blueprint Platform Networking Functionalities

For this group it was highlighted that the **collaborative forum** will be a unique place designed specifically for MPA managers. This feature will be implemented in accordance with the activities of WP6 to optimize networking functionalities. The feature will serve as a virtual meeting place where MPA managers from around the world can connect, collaborate, and share their experiences and knowledge.

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In line with the ongoing activities in WP6, the networking functionalities will be implemented using an existing external platform, BlueBioMatch which will serve as the collaborative forum with the possibility to implement all the features. The BlueBioMatch is a novel platform designed specifically for the stakeholders involved in the Blue Economy and Blue BioEconomy to function as a convergence point of actors ranging from startups and SMEs to researchers, NGOs, policymakers, MPA managers and their local communities, as well as funders, media and other types of enterprises. Its purpose is to be a hub of all those involved in the Blue Economy (e.g. MPA managers, Women in the Blue Economy, Algae, Aquaculture, Biotechnology, and more) and facilitate the exchange of information and opportunities, the matchmaking with organisations, projects and mentors, and provision of updates on relevant events for the Blue sector.

The primary goal of the collaborative Forum is to foster a supportive network that facilitates **peer-to-peer** learning. This is achieved by providing a space where MPA managers can **share their experiences**, discuss common challenges, and explore potential solutions. The forum encourages open dialogue and collaboration, allowing members to learn from each other's successes and failures. Another feature that will be important for the platform is the Online Support that includes a comprehensive **FAQ section** where users can find answers to common questions.

One of the key features of the collaborative Forum is the ability for members to provide **feedback and reviews** on various management tools. This feature allows MPA managers to share their experiences with different tools, providing valuable insights that can help others make informed decisions about which tools are most suitable for their specific needs and it allows the possibility to suggest and add additional tools. The Forum will also include **project outputs** and **best practices documents** (Table 4).

Table 4. Summary scheme of the features and items identified for the theme "Blueprint Platform Networking Functionalities" in the co-creation workshop.

Blueprint Platform Networking Functionalities	
Forum	
Peer-to-peer support	The feature will be based on the sharing of knowledge and skills among users.
Share experience	These features, connected with peer-to-peer support, will enhance the exchange of reviews and feedback among a growing sharing community.
Tools review	The platform will provide a feature to collect all the feedback and reviews of the tools.
Best practices and outputs	The platform will integrate a function for users to save outputs and a Best Practices function based on interaction with the users and the outputs themselves

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Platform Sustainability

The discussion about the platform longevity highlighted the importance of **staying relevant and needed.** This means continuously evolving to meet the changing needs of the community it serves. It also means staying up to date with the latest trends and developments in the field and so the necessity to ensure updates. In terms of sustainability, it is essential to know the **maintenance costs**. This includes the cost of resources, manpower, and technology needed to keep the platform running smoothly. A detailed cost analysis should be conducted to ensure that the platform is financially sustainable in the long run.

An important aspect for the platform will be following and interacting with **existing projects and initiatives**, such as Ocean Mission, Digital Ocean, IUCN Green List, GES4SEAS, Panorama Platform, Aqua-lit, OCTO newsletter and other EU initiatives. This can help leverage the resources, networks, and expertise of these initiatives, thereby enhancing the project's effectiveness and impact.

Furthermore, the Blueprint Platform should ensure a connection and exchange with **already existing platforms**. The project should aim to learn from and link with them. This can provide valuable insights and lessons that can help improve the project. Additionally, linking with existing platforms can help increase the project's visibility and reach.

Another important aspect highlighted during the workshop is the need to have some form of centralized r**esponsibility.** Responsibility for the platform should be clearly defined. Whether it's a single individual, a team, or an organization, "someone" needs to take responsibility for the platform success. This includes overseeing the implementation, monitoring its progress, and ensuring that it achieves its objectives.

Regarding financial sustainability, considering also the need to maintain the platform after the project ends, the necessity to seek **private funding** has been highlighted. Private funding can provide additional resources for the project. This could involve deals with pay-to-use tools, which can generate revenue to support the project. However, it's important to ensure that these deals align with the project's objectives and do not compromise its integrity.

Finally, the discussion during the workshop addressed the **timing** for the implementation of the Blueprint Platform. It was highlighted that timing is crucial for the success of the platform. This includes **involving people** at the right time, **launching the platform at least 1 year before the end of the project** to allow for adequate preparation, and having a **marketing plan** in place to promote the project. It was also emphasized that **strategic awareness** is also important to ensure that the project is well-received and achieves its objectives.

