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Milestone 11 | Input gathered from external stakeholders (including industry)

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V2	08/10/2026	Sections 2, 3, 4, 6 and 7	Reviewer comments incorporated: consultation scope, survey outcome, engagement opportunities, analysis method and D5.1-aligned evidence table	ACTRIS ERIC

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Executive summary

Milestone 11 documents the collection and consolidation of input from external stakeholders, including industry, on the ENVRI Innovation Hub (EIH). Rather than concentrating consultation in one stand-alone meeting, stakeholder input was gathered through repeated opportunities in settings where relevant actors were already present.

An online survey was initially prepared. Early outreach nevertheless showed that many of the people approached had limited prior awareness of the ENVRI community, the ENVRINNOV project and the proposed EIH. A survey completed without this context was unlikely to produce sufficiently informed feedback. The survey was therefore not used as the principal evidence-gathering instrument, and no standalone survey dataset was included in the analysis. The approach was adapted so that each conversation began with a concise introduction to ENVRI, ENVRINNOV and the EIH, followed by semi-structured questions tailored to the stakeholder's role and organisational context.

The evidence indicates that the EIH should function as an active and accessible gateway rather than only as a static information portal. Stakeholders highlighted the need for clear information on services and facilities, matchmaking, testing and validation opportunities, transparent collaboration pathways, practical training, visible case studies and responsive human support. The consultation also suggests that the EIH may be particularly attractive to research infrastructures, small enterprises and spin-offs, which may need guidance on legal, intellectual-property and administrative aspects because they do not always have staff dedicated to these functions. By contrast, medium-sized and large organisations and enterprises are more likely to have established legal and administrative units and defined procedures for co-development and external collaboration. The EIH should therefore offer differentiated support instead of assuming that all companies have the same internal capacity.

1. Introduction

The purpose of Milestone 11 is to demonstrate that external stakeholder input from industry has been gathered and translated into considerations for the further development of the EIH. The consultation explored both the relevance of the EIH concept and the conditions under which external organisations would use.

The primary evidence for this milestone is the stakeholder outreach undertaken in relation to the EIH under WP4. ENVRINNOV Deliverable 5.1, “Long-term Measures for the Engagement of Stakeholders”, and the ENVRI Innovation Hub User Testing, are used as complementary evidence to triangulate the findings.

2. Engagement strategy and methodological adaptation

An online survey was initially developed to gather structured feedback. During initial outreach, however, it became clear that many potential respondents were not sufficiently familiar with ENVRI, ENVRINNOV or the EIH to answer the questions meaningfully without an introduction.

The interested task partners agreed that stakeholders would not be engaged only through one dedicated meeting. Instead, feedback would be sought on as many suitable occasions as possible. This allowed consultation to be embedded in existing scientific, technical and networking environments and reduced the burden of creating a separate event for stakeholders who might have limited familiarity with the project. Notably, the following engagement opportunities included the [ACTRIS Science Conference 2026](#), [the International Aerosol Conference 2026](#), [the 32nd International Laser Radar Conference](#), and the [iCACGP-IGAC 2026](#). These events made it possible to approach small to large companies in contexts where environmental research, instrumentation, data use and innovation were already under discussion.

The engagement method was therefore adapted to a one-to-one format. The interviewer first introduced the project, explained the purpose and potential functions of the EIH, and then invited feedback. This produced more useful responses because questions could be clarified, examples could be provided, and the discussion could focus on the interviewee's actual experience and needs. This adaptation is consistent with D5.1, which recognises that the appropriate format depends on the purpose of the

engagement, stakeholder familiarity, available resources, and the level of participation that can reasonably be expected.

A semi-structured interview was used to create consistency across conversations while retaining sufficient flexibility required in conference, exhibition and networking settings. Notes were consolidated in a common analytical framework. Each contribution was coded by stakeholder group and engagement setting, then reviewed against recurring themes: awareness, expected value, required services, barriers, collaboration opportunities, decision-making, trust and follow-up stakeholders. The analysis did not require every contribution to address all themes. This was a qualitative thematic analysis and was not intended to produce statistically representative results.

The consultation developed along the following questions:

Q1. How do external organisations currently identify expertise, facilities, partners and innovation opportunities? (Theme: awareness)

Q2. What is their prior awareness of the ENVRI community and the EIH? (Theme: awareness)

Q3. Which EIH services and functions would provide practical value? (Theme: expected value)

Q4. Which barriers could prevent organisations from using the EIH? (Theme: Barriers)

Q5. Which research infrastructure-industry collaboration opportunities should be prioritised? (Theme: opportunities)

Q6. Who normally decides whether an organisation engages in an external collaboration? (Theme: decision making)

Q7. What would build confidence in the EIH as a credible gateway? (Theme: trust)

Q8. Which additional stakeholder groups should be engaged? (Theme: follow-up)

During the events 15 semi-structured interviews or conversations were held among industry representing the technology sector. The consultation included 2 micro enterprises (< 10 employees), including a start-up, 5 small enterprises (< 50 employees), 4 medium-sized enterprise (< 200 employees) and four large enterprises (>200 employees).

