ENVRI-Hub

NEXT

D3.1 Communication, Dissemination and Exploitation (CDE) Plan

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Abstract	
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The ENVRI-Hub NEXT Communication, Dissemination and Exploitation (CDE) plan establishes a comprehensive strategy for maximising the project's impact. This plan not only raises awareness of ENVRI-Hub NEXT and its services among the environmental research community and stakeholders, but also outlines a clear roadmap for communication, dissemination, and stakeholder engagement activities. By showcasing the project's contribution to improved data access, analysis capabilities, and integrated environmental research, the CDE plan encourages widespread adoption of these services. Furthermore, it focuses on optimising the exploitation of key project deliverables, ensuring these advancements benefit the environmental research community and beyond for years to come. The plan concludes with a detailed work plan outlining specific activities and partner responsibilities, ensuring successful project execution.

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Terminology / Acronyms	
Term/Acronym	**Definition**
AAI	Authentication and Authorization Infrastructure
CDE	Communication, Dissemination and Exploitation
DSB	Development Steering Board
EB	Executive Board
EC	European Commission
ENVRI	Environmental Research Infrastructure
EOSC	European Open Science Cloud
ESFRI	European Strategy Forum on Research Infrastructures
GA	General Assembly
IP	Intellectual Property
KER	Key Exploitable Result
NGO	Non-governmental Organisation
PMO	Project Management Office
RI	Research Infrastructure
SEO	Search Engine Optimisation

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Executive summary

The ENVRI-Hub NEXT Communication, Dissemination and Exploitation (CDE) Plan establishes a comprehensive strategy aimed at maximising the project's impact. This plan is designed to raise awareness of ENVRI-Hub NEXT and its services among the environmental research community and stakeholders, while providing a clear roadmap for communication, dissemination, and stakeholder engagement activities.

By highlighting the project's contributions to improved data access, enhanced analysis capabilities, and integrated environmental research, the CDE plan aims to encourage widespread adoption of these innovative services. Additionally, the plan focuses on optimising the exploitation of Key Exploitable Results (KERs), ensuring that these advancements benefit the environmental research community and beyond for years to come.

The plan is structured into the following key sections:

1. **Introduction**: Provides an overview of the project and the objectives of the CDE plan.
2. **Stakeholder Analysis and Engagement Strategy**: Identifies key stakeholders and outlines strategies for effective engagement.
3. **Specific Measures per Target Group**: Details tailored communication and dissemination activities for different target groups.
4. **Communication and Dissemination Toolkit**: Describes the tools and channels to be used for effective communication and dissemination.
5. **Exploitation Plan**: Outlines strategies for the effective use and sustainability of KERs.
6. **Work Plan**: Provides a roadmap of specific activities and partner responsibilities.
7. **Monitoring and Performance Measures**: Establishes metrics and methods for assessing the effectiveness of the CDE activities.
8. **Conclusion:** Summarises the key points of the plan, reiterates the importance of the CDE strategy, and highlights the anticipated long-term benefits for the environmental research community.

By implementing this structured approach, the ENVRI-Hub NEXT project aims to ensure successful project execution and a lasting impact on the environmental research community.

1. Introduction

1.1. Purpose of the plan

As part of WP3 (Communications, Exploitation, and Training activities), the Tasks 3.1, 3.2, 3.3 and 3.4 (led by EGI.eu and LifeWatch ERIC) deal with Communications, Dissemination, Stakeholder Engagement and Exploitation management activities. In this first deliverable, the overall plan for these activities is laid out, and mapped to target audiences and stakeholders, set against a timeline where possible and matched with a suitable set of indicators for success.

The activities outlined in this plan will help to widely communicate the project actions and results to the main project stakeholders. We plan to disseminate the project allowing for maximum accessibility and reuse of the results and hence foster project outcomes, and we will maximise engagement of the concerned stakeholders. This deliverable will also outline how the project results, including the Key Exploitable Results (KERs) will be captured, monitored, and exploited. This plan is designed to be a living document and offers the initial plans/solutions for all project dissemination, communication, engagement and exploitation elements. During the project, parts of this plan will be updated or amended based on how the project evolves (taking into account the agile approach followed by the development teams). This updated plan will be delivered by WP4 in M20 (D4.1).

The initial plan is based on the project proposal, augmented with findings and results from M1-5 of the project (including M1: organisation of the Kick-off event and M5: communication package and launch of the website). In close collaboration with T3.2 and T3.4, prospective stakeholder groups are outlined and mapped against the project KERs and other WP activities and results. Specific outreach actions and engagement strategies for each of them are developed, considering the needs and activities in all work packages, and the engagement levels we expect from them.

1.2. Objectives

The success of ENVRI-Hub NEXT hinges not only on the development of a robust framework for integrated environmental research services but also on effectively communicating its value to the wider scientific community and other targeted stakeholders. This chapter details specific objectives for communication, dissemination, engagement and exploitation. By fostering awareness, encouraging collaboration, and maximising the utilisation of project results, ENVRI-Hub NEXT can significantly contribute to advancing integrated environmental research and tackling the pressing issue of climate change.

Communication Objectives:

- Increase awareness: Raise awareness of ENVRI-Hub NEXT and its services among the key stakeholder groups.
- Highlight impact: Showcase the project's contribution to environmental research by emphasising RI services, improved data access and analysis capabilities.

- Promote integration: Underscore the value of integrating environmental research infrastructures (RIs) for a more holistic approach.
- Drive adoption: Encourage researchers to utilise ENVRI-Hub NEXT services for their environmental (and beyond) research endeavours.
- Foster collaboration: Cultivate collaboration within the environmental science and Open Science communities through communication channels and events.

Dissemination Objectives:

- Widespread distribution: Disseminate knowledge about ENVRI-Hub NEXT and its results through a diverse range of channels (website, social media, document repositories, email marketing).
- Open access commitment: Ensure open access to project deliverables, publications, and articles on existing ENVRI community platforms (ENVRI community platform, Zenodo and Wiki).
- Target audience focus: Tailor dissemination activities to the specific needs and interests of different target audiences.
- Maximise reach: Broaden the reach of project information through partnerships with relevant international organisations and networks.

Engagement Objectives:

- Active participation: Encourage the environmental research community to actively participate in the project through organised events, training sessions, user feedback and requirements collection mechanisms.
- Collaborative partnerships: Establish strong partnerships with RIs to promote technology adoption and foster collaboration between researchers from different disciplines.
- Community building: Develop constructive, long-term relationships based on dialogue and mutual learning, aligning with the objectives of ENVRI-Hub NEXT.
- Capacity building: Support Task 3.5, by equipping researchers and other potential groups with the necessary skills and knowledge to effectively utilise ENVRI-Hub services through training activities and dedicated user support initiatives, as well as equipping research infrastructures with skills for optimised technical solutions, sharing of best practices, etc, ensuring the optimised development and maintenance of the ENVRI-Hub products and services.
- Stakeholder feedback: Actively solicit feedback from stakeholders through surveys and events to improve the project and its services.
- Resource optimisation: Engage and collaborate with other Horizon Europe projects supporting environmental RIs for cross-promotion, joint communication, dissemination and training activities, and information exchange.

Exploitation Objectives:

- Result Documentation: Ensure the project results and project Key Exploitable Results (KERs) and their related details are documented explicitly to enable Communication, Dissemination, Engagement and Exploitation activities.

- Intellectual Property Rights: Ensure that suitable IP rights are assigned to project outputs to maximise exploitation commercially or otherwise.
- Sustainability: Ensure the long-term sustainability of the ENVRI-Hub platform and its services beyond the project duration.
- Impact Analysis: Capture and document the impact of the project.

1.3. Structure of the document

This document contains a project introduction, an analysis of the main project stakeholders, and the specific Dissemination, Communication and Engagement measures they will be targeted with, and the 'Toolbox' - the set of tools, channels and materials that will be used by ENVRI-Hub NEXT for these purposes. A set of KPIs will be proposed that will allow monitoring of the impact and success of the plan. Finally, we'll take a look at the practical work plan outlining the activities and partner responsibilities during M5-18 of the project.

1.4. ENVRI-Hub NEXT main expected outputs and impact

The project objectives and foreseen Key Exploitable Results (KERs) each have their own stakeholder engagement level associated. Here below are the KERs, and later in the document, the outputs and impact are introduced. The KERs will serve as the basis to structure the concrete Dissemination, Communication and Engagement activities proposed further in this plan.

1.4.1. Key Exploitable Results (KERs)

The list of KERs is as follows,

- KER1: ENVRI-Hub Framework
- KER2: ENVRI-Hub Service Management System
- KER3: ENVRI-Hub Technical Architecture
- KER4: Services and policies for EOSC integration
- KER5: ECV scientific and technical framework
- KER6: ENVRI-Hub Training Materials.

Note that the list of KERs was updated at the beginning of the project compared to project proposal. The main differences are the addition of KER6 and the change of the name for KER4.

2. Stakeholder analysis and engagement strategy

2.1. Stakeholder engagement for ENVRI-Hub NEXT

Stakeholder mapping and user-approach strategy are vital aspects of effective communication and engagement efforts for ENVRI-Hub NEXT. By identifying key stakeholders and understanding their needs and interests, ENVRI-Hub NEXT will tailor its communication and user engagement activities to maximise impact and achieve its objectives within the environmental research community. Every individual, group, community, or company affected or impacted by the activities or outcomes of the project is considered a "stakeholder" and is to be accounted for in our endeavours. To develop stakeholder engagement plans, stakeholders will be categorised and prioritised according to the Power/interest grid (Mitchell et al., 1997, Freeman et al., 2010) and approached in alignment with our stakeholder engagement pathway. ENVRI-Hub NEXT's stakeholder engagement initiative will involve identifying, contacting, communicating with, and maintaining regular dialogue with key stakeholder representatives, thereby facilitating smooth project execution and formulating mechanisms for collaboration beyond the project's conclusion.