Table 5 shows the distribution of the features identified and discussed during the co-creation workshop in relation to the key elements that comprehensively define the concept of user-friendliness in the case of the Blueprint Platform. It provides a synoptic view of how the workshop was able to effectively identify features well distributed among the various themes. The key elements most represented by the features discussed are assistance and support, simplicity/intuitiveness and accessibility particularly in the case of the group of features related to the Blueprint catalogue and networking functionalities. The features also fit well with the definition adopted for the element Efficiency and Effectiveness. In this case, since these features are closely related to the site-specific characteristics of the tools to be integrated into the platform, they will need to be supplemented by the in-depth analysis conducted through the Need Assessment carried out in WP4. The element least represented by the features discussed is user satisfaction, which is mostly addressed in the features of the networking functionalities. This aspect is not interpreted as an actual gap in the features

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discussed, given the nature of the element. A possible enhancement of this element can still be considered in future interactions with MPA managers and stakeholders.

Table 5. Evaluation of the relationship between the features identified in the co-creation workshops and the key elements that define the user-friendliness of the Blueprint Platform (green: primary association; yellow: partial association).

Platform features	Key Elements				
	Simplicity and Intuitiveness	Efficiency and Effectiveness	User Satisfaction	Accessibility	Assistance and Support
Blueprint Platform Interface					
GUI and design					
"Grandma to use" interface					
User profile login					
Multilanguage					
User manual					
IA interaction to support user					
Blueprint Platform Catalogue Functionalities					
Tools					
Predefined tools					
One stop shop					
Non-technical description of tools					
Filters					
Multi layers					
Predefined framework and Keywords					
Languages of the tools					
Blueprint Platform Networking Functionalities					
Forum					
Peer-to-peer support					
Share experience					

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Tools review					
Best practices and outputs					

4.3. User-friendliness questionnaire results

Due to time constraints, only nine LLs managers and staff were able to respond to the questionnaire. Four out of nine respondents indicated that they actively use web-based platforms. The results of the questionnaire can be found in Annex B.

Section 1 – Background

The section 1 of the questionnaire allowed us to gather more detailed information regarding the background of the MPA managers, if they are using any existing platforms/applications, their experience with the platforms and/or applications they use and expectations from a new platform.

The first question allowed identification of the profession of the questionnaire respondents, from being a project coordinator, marine biologist, draftsman, national park manager, biologist, senior specialist in marine nature conservation, scientist, to being a specialist in tourism. As seen in Figure 3, the respondents have diverse fields of work, with three of them working in marine science. The role of the respondents within the MPA varied, too. The following roles were mentioned: MPA manager, employee, contact point of the Blue4All project, contributor, non-authority, visitor management, nature restoration and protection, MPA director, international co-operation and on network level issues, representative of MPA manager.

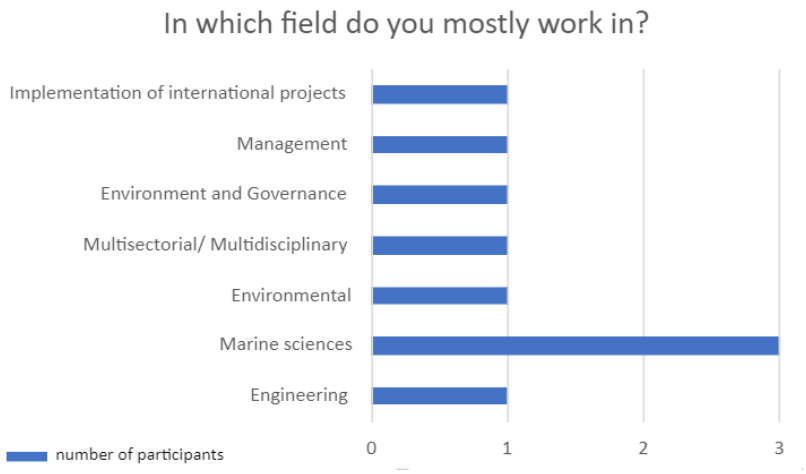

Figure 3. Responses indicating the different professions of the questionnaire respondents (multiple choice (one choice possible); 9/9 replies).

The respondents were asked if they were using any web-based tools. Most respondents (five out of nine) do not use any tools, while four provided details of the tools they use. Below is the aggregated list of tools currently being used among the four respondents related to the planning, implementation, management, review and financing of MPAs:

- MAA-AMET (Estonian Land Board Map): Opening page | Geoportal | Estonian Land Board (maaamet.ee)

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- EELIS (Estonian Nature Information System): EELIS (keskkonnainfo.ee) Environmental portal: https://register.keskkonnaportaal.ee/register
- Natura 2000 Viewer: https://natura2000.eea.europa.eu/
- Keskkonnaseire Infosüsteem Kese (Monitoring data and reports, but not for public use): https://kese.envir.ee/kese/welcome.action
- eElurikkus (eBiodiversity - portal for the taxa found in Estonia): https://elurikkus.ee/en
- Tableau Kemit (Statistics tool): Business intelligence and analytics software | Tableau
- HORIZON WildDrone (drone, camera - connected to web/internet)
- Green Nudging (virtual assistant, AI, IoT all connected to web)
- No-fence tools (GPS, mobile phone etc connect via web)
- Guide commun d'élaboration des plans de gestion des espaces naturels (assistance for the drafting of the management plan): http://ct88.espaces-naturels.fr/
- ULJAS (GIS-based tools that used for all types of processes concerning PAs)

The four respondents indicated that the listed tools are mainly used during the management phase of an MPA process and during the implementation, monitoring and planning phases (Figure 4). They also mentioned that the integration of tools with others, the purposeful application of the tools, and site navigation aspects as challenging when working with some of the listed tools stated above.

