

‘ENVIRONMENT RESEARCH INFRASTRUCTURES INNOVATION ROADMAP’



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D3.2 The ENVRI innovation training program

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ACRONYMS

Acronyms	Full name
ACTRIS	Aerosols Clouds and Trace Gases Research Infrastructure
CARE-C	Climate and Atmosphere Research Center
CLS	Collecte Localisation Satellite
CNRS	Centre National de Recherche Scientifique
Cyl	Cyprus Institute
DMT	Droplet Measurement Technologies
EIH	ENVRI Innovation Hub
EGU	European Geosciences Union
EMSO	European Multidisciplinary Seafloor and water column Observatory
ENVRI	Environmental Research Infrastructures
ENVRIHUB NEXT	User-friendly platform for seamless access to data from environmental Research Infrastructures
ERIC	European Research Infrastructure Consortium
EU	European Union
ICOS	Integrated Carbon Observation System
IRISCC	Integrated Research Infrastructure Services for Climate Change Risks
KPI	Key Performance Indicators
RI	Research Infrastructure
SME	Small and medium-sized enterprises
WP	Work Package

Table of contents

Contents

1. Introduction	5
2. Context	5
2.1. Scope of the document	5
3. Training Needs Analysis	6
4. Training development	7
4.1. Objectives	7
4.2. Content and format	8
4.3. Audience	8
4.4. Communication	9
4.5. Impact of the trainings	9
4.6. Alignment with other ENVRI-related projects	9
5. Training events / plans	10
5.1. First session: “ENVRI and Industry: how can we better collaborate for innovation”	10
5.2. Next sessions	13
6. Conclusion	14
Annex: Visual material from the 1st training session	15

1. Introduction

2. Context

The Horizon Europe-funded project "ENVRINNOV – ENVironment Research Infrastructures Innovation Roadmap," coordinated by The Cyprus Institute, is working towards developing a common Innovation Roadmap for the Environmental Research Infrastructures (ENVRIs) community.

ACTRIS-FR (CNRS), as part of ENVRINNOV-WP3-T3.2 "Capacity Building strategy for Innovation" was designated to create and offer capacity building and training sessions to the ENVRI community, as well as to their industrial partners, geared towards collaboration and innovation. To ensure that all components of the project have a shared understanding of concepts such as Innovation, Technology Transfer, and Industrial Approach, ACTRIS-FR team evaluated the needs and gaps of the community related to their knowledge on innovation. Based on this analysis, a program of Research infrastructures (RI) staff training for increasing and improving innovation capacity and integrating new resources/tools is defined based on initial feedback received.

Even if some approaches regarding innovation could be common to all RIs, this programme is specifically dedicated to ENVRIs given their pan-European distributed nature, large number, diversity, and large thematic coverage.

Training sessions are organised as workshops, either held at major events bringing together several ENVRIs and members of the scientific community, such as the EGU or RIs conferences to encourage discussions or remote events to encourage a broader participation.

The definitions applied in this report are detailed hereafter. *"Training is teaching, or developing in oneself or others, any skills and knowledge or fitness that relate to specific useful competencies."* The specific aim of these training courses is to provide skills and capacity building and develop links between the various parties involved. According to the United Nations, *"capacity-building is defined as the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world"*.

2.1. Scope of the document

This deliverable will contribute towards the implementation of Task 3.2 Capacity Building strategy for Innovation and aims at defining the training strategy within the ENVRINNOV project. The deliverable exposes the findings from the consultation, exposes the training development mechanism in ENVRINNOV and plans for training within the project. Figure 1 below exposes the timeline of Task 3.2.