2.1.1. Objectives of the Stakeholder Engagement Strategy

The primary objectives of this Stakeholder Engagement Strategy are as follows:

- Provide a framework for various stages of ENVRI-Hub NEXT stakeholder management: identification, analysis, mapping and prioritisation, consultation, risk and issue identification, information sharing, documentation of engagement, as well as follow-up, impact assessment, and review;
- Offer a framework for the development of constructive, long-term relationships based on dialogue and mutual learning, supporting ENVRI-Hub NEXT objectives;
- Identify key methods of engagement with stakeholders, conducted regularly, transparently, and timely.

2.2. Stakeholder engagement methodology

ENVRI-Hub stakeholder engagement methodology will follow a pathway (see Figure 1) that begins with stakeholder identification through mutual learning and consultation as well as further review and adjustment of tactics. This pathway ensures that stakeholders will be able to influence the ENVRI-Hub work and outcomes. Additionally, the engagement methodology will be enriched and adapted to the evolving stakeholder needs or to involve new stakeholders. The impact of stakeholder engagement will be regularly monitored by WP3 and reviewed by the EB. Stakeholder management must be conducted through the set of processes illustrated in Figure 1 (PMI, 2013).
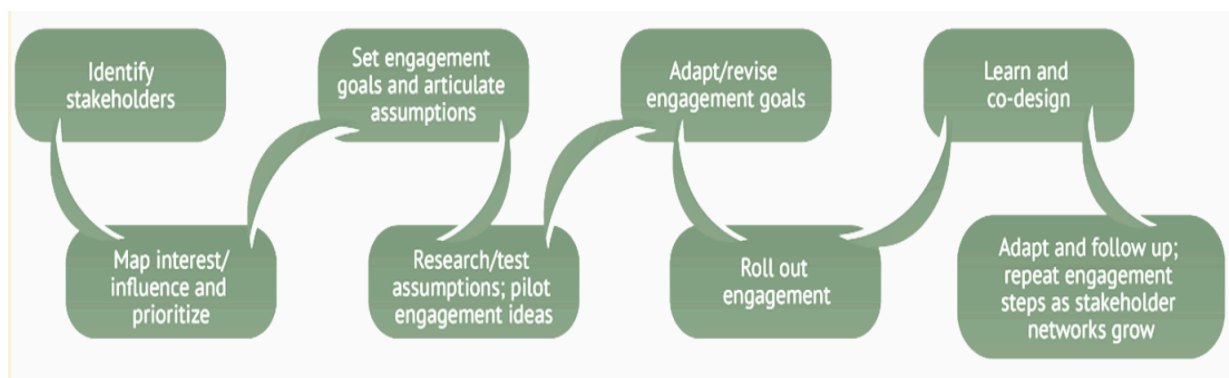
Figure 1 - Stakeholder management processes.

In this section, we focus on the initial steps of the pathway:

1. **Identify Stakeholders**: The first step involves identifying all potential stakeholders who may have an interest in or be affected by the ENVRI-Hub.
2. **Map Interest/Influence and Prioritise**: The second process, which is shown in Figure 1, is to plan the management of the stakeholders, by developing appropriate management strategies to engage with them effectively throughout the life cycle of the project, based on a needs analysis, their interests, and their potential impact on the success of the project. This mapping helps prioritise engagement efforts, ensuring that key stakeholders are addressed appropriately.
3. **Set Engagement Goals and Articulate Assumptions**: In this step, specific goals for stakeholder engagement are established, and underlying assumptions are clearly articulated. This helps in aligning expectations and defining what success looks like for stakeholder interactions.
4. **Research/Test Assumptions; Pilot Engagement Ideas**: Before full-scale engagement, initial assumptions are tested, and pilot engagement activities are conducted. This phase allows for refining strategies based on early feedback and ensures that the engagement approaches are effective.

The subsequent steps include rolling out the engagement activities on a larger scale, adapting and revising engagement goals based on ongoing feedback, and fostering mutual learning and co-design with stakeholders. These steps, while crucial for the overall success of the engagement process, are iterative and dynamic. They ensure that the engagement strategy remains flexible and responsive to the evolving needs of stakeholders and the project. The continuous adaptation and follow-up help maintain the relevance and effectiveness of the engagement activities, allowing for new stakeholders to be integrated into the process as the stakeholder networks grow. The findings and revisions will be captured in D4.1 The updated version of CDE Plan.

Two main forms of interaction with stakeholders will be employed:

*   **Notification**: communication of information to stakeholders. Notification does not, itself, constitute engagement, but can be a first step. Notification allows stakeholders the time to prepare themselves for upcoming consultations.

- **Consultation**: actively seeking the opinions of interested and affected stakeholders. This involves a two-way flow of information and can occur at any stage of the project development. It can be a one-stage process or an ongoing dialogue.

2.2.1. Identifying stakeholders

Here's a breakdown of the stakeholder analysis exercise stemming from the findings of the stakeholders' analysis conducted within the **ENVRI-FAIR** project:

1. **Environmental Research Infrastructures (ENVRIs) within the ENVRI Cluster**: These are the primary stakeholders directly involved in the project. They include organisations focused on Atmosphere, Marine, Solid Earth, Biodiversity, and Ecosystem research. These RIs have several roles: they are direct participants of the project developing the ENVRI-Hub, they are also data and service providers and at the same time, the RI communities are the future users of the services offered by the Hub.

2. **Environmental Research Infrastructures (ENVRIs) within the ENVRI community**: The broader community comprising RIs beyond the project's consortium. Although not part of the project, these RIs are potentially the future users and, at the same time, service providers for ENVRI-Hub.

3. **Research organisations and networks that are potentially interested in becoming service providers for ENVRI-Hub:** These are e.g. data providers and repositories operating in the environmental and Earth system domain.

4. **Researchers and Scientists**: Individuals actively engaged in environmental research who will benefit from the FAIR data and services provided by ENVRI-Hub.

5. **Researchers from other Fields and Long Tail of Science**: Individuals from other fields such as social scientists, biomedical researchers, energy, data scientists or software engineers, etc.

6. **European Open Science Cloud (EOSC) Ecosystem**: As the project aims to integrate with EOSC, members of the EOSC-related project consortia, EOSC Association, and other EOSC players are key stakeholders.

7. **Industry Partners**: Private sector entities with interests in environmental data for various purposes, such as sustainable development or resource management.

8. **European organisations and initiatives**: Copernicus, WMO, ESA, Destination Earth, European Data Space initiatives, and more.

9. **International Partners and Collaborators**: International Organisations interested in technical solutions developed by ENVRI-Hub NEXT and the services offered by ENVRI-Hub.

10. **Policymakers**: European Commission (EC), ESFRI, European Member States and Associated Countries etc.

11. **Civil Society and Non-Governmental Organisations** (NGOs): Groups advocating for environmental conservation and sustainability, potentially interested in utilising the project's outcomes.

12. **Educational Institutions**: Universities and academic institutions involved in environmental research and training.

13. **Citizen Scientists**: Individuals contributing to environmental data collection and analysis through citizen science initiatives.

14. **General Public and Media**: Although not our primary audience, these two target audiences are also important for the dissemination of information about the impact of the project.

2.2.2. Map influence/interest and prioritise

The Power/interest grid (Pacagnella Júnior et al, 2015) assesses stakeholders based on their level of interest and influence on project activities. Here's how involvement strategies might be devised:

- **High Interest, High Influence (Manage Closely)**: For stakeholders with high interest and influence, such as Environmental RIs, Researchers, and key players from the EOSC Ecosystem, the strategy would involve active engagement, collaboration, and partnership throughout all project stages. Regular communication, joint decision-making, and alignment of goals are essential.
- **High Interest, Low Influence (Keep Satisfied)**: Stakeholders like Civil Society and NGOs may have high interest but limited influence. Involving them through information sharing, consultations, and feedback sessions can help ensure their perspectives are considered. Collaboration on outreach and dissemination activities may also be beneficial.
- **Low Interest, High Influence (Keep informed)**: Policy Makers, Funders, and Industry Partners might fall into this category. While they may not be directly involved in day-to-day project activities, their decisions and policies can significantly impact the project. Engaging them through periodic updates, policy briefings, and targeted advocacy efforts can help ensure project alignment with broader goals and priorities.
- **Low Interest, Low Influence (Monitor)**: Stakeholders with low interest and influence, such as some Technology Providers or International Collaborators not directly involved in project implementation, may require minimal engagement. Keeping them informed through occasional updates and providing opportunities for involvement if their interest or influence changes could be sufficient.

From the stakeholder analysis exercise derived from the results of the ENVRI-FAIR project (**see 2.2.1**), categorising stakeholders and devising tailored involvement strategies, ENVRI-Hub can maximise collaboration, support, and impact across its diverse stakeholder community.

All stakeholders associated with scientific research and related activities are conveniently grouped under the name 'scientific community' as shown in Figure 2.