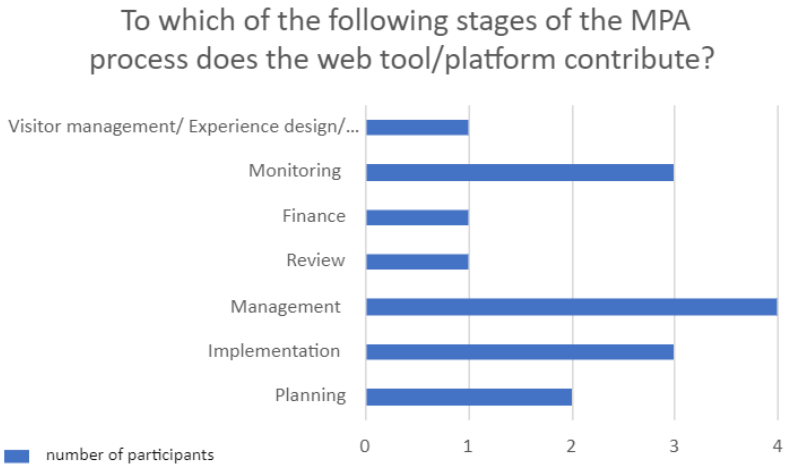

Figure 4: Web-based tool/platform contribution in respect to MPA processes (multiple choice; more than one choice possible; 4 respondents)

The four respondents indicated that they mainly use the web-based tools/platforms for consulting, mapping and representation and for prioritization of conservation strategies (Figure 5). When asked on how frequently the web-based tools/platforms are being used, two out of the four respondents indicated that they used the tools 'daily', one said that the tools were used 'occasionally', and the last one replied with 'almost never' (Figure 6).

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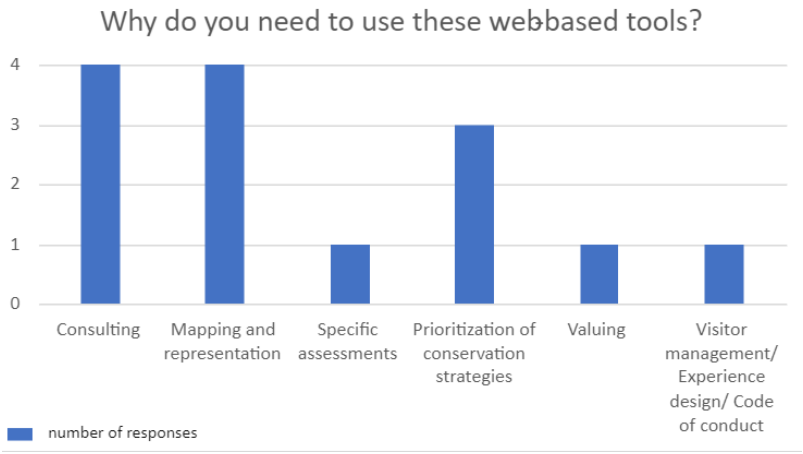

Figure 5. Needs to use web-based tools (multiple choice; more than one choice possible; 4 respondents)

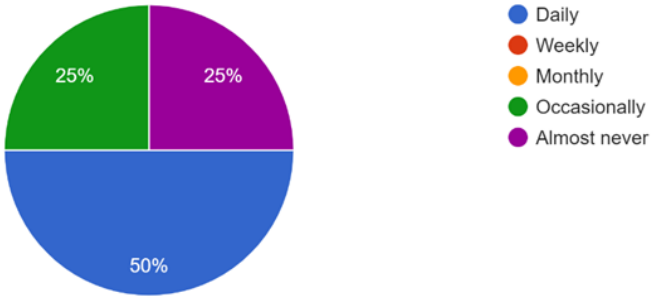

Figure 6. Usage frequency of web-based tools/platforms (multiple choice; one choice possible; 4 respondents)

The Four respondents, who use web-based tools, indicated that the tools they use are useful in a ranging scala from slightly to extremely useful (Figure 7). When asked for feedback on what they like and dislike about the tools they use, three out of the four respondents replied. One reported that it was most appreciated that 'some tools contain the latest information', and 'some tools communicate with each other'. One stated that 'efficiency' was a helpful feature. The third respondent mentioned that the used tool 'helps to identify the steps of the management plan drafting process and the direction we want to take'. When asked what they disliked about the tools they used, one respondent indicated that 'it takes time to learn to use them'. Another respondent mentioned that the needed information is scattered so the search is time consuming. The third respondent disliked 'the format of the tools and lack of precision of the resources.'