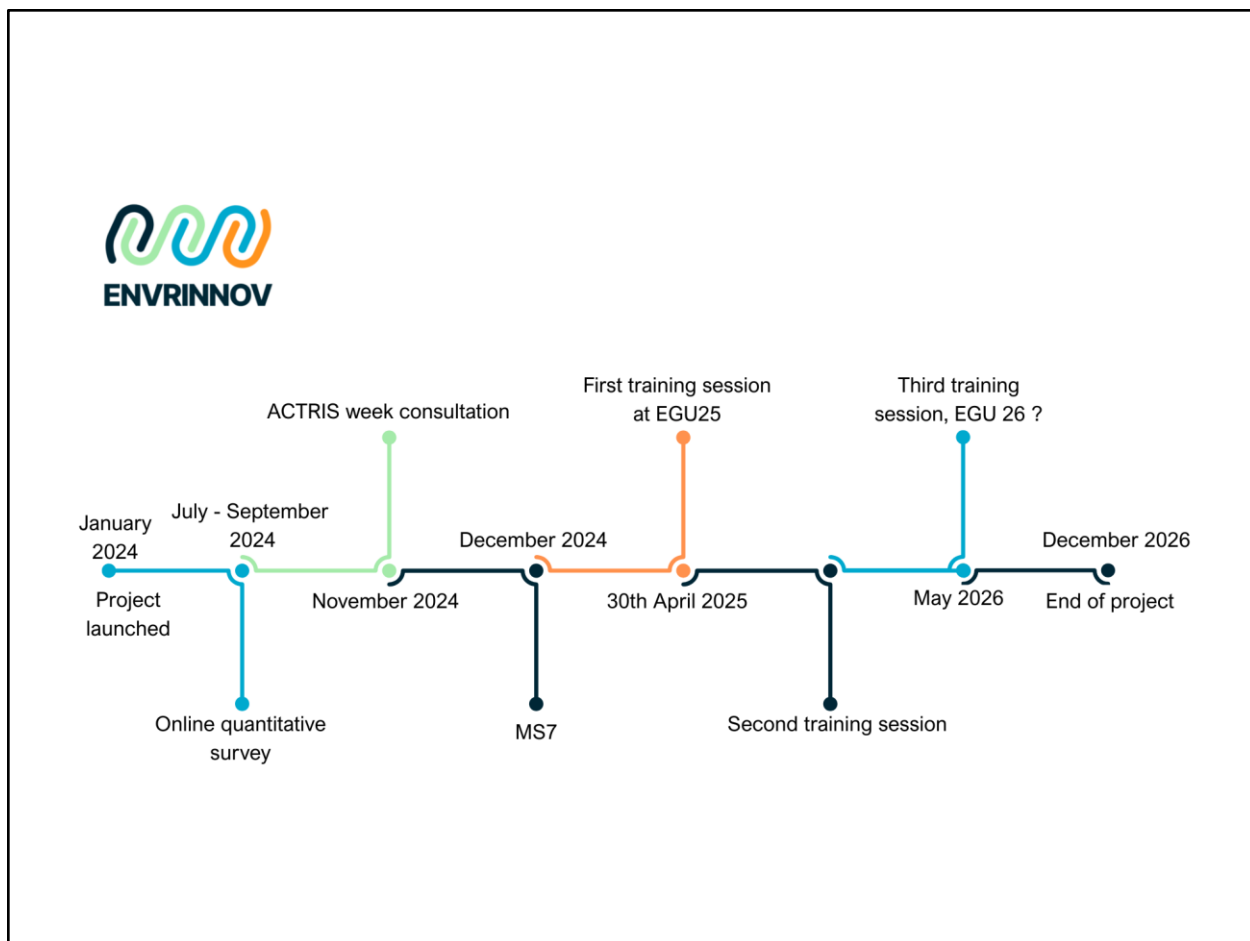


Figure 1: Timeline of the innovation training development

3. Training Needs Analysis

An online quantitative survey was conducted between July and September 2024. The survey was distributed online, by email through project channels, Board of Research infrastructures and direct contacts. In total, 47 answers from 14 different ENVRIs were received.

To complete the results from this online survey, a live consultation was conducted at the ACTRIS Week (180 participants onsite) in Matera on 5 November 2024. It was a way to gather feedback more efficiently, as meeting participants were much more responsive, and more answers were obtained.