STAKEHOLDERS MAPPING

	Key Characteristics	Level of Interest	Level of Influence	Engagement Strategy
SCIENTIFIC COMMUNITY	Environmental and Earth system researchers inside and outside of academia, RI research communities, data scientists, software engineers, developers,Scientific societies (Copernicus, EGU, AGU)	High	High	- Drive research questions and methodologies. - Develop and utilise ENVRI-Hub services. - Provide feedback on the platform's functionality. - Contribute to the scientific knowledge base
POLICY-MAKERS AND FUNDERS	National funding agencies, European Commission (relevant DGs), national research councils, ESFRI, European Parliament members, mission boards	Low	Low	- Allocate funding for future ENVRI-Hub development and operation. - Set research priorities and agendas. - Influence policy decisions related to environmental research. - Advocate for the ENVRI community
ENVRI COMMUNITY ITSELF	All ENVRI community research infrastructures, network of the RI communications managers, BEERi (Board of environmental RIs)	High	High	- Guide the development and direction of ENVRI-Hub. - Contribute data and expertise to the platform. - Promote the use of ENVRI-Hub among researchers. - Advocate for ENVRI interests to funders and policymakers
INTERNATIONAL ORGANIZATIONS AND EARTH OBSERVATION NETWORKS	Copernicus, GEO, WMO, ESA, MET services, global agencies, RI counterparts	High	High	- Set international standards for environmental data. - Coordinate global Earth observation efforts. - Provide access to complementary data and resources. - Collaborate with ENVRI on joint research initiatives
EOSC	EOSC Association, EOSC related projects, EOSC service providers	High	High	- Integration of ENVRI-Hub with EOSC. - Increased discoverability and accessibility of environmental data. - Interoperability with other scientific data platforms. - Contribution to the EOSC ecosystem. - Potential to form future EOSC Node
RELEVANT EU-FUNDED PROJECTS	Network of the cross-project collaboration (IRISCC, iMagine, ENVRINNOV, Blue-Cloud, AMRIT, ANERIS, PHENET, LandSeaLot, AQUARIUS, MINKE and EVERSE), EOSC-related projects (e.g. EOSC-Beyond, OSCARS, OSTrails..)	Low	High	-Synergies and collaborations with other environmental research projects. - Sharing best practices and lessons learned. - Leveraging existing infrastructure and resources. -Contributing to a comprehensive European environmental research landscape

Figure 2 - Stakeholders mapping

2.2.3. Set Engagement Goals

The following stakeholder engagement goals were identified for each work package with the collaboration of other WP leaders (Table 1). This is a preliminary mapping which will be further refined at the face-to-face meeting in Lecce during the ENVRI-Hub NEXT second consortium meeting (3rd to 4th of October 2024) and updated in the Updated version of the strategy (D3.4), which is a formal deliverable in the second half of the project.

Table 1 - Stakeholder groups and purposes.

WP 1-2 Project management and coordination			
Stakeholder group	**Task**	**Stakeholder engagement purpose**	**Expected result**
EOSC	1.4 - 2.4 EOSC ENGAGEMENT	Ensure the ENVRI community is aware of developments in EOSC, and vice versa	ENVRI remains a key community in EOSC, in collaboration with other initiatives.
WP 3-4 Communications, exploitation, and training activities			
Stakeholder group	**Task**	**Stakeholder engagement purpose**	**Expected result**
All	3.1 -4.1 Project communication and dissemination	Dissemination	Raising awareness on ENVRI activities and results.
All	3.2 – 4.2 Stakeholder engagement and event	Guide ENVRI-Hub stakeholder management, Define stakeholder needs	ENVRI-Hub stakeholder engagement strategy will be defined to guide the project's WP own stakeholder work, help align and coordinate the engagement efforts across the project, and jointly monitor results and impacts. Report that outlines key directions, needs, priorities.
Scientific Community	3.3 ENVRI-Hub interface and promotion 3.4 Innovation and exploitation management	ENVRI-Hub interface and promotion	Engage potential users of ENVRI-hub, organise consultations, gather feedback and requirements (in collaboration with WP7)
WP 5-6 Development Management			
Stakeholder group	**Task**	**Stakeholder engagement purpose**	**Expected result**
All	5.5 – 6.5 Testing & feedback collection	Focus on internal project partners engagement	Feedback and requirements gathering
WP 7-8 Data and Services catalogue			
Stakeholder group	**Task**	**Stakeholder engagement purpose**	**Expected result**
Scientific and ENVRI Community	7.4 – 8.4 Metadata Harmonisation and mapping	Converge towards common metadata strategies and standards:	Agreement on a workflow to manage metadata

| | | - achieve maximum fairness for existing data and services
- standard harmonisation for data of the same kind
- catalogue of services providing access through the stored metadata of the RI services by means of one single interoperable standard (but RIs services themselves have their own standards. It is the catalogue that has APIs on top designed according to a unique standard)
- ...other points on the FDPs | updates in the ENVRI Catalogue of services |

WP 9-10 ENVRI knowledge base and search engine

Stakeholder group	Task	Stakeholder engagement purpose	Expected result
All	9.1 - 10.1 Indexing framework management framework	Having them engaged helps the development team understand their prioritised needs in the operational phase	Wishlist and expected features for managing the knowledge base indexing framework
All	9.2 - 10.2 Dialogue based search	Understand user stories, demonstrate the features, and validate the implementation	key user stories and requirements

WP 11-12 Enabling Services - Rollout

Stakeholder group	Task	Stakeholder engagement purpose	Expected result
Scientific and ENVRI community, EOSC	11.-/12.1 Cross-domain Vocabulary and Metadata Harmonisation 11.2-12.2 Vocabularies compliance with I-ADOPT framework	Demonstrate added value of improved FAIR metadata, and the potential of extended mappings for smooth discovery of metadata and integration of data	Wider uptake and knowledge of ENVRI-Hub NEXT solutions
Scientific community	11.3-12.3 AAI	Present the cross-domain AAI service solutions and its advantages to provide smoother access to data from EOSC or RI or other Virtual Labs	improved usage and trust in EOSC related solutions

Scientific andENVRI community, EOSC	11.3-12.3 AAI	Present the cross-domain AAI service solutions and its advantages to provide smoother access to data from EOSC or RI or other Virtual Labs	provide a use case of AAI interoperability solutions, as examples of wider use

WP 13-14 Analytical Framework

Stakeholder group	Task	Stakeholder engagement purpose	Expected result
Scientific Community	13.1 Analytical runtime environment 13.3 **VRE integration tools** 13.4 User Experience harmonisation and development	Demonstrate added value of ENVRI data-oriented services for Virtual Research Environments (VRE) users, and empower researchers with new data access and analysis capacities	Broader usage of ENVRI data assets; more derived data products (e.g. models, simulations, reanalysis datasets)
ENVRI Community Itself	13.2 ENVRI HUB Workflow specification and development	Provide a framework for sharing consolidated workflows	improved reproducibility of research

In addition to the tasks outlined in table 1, several key activities involve overlapping stakeholders and points of collaboration, including:

- **EOSC Engagement Tasks:** Collaboration with EOSC-related consortia and activities such as AAI federation are covered in work packages WP1-4 and WP11-12, involving stakeholders from the European Open Science Cloud ecosystem.
- **Agile Development:** The agile development of the Hub pillars, which includes testing, validation, evaluation, and continuous feedback, spans work packages WP5-14. This approach engages various stakeholder groups to ensure iterative improvements.
- **User-Facing Layer Development:** The design, testing, validation, and evaluation of the user-facing layer, also driven by continuous feedback, are managed through work packages WP3-4, WP7-8, WP9-10, and WP13-14, involving end-users and service providers.
- **Metadata Harmonisation and Standardisation:** The harmonisation and standardisation of EV vocabularies are tackled in work packages WP7-8 and WP11-14, engaging stakeholders focused on data interoperability and standardisation.

3. Specific measures per stakeholders group

Every person, group of persons, community, or company that is affected or impacted by the activities or results of the ENVRI-Hub NEXT project are to be considered "stakeholder" and should be considered in our work. ENVRI-Hub NEXT will implement several specific measures to ensure effective stakeholder interaction and maximise project impact for each target group. For the ENVRI community, one of the key activities will involve co-organising and attending community events, such as workshops, conferences, and webinars. These events will bring together stakeholders, fostering networking and collaboration. Additionally, these events will serve as platforms for gathering feedback and sharing success stories, which will be developed into detailed case studies and use cases.

In terms of partnership opportunities, ENVRI-Hub NEXT will actively identify and pursue collaborations with other organisations, institutions, projects, and initiatives working in related fields. These partnerships will help expand the reach and impact of ENVRI-Hub NEXT activities, and we will engage with these partners through focused events and targeted outreach efforts. To understand and meet the needs of our users, ENVRI-Hub NEXT will conduct regular user surveys. These surveys will assess stakeholders' needs, preferences, and satisfaction with ENVRI-Hub services and activities. The insights gained from these surveys will inform our future planning and decision-making, ensuring that the Hub continues to evolve in line with user requirements.

For RIs from the broader ENVRI community who wish to onboard their services or resources into the ENVRI-Hub, we will implement training programs where project partners guide the newcomers in achieving smooth integration. Additional guidance on navigating the project's results, understanding the research infrastructure landscape, accessing resources, and building collaborations can be facilitated through the organisation of webinars. However, it is important to note that this will be further planned as part of the D3.2 Training plan, which aims at structuring the training activities for the highest impact. We will establish user groups to facilitate continuous feedback and training, as well as support the collection of success stories. ENVRI-Hub NEXT will also develop a centralised platform or repository where users can share resources, tools, and best practices related to environmental research, infrastructure development and operation. This platform will promote collaboration and knowledge sharing within the research community.