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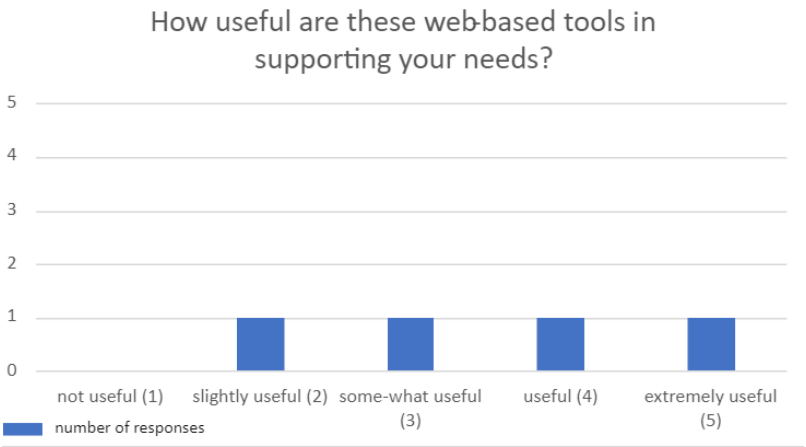

Figure 7. Usefulness of web-based tools on a scale with five intervals ranging from 'not useful' to 'extremely usefull' (Rating; 4 respondents)

Based on the given definition of the Blueprint Platform, seven out of nine respondents did not reply or stated that they do not know if the web-based tool/s they are using are similar to the purpose of the Blueprint Platform. The two other respondents stated that they do not consider the Blueprint Platform to be similar to the tools they use. In addition, one respondent phrased the expectation that the Blueprint Platform will have 'all the necessary information and it will be updated, [and] sustainable'.

The participants to the survey that were to-date not using any web-based tool with an open-end question were asked if they would consider using a web-based tool to improve any aspects related to the planning, implementation, management, review and financing of MPAs. All nine survey respondents gave feedback to this question even though four of them are currently using web-based tools/platforms (mentioned above). Seven survey participants indicated that they would consider using a web-based tool, if it comes with certain functionalities important for MPA processes. It was mentioned that having a reliable and up-to-date centralized repository for all data would be beneficial. A different respondent reported that a web-based tool would be useful if it could enhance the available information about MPAs and allow for the correct spatial visualization of MPAs and permitted activities. It was also stated that such a platform should promote 'cooperation among stakeholders' and provide 'quick access to critical information and data'. 'Improving decision-making processes' and 'knowing the status of the MPA' were two other features that the web-based tool should have. One of the two respondents that did not see any benefit for the MPA processes by using a web-based tool, mentioned that the MPA is not officially instituted and that such a tool is therefore untimely.

Section 2 – The Blueprint Platform

The section 2 of the questionnaire focuses on the expectations and preferred content by the end users from the Blueprint Platform.

Eight of the nine survey respondents gave feedback on their primary expectations from the Blueprint Platform. One stated that the Blueprint Platform should serve as a comprehensive information repository, that is up-to-date, sustainable and user-friendly. A different survey participant replied that the platform should be built on a geodatabase, and that it should gather all necessary environmental and socio-economic data, allowing users to visualize and manage spatial information effectively. Another respondent also highlighted that the platform should enable the visualisation of areas, boundaries, and species. In addition,

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the platform should serve as a MPA stakeholder network. The networking and cooperation aspect was also put forward by a different respondent. Three out of nine respondents specifically mentioned that easy-access to easy-to-understand (management and administrative) tools was important. One respondent would like to see access to the status of MPAs. In addition to the already listed features, one respondent mentioned that the platform should support functionalities absent from current tools while another stated that it should be accessible to non-specialists.

The nine survey participants were asked to rank the importance of various items of the tools catalogue (Figure 8). Interaction mediated by an Artificial Intelligence (AI) was considered somewhat important for the respondents. One-stop-shop was considered highly important to have in a tools catalogue. The respondents indicated that a brief non-technical description of the tools should be added to the tools. In addition, the respondents indicated that multi-layer filters based on keywords/categories are important for the users. As multi-layer filters, filtering based on grading tools suitability and usage complexity also had a high importance for the respondents.

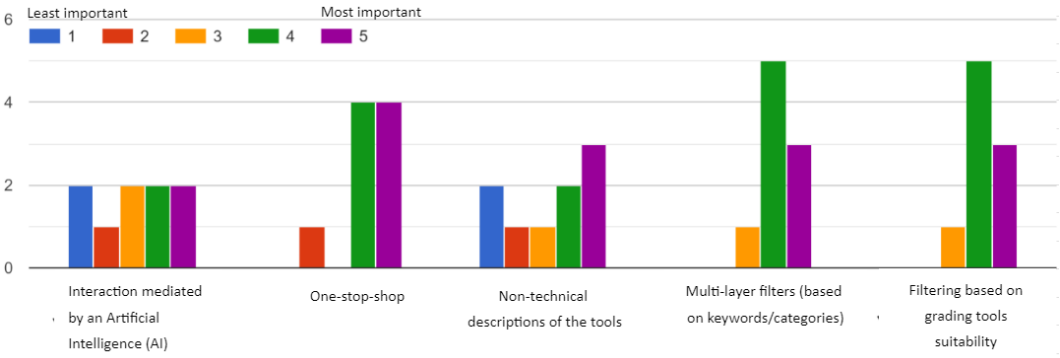

Figure 8. Importance of various items of the tools catalogue (rating; 9 respondents)

