‘ENVIRONMENT RESEARCH INFRASTRUCTURES INNOVATION ROADMAP’

ENVRINNOV

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MS5.1 First Annual Stakeholder Event

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Milestone Number	Milestone Title	Lead Beneficiary	Type	Dissemination Level	Due Date (in months)
12	First Annual Stakeholder Event	ICOS	Report	open	30.10.2025

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V1	14/10/2025	Initial version		ICOS

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Introduction

During the Annual Meeting in January 2025 in Rome, project partners explored the possibility of organizing an event under WP5 activities. The discussion highlighted a shared priority: expanding outreach to new industrial partners at this stage of the project.
Following an evaluation of several alternatives and subsequent deliberation at the Steering Committee meeting, we agreed that participating in INTERGEO would be the most effective approach. INTERGEO, held in Frankfurt, is the world's leading trade fair for geodesy, geoinformation, and land management, offering unparalleled opportunities to connect with industry stakeholders and showcase our innovations. INTERGEO has more than 500 exhibitors and more than 18.500 visitors.
The INTERGEO Conference focuses on:

1. Earth observation and environmental monitoring
2. AI & geoinformation
3. Urban digital twins and smart cities
4. Geodata infrastructures, open data, data spaces
5. Protection of critical infrastructures
6. Mobile mapping and laser scanning
7. Trends and developments in geoinformation management
8. Trends in cartography
9. Building information modeling for infrastructures
10. Autonomous sensor systems and satellite navigation
11. 3D city models, 3D visualization
12. Building and bridge monitoring

Many of these topics are relevant for ENVRINNOV partners. In addition, industries represented in the event include:

- Surveying Systems
- Lidar and Radar Systems
- Photogrammetry and Remote Sensing
- Positioning and Navigation
- Data and Data Services
- Software and Data Management
- BIM (Building Information Modelling)/ Infrastruktur
- Drones/UAS (Unmanned Aerial Systems)
- Smart Cities
- Hydrographie / Martime Solutions
- Earth observation

In ENVRINNOV there is one pilot case that have used unmanned vehicles. Therefore, we envision an opportunity for cooperation. We organized a panel in the Main stage of Intergeo.

Why This Fits INTERGEO?

- **Alignment with ENVRINNOV's White Paper**: Focus on *downstream innovation* (industry use of RI data).
- **Unique Angle**: Connects geodata professionals with *free, high-quality environmental data* they might not know exists.
- **Actionable Output**: Concrete ideas to bridge research/industry gaps.

Panel at INTERGEO

Frankfurt- Germany- 7-10.10

We organised a panel with the title: Connecting Environmental Data & Geospatial Solutions: From Research to Action

INTERGEO is the world's leading trade fair for geodesy, geoinformation and land management. We explained the concept of an RI and its relevance to the geospatial community, emphasising why Environmental Research Infrastructures (ENVRIs) matter. Each panelist showcased innovative projects, shining a spotlight at their practical applications and inspiring tangible uses of their data and facilities.

Our goal was to provide clarity and specificity, enabling participants to envision how they could effectively benefit from ENVRI resources. The audience engaged actively, posing questions and participating in a brainstorming session where they contributed ideas for utilising RI data. This interaction proved invaluable, refining our explanations on unclear points. For instance, one suggestion to "expand research in non-European countries" prompted panellists to highlight existing global collaborations. Additionally, the proposal to employ this data for AI training models opened avenues for exploration.

Speakers

We have speakers representing 3 different Research Infrastructures.

Jaana Bäck *(eLTER RI) – Long-term ecosystem data for geospatial applications*

Tuukka Petäjä *(ACTRIS ERIC) – Atmospheric data & remote sensing synergies*

Leo Rivier *(ICOS ERIC) – Carbon flux data validation*

Host: *Mariana Salgado (ICOS ERIC)*

Scope

Three experts from Environmental Research Infrastructures (ENVRI) addressed:

1. **What ENVRIs offer**: Open-data principles, infrastructure diversity (e.g., ICOS's flux towers, ACTRIS's aerosol data, eLTER's ecosystem monitoring).
2. **Data and project showcase**: Live demo of key geospatial-relevant datasets and current innovation projects
3. **Innovation gaps**: How geodesy/geoinformation communities can leverage ENVRI data beyond academia (e.g., commercial apps).