To engage specific stakeholder groups effectively, ENVRI-Hub NEXT will adopt tailored strategies. For policymakers, we will organise focused events and create exclusive outreach materials and demonstrations to highlight the strategic benefits of ENVRI-Hub. For non-experts, we will develop specialised outreach materials and demonstrations to ensure they can understand and benefit from ENVRI-Hub services. Additionally, we will introduce ambassadors who will promote and demonstrate the Hub within academic institutions, our hosting institutions, and at scientific conferences, thereby enhancing the visibility and impact of ENVRI-Hub. More details on these specific measures for each stakeholder group are provided in the table 2.

Table 2 - Stakeholder groups.

Stakeholder group	Type of engagement	Dissemination & Engagement actions by project	Specific Measures
Environmental Research Infrastructures (RI) within the ENVRI Cluster	Collaborative and Coordinative	Joint research initiatives, data sharing, standard development, workshops, conferences	Meetings, workshops, dedicated RI platform, newsletters, joint training sessions
Researchers and Scientists	Research Collaboration	Drive adoption of ENVRI-Hub NEXT services, provide access to data and tools, encourage participation in feedback mechanisms	Academic journals, conferences, webinars, online repositories, email lists, survey
European Open Science Cloud (EOSC)	Strategic Partnership	Integrate ENVRI data and services into EOSC, align policies, develop joint infrastructures	Strategic meetings, policy briefs, shared platforms, consortium newsletters, joint event
International Partners and Collaborators	Global Cooperation	Cross-border research projects, shared data initiatives, harmonisation of methodologies	International conferences, bilateral meetings, collaborative platforms, newsletters, joint publications
Civil Society and Non-Governmental Organisations (NGOs)	Advocacy and Outreach	Disseminate research impacts, advocate policies, lead environmental awareness campaigns, solicit stakeholder feedback	Public forums, social media, newsletters, community events, websites, surveys
Educational Institutions	Educational and Informative	Curriculum development, student internships, academic partnerships, dissemination of educational materials	Workshops, educational materials, online courses, internships, webinars, training activities.
General Public and Media	Informative	Inform about project's impact	Website, social media, press release

4. Communication and Dissemination Toolkit

This section details the project's resources for internal and external communication, as well as dissemination of information to stakeholders. Some tools will be further refined as the project progresses.

Initial Resources (prepared in M1-5):

- **Project Website:** Serves as the central online source for project information, user stories, and access to results.
- **Social Media Accounts:** Regularly updated channels to promote project updates and engage audiences.
- **Communication Toolkit:** A collection of resources to guide project partners on effective communication strategies.
- **Publication Guidelines:** Ensures consistency and quality in project-related publications.
- **Branding kit:** Contains the project logo, colour scheme, and other visual elements for consistent brand identity.
- **Brand guide**: Provides guidance on how to correctly use the resources in the Branding kit to ensure consistency.
- **Presentation and Document Templates:** Provides a unified format for project presentations and documents.
- **Dissemination activity tracking**: Allows tracking of all dissemination activities to spot.

Figure 3 – ENVRI-Hub NEXT brochure

4.1. Tools for internal communications

Because a large number of stakeholders (scientific collaborators, RIs, among others) are involved in the project as partners, many of our measures will be at the crossroads between internal and external measures.

- **Focus on Work Package Activities:** Internal communication measures will primarily support activities within specific work packages. T3.1 will act as a central task group to coordinate the communication between the WPs and external stakeholders to ensure we approach them in a coordinated manner.
- **Centralised Tools:** Mailing lists, managed by WP1 and accessible on Confluence, will be the primary tools for internal communication.
- **Activity Monitoring:** T3.1 will closely monitor activities reported during project meetings (PMO, DSB, EB) and evaluate communication needs for each activity.
- **Partner Reporting:** Project partners will report on their activities through Confluence and updates during Executive Board meetings (EB). T2.1 will participate in these meetings to identify any communication opportunities.
- **Additional Channels:** The General Assembly, Ethics Board, and a project Slack workspace will also serve as avenues for internal communication and dissemination.

4.2. Tools for external communications

The ENVRI-Hub Next project inherits a rich legacy of successful communication strategies from its predecessors, ENVRI, ENVRI-Plus, and ENVRI-FAIR. These projects nurtured a thriving ENVRI community, encompassing not only the RIs directly involved in ENVRI-Hub Next, but also a broader network within the environmental research infrastructure landscape.

It is foreseen that ENVRI-Hub NEXT will therefore leverage existing ENVRI community assets:

4.2.1. Project website

Instead of setting up our own project website, we will integrate ENVRI-Hub NEXT project pages into the established community platform at **www.envri.eu**, which serves as a central platform for communication, dissemination and exploitation of the results from the RIs and their supporting projects. This platform allows ENVRI-Hub Next to:

- **Introduce a Centralised Information Hub**: The ENVRI platform serves as a one-stop shop for environmental research infrastructure-related information. Integrating ENVRI-Hub NEXT keeps project information readily accessible alongside other relevant resources, improving the user experience for researchers and stakeholders.
- **Be Cost-Effective**: Building and maintaining a separate website requires ongoing costs for hosting, development, and security. Integrating with an existing platform leverages their resources, reducing overall project expenses.
- **Engage Existing Audience**: Benefit from the platform's well-established user base of researchers and stakeholders interested in environmental research infrastructures.
- **Expand Reach**: Communicate effectively with Research Infrastructures (RIs) not directly involved in the project, maximising the project's impact.
- **Achieve Search Engine Optimisation** (SEO): Established platforms often have a strong SEO presence, meaning they rank higher in search engine results. Integration leverages the platform's existing SEO benefits, making the ENVRI-Hub NEXT project more easily discoverable online.
- **Standardise Branding**: Utilising the ENVRI platform ensures consistent branding and messaging across all resources related to environmental research infrastructure. This creates a cohesive and professional image for both ENVRI-Hub NEXT and the broader ENVRI community.
- **Streamline Content Management**: Updating and maintaining content is easier on a single platform. Integrating the website eliminates the need to manage two separate websites, saving time and effort for the project team.
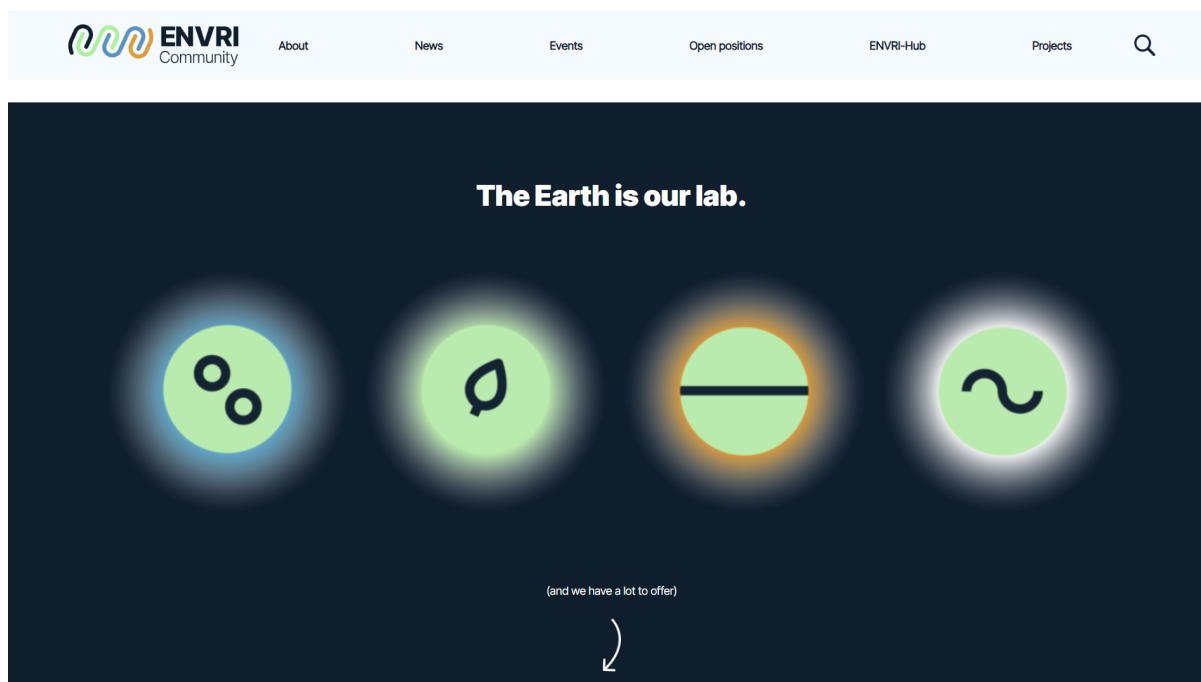
Figure 4 - New envri.eu home page.

4.2.2. Social Media

The ENVRI community already benefits from an established social media presence.

- LinkedIn **www.linkedin.com/company/envri-community** This has become the main channel for project-related communications, building an expanding community of followers.
- YouTube **www.youtube.com/@envricommunity1431** Showcasing project videos, webinars, and tutorials to visually engage and inform the audience.
- X **twitter.com/ENVRIcomm** Quick updates, news, and engagement with the scientific community. Despite having more than 2000 followers, it is becoming a secondary channel given the uncertainties related to its current relevance to the research community and the inconsistent quality of its non-paid services. It will mostly be used to engage with posts from relevant accounts (e.g. OSCARS Project, EOSC Association, other ENVRI projects).