The results were analysed in the [MS7](#), and this is what emerged:

- The ENVRINNOV training programme primarily targets ERIC/ENVRIs Head offices staff and Communication officers. Scientists seem less interested in the initiative as they rely

on their institutes' valorisation or technology transfer offices. Considering a strategy to attract industry stakeholders as well is also needed.

- As for the format of the training, we noted a preference for short training sessions on a specific topic rather than large events with multiple topics. There is no strong preference for physical or remote training, but participants expressed their willingness to attend small-group training sessions with longer sessions lasting from one day to two days.
- In terms of notification, newsletter information or personal invitation were the most chosen choices.

Findings about training needs:

The main themes that respondents expressed a willingness to receive training on are summarized in the table below.

Theme	Training Needs	Audience
Innovation	Commercializing Research, Innovation management	ENVRI community as a whole
	Technology Transfer	ENVRI Head Office staff, Central Laboratories staff
Collaboration	Engagement with the private sector, Industry approach	ENVRI Head Office staff, Central Laboratories staff Industrial representatives
	Negotiating Collaboration Agreements and Contracts (incl financial and legal aspects)	ENVRI Head offices (Industry contract officers, legal and financial officers)
	Communication, Marketing	ENVRI's communications and industry contact officers

Furthermore, desk research was conducted to map existing training resources on innovation dedicated to RIs notably with material coming from projects such as ENRIITC, RItrain , COPP+ and RITrain+. This will be included in the ENVRI Innovation [toolbox](#) developed in Task 3.1.

4. Training development

4.1.Objectives

The general aim of these training sessions is to encourage innovation and collaboration between the various stakeholders.

The first aim of this program is to improve ENVRI skills and competencies in innovation.

Innovation should be more efficient, more effective to work better together, improve capacity, build expertise and secure dedicated resources, networks and community.

By collaboration, we mean facilitating the exchange of data, knowledge and personnel. But also, to create a win-win relationship between the parties involved. We also need to facilitate communication and a shared understanding between the private sector and ENVRI (common acronyms, toolboxes, mobility, etc.).

Hence, the Innovation training program will help ENVRI staff to:

- better understand the innovation lifecycle in the context of RIs
- identify exploitable results and develop exploitation strategies
- engage stakeholders and create value from scientific outputs
- align innovation efforts with sustainability and open science policies

4.2. Content and format

The content of the training courses is decided at several meetings held throughout the given period. The table below depicts the involvement and role of the different partners:

Organization	Role
CNRS / ACTRIS FR	Leading
The Cyprus Institute	Supervision / Dissemination
EMSO ERIC	Participating / Design
ICOS ERIC (link with WP5)	Stakeholder engagement / Dissemination

In addition, the whole consortium discussed the task at the Scientific Steering Committee meetings and Annual meetings, where the content and format were exposed.

The training will be organised as live presentations with interactive polls and Q&A, some short innovation exercises could be envisaged - be it online or during physical events. The recordings and resources will be accessible afterwards, as well as the tools developed in the project through the ENVRI Innovation Hub (EIH).

To create a sense of community, conviviality will be a key in the activities organised. To that end, short ice breakers, buffet lunch in case of onsite events, will help make the event attractive.

4.3. Audience

Based on the survey detailed in section 2 and on registrations for the first EGU training session, the main audience of the training programme are ENVRI Head offices staff, central laboratories staff and interested scientists. Interested respondents were asked to register to ENVRINNOV

mailing list to receive the most up-to-date information about the project. These people can be from the ENVRI domain, and the session is open to all.

In parallel, industrial representatives from SMEs and larger private sector companies are invited to specific sessions to help engage and have direct feedback on how to enhance cooperation between ENVRI and industry.

4.4.Communication

A thorough communication strategy for the Innovation training programme has been put in place:

- through email: project mailing, ENVRI and ENVRI-related projects mailings, direct email to survey respondents
- newsletters: ENVRI community, implicated RIs
- social media channels (Linkedin, Bluesky) and RI communicators Slack channel

A call to action will be issued to RIs, encouraging them to share the information through their networks and, where applicable, their innovation mailing lists.

