



POLICY BRIEF COMMON TEMPLATE

RESEARCH INFRASTRUCTURES

INTRODUCTION: PROJECT TITLE AND PROJECT OBJECTIVES

CALL: HORIZON-INFRA-2023-DEV-01

TOPIC: HORIZON-INFRA-2023-DEV-01-05

PROJECT: ENVironment Research infrastructures INNOVation Roadmap (ENVRINNOV).
<https://envri.eu/envrinnov/>

PROJECT: objectives:

In line with the ESFRI Roadmap's strategic objective to "accelerate the exploitation of RIs as knowledge and innovation hubs", ENVRINNOV's overarching goal is to coordinate the co-development, test, and validation of a common ENVRI Innovation Roadmap, towards the creation of a shared innovation support structure that will enable the development and uptake of new technologies and services beyond the project duration, and facilitate collaboration for innovation between ENVRI and ecosystem stakeholders, including the private sector. To achieve this goal, ENVRINNOV will also develop the necessary tools, mechanisms, environment, and community to enable the roadmap's successful implementation, and the sustainability of its results.

To achieve its overarching goal, ENVRINNOV is implementing a work programme addressing three Objectives (Obj):

Obj-1: Conduct a comprehensive analysis of ENVRI services and ecosystem technological needs and gaps and define methodologies and tools for their regular monitoring and updating.

Obj-2: Define, test, validate, digitalize, and promote the uptake of common strategies to enhance innovation across the ENVRI community network.

Obj-3: Establish synergies and complementarities with relevant ecosystems, and plan for the successful, realistic, and timely implementation of the ENVRI Innovation Roadmap.

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POLICY IMPLICATIONS AND RECOMMENDATIONS

Please provide brief feedback on the relevance and contribution of the project to the policy areas listed below for research infrastructures in Europe (otherwise please mention "not applicable" or "no specific highlight at this stage"). **Please note that we do not expect that each project will have something to say on each question at every reporting period so only report on the questions that are pertinent and relevant to you at the time. If you do not have anything to report in a reporting period then the policy brief can be blank.** Please signal any deliverable with high policy content and any significant developments and recommendations in the areas below as well as any bottlenecks you have encountered. When relevant, please make recommendations on what should be modified in the future to improve the impact of EU funding – i.e. for improving the performance of your RI, the services it provides, its outreach to scientists/industry or other aspects so that the areas below would improve.

- **Implementation of research infrastructures.** Please highlight key results of the project, if any, which contributed to the implementation of the research infrastructure, bringing them closer to operation. What are the key remaining bottlenecks to implementation that still

need to be addressed? Do you have recommendations on EU support to the implementation of research infrastructures?

ENVRINNOV contributes to this by developing a common innovation roadmap for the ENVRI community towards their positioning as knowledge & innovation hubs, and working to enhance the capacity, knowledge and resources on innovation available to individual ENVRI. This is proposed to be achieved through the establishment and long-term operation of the ENVRI Innovation Hub, which will provide shared services to ENVRI for innovation management and technology transfer. As such, ENVRINNOV is developing innovation management support that is flexible and can benefit RIs at different stages of development i.e. in early implementation phases to more mature RIs that have reached ERIC status. The project is looking into various financing options that can contribute to long-term sustainability of this support beyond the project duration. In line with this, it would also recommend that the EU considers the introduction of specific funding instruments that can support innovation development within RIs, and integration of innovation into RI operations (e.g. more explicit calls supporting innovation in INFRA and other environment domain-specific topics and/or expected outcomes relating to innovation within individual calls).

- **Access to research infrastructures.** *Please highlight key results of the project, if any, which (will) contribute to broader¹ and effective access to research infrastructures. Please explain how they will improve access. What will be the impact after the end of the project? Do you have recommendations for further impact?*

The project is working towards developing proposed frameworks and policy approaches that can be adopted by ENVRI, that will enhance the ease of collaboration with external stakeholders for innovation, particularly the private sector. This also includes aspects of access to research infrastructures, for technology development, prototyping, validation, and/or other innovation-related purposes. These have been tested within the framework of the pilots carried out in ENVRINNOV's WP2, and best practices regarding policy approaches for innovation collaboration have been compiled in the Innovation Resources Toolbox (Task 3.1).

- **Funding of research infrastructures.** *Please highlight key results of the project, if any, which (will) contribute to develop/improve the funding model of the research infrastructures. Please explain how. Do you have recommendations for further impact?*

No specific highlight at this stage. See sustainability question for expected results/impact.