This offers ENVRI-Hub Next the opportunity to achieve:

- **Efficient Dissemination:** Existing communication channels allow for efficient and cost-effective delivery of updates and information to a pre-engaged audience, maximising impact.
- **Brand Awareness:** Leveraging established social media channels allows ENVRI-Hub Next to build brand recognition and awareness within the environmental research community at a lower cost compared to building a presence from scratch.

Rather than focusing on absolute numbers for reporting social media activities, the project will base its social media 'success' on two parameters: regularity (as in: all relevant content advertised) and audience engagement rate (benchmarked against other, similar, accounts).

Given the current uncertainty related to the X platform, the project may be on the lookout for viable alternatives, however, no definite decision has been taken related to this.

Depending on the target audience, content and messages will be adapted and published on the appropriate channels.

Dedicated YouTube playlists will be created from the main ENVRI community channel for project-related content. This channel will be used to publish recordings of meetings, training, and workshops and (if applicable) to distribute explainer clips. One example of this is **the playlist** featuring the interviews with ENVRI-Hub NEXT representatives from the kick-off meeting.

Figure 5 - Example of a video interview on YouTube.

4.2.3. Events

All outreach activities will be reported according to the following procedure:

- Pre-Event Reporting: WP leads will report on planned activities during the Executive Board (EB) and Development Steering Board (DSB) meetings as a standing agenda item.
- Post-Event Reporting: Following each event, the partner or WP lead will document the activity on the dedicated Confluence page. All information about communication and dissemination activities must be recorded by filling out the table there, including relevant details such as the date, target audience, and links.

This will be the basis for reporting and will be followed up closely by the communications team. Event-related activities that are of interest to a wider audience (such as presentations, posters, and papers), will also be published on the website and on the ENVRI community space on Zenodo where they can receive DOIs.

To support the representation of ENVRI-Hub NEXT at these events, task T3.1 will create visual materials to support event presence (printables).
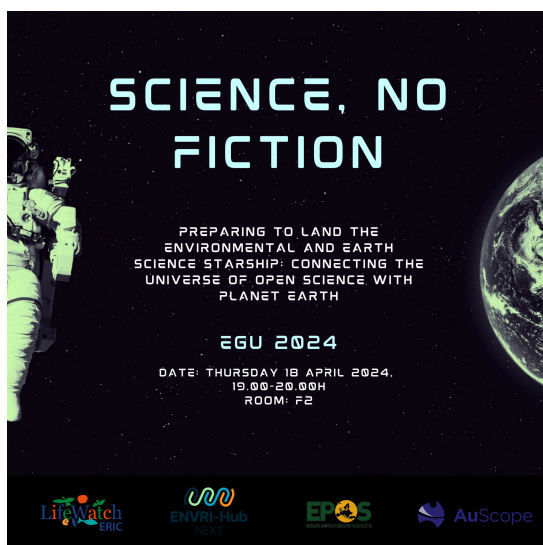
Figure 6 – Promotional image for the joint session at EGU 2024

4.2.3.1. Workshops (technical/non-technical)

Dedicated workshops, webinars and training will be organised for external stakeholders on a regular basis. WP3 will support the promotion of events through dedicated channels, and the collection of all supporting and training material in the ENVRI training catalogue, making them FAIR via the ENVRI-Hub platform.

4.2.3.2. Scientific Conferences, Industry and Policy Events

Project partners are encouraged to present project results at relevant scientific conferences, by submitting abstracts for presentations/posters. The Communication Toolkit on Confluence contains a set of readymade templates for presentations, documents, and posters for partners to use on these occasions, as well as a branding toolkit so partners can create their own designs for flyers and posters. Partners are requested to share their material with T3.1 so it can be uploaded to Confluence when useful for the entire project. As the project evolves, additional materials (for example, materials to build conference booths) can be created upon request or when T3.2 sees an opportunity.

4.2.4. Consultations and surveys

Consultation and surveys with the potential users of ENVRI-Hub to collect requirements and to improve ENVRI-Hub's user interface and experience will be organised by T3.3 in collaboration with WP7 and partners involved in the design and development of Hub services that will be exposed to users via the interfaces.

4.2.5. One-on-one meetings

One-on-one meetings between a project partner and external stakeholders are typically hard to plan or predict and will be run on an ad-hoc basis. T3.1 can provide support materials. Project

partners are expected to report on one-on-one meetings during the project DSB and EB meetings.

4.2.6. Publication Repository

The ENVRI community space on Zenodo **https://zenodo.org/communities/envri/** is used as the catch-all repository for all project publications, white papers, reports on the best practices, and other outputs that should be citable - uploading a document to Zenodo allows versioning, setting a DOI and an access level, all in compliance with the EC Open Science rules. While partners are expected to take care of the uploading themselves, PMO will be curating the community repository.

4.2.7. Project Boards

Internally, WP3 will make the most use of the EB and DSB meetings to centralise communication and dissemination opportunities. It is the responsibility of the WP leads to collect these opportunities among their WP partners.

The project also has several boards whose members can be considered as amplifiers of the project activities. In the first place, the project partners are all represented in the General Assembly (GA). All project partners are expected to amplify project information via their institution's / research infrastructures' channels (such as social media, website, and newsletters). This information will be provided in communication packages, with all necessary tools included (such as text, images, and relevant links).

4.2.8. External projects

4.2.8.1. ENVRI Cross-project collaboration network

Coordinated by WP3 lead, a dedicated collaboration group was established to coordinate communication and training efforts with other projects supporting the ENVRI community. The group includes representatives from ENVRI-Hub NEXT, IRISCC, iMagine, ENVRINNOV, Blue-Cloud 2026, AMRIT, ANERIS, PHENET, LandSeaLot, AQUARIUS, MINKE and EVERSE. The group has two levels of engagement. Projects in the core group are meeting every 6 weeks, and the entire group, including the projects with lighter forms of engagement, meets every 12 weeks.

This collaboration offers significant benefits:

- Joint Activities: By co-organising events, campaigns, and initiatives with other projects, ENVRI-Hub Next can significantly amplify its impact and reach a wider audience, maximising outcomes while reducing individual project costs.
- Unified Voice: Utilising shared communication channels eliminates the need for separate websites and social media accounts, fostering a unified voice for the ENVRI community. This promotes efficiency by avoiding duplication of effort and allows for a more consistent and impactful message.

- Training Collaboration: The collaboration group can be further leveraged to develop and deliver joint training sessions for communication teams across projects. This fosters knowledge sharing, best practices exchange, and the development of a skilled communication workforce within the broader ENVRI community.

The group aims to utilise the following communication and collaboration channels :

- Website:
  - Deep Integration: Projects can publish directly with Editor roles.
  - Light Engagement: Submit content for approval with Author roles.
- Social Media:
  - Deep Integration: Manage dedicated ENVRI social media accounts.
  - Light Engagement: Share content using the #ENVRI community tag or via Slack channel (on the RI comms slack channel)
- Newsletter:
  - Deep Integration: Participate in editorial board and content creation.
  - Light Engagement: Contribute content through a shared document.
  - Publication: Monthly or bi-monthly, depending on the number of contributions/urgency via Mailerlite owned by ICOS ERIC.
- Meetings:
  - Deep Integration: Regular meetings to discuss network operations and collaboration. (Chairing duties will rotate among "Deep integration" team members.). Meetings every 6 weeks.
  - Light Engagement: Optional attendance based on interest. Meetings every 12 weeks.
- Shared Calendar: List joint events, webinars, and workshops.

4.2.8.2. EOSC landscape

The liaison with EOSC will be coordinated by the ENVRI-Hub EOSC Liaison Manager, who will be responsible for the communication exchange and engagement of the key players. ENVRI-Hub NEXT will make use of the existing EOSC channels such as the EOSC Association and EOSC Forum to reach the EOSC community.

Other connections will be identified during the project's runtime and might be acted upon ad hoc. Already during the first months of the project, an EOSC Task Force was set up, led by the EOSC Liaison Manager, to monitor the relevant technical developments and ensure the ENVRI-Hub NEXT compliance with the EOSC landscape.

4.3. Materials

4.3.1. Project Branding

A basic project branding kit has been available from the start of the project in the internal Confluence space. A more elaborate style guide is available as well.

4.3.2. Press

While mainstream press is not a target channel of this project, some specialised news outlets might be targeted with relevant press releases, for example with relevant project results, such as the Horizon Magazine.

4.3.3. Newsletters

4.3.3.1. Project

The project will not run a separate newsletter, but will have its own section in the general ENVRI community newsletter with an existing mailing list. The newsletter will feature different sections focusing on different projects supporting the ENVRI community as well as a section focusing on the news coming from different RIs. Subscribers will be able to select their interest, and see only news relevant to them.

4.3.3.2. Partner/RI newsletters

Ready-made news items will be produced regularly for partners to include in their newsletters. These can be project-wide, but could also be on-demand, for example related to a specific use case.

4.3.4. Scientific Publications

Scientific Papers published by individual partner(s) need to acknowledge ENVRI-Hub NEXT in the acknowledgements section and in the publication metadata.T3.1 is available for minimal proofreading, advice, and optimisation of visuals - but will not take any responsibility with regard to the content of the publication - nor will T3.1 prompt partners to write scientific publications, as this is part of their ongoing activities.