All communication and dissemination actions are recorded by the project coordination and will be used for reporting purposes.

4.5.Impact of the trainings

The initial Key Performance indicators (KPIs) set in the grant agreement include the numbers of training to be organized within ENVRINNOV to 3. The total number of participants to those 3 Training Pilots were set as 50 virtual participants and 25 physically.

The number of participants attending each session will be the first element in assessing the impact of our communication methods. The success of the communication and interest in the training proposed will be assessed after each training event by a short feedback form.

In addition, engagement level (e.g. activity retention time) and feedback from participants will be used to assess the effectiveness of the training. Qualitative feedback on usability and satisfaction, collected from activity attendants (either in live with interactive tools or via a form after event completion), can be analysed and consequently used as metrics for the overall impact of ENVRINNOV.

4.6.Alignment with other ENVRI-related projects

Other projects in the ENVRI framework have developed similar training plans and strategies to enhance the uptake of the services created within their projects. Thus, ENVRINNOV has liaised with:

- [ENVRIHUB NEXT](#) : a meeting was organised in October 2024 between ENVRI-HUB Next Training task leaders (Lifewatch ERIC) and CNRS to discuss complementarities with capacity-building programme of ENVRI-HUB Next and the possibility of co-locating training events. ENVRI-Hub NEXT consolidates and advances the robust conceptual and technical structure established by the ENVRI-Hub to empower the ENVRI Science Cluster

to provide interdisciplinary data-driven services and regroups 11 RIs. It appeared that the target audiences, developments and objectives for the two projects were different, but the co-location of events may be a possibility in the future.

- **IRISCC** : several meetings were organised in 2025 between UHEL - leading the IRISCC training task - and CNRS to seek synergies. IRISCC's goal is to empower society to address and strengthen resilience to climate change risks, ultimately fostering a more sustainable future for Europe. 14 RIs are involved in IRISCC which makes it a key project for the ENVRI community. Some alignment could be envisaged around innovation management and licensing. The socio-ecological tools developed in IRISCC targeting industry and NGOs will only be available in 2027 after ENVRINNOV ends but this doesn't prevent engaging the IRISCC community in improving their knowledge on innovation. The organisation of common side events at an IRISCC meeting has been discussed and ENVRINNOV has been invited to participate in one of the IRISCC live webinars.

5. Training events / plans

The Innovation Capacity Building program will be deployed via cross-RI innovation workshops. The section below summarizes the organisation, content and lessons learnt from the first session organised on M16 of the project and how this experience will help build future training events.

5.1. First session: “ENVRI and Industry: how can we better collaborate for innovation”

5.1.a: Communication

The event was communicated several weeks in advance online via videos and posts on the social networks of the various ENVRI members, on the websites and via newsletters. Flyers have also been created for an on-site recruitment campaign at the EGU. All these methods were successful and led to attendance from 33 participants.

5.1.b: Objectives

This first training session, as a pilot session had different objectives:

For the conveners:

- Provide a general introduction to the concept of innovation in the context of ENVRI, and how it can benefit RIs and the ecosystem.
- Demonstrate how the ENVRINNOV project can support ENVRI in their innovation process.
- Explore ways of enhancing communication and collaboration between ENVRI and the private sector as a means to accelerate innovation.

For the project team:

- Test different session formats (some people will be online, others on site)
- Survey participants and get their feedback to organize future sessions

5.1.c: Session schedule

A final meeting with WP3 was held on 24.04.2025. Participants from the industrial sector (Adrien DANNER from DMT and Craig SYMS from SEAGRASS and Marc LUCAS from CLS) were invited to validate their participation and the progress of the session.