- **International co-operation of research infrastructures.** *Please highlight key results of the project, if any, which were established in cooperation with third countries. Similarly, highlight key results that (will) facilitate international cooperation. Please explain how and what will be the impact after the end of the project. Will the cooperation help to address important global challenges like health, climate change, digitalisation, and open access of data? Please explain.*

No specific highlight at this stage for cooperation with third countries.

- **Employment and skills in research infrastructures.** *Please highlight key results of the project, if any, that (will) facilitate recruitment, improve staff conditions, improve capacity building or increase skills. Please explain how and what will be the impact after the end of the project. Do you have recommendations for further impact?*

ENVRINNOV has been developing a targeted set of assets designed to directly address the innovation-related needs and gaps identified across the ENVRI community (Milestone MS7). These outputs aim to strengthen internal capacities, support external engagement, and provide the

¹ Considering aspects such as geographical provenance e.g. Widening countries, new user communities in different fields or different sectors, users beyond research etc.

foundation for the implementation of the long-term innovation strategy outlined in the roadmap. They include:

- Innovation Training Programme: tailored to the training priorities identified through surveys from the ENVRI community incl. technology transfer, stakeholder engagement, innovation management, and communication. The first training took place as part of EGU2025. (Deliverable 3.2)
- Online Innovation Resources Toolbox: A curated collection of practical tools, templates, and reference materials, made available on the ENVRI-HUB (Deliverable 3.1)
- Needs & Gaps Analysis White Paper: documenting current challenges and informing coordinated action across RIs and the development of the roadmap (Milestone MS2, Deliverable D1.2)
- Pilots for Collaboration Models: Real-world testing of structured approaches to co-development and industry collaboration across multiple RIs, generating replicable practices. (WP2)
- ENVRI Catalogue of Innovation Services: A structured overview of innovation-relevant services and capabilities across ENVRI, published via the ENVRI-Hub, to support visibility, collaboration, and uptake. (Deliverable D1.1)
- Common ENVRI Innovation Roadmap and Planning for the establishment & long-term operation of the ENVRI Innovation Hub (EIH); to provide a shared framework to maximize complementarities, synergies and efficiencies across RIs, whilst enhancing capacity on innovation (Milestone MS15 Initial ENVRI Innovation roadmap).

- **Greening of research infrastructures.** *Please highlight key results of the project, if any, which (will) contribute to the greening of research infrastructures, including by means of digitalisation, and at which level (upgrade, operation, access, other). Please explain. Do you have recommendations?*

No specific highlight at this stage. But through its results and roadmap implementation, ENVRINNOV aims to enable development of new technologies/services/solutions that will support greening of research infrastructures.

- **Interaction of research infrastructures with industry.** *Please highlight key results of the project, if any, which were established in cooperation with industry or (will) contribute to new/further cooperation with industry. Please explain how (e.g., by providing services to industry, by supporting SMEs in technology development or in the uptake of innovative solutions, ...). What will be the impact after the end of the project? Do you have recommendations?*

ENVRINNOV actively fosters cooperation between environmental research infrastructures and industry, aiming to position ENVRI as knowledge & innovation hubs, as per the ESFRI Roadmap. Key project results include, as part of WP1, the development of the ENVRI Innovation Services Catalogue on the ENVRI-HUB, which maps innovation-relevant RI services to increase visibility and uptake by industry. Also, as part of WP2 ENVRINNOV has piloted collaboration models with industry, identifying barriers and providing policy recommendations to improve frameworks supporting industry engagement and innovation uptake. In addition, the first innovation training pilot organized as part of ENVRINNOV (Task 3.2) at EGU2025 focused on strengthening RI-industry collaboration, featuring successful case studies and showcasing ENVRI's innovation capacity and potential value-adds from collaboration. In addition, dedicated resources that can support ENVRI in setting up policies and frameworks that can make collaboration with industry easier and more beneficial for both parties, have been developed and included in the ENVRI Innovation Resources Toolbox, developed as part of Task 3.1. Finally, as part of WP4, a dedicated Outreach Platform and Visibility Strategy is being developed, including a web presence and outreach campaign to raise awareness of ENVRI innovation capabilities and collaboration benefits among industry, policy, and innovation stakeholders. After the project, the intention is that the ENVRI Innovation Hub will sustain these efforts, fostering long-term ENVRI-industry collaboration. In line with this, a recommendation would be to consider the introduction of more specialist funding instruments that could support the expansion of RI-industry partnerships to further promote cooperation on innovation.

- **ERIC legal framework.** *Please highlight key results of the project, if any, which are directly related to, or are affected by, this legal framework. Please explain if you have encountered any issues with the ERIC legal framework in this context.*

No specific highlight at this stage.