Key Quotes

"ENVRIs are treasure troves of validation data—but we need your help to unlock their full potential for society."

Promotion Hook

"Discover how ENVRI data can enhance your geospatial projects—and help shape its future uses!"

Panellists' bios

Jaana Bäck is a Professor of Forest–Atmosphere Interactions at the University of Helsinki, Finland. Her research explores boreal forest ecosystems, biogeochemical cycles, and climate feedbacks, with expertise in micrometeorology, trace gas exchange, and remote sensing. She plays a key role in major research infrastructures, including eLTER (the Finnish component of **eLTER**, the European Long-Term Ecosystem Research Network) and **ICOS (Integrated Carbon Observation System)**.

Through **eLTER**, Bäck contributes to long-term environmental monitoring, data interoperability, and ecosystem resilience studies. She leads projects on forest–atmosphere interactions, drought responses, and biogenic aerosol formation, bridging field experiments with geospatial innovations. Her work supports policy-relevant science on climate change impacts.

Bäck has published in *Global Change Biology*, *Agricultural and Forest Meteorology*, and *Biogeosciences*. She actively collaborates with **ENVRI** (Environmental Research Infrastructures) to enhance data integration for sustainability solutions.

Tuukka Petäjä is a Professor of Atmospheric Sciences at the University of Helsinki, specializing in aerosol physics, air quality, and climate interactions. As a key figure in atmospheric research, he investigates urban and Arctic aerosols, nanoparticle formation, and their impacts on cloud processes and global climate. Petäjä co-leads the **Helsinki Institute of Physics (HIP)** and the **Institute for Atmospheric and Earth System Research (INAR)**, fostering interdisciplinary studies.

He plays a pivotal role in major projects like **ACTRIS** (Aerosol, Clouds, and Trace Gases Research Infrastructure) and **Pan-Eurasian Experiment (PEEX)**, enhancing international collaboration in atmospheric monitoring. Petäjä also contributes to **Elter** (Finnish Long-Term Ecosystem Research), integrating atmospheric and environmental data.

With extensive fieldwork in Siberia, China, and Finland, his work bridges fundamental science and policy applications. Petäjä has published in high-impact journals (*Nature*, *Atmospheric Chemistry and Physics*) and advocates for open-data initiatives in Earth system science.

Leonard Rivier is the Director of the **ICOS Atmosphere Thematic Centre (ATC)**, based at the **Laboratoire des Sciences du Climat et de l'Environnement (LSCE)** in France. With a background in atmospheric physics and greenhouse gas monitoring, he oversees the standardization, quality control, and dissemination of high-precision atmospheric CO_2, CH_4, and CO measurements from ICOS stations across Europe. His work ensures data interoperability for climate research and policy applications.

Rivier has contributed to advancements in trace gas instrumentation, calibration protocols, and open-data initiatives within **ICOS (Integrated Carbon Observation System)**. Collaborating with global networks like **GAW (Global Atmosphere Watch)**, he supports the integration of

atmospheric observations into Earth system models. His expertise spans flask sampling, eddy covariance, and remote sensing validation.

Active in EU projects, Rivier promotes FAIR (Findable, Accessible, Interoperable, Reusable) data principles and tools for carbon cycle science. His leadership strengthens ICOS's role in the **Paris Agreement** and global climate assessments.

Visibility of the panel in social media

By eLTER
https://elter-ri.eu/news/environmental-research-infrastructures-take-stage-intergeo-2025

By ICOS
https://www.linkedin.com/posts/envri-community_envrinnov-activity-7381329673395437568-capJ?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAANomQBPIdlChymxhk0Yug5K8Y1kYEPhdc