Partners commit themselves to deposit a post-print version of their article in a repository, and to make the final version available as open access - in accordance with the EC Open Science Policies. It is crucial that a permanent identifier (such as a DOI) is created for each publication or created for all published output. A Zenodo catch-all community can serve as a suitable repository at their disposal for their publications. T3.1 will promote the open-access versions of these publications by amplifying them on social media and listing them on the project website.

4.3.5. Visual materials

The creation of visual materials will be done both centrally, by WP3, and by partner organisations. A branding kit has been disseminated for use by partners to create their own materials, and a professional designer, employed by EGI Foundation, is available for more complex tasks, or for partners that do not have in-house designing capacity. Partners are encouraged to share their own designs on the Communications Confluence pages for inspiration and reuse by other partners.

These materials will summarise a project activity, will provide explanations or tutorials, or can simply serve to improve the project's visibility. As the project evolves, new types of materials will be created - some others that might not prove effective will be abandoned.

The creation of these materials will closely follow the timeline of deliverables and milestones. T3.1 will proactively reach out to other WPs to collect potentially interesting content that could benefit from a more (audio-)visual approach. Through the DSB, WPs also have the opportunity to reach out themselves to signal interesting opportunities or to request specific materials.

WP3 envisages the production of the following materials: brochures, flyers, infographics, posters, videos and potentially other materials.

5. Exploitation Plan

The Innovation and Exploitation Management approach of the Envri-Hub project derives itself from the approach developed in the EGI-ACE[1] project and improved upon in the iMagine[2], interTwin[3] and Aneris[4] projects. The core of this approach is rooted in the Technology Management Process[5] and ISO 56002:2019 Innovation management — Innovation management system — Guidance[6]. However, both these methodologies are geared towards organisations. So the elements from these approaches are modified to suit the requirements of a Horizon Europe project. In general, Innovation and Exploitation management in a Horizon Europe project should cover the following aspects:

1. Managing the Intellectual Property (IP) and its rights related to the project (Background, Sideground, Third-party and Foreground).
2. Capturing and managing information related to the results developed by the project.
3. Developing a comprehensive business plan/case for the project results.
4. Developing exploitation strategies and documenting exploitation, impact and success stories originating from the project.

Using all of these as a basis, the following activities were identified as needed to be carried out by T3.4 and continued by T4.4 in the second period:

- Key Exploitable Result Management
- Project/Component Result Management
- Intellectual Property Management
- Sustainability Analysis
- Exploitation Strategy
- Impact Analysis

5.1. Key Exploitable Result Management

A Key Exploitable Result (KER) is a project/component result or a group of similar project/component results with particularly high exploitation potential, i.e. use and benefits from something often for commercial purposes, in public policymaking, or for further research. The goals of this activity are to,
1. Identify and manage KERs.
2. Identify KER Ambassadors.
3. Collect information related to KERs.

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[1] https://www.egi.eu/project/egi-ace/

[2] https://www.imagine-ai.eu/

[3] https://www.intertwin.eu/

[4] https://aneris.eu/

[5] Gregory, M.J. (1995), ``Technology management: a process approach", Proceedings of the Institution of Mechanical Engineers, Vol. 209, pp. 347-56.

[6] https://www.iso.org/standard/68221.html

5.1.1. KER Identification

During the proposal phase, five KERs were identified. The five KERs defined during the proposal phase were,

1. KER1: ENVRI-Hub Framework; Knowledge base and search engine, data and service catalogue
2. KER2: ENVRI-Hub Service Management System
3. KER3: ENVRI-Hub Technical Architecture
4. KER4: EOSC Integration
5. KER5: ECV Scientific and technical framework

To better represent the results developed by the project and by focusing a bit more on the exploitation aspect, it was decided to update these KERs. These updated KERs were then presented to the Development Steering Board of the project and approved on 03 June 2024. The updated list of KERs is as follows,

1. KER1: ENVRI-Hub Framework
2. KER2: ENVRI-Hub Service Management System
3. KER3: ENVRI-Hub Technical Architecture
4. KER4: Services and policies for EOSC integration
5. KER5: ECV Scientific and technical framework
6. KER6: ENVRI-Hub Training Materials

It is possible that during the execution of the project, additional KERs may be identified or existing KERs are modified.

5.1.2. KER Ambassadors

Collecting the information related to the KERs will be done in collaboration with the KER Ambassador. For each of the KERs identified, one or two KER Ambassadors will be appointed with the support of the Development Steering Board (DSB) and the Executive Board (EB). KER Ambassadors will have the following role in the project,

1. They will act as an Ambassador for the KER - a primary spokesperson within the project, helping to encourage uptake, exploitation and dissemination of the KER.
2. They will provide the relevant data for the Horizon Result Platform template for their respective KERs.
3. They will support the development and exploitation plan, pointing to the relevant contact persons for technical, IP and other exploitation plan aspects of the KER.
4. They will take the lead in providing inputs on dissemination messaging.
5. They will also help bridge the gap between technical outputs and their practical implications by promoting uptake.

5.1.3. KER Templates

A key aspect of the Horizon Europe projects is that every KER should be submitted to the Horizon Results Platform (HRP). The template for the HRP, though extensive, still misses some of the important aspects. So the HRP template has been expanded to cover these aspects so

that all the relevant information for each KER is captured in the same place. The extended template for KERs can be found in **Appendix I**.

5.2. Project/Component Result Management

A project result is any output generated during the project implementation, it is also referred to as a component result. Some examples of project results include know-how, experience, algorithms, prototypes, new data products or services, policy recommendations, roadmaps, learnings, reports, publications, etc. The task will focus on a subset of all the project results to collect detailed information about, though all results and their related ownership and IP rights will be documented.

Within the context of ENVRI-Hub, as mentioned earlier, each of the KERs is an umbrella under which multiple project results are aggregated. To reduce ambiguity in result ownership and for Intellectual Asset Management, it will be therefore important to collect information at an even more granular level i.e. at the level of project results. The identification of the KER-relevant project results will be done with the support of the KER Ambassadors. The various boards of the project can also make recommendations for certain results to be included in this subset.

The goals of this activity therefore are to,
- Identify, record and manage the project results.
- Curate detailed information for project results.
- Ensure that innovation developed or enhanced by the project is well-documented.

5.2.1. Project Result Templates

Information related to these components will be documented in the confluence using the template presented in **Appendix II**. The information in these templates will be collected with the support of relevant task leaders.

5.3. Intellectual Property Management

This activity documents and manages the intellectual property that existed before the project started (relevant to the execution and exploitation of the project) and will be generated during the project duration. The goals of this activity are to,

1. Identify, record and manage the Background IP, Third-party IP and Sideground IP.
2. Ensure sufficient rights exist to the Background, Third-party and Sideground IP.
3. Identify and record the Foreground IP.
4. Protect the Foreground IP using appropriate methods and support the resolution of any IP conflicts that may arise.
5. Develop any agreements related to the generated IP (joint ownership, licensing, etc.)

5.3.1. Intellectual Property Management Templates

There are four types of intellectual property in the context of the ENVRI-Hub project that could be relevant,

1. Background IP is generally identified as part of the Consortium Agreement writing phase before the project starts. Background IP will be documented using the template presented in **Appendix III**.
2. Sideground IP is captured during the project execution phase with the collaboration of the partners. Sidegroup IP will be documented using the template presented in **Appendix III**.
3. Third-party IP is captured during the project execution phase with the collaboration of the partners. Third-party IP will be documented using the template presented in **Appendix III**.
4. Foreground IP is captured during the execution of the project and is important to ensure that sufficient rights exist to ensure the successful exploitation of the project results to which this IP is connected. Foreground IP will be documented using the template presented in **Appendix III**. With respect to the Foreground and choosing the appropriate license, the project will follow the Horizon Europe guidelines of "As open as possible, as closed as necessary". The project will strongly recommend open licensing. However, since the ownership of results within Horizon Europe lies with the organisation producing them, the decision to choose the license will be left to the respective organisations. To ensure that closed (or even open) licensing of a result does not hinder the exploitation of other results of the project, a collaboration or joint ownership agreement, if required, will be signed in accordance with the Consortium Agreement of the project.

5.4. Sustainability Analysis

To ensure the long-term exploitation of the results of the ENVRI-Hub project, it is imperative to discuss the sustainability requirements and options for these results. The goal of this activity is to, therefore:

1. Collect the sustainability requirements for each of the KERs.
2. Describe sustainability plans for all the KERs

To develop comprehensive sustainability plans, T4.4 will organise a workshop in the second half of the project. More details of the sustainability workshop will be provided in the D4.1 Updated version of the CDE Plan in M20.

5.5. Exploitation Strategy

The goals of this activity are to,
1. Collect partner-specific exploitation plans
2. Develop a collective exploitation strategy

The activity is strongly linked and supported by the Key Exploitable Result Management and the Sustainability Analysis activity. The KER Management activity will collect all the relevant information, including but not limited to value proposition, target groups, background information, etc in a single template which will streamline exploitation planning. The Sustainability Analysis on the other hand will look into making the results available beyond the project for exploitation purposes. All this information will be combined with the individual

exploitation plans from each partner to develop a collective exploitation strategy at the end of the project.

5.5.1. Individual Exploitation Plans

Individual exploitation plans from each partner will be collected using the template provided in **Appendix IV**.

5.5.2. Collective Exploitation Strategy

The plan for developing an exploitation strategy will be further expanded upon in the second period of the project in the Updated version of the Communication, Dissemination and Exploitation (CDE) Plan due in M20.