When asked to choose between options for filters, the questionnaire showed that respondents prefer the following filters: ecological (eight out of nine respondents), stakeholder engagement (seven out of nine respondents), social (seven out of nine respondents), governance (six out of nine respondents), ecosystem services (five out of nine respondents) and negative impacts mitigation (five out of nine respondents) as seen in Figure 9. The filters could further be added based on the Needs Assessment outcomes. The other filters, gender and intersectionality and nationality, is not the most relevant filter because only one-person chose these filters. The majority, six out of nine respondents, indicated that there would not be any concerns if there is to be an integrated log-in system, unless there is a hostile system (Figure 9).

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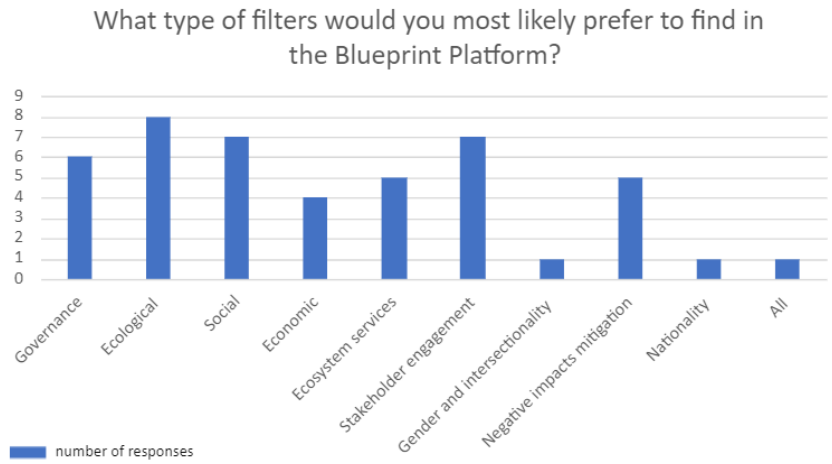

Figure 8: Filters to be integrated in the Blueprint Platform (multiple choice; more than one choice possible; 9 respondents)

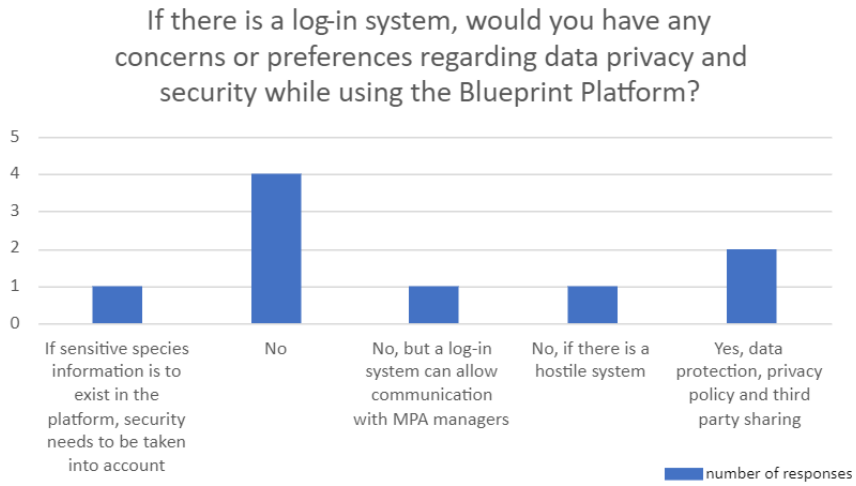

Figure 9. Data privacy and security of the Blueprint Platform (open end question; 9 respondents)

Participants with an open-end question were asked to provide feedback if they are currently facing challenges to access data/information. Six respondents indicated that they are facing challenges stating that they usually spend a lot of time to find and identify data or that the information is fragmented and sometimes not even accessible, especially scientific papers.

All participants indicated that it is important to be able to interact with other MPA Managers/Networks, with five out of nine finding it 'extremely important' (Figure 10). When asked about the main criteria to allow subscription to the platform suggestions, by seven out of nine survey participants included to have a restricted subscription for the MPA managers and professional users and a version that would be open to public access. It was indicated that having a restricted option would allow the interaction of peers with discretion.