3. Stakeholder input

The information collected during interviews points to limited prior awareness of the EIH or, in general, about the environmental research infrastructure offer. The concept was viewed as relevant to the environmental technology sector, but its visibility among industry was considered low. This finding confirms that awareness of ENVRI and the EIH cannot be assumed, even among technically relevant audiences. The EIH therefore requires a concise, audience-specific explanation of what it is, whom it serves and how it differs from existing networks. The value proposition should be understandable without prior knowledge of European research infrastructure structures or terminology.

Nonetheless, stakeholders identified the following functions as particularly valuable:

- Clear and structured access to available services, facilities and research infrastructure capabilities, including testing facilities, data access and validation environments.
- Direct matchmaking between companies and research infrastructures based on concrete technical or business needs.
- Technical training for engineers and other operational personnel who may not be researchers but need to use or maintain environmental monitoring equipment.
- Fast, transparent engagement pathways that minimise unnecessary administrative complexity.
- Possibility to clarify options, identify appropriate contacts and guide users through the first stages of collaboration.

The consultations suggest that small enterprises and spin-offs may find the EIH especially attractive because they often operate with limited administrative resources and may not have staff dedicated to legal agreements, intellectual-property questions, contractual arrangements or the procedures required

for collaboration with research infrastructures. For these organisations, the EIH could reduce the entry barrier by offering orientation, plain-language guidance, standard process descriptions, model documents or checklists, and access to a contact person who can explain the collaboration pathway. This support should help companies understand the process without replacing independent legal advice or the formal responsibilities of the participating organisations.

Medium-sized and large enterprises may have dedicated legal and administrative units, established intellectual-property policies, procurement processes and clear procedures for co-development and collaboration with external organisations. These companies may therefore require less basic procedural guidance, but they may still value rapid access to the right research infrastructure, clear service specifications, predictable response times, testing and validation opportunities, and strategic matchmaking.

The EIH should consequently avoid a uniform engagement model. A tiered approach would allow smaller firms and spin-offs to receive more orientation and navigation support, while enabling experienced organisations to move directly towards technical scoping, due diligence, access negotiations or co-development discussions.

The feedback identified several factors that could prevent organisations from using the EIH:

- An unclear value proposition compared with existing networks and contacts.
- Fragmented, overly academic or insufficiently user-oriented content.
- Processes that assume users already understand the ENVRI landscape.
- A lack of visible examples demonstrating successful industry collaboration.

The legal and administrative barrier is likely to affect organisations differently. For small enterprises and spin-offs, uncertainty itself may discourage engagement because the company may lack internal resources to interpret complex requirements. Larger organisations may be able to manage complex agreements, but still need clarity, predictability and early access to sufficient information for internal review.

The interviews highlighted several promising areas for collaboration between environmental research infrastructures and industry over the next two to three years:

- Validation and standardisation of environmental monitoring technologies, including atmospheric remote-sensing systems.
- Integration of satellite, in-situ and remote-sensing data into operational platforms.
- Climate-adaptation and early-warning services, including wildfire detection and air-quality monitoring.
- Co-development of digital services and AI-supported environmental intelligence tools.
- Technical training and capacity building for personnel operating equipment across monitoring networks.

Confidence in the EIH would be reinforced by an introduction webpage connecting the ENVRI.eu website to the EIH, and, complementarily, showcase successful industry case studies, which are currently being collected and published to demonstrate services, visible participation by users, testimonials, and efficient onboarding and communication.

4. Triangulation with Deliverable 5.1

The WP4 findings align with the broader evidence compiled in D5.1 as shown in Table 1. The WP5 interview campaigns and engagement activities highlighted the importance of stronger research infrastructure-industry collaboration, improved visibility of ENVRI capabilities, effective matchmaking and brokerage, access to testing and validation environments, and permanent mechanisms supporting co-creation and participation.

D5.1 further positions the EIH as a possible coordination mechanism for stakeholder engagement, innovation services, knowledge exchange, capacity building, mobility, matchmaking and communities of practice. It recommends dedicated industry-engagement and innovation functions within research infrastructures or through a shared ENVRI-level mechanism coordinated by the EIH.

The additional observation on company size complements these conclusions. Brokerage is not only about matching technical supply and demand. For some users, particularly small companies and spin-offs, it also involves making the collaboration route understandable and navigable. This reinforces the case for an EIH with visible human support and differentiated stakeholder journeys.