5.6. Impact Analysis

In the long term, the results of the ENVRI-Hub project are expected to advance the current understanding of the major challenges to our planet, such as climate change and its impacts on the Earth system, our ability to respond to and predict natural hazards, and our understanding and prevention of ecosystem loss thanks to the integrated use of multidisciplinary data and services from different research infrastructures and Earth system subdomains. Therefore, it is important to better understand, disseminate and communicate the impact of the project to all its relevant stakeholders (see **section 2**). The goals of this activity will therefore be to,

1. Support all work packages in capturing the impact of their activities.
2. Support T3.1 and T4.1 in communicating this impact in the form of success stories, recommendations, best practices, etc.

6. Work plan

6.1. Responsibilities

In the ENVRI-Hub NEXT project, Work Package 3 is primarily driven by the collaborative efforts of the EGI Foundation and LifeWatch ERIC. These three organisations are the main contributors to this WP, each bringing their expertise to ensure the successful communication, dissemination, stakeholder engagement, and user training aspects of the project.

6.1.1. EGI Foundation

In WP3, the EGI Foundation plays a pivotal role in several key areas. Firstly, they are responsible for project communication and dissemination. This involves crafting and distributing information about the project's progress, outcomes, and impacts to various stakeholders, including the scientific community, policymakers, and the general public. The EGI Foundation ensures that the project's developments are effectively communicated through multiple channels, including websites, social media, newsletters, and scientific publications, thus raising awareness and fostering engagement.

Additionally, the EGI Foundation manages the ENVRI-Hub interface and promotion. This entails developing and maintaining a user-friendly interface that serves as the central access point for the project's services and resources. By promoting this interface, EGI aims to increase its visibility and usage among the target audience. They are also tasked with innovation and exploitation management, which involves identifying potential innovations within the project, protecting intellectual property, and exploring opportunities for commercial exploitation. This ensures that the project's outcomes can be effectively translated into real-world applications, providing tangible benefits to the broader community.

6.1.2. LifeWatch ERIC

LifeWatch ERIC is responsible for several crucial tasks in WP3, focusing primarily on stakeholder engagement and events. This involves identifying and connecting with key stakeholders, including researchers, policymakers, industry representatives, and other relevant parties. LifeWatch ERIC organises and facilitates events such as workshops, conferences, and meetings to foster dialogue, collaboration, and knowledge exchange among stakeholders. These activities are designed to build a robust network of engaged participants who can contribute to and benefit from the project's outputs.

Furthermore, LifeWatch ERIC handles user training and skills development. They design and deliver training programs aimed at enhancing the capabilities of users to effectively utilise the resources and services provided by the ENVRI-Hub. This includes creating educational materials, conducting hands-on training sessions, and offering support for users to develop the necessary skills to maximise the benefits of the project. By focusing on capacity building, LifeWatch ERIC ensures that users are well-equipped to leverage the project's innovations and contribute to the advancement of environmental research and monitoring.

6.1.3. ICOS ERIC

In addition to the contributions from the EGI Foundation and LifeWatch ERIC, ICOS ERIC also plays a significant role in WP3. ICOS ERIC is primarily responsible for managing the ENVRI.eu website, the project's newsletter, and social media channels. This involves ensuring that the website is working properly and content creators can regularly update it with relevant information, supporting the publishing of engaging and informative newsletters to keep stakeholders informed about the project's progress, and actively maintaining a presence on social media to reach a wider audience. Through these efforts, ICOS ERIC helps to enhance the visibility of the project, foster communication among stakeholders, and disseminate important updates and achievements effectively.

6.2. Deliverables and Milestones

The first milestone M3.1 "Communication package available and Website launched" was completed by the end of M4 as planned, as the communication package was made available to partners in M1, while the official project page[7] was published on the new envri.eu website in M4.

The next two milestones related to WP3 in the first 18 months of the project are the following:

- M3.2 - First training content available - M10
- M3.3 - First training event organised - M16

6.3. Next steps

In 2024, the following public-facing project outcomes, that require communication and dissemination support from T3.1, are being planned.

6.3.1. Regular communications about project outcomes

In the upcoming months, ENVRI-Hub NEXT will enhance its communication efforts to ensure stakeholders are well-informed about project outcomes.

We will contribute regular updates to the ENVRI newsletter, sharing key developments, achievements, and insights. Additionally, we will actively engage with the ENVRI community through our social media channels, providing timely updates, highlights, and relevant content. Our efforts also include contributing to the maintenance and enriching of the content on the envri.eu website, ensuring it remains a comprehensive and up-to-date resource for all interested parties.

By leveraging these communication platforms, we aim to foster transparency, engagement, and collaboration within the ENVRI community.

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[7] https://envri.eu/envri-hub-next/

6.3.2. Establishment of user groups

To ensure the ENVRI-Hub NEXT project meets the needs of its diverse user base, we plan to establish dedicated user groups through a systematic approach. The upcoming steps involve:

- **Stakeholder Mapping**: We will conduct a detailed stakeholder mapping exercise, building on preliminary work to identify and categorise different user groups. This will be organised as a survey, mandatory for ENVRI-Hub RIs and voluntary for other ENVRI community RIs.
- **Survey Preparation and Distribution**: LifeWatch will draft survey questions, aiming for completion by the end of August (M7). The survey will be distributed in September (M8), with responses due by the third week, allowing a week for analysis before presenting results at the consortium meeting.
- **Interactive Sessions and Feedback Refinement**: A dedicated session at the consortium meeting in Lecce (3-4 October 2024, M9 of the project) will be reserved to review survey results and refine the feedback questions. Further questions for user groups will also be collected during this session.
- **Workshops and User Group Formation**: In October-November, workshops for each pillar of the ENVRI-Hub will be organised to gather insights from WP leaders. This will lead to the formation of internal workshops and ultimately the establishment of user groups by November (M10), followed by initial meetings with representatives.

By following this structured process, we aim to effectively gather and incorporate user feedback, ensuring the ENVRI-Hub NEXT project aligns with user needs and expectations.

6.3.3. Events in our pipeline

In the first months of the project, a range of relevant events were identified. WP3 will play a crucial role in supporting applications for these events, ensuring that project partners have the resources and assistance needed to participate effectively. Additionally, WP3 will focus on promoting visibility for project partners, highlighting their involvement in public activities through various channels and media to maximise the project's impact and outreach.

- 30/09/2024-04/10/2024 - **EGI2024** - ENVRI-Hub NEXT submitted an abstract to take part in a session on Environmental informatics. We are also evaluating participation in a booth at the exhibition.
- 03-05/12/2024 - **ICRI 2024** - If accepted, ENVRI-Hub NEXT will be featured at the side event proposed by EGI Foundation.
- 27/04/2025-02/05/2025 - **EGU General Assembly 2025** - Consolidating ENVRI's presence after the successful 2024 edition with speakers, joint ENVRI community booth and sessions.

6.3.4. Webinars

Starting in the second year of the project, dedicated ENVRI-Hub webinars and tutorials will be organised by T3.5, allowing the optimal use of the project's service offering. These are reflected in the D3.2 Training Plan (to be submitted by M10).

7. Monitoring and Performance Measures

Statistics and KPIs for social media channels are monitored and updated monthly by EGI and responsible partners to track performance trends and engagement levels. This regular analysis helps identify strengths and areas for improvement, and guides strategic adjustments to enhance our online presence and community engagement.

Website analytics for the new envri.eu website are being collected via the Matomo platform starting in June 2024, monitored monthly by consortium partners at ICOS.

Table 3 – Communication KPIs

Communication KPIs at M5				
KPI	**Project start**	**M5 June 2024**	**Change**	**Notes**
LinkedIn followers	306	535	+74.8%	Primary channel
YouTube subscribers	42	48	+14.2%	Video content
Twitter/X followers	2012	2040	+1.4%	Secondary channel
Newsletter subscribers		690		First issue of new course to be sent in the summer of 2024

8. Conclusion

The ENVRI-Hub NEXT Communication, Dissemination and Exploitation (CDE) Plan outlines a comprehensive strategy to maximise the project's impact. This plan ensures widespread awareness and adoption of ENVRI-Hub NEXT services among the environmental research community and stakeholders. By effectively communicating the project's contributions to improved data access, enhanced analysis capabilities, and integrated environmental research, the CDE plan guarantees the long-term success of ENVRI-Hub NEXT.

This structured approach ensures successful project execution and a lasting positive influence on the environmental research community. Through effective communication, dissemination, stakeholder engagement, and exploitation activities, ENVRI-Hub NEXT will significantly contribute to advancing integrated environmental research and tackling the pressing issue of climate change.

APPENDIX I: KER Template

This template is intended for collecting information for the KERs as described in **Section 5.1**. The template is based on the Horizon Results Platform submission template, however the original template has been expanded to include additional contextual information that may be important in managing the KERs during and after the course of the project.