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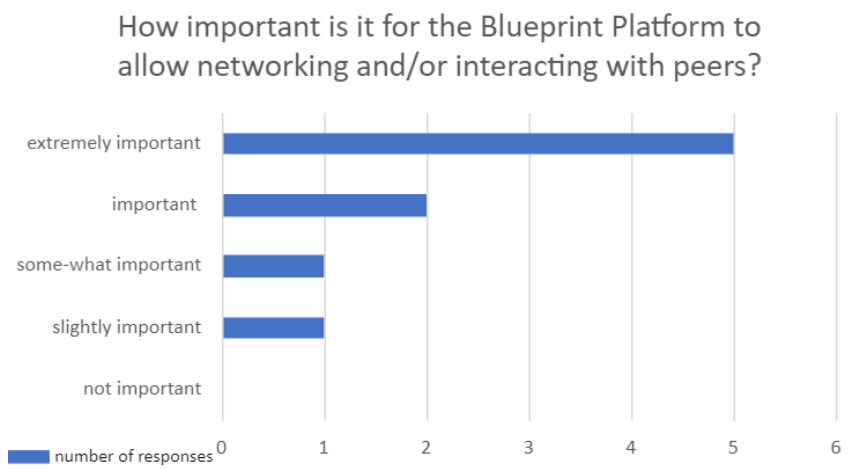

Figure 10. Importance of networking/interacting with peers (rating; 9 respondents)

Section 3 - A user friendly Blueprint Platform

The Section 3 of the questionnaire has been designed to gather more detailed feedback on the main features of the interface and the support methods to make the Blueprint Platform user-friendly and accessible to users with varying levels of expertise. This assumes that the end user may not necessarily have prior experience with IT tools and platforms. Regarding the interface, most responses indicated option 3 as the preferred landing page, which includes a screen where both the available tools and filters are easily accessible (Figure 11 and Figure 12).

Figure 11. Different options for the Blueprint Platform landing page (from left to right: option 1, option 2, and option 3)

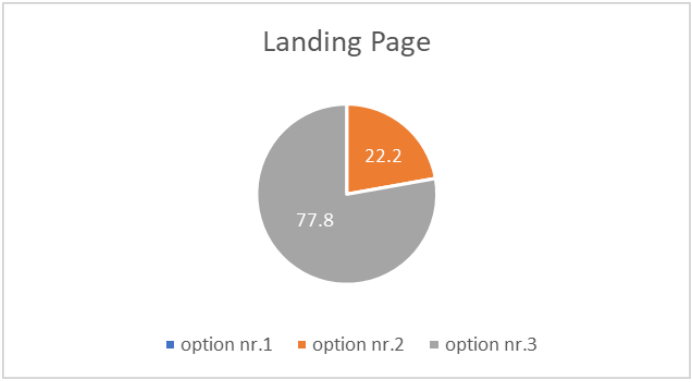

Figure 12. Preferences regarding the landing page (multiple choice; only one choice option;9 respondents)

Among the suggestions regarding the interface features, also in reference to other existing websites or platforms, it was highlighted suggestions regarding the presence of flex boxes, minimal text, clear and

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understandable illustrations, web-reader usability for sight-restricted persons (handicap), integration of the Green List vocabulary, and the ability to use the platform from mobile devices.

Regarding the feedback functionalities of the Blueprint Platform, with reference to the user's ability to comment on the platform's operational features, request help and instructions, evaluate performance, and report issues such as crashes, bugs, or unexpected behaviour, the questionnaire indicated that most responses mentioned the presence of a feedback button, contact form and email (Figure 13). Other types of feedback options received lower satisfaction (in-platform messenger 2 preferences, surveys 1 preference) or none (community forums at 0 preferences). Among the support features, the FAQs were rated (rating range: 0-useless to 5 – very useful) as moderately useful by 4 users and very useful by 2. (Figure 14).

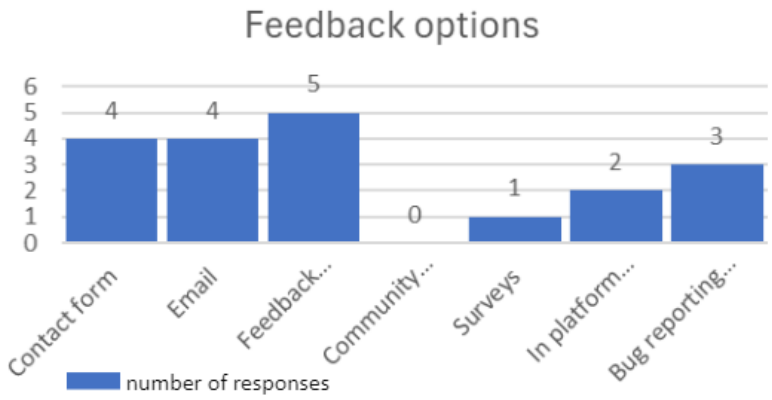

Figure 13. Preferences regarding the feedback options (multiple choice; more than one choice option;9 respondents)