The validated program¹ :

TOPIC	OBJECTIVES	FORMAT	SPEAKERS / MODERATORS	TIME
Welcome and introduction	Session overview and objectives Setting the scene: Key insights from the ENVRIfair meeting on language challenges	Tour de Table with Slido questions	Ariane DUBOST (ACTRIS FR - CNRS)	20 minutes
The Role of Research Infrastructures (RIs) in Innovation	The value of ENVRIs for industry collaboration Introduction to innovation and technology transfer How RIs support industry partnerships	On-site presentation	Marina PAPAGEORGIOU (The Cyprus Institute)	15 minutes
Success Stories: RI & Industry Collaboration	Atmospheric Domain: RI/Industry partnership Marine Domain: RI/Industry partnership Marine Domain: RI/Industry partnership	On-site presentation Online presentation Online presentation	Adrien DANNER Marc LUCAS Craig SYMS	30 minutes

¹ Agenda and flyers, figure 1 in annex

Interactive Discussion: Strengthening RI-Industry Connections	Open dialogue on enhancing communication and collaboration	Live Q&A and reflections using an interactive tool	Sara PERO (EMSO ERIC)	30 minutes
Closing	Summary of key takeaways Future plans and opportunities for engagement	On-site presentation	Ariane DUBOST	10 minutes

30 participants attended the meeting in person and 3 online. The meeting provided an opportunity for open discussion between participants. A number of participants were able to share their methods of collaboration and innovation. Pictures of the training and feedback about the event can be found on the following news item uploaded on the ENVRI community website : <https://envri.eu/envrinnov-training-session-at-egu2025-highlights-innovation-potential-of-envri-industry-collaboration/>

5.1.d: Impact of the event

According to the subscription form, people wanted to participate in the session for a variety of reasons:

- interested in collaboration with sister Research Infrastructures (RIs) and wanted to learn more about liaising with industry.
- Curious about the topic or found the subject interesting.
- Networking
- Interested in getting requirements to improve portfolio and training plans.
- Development cooperation and technology development

Many were encouraged by their organizations to attend, learn, share ideas, and network with researchers of similar interests.

Some participants were motivated by specific projects like the GEORGE project and collaboration with SMEs.

Several objectives were achieved. Firstly, the number of participants was as expected, with 33 people attending the event (20 from RIs, 7 from academia and 6 from private sector). According to the feedback received from participants and organizers, the training session was really useful for all participants (ENVRI community and the private sector) to expand their network and share knowledge and experience. In terms of logistics, the session was easily accessible, with no issues reported in locating the room or arriving on schedule. The EGU's logistical expertise ensured the smooth execution of the event.

We also note that future training sessions should offer more time for interaction between participants at the end of the session. Longer sessions would allow potential participation from SMEs not attending the event, and anyone who couldn't travel for a 2-hour meeting.

Finally, to further enhance future impact, the material from this, and future, trainings will ultimately be part of the innovation section of the ENVRI Hub (currently under development at the time of this report)².

5.2. Next sessions

The various needs identified in the survey were innovation management techniques and technology transfer, as shown in section 2 of this report. The next planned training modules will therefore address these topics.

This training course on innovation management will be designed to help participants understand the mechanisms of innovation and identify opportunities for innovation within ENVRI. By analysing the innovation ecosystem and identifying key stakeholders, participants will learn how to develop a culture of innovation within their organization, encourage experimentation, risk-taking, and learning from failure, and implement design thinking and other innovation methodologies. The course is also intended to introduce practical frameworks, such as Technology Readiness Levels (TRLs), Market Readiness Levels (MRLs), Innovation Funnel SWOT Analysis, Value Proposition Canvas, and Business Model Canvas, to help participants evaluate, prioritize, and develop innovative ideas. Participants will be equipped with the skills and knowledge needed to foster a culture of innovation within their organization and to identify new opportunities for innovation in environmental research.

Another module could cover the importance of identifying and protecting exploitable results, including understanding what constitutes a valuable output from research, how to spot and categorize results with exploitation potential, and how to protect innovations and manage rights through intellectual property rights (IPRs), licensing, and open access. The Innovation toolbox developed in Task 3.1 will be used as practical examples: trainees will be guided through this tool so that they can test and find the most appropriate template for their RI.