Table 1. Stakeholder feedback collected through WP4 consultation activities and its implications for ENVRI Innovation Hub development, including links to relevant recommendations from Deliverable 5.1

Stakeholder group	Engagement activity	Feedback received	Implication for the EIH	Related D5.1 recommendation
Industry: small enterprises and spin-offs	Semi-structured interviews and conference networking	Limited awareness of the EIH; need for orientation, human support and clearer legal, IP and administrative pathways.	Provide a clear value proposition, named contact point, plain-language guidance, checklists and differentiated onboarding.	Recommendation 4: Structured Stakeholder Consultation Processes; Recommendation 5: Industry Engagement and Innovation Roles
Industry: medium-sized and large enterprises	Semi-structured interviews and conference networking	Greater internal legal and administrative capacity, but need for rapid technical access, predictable processes, testing, validation and matchmaking.	Offers fast-track technical scoping, clear service specifications, response expectations and early information for internal review.	Recommendation 5: Industry Engagement and Innovation Roles; Recommendation 7: Support mobility, exchange and TNA

5. Triangulation with the ENVRI Innovation Hub User Testing

The findings from the ENVRI Innovation Hub user testing also show alignment with the feedback gathered from external stakeholders. Although the user testing was conducted mainly with participants from the ENVRI community using the think-aloud protocol and a 1:1 observational method, the outcomes converged on several common themes regarding the future development of the EIH.

Both the external stakeholders and the usability-testing participants emphasised the importance of providing clear and structured access to available services and opportunities. They also expressed a preference for clearly described services and straightforward pathways that help them identify relevant resources. Similarly, both groups highlighted the value of practical training opportunities, real-world examples, success stories, and testimonials that demonstrate how research infrastructure collaboration and innovation activities can be implemented in practice. In both cases, users indicated that visible proof of successful collaboration would increase confidence in the platform and its credibility.

Another area of strong agreement concerned the role of human support. Usability-testing participants frequently requested clearer contact points, support to help them navigate the available resources,

including the possibility of AI-assisted guidance. This suggests that users perceive the EIH as a gateway that can facilitate access to expertise and collaboration opportunities.

The usability-testing findings further reinforce the need for stronger introductory communication and clearer positioning of the EIH within the broader ENVRI ecosystem. Several participants expressed confusion regarding the relationship between the EIH, ENVRI-Hub, and ENVRI Community platforms. Users were not always able to distinguish between the purpose of the different platforms. The findings suggest that the EIH would benefit from a clearer communication of its role, target audience, and relationship with other ENVRI platforms, particularly during the initial onboarding experience and at transition points between platforms.

The usability evaluation additionally identified several opportunities that were less covered in the stakeholder consultation. Participants suggested community-oriented features such as consortium-building support and pools of potential test users for innovation projects, which might also be relevant for the external stakeholders.

6. Implications for ENVRI Innovation Hub development

The stakeholder consultations, together with the triangulation performed against the findings of Deliverable 5.1 and the ENVRI Innovation Hub user-testing activities, provide a consistent picture of the key requirements for the future development of the EIH.

Across stakeholder groups, there was strong agreement on the need for clearer visibility, accessible information on available services and facilities, effective matchmaking mechanisms, practical support for collaboration, and opportunities for training and knowledge exchange. Stakeholders also highlighted that organisations differ significantly in their internal capacities and therefore require different levels of support when engaging with research infrastructures. Based on these findings, the following implications and recommendations are proposed to support the further development of the EIH and increase its relevance, usability, and long-term impact:

1. Improve visibility and introductory communication. Provide a concise explanation of ENVRI, and the EIH for audiences with no prior familiarity.
2. Make the industry value proposition explicit. Explain why and when a company should use the EIH rather than relying only on existing networks.
3. Organise services around practical needs. Enable users to find testing, validation, facilities, expertise, data, training and partnership opportunities.
4. Provide human-supported matchmaking via liaison function (e.g. the Innovation Ambassador network described in ENVRINNOV Deliverable D.4.2 Digital Platform long term promotion) that connects external organisations with the relevant research infrastructure and specialist.
5. Introduce differentiated support pathways by offering additional orientation for small enterprises and spin-offs while allowing experienced organisations to move quickly to technical and contractual discussions.
6. Clarify legal and administrative pathways by providing plain-language process guidance, information requirements, indicative steps and signposting on intellectual property, confidentiality and collaboration agreements.
7. Set clear service expectations by communicating contact points, response expectations, indicative timelines, costs where relevant, and escalation routes.
8. Demonstrate credibility through success stories, testimonials, examples of validated technologies and evidence of successful co-development.
9. Continue gathering feedback through suitable events, bilateral interviews, working groups, pilots and other settings where external stakeholders are already active.

7. Conclusion

Milestone 11 has been achieved by gathering insights from industrial stakeholder through the ACTRIS Science Conference 2026, the International Aerosol Conference 2026, the 32nd International Laser Radar Conference and iCACGP-IGAC 2026, using targeted one-to-one interviews and networking conversations rather than one stand-alone meeting.

The evidence confirms interest in the ENVRI Innovation Hub (EIH) while identifying essential conditions for uptake. The EIH should have a clear value proposition, provide structured access to services and facilities, support matchmaking and validation, make collaboration pathways transparent, and demonstrate credibility through practical industry-facing examples. It should also recognise differences in organisational capacity. Small enterprises and spin-offs may require more guidance on legal, intellectual-property and administrative aspects, whereas medium-sized and large enterprises may prioritise efficient technical access and predictable processes that integrate with their established internal procedures.

Stakeholder consultation should continue as an iterative process accompanying the design, piloting and future operation of the EIH.