- **Technology development, data and digital services, digitalisation.** *Please highlight key results of the project, if any, which will significantly impact the research infrastructures on any of these aspects. Please explain. What will be the impact after the end of the project e.g., on trends and policy development in your technical sector*

ENVRINNOV supports technology development by helping environmental RIs integrate innovation into the way they design and improve their services. A key result is the co-design of the common ENVRI innovation roadmap and supporting tools to guide RIs in developing new or improved products & services based on user and stakeholder needs. To support this, the project has also conducted a landscape analysis identifying key gaps and future needs in science and policy where RI innovation should focus, helping to align service development with long-term scientific and societal needs (Deliverable D1.2). In addition, ENVRINNOV has been developing the ENVRI Innovation Services Catalogue (on ENVRI-HUB) to showcase and share emerging digital and innovation-oriented services across the RI community. Through the project, these outputs are being tested with RIs at different maturity levels, and within different environment domains. After the project, the roadmap, tools, and catalogue are expected to drive more systematic, demand-driven innovation for environmental technologies, products and services, across the ENVRI community.

- **Level of connection of your RI to EOSC.** *Please highlight key results of the project, if any, which (will) contribute to making your data FAIR, to making FAIR datasets and/or digital services accessible through the EOSC Marketplace. If relevant, outline how the project will promote the contribution of research infrastructures to EOSC implementation policies and the added value of EOSC to your activities. Do you have recommendations?*

ENVRINNOV adheres to the ENVRI community principles of open and FAIR data practices, set up within the framework of the ENVRI-FAIR project and closely collaborates with the ENVRI-HUB Next project, relating to integration of the ENVRI-HUB as the digital platform of the ENVRI Community and its connection to EOSC. The project's Data Management Plan is also in line with these frameworks. Digital assets developed through ENVRINNOV (including ENVRI catalogue of services, Innovation Resources Toolbox, and online training repository) are being added on the ENVRI-HUB.

- **Contribution to other research areas and to broader EU priorities.** *Please highlight key results, if any, which contribute, to addressing Horizon Europe thematic cluster challenges, missions, partnerships, other EU policy priorities. Please explain how. Is there an established cooperation stream with the relevant initiative (cluster projects, missions, partnerships)? Please explain. Do you have recommendations for further impact?*

ENVRINNOV results can contribute to other research areas and priorities relating to the EU's efforts to address the climate crisis, including Horizon Europe Cluster 5 and the Climate Adaptation Mission by helping environmental research infrastructure develop future new products and services in the environment domain that serve the objectives of the Green Deal (e.g. climate services, digital tools, and nature-based solutions). It also aligns with wider ERA priorities (e.g. on knowledge valorisation) and works towards the goals set in ESFRI roadmap towards RIs as knowledge and innovation hubs, and shaping the emerging landscape of Research and Technology Infrastructures across Europe. Also, ENVRINNOV actively pursues synergies and complementarities with several projects aligned with these initiatives, including but not limited to ENVRI-HUB Next, relating to integration of the ENVRI-HUB as the digital platform of the ENVRI

Community and its connection to EOSC, and IRISCC (Integrated RI Services for Climate Change Risks), which is piloting co-designed climate services across various domains.

- **Sustainability of research infrastructures.** *Please highlight key results, if any, which in your view, contribute to the overall sustainability of research infrastructures, notably those involved in the project, and of their access offer and services. Please explain. What are the key issues related to sustainability that are of concern to your research infrastructure? Do you have recommendations for further EU support?*

The assets developed through ENVRINNOV, including the ENVRI common innovation roadmap and its goal for the establishment and long-term operation of an ENVRI Innovation Hub, aim to contribute to ENVRI's long-term sustainability. This is by opening possibilities for new types of revenue streams through innovation-related new products/services, funding avenues (e.g. increased competitiveness in innovation-focused funding calls), models and partnerships that strengthen institutional resilience (e.g. public-private partnerships), and promote a strong long-term positioning for ENVRI within the R&I ecosystem, and in regard to the evolving role, and emerging investments on, Technology Infrastructures.

These innovation-focused efforts are designed to complement and enhance the core scientific missions of ENVRI, not replace them, and consider the legal, operational, and governance frameworks of the RIs, including the specific mandates of ERICs. Overall, the project recognises the importance of aligning innovation-support activities with the individual mandates and maturity levels of each RI, ensuring complementarity and avoiding duplication with existing structures. As already noted in response to earlier questions, a recommendation would be for the EC to consider the introduction of specific funding instruments to support innovation development within RIs and its operationalisation.