In terms of format, these trainings could be addressed as a webinar in one or several sessions mixing theory and practical exercises or events at conferences. After the success of the first training event at EGU25, the possibility to organise another training event during EGU26 (3-8 May 2026) was evoked. The session will be longer with more time for direct interaction, showcase of the EIH and onsite short exercises.

The first communication and presentation of the training sessions is planned to take place during an IRISCC webinar in July (date to be confirmed) to create interlinkages and better comprehension of both projects. Extensive communication through project and ENVRI channels will be done closer to the sessions.

² ENVRI HUB screenshot, figure 2 in annex

6. Conclusion

This report depicts the training plans in ENVRINNOV as of M18 of the project. Those could be subjected to changes depending on the project needs and developments. The training material will be made available to the ENVRI community on sustainable platforms in such a way as to be accessible even after the project ends.

Annex: Visual material from the 1st training session

Figure 2: Draft agenda of the first training event (30 April 2025)



ENVIRONMENTAL RESEARCH INFRASTRUCTURES AND INDUSTRY

How can we better collaborate for innovation ?

SPM19 | Wednesday 30 April | 10:45 - 12:30

As part of the project, a series of capacity-building sessions is being developed to promote collaboration and establish a shared understanding of innovation concepts and processes in the ENVR community, including Technology Development, Technology Transfer, and Industrial Approach.

The Horizon Europe-funded project "ENVRINNOV - Environment Research Infrastructures Innovation Roadmap," is working towards developing a common Innovation Roadmap for the Environmental Research Infrastructures (ENVRIs) community.

Draft programme

- 1. Welcome & Introduction**
Session overview and objectives
Icebreaker: Tour de Table with Slido questions
Setting the scene: Key insights from the ENVR-fair meeting on language challenges
- 2. The Role of Research Infrastructures (RIs) in Innovation**
The value of ENVRIs for industry collaboration
Introduction to innovation and technology transfer
How RIs support industry partnerships
Overview of recent ENVRINNOV developments
- 3. Success Stories: RI & Industry Collaboration**
Case Study Highlights: What made collaborations successful? Challenges & key enablers
Atmospheric Domain: RI/Industry partnership
Marine Domain: RI/Industry partnership
- 4. Interactive Discussion and buffet: Strengthening RI-Industry Connections**
Open dialogue on enhancing communication and collaboration
Live Q&A and reflections using an interactive tool
- 5. Closing & Next Steps**
Summary of key takeaways
Future plans and opportunities for engagement

REGISTRATION:



Interested? Please sign up here!
<https://forms.office.com/e/QBghJAcI5X>



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 101014026

Figure 3: Flyer announcing the event



ENVIRONMENTAL RESEARCH INFRASTRUCTURES AND INDUSTRY

How can we better collaborate for innovation?



The ENVRINNOV Project

The Horizon Europe-funded project "ENVRINNOV - Environment Research Infrastructures Innovation Map" is working towards developing a common Innovation Roadmap for the Environmental Research Infrastructures (ENVRIs) community.

Meet, Connect, Innovate !

As part of the project, a series of capacity-building sessions is being developed to promote collaboration and establish a shared understanding of innovation concepts and processes in the ENVR community, including Technology Development, Technology Transfer, and Industrial Approach.

Program

**Tour de table**
Short introduction, Q&A and ice-breaker quiz

**Presentation**
What the Role of Research Infrastructures (RIs) in Innovation is and sharing of input from industry contacts

**Success stories**
What made collaborations successful? Challenges & key enablers

**Interactive Discussion**
How to address challenges that tend to hinder collaboration, as these have been identified in previous projects

Interested? Please sign up here!
<https://forms.office.com/e/QBghJAcI5X>



SPM19 | Wednesday 30 April, 10:45-12:30 | Room 2.61

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 101014026

Figure 4: Screenshot of the beta version of the ENVRI Innovation Hub including the innovation training programme



Figure 5: pictures of the first training session