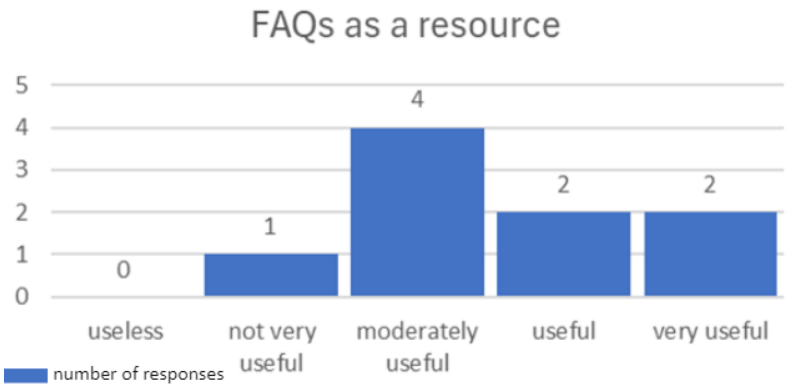

Figure 14. Assessment of the usefulness of FAQs as a resource (rating; 9 respondents)

The feedback regarding possible methods of assistance and facilitation on the use of the Blueprint Platform was particularly important. The survey included a rating system (rating range: 0 - no helpful to 5 - very helpful) about interactive brief demonstrations, walkthroughs with videos, brief text manuals with the possibility to contact IT, comprehensive text manuals, and online intro sessions by request. The most useful methods were interactive brief demonstrations and walkthroughs with videos, with most responses rating them as useful to very useful. The online intro session by request received mixed feedback ranging from "not very useful" to "useful" and the brief text manual with IT contact and comprehensive text manual were rated as “moderately useful” (Figure 15).

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An important aspect of accessibility is the possibility of having the Blueprint Platform in multiple languages (Figure 16). Most feedback rated this feature as extremely important, with suggestions to provide translations in Italian, English, French, German, and Estonian, or the possibility of having a translation icon that allows translation of the entire website.

The mobile version of the Blueprint Platform was also rated as very useful, with indications to ensure mobile compatibility if developing a standalone mobile version is not possible.

Overall, the questions regarding the features were rated as thorough, with suggestions to make the Blueprint Platform easy, quick to use, and easy to understand for new employees with little experience in the field. It was highlighted that including the context of the tools and a brief description of the MPA will be important, along with providing a contact for further explanation.

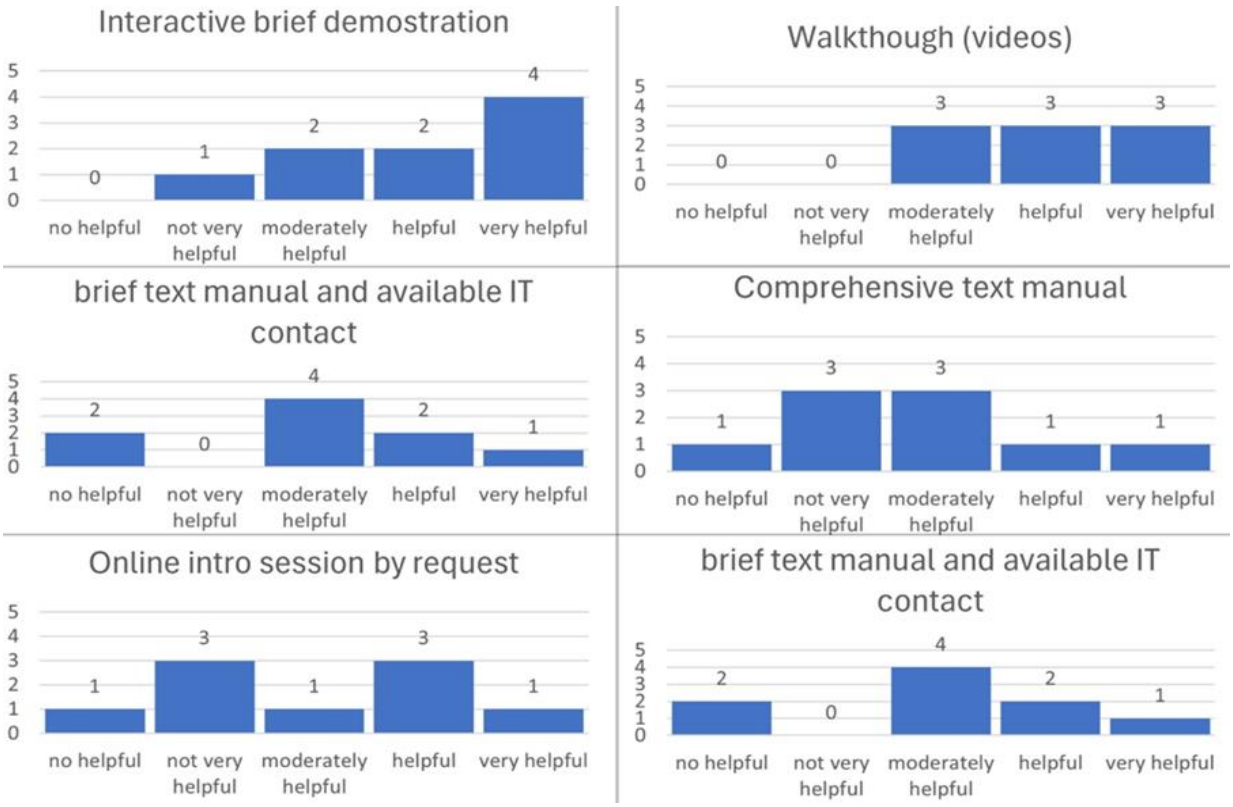

Figure 15. Assessment of the helpfulness of different possible methods of assistance and facilitation on the use of the Blueprint Platform (rating; 9 respondents)