Result Information	
Title of the Result (120 characters)	Provide a short, descriptive name for your result.
Problem Description	Why was the innovation needed? - articulated or unarticulated needs and problems the KER addresses.
Result Description (1200 characters)	A detailed description of the result, freeform. Describe what the result is and what benefit it brings. Avoid using extensive jargon and focus on simplifying.
Result Type	Choose One ⌄
EU missions	Choose one ⌄
Video/Image	Upload an image or add a link to a YouTube/Vimeo video.
Key Value Proposition	A single short, catchy sentence describing the main value proposition of the result.
Business Sector(s)/ Policy Area(s)	Select max 3 Choose one ⌄ Choose one ⌄ Choose one ⌄
Main project	The EC-funded project that was the main contributor
Other related projects	Related projects to this result. Optional – won't be visible in the entry
Result Contributors	The partners that contributed to the result.
Owners for exploitation	Which entity(ies) (among the "Result contributors") will have rights to exploitation of the Intellectual Property?
Tags/ Keywords	Use keywords to describe the technology, science, sector, content or nature of the result and very importantly, keywords to denote potential uses or applications of your result.
Stakeholders and Users	
Target User Group and Benefits	The user group(s) to whom the result is targeted and key benefits that the result brings to them.
What type of customers/ users do you have?	Categories under which the target user groups fall, Choose Multiple ⌄
Are you targeting geographical markets?	Choose one ⌄
Which Business Sectors do your customers mainly come from?	Select max 3 Choose one ⌄ Choose one ⌄

	Choose one ▾
Message/ Teaser to the potential user (1000 characters)	IPlease state what your result is, what it is for, what makes it special in terms of adding value or knowledge, what is your purpose for making it public, and what is your target audience.
Do you already have customers for this result?	Choose one ▾
Number of existing customers	Choose One ▾
Other Stakeholders and Benefits	List all the other stakeholders (grouped and not individually) associated with the result and the key benefits for each of them.
Target Audience and Needs	
Target Audience	It should be noted that this is not the user group or stakeholders necessarily. This is about whom you want the horizon result entry to be targeted to. You can choose upto 3, Choose one ▾ Choose one ▾ Choose one ▾
Our needs are	Please enter more specific details in terms of which audience you are targeting and what your precise needs are. Choices available here depend on the target audience selected. Select a maximum of three, Choose one ▾ Choose one ▾ Choose one ▾
We specifically need/ are looking for (600 words)	Specifically, articulate what is you are looking for from the target audience expanding on the choices made in the earlier field.
What level of investment (EUR) are you currently looking for?	Explain the levels of funding sought: if a € sum is chosen, additional tick boxes explain what potential investors would receive.
I can provide the following upon a request by an interested party	Short presentation(s) ▾
Result Maturity and Exploitation Outlook	
Result Maturity	TRL Level of the result
Current Stage and Next Steps	Explain what is available and what the plans for the near future
Dissemination Activities	List the dissemination activities that have been carried out related to the result.
Usage/Take-up	How has/will the KER be used or taken up, and where (e.g. projects, RIs, communities etc)?
Forward-looking statement	How do you see the KER's impact evolving? Try to show the significance of the work. Think about e.g. 5, 10, 15 years

Is your result replicable?	Replicability refers to the ability of your product, service or business to be replicated and sold and delivered consistently and reliably, to serve (theoretically) infinite customers (multiple markets) the exact same service or product, to the same standard, every time.
Please elaborate on the Replicability	Justification for a claim for a replicability
Start-up created for further exploitation.	Choose one ▾
Logo	Not applicable unless there's a startup in the works

Business Model and Sustainability	
Do you have a scalable business model?	Explain why you think or do not think this is a scalable business model.
Is your result and your business model sustainable in the long term?	Choose one ▾
Please elaborate on the Sustainability	Justification to claim the solution is sustainable.

Auxiliary Contributions	
Contribution to UN Sustainable Development Goals	Select up to 3 Choose one ▾ Choose one ▾ Choose one ▾ For background, see: **Sustainable Development Goals**
Radical Innovation Breakthrough?	Choose one ▾
Are you a member of the 'World Alliance for 1000 Solutions'?	Choose one ▾
Has your result had or do you expect it to have a significant influence on policy-making?	Choose one ▾

Other Background Information	
Testimonials/References	Here, you could provide the links to references from your peers, customers or partners, your certifications, honorary memberships, awards, related newspaper or journal articles, or any references and credentials to make your profile more credible and attractive. You can add multiple entries in this section. • Title of the success stories, testimonials or reviews • URL

Find Us On	You can add multiple entries in this section. Consider adding the home page of the result if any, the home page of the project, marketplace entries etc. • Description of the link • URL
Other information to share	You can add multiple entries in this section. Consider adding links to deliverables, publications, presentations, webinars, other dissemination materials, or any other relevant information related to the result. • Description of the link • URL
Other information	Use this section to capture any information related to the result that has not been captured in sections earlier.

APPENDIX II: Project/Component Result Template

This template is intended for the collecting information for the individual project results as described in **Section 5.2**. The template was developed by EGI Foundation as part of its innovation and exploitation methodology during the EGI-ACE[8] project. The template has been further improved upon in the iMagine project[9] and the ENVRI-Hub Next project within T3.1.

General Information	
Name of the Result	A short 2-3 word long name for the project result.
Description	Brief description (2-3 sentences) of the project result.
URL	URL(s) to the result
Result Type	Choose one ⌄
Work Package and Task Involved	Which work packages and tasks are involved in generating this result?
Result Owner	Partner(s) that own the result.
Related KER	Any KER that might be connected to this result.
Impact and Innovation	
Innovation	What is it that was done new during the project? Maybe the result was created from scratch or maybe the project improved upon the existing paradigm.
Value Proposition	2-3 sentences describing the value proposition of the result
User Groups	Groups that are direct customers of the result.
Geographical Market	Choose one ⌄
Intellectual Property Management	
Potential IP issues and resolution plans	Are there IPR issues that will limit foreseen use?
Background IP	List of Background IP related to this result.
Sideground IP	List of Sideground IP related to this result.
Third-party IP	List of Third-party IP related to this result.
Foreground IP	List of Third-party IP related to this result.
Joint Ownership Agreement	Explain if a JoA was signed for this result and add a link to it.
Related Materials	
Deliverables	Link to related deliverables
Other	Any other relevant URLs that might contain information related to the result.

APPENDIX III: Intellectual Property Templates

This template is intended for collecting information for the various IPs as described in **Section 5.3**. The template is based partly on the **Results questionnaire** that is part of the both Continuous and Periodic Report to all Horizon Europe types of action and it is included in the technical part (Part A) of the relevant Periodic Report (PDF).

Background IP Template

Name	Name of the Intellectual Property asset
Short Description	Short 1-2 sentence description of the asset.
IP Owner(s)	Organisations who own the asset
Partner(s) involved in the project	Organisation(s) involved in the project that has claimed this asset as part of their background.
Type of IP protection and licensing used	Form of protection used for this asset (Copyright, Patent, Trademark, Registered Design, Utility Models, Shape of the product, Trade Secret, etc.)
IP protection or license used	More details on the IP protection and license used (patent number, license name, etc.)
Access to implementation	Conditions defining the access rights to the asset so that partners may carry out their work during the project.
Access to exploitation	Conditions defining the access rights to the asset so that partners may carry out the exploitation of project results.

Foreground IP Template

Name	Name of the Intellectual Property asset.
Short Description	Short 1-2 sentence description of the asset.
IP Owner(s)	Organisations that generated the asset
Confidential Information	Choose one ▾
Embargo Date	The date on which the asset will be made publicly available, if ever.
IPR Conflict	Indicate if any IPR issues are foreseen that may limit the use.
Type of IP protection and licensing used	Form of protection used for this asset (Copyright, Patent, Trademark, Registered Design, Utility Models, Shape of the product, Trade Secret, etc.)
IP protection or license used	More details on the IP protection and license used (patent number, license name, etc.)
Joint Ownership Agreement	Indicate whether a Joint Ownership agreement is required and if yes if it has been signed along with details for it.

Sideground IP Template

Name	Name of the Intellectual Property asset.
Short Description	Short 1-2 sentence description of the asset.
IP Owner(s)	Organisations who own the asset
Partner(s) involved in the project	Organisation(s) involved in the project that has claimed this asset as part of their background.
Type of IP protection and licensing used	Form of protection used for this asset (Copyright, Patent, Trademark, Registered Design, Utility Models, Shape of the product, Trade Secret, etc.)
IP protection or license used	More details on the IP protection and license used (patent number, license name, etc.)

Third-Party IP Template

Name	Name of the Intellectual Property asset.
Short Description	Short 1-2 sentence description of the asset.
IP Owner(s)	Organisations that own the asset
Partner(s) involved in the project	Organisation(s) involved in the project that has claimed this asset as part of their background.
Type of IP protection and licensing used	Form of protection used for this asset (Copyright, Patent, Trademark, Registered Design, Utility Models, Shape of the product, Trade Secret, etc.)
IP protection or license used	More details on the IP protection and license used (patent number, license name, etc.)

APPENDIX IV: Individual Exploitation Plans Template

This template is intended for the collecting information for the individual project results as described in **Section 5.5**. The template was developed by EGI Foundation as part of its innovation and exploitation methodology during the iMagine project. The template has been further improved upon in the ENVRI-Hub Next project within T3.1.

	Explanation	KER1	KER2
Your interest in the exploitation	Please indicate your interest in exploiting this result or a part of it. High Interest - Medium Interest - Low Interest - No Interest		
Exploitation Strategy	Please explain how you intend to exploit this result or a part of it during the project and beyond the project as well. Please provide a detailed description.		
Target Customers	Please indicate target users/ audience/ customers for your exploitation activities, trying to be as specific as possible.		
Possible Market Barriers	Please list any potential barriers or issues that you foresee with your exploitation activities.		
Impact on your portfolio or organisation	Please indicate how this result or part of it impacts your organisation's current portfolio and what value will it bring to your organisation.		