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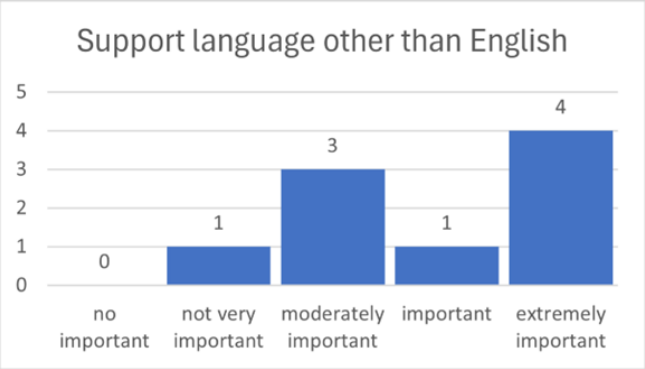

Figure 16. Assessment of the importance of the support multilanguage functionality (rating; 9 respondents)

5. Conclusions

A significant part of the Blueprint Platform's development involves an interactive co-creation process with end-users and stakeholders. This approach ensures that the platform meets the actual needs and preferences of its users. Workshops and questionnaires are utilized to gather detailed feedback on the platform's features, support methods, and overall usability.

The definition of the concept of user-friendliness in the context of the BLUE4ALL project was carried out using 5 key elements, also elaborated based on what is present in the literature. The key elements, together with the results of the wrap-up of the co-creation workshop, therefore allowed us to develop a list of user-friendliness features that will have to be implemented in the Blueprint Platform. It was thus possible to identify the groups of functional features and the platform's non-functional characteristics. Through the analysis of the correspondences between each feature and each key element, a user-friendliness questionnaire targeted for the 14 LLs of the project was developed. The comparison between the features and the ratings obtained through the responses to the questionnaire are presented in Table 6.

The feedback indicated a preference for a platform that is easy to use for individuals with varying levels of technical expertise. To address this, the interface design should include features such as easily accessible tools and filters, minimal text, clear illustrations, and web-reader usability for sight-impaired users. Additionally, multilingual support and mobile compatibility were highlighted as critical features to ensure the platform's accessibility and usability for a broader audience. Interactive brief demonstrations and video walkthroughs as the most useful support methods. Additionally, the integration of comprehensive FAQs and online support is deemed essential for facilitating user engagement and satisfaction. All the networking features will be implemented using the Bluebiomatch platform, which will be directly linked to the Blueprint Platform, in synergy with the ongoing activities in WP6. Sustainability emerged as a crucial consideration for the Blueprint Platform.

Discussions during the co-creation workshops highlighted the importance of maintaining the platform's relevance and updating it to reflect the latest trends and developments in marine protected area (MPA) management. Financial sustainability was also emphasized, with a recommendation for detailed cost analysis to ensure long-term viability. Furthermore, the platform aims to connect with existing projects and initiatives, leveraging their resources and expertise to enhance its effectiveness. By fostering a collaborative network for MPA managers and integrating user feedback, the Blueprint Platform is poised to become a valuable tool for the effective management of MPAs.

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Table 6. Synthesis of the questionnaire results in connection with the identified features

	Blueprint Platform interface	Most rated features	MPA phases and processes
GUI and design	"Grandma to use" interface	N/A	Blueprint Platform will mainly contribute to the management phase. Important also for the implementation and planning phases. It is considered important for monitoring.
	User profile login	no concerns about user profile logging	
	Multilanguage	extremely important	
	User manual	moderately helpful. Interactive brief demonstration mainly very helpful	
	IA interaction to support user	important	
	Blueprint Platform Catalogue functionality		
Tools	Predefined tools	mostly used for mapping, representation and consulting	
	One stop shop	important	
	Non-technical description of tools	extremely important	
Filters	Multi layers	ecological, governance, social, stakeholders' engagements	
	Predefined framework and keywords	important	
	Languages of the tools	extremely important	
	Blueprint Platform Networking functionality		
Forum	Peer-to-peer support	extremely important	
	Share experience	networking and support are extremely important. Indications to have feedback button, contact form, email and FAQs	
	Tools review		
	Best practices and outputs		

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7. Annexes

Annex A: Questionnaire (word and pdf versions)

A.1 pdf version of the questionnaire

A.2 The online version can be found using this link: https://forms.gle/SkkpMNkrKjq54d9r9

Annex B: Questionnaire Results

CSV file with questionnaire results

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