MISSIONE 4
ISTRUZIONE
RICERCA

ITINERIS

Report from the third General Project Meeting, including the list of participants, presentations and report on the main outcome including list of actions for the final year of the project.

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1. EXECUTIVE SUMMARY

This report is prepared in the context of the ITINERIS project, within the Work Package 1 that deals with the coordination and management of the project.

It is a report from the third ITINERIS General project meeting was held in Rome on 25–26 September 2025, at the Sala Convegni of the Consiglio Nazionale delle Ricerche.

The primary objective of this gathering was to foster aggregation and scientific exchange, focusing on the results of activities accomplished within the project thus far. The meeting provided a comprehensive overview of the project's progress, delving into the various Work Packages (WPs) and central themes. Furthermore, it facilitated essential discussions and served as a crucial opportunity to align on strategic objectives and key decisions vital for the project's continued success.

Details regarding the significant participation and a summary of the contributions are provided in the subsequent sections of this report.

A dedicated section was created on the ITINERIS website to provide information to participants and to manage their registration. To allow a wider participation and to handle the requests of several users unable to participate in person, the meeting was also broadcast in live streaming. Given the large participation in the sessions, the participation list was managed by WP1 with confirmation of attendance and delivery of the relative name tags.

A large participation was finally registered to the event with about 260 people attending the meeting in person, while the live streaming recorded peaks of over 30 connected users per day.

The names and affiliations of the participants (in presence) are reported in ANNEX 2.

2. MEETING STRUCTURE AND CONTRIBUTIONS

The meeting represented a key moment of scientific exchange and collaboration, offering an overview of the activities carried out and the results achieved, while also providing an opportunity to align on the final project phase and on the medium- and long-term strategic objectives.

In addition to presentations on the progress of the various Work Packages, a specific focus was dedicated to the results achieved in the development of the ITINERIS HUB—the integrated system providing access to data, services, and facilities supporting interdisciplinary research across the four main environmental domains: atmosphere, marine environment, terrestrial biosphere, and geosphere.

The meeting concluded with a round table discussion that looked toward the future of ITINERIS, addressing how to best capitalize on the results achieved, how to enhance user and stakeholder engagement, and what actions to undertake to ensure a lasting impact beyond the project's completion.

The meeting also provided an opportunity to hold a session of short oral presentations, a total of 56 dedicated to specific topics within the WPs. Their presentations enriched the discussion with innovative ideas and contributions, showcasing the dynamism and diversity of the research network built around ITINERIS; moreover, it allowed focused in-depth discussions within the participant from the different governance board, specifically with the representatives from the different RIs and the administrative and scientific representative from the participating OUs.

3. DAY 1: THURSDAY, 25 SEPTEMBER, 2025

The institutional greetings from Dr. Francesco Petracchini, Director of the CNR's Dipartimento Scienze del Sistema Terra e Tecnologie per l'Ambiente, opened a comprehensive plenary session.

The session featured detailed presentations covering the organizational and governance structure of the project, its administrative set-up, and the progresses from all the WPs.

- Opening session and project status: presented by Dr. Gelsomina Pappalardo
- WP1 – Coordination and Management: presented by Giuseppe Gargano
- WP2 – Access to Facilities, FAIR Data, and Related Services: presented by Dr. Carmela Cornacchia
- WP3 – ITINERIS Training Programme: presented by Prof. Alberto Basset
- WP4 – Atmosphere: presented by Dr. Lucia Mona
- WP5 – Marine Domain: presented by Dr. Rosalia Santoleri
- WP6 – Terrestrial Biosphere: presented by Dr. Gabriele Guidolotti
- WP7 – Geosphere – Landsurface: presented by Dr. Giuliana Rossi
- WP8 – Virtual Research Environments and Cross-Disciplinary Activities: presented by Dr. Antonello Provenzale.

The main information illustrated by the speakers and the conclusions formalized during the meeting are reported in the following subchapters.

The slides are available through the following link: **PLENARY SESSION SLIDES**

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3.1. Opening session and project status

Presented by Dr. Gelsomina Pappalardo (CNR IMAA)

Dr. Gelsomina Pappalardo (CNR-IMAA) presented an overview of the current status and future perspectives of the ITINERIS project, outlining its main objectives and strategic vision. The presentation described ITINERIS – the Italian Integrated Environmental Research Infrastructures System – as a coordinated national framework for environmental research encompassing the atmosphere, marine domain, terrestrial biosphere, and geosphere.

The talk highlighted the essential role of environmental research infrastructures in understanding the functioning of the Earth system through integrated observations, experimental studies, and modelling approaches. It emphasized how ITINERIS strengthens synergies among national and European Research Infrastructures (RIs), particularly those within the ESFRI landscape, enhancing Italy's participation and leadership in the European environmental research community.

The presentation also summarized the main results achieved so far, including progress in

deliverables, recruitment of research personnel, user access to facilities, and the production of scientific outputs. It underlined the broader impacts of the initiative in promoting scientific excellence, innovation, and socio-economic development, while fostering cross-disciplinary collaboration and knowledge sharing.

Finally, the presentation addressed the next steps for ITINERIS, focusing on improving visibility and stakeholder engagement, strengthening participation in major European programmes such as Horizon Europe, Copernicus, EOSC, and Space Agencies, and ensuring the long-term sustainability of the integrated research infrastructure system.

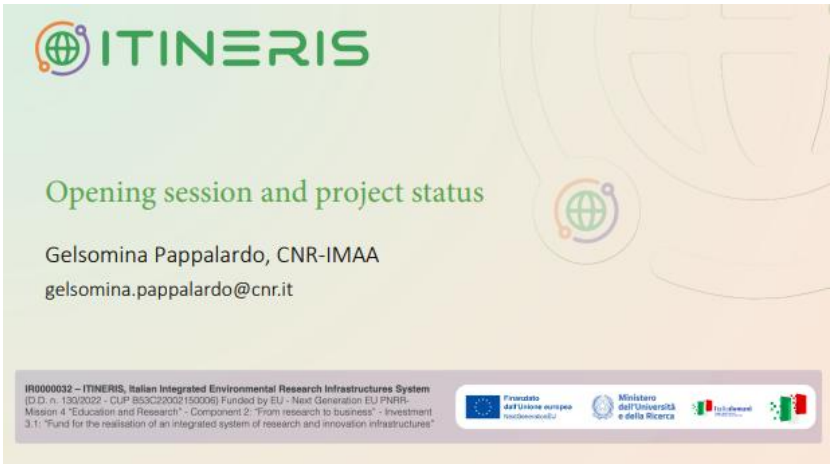

Figure 1. Opening session and project status

3.2. WP1 - Coordination and management

Presented by Dr. Giuseppe Gargano (CNR-IMAA)

The presentation provided an overview of overall project coordination and management (WP1).

Emphasis was placed on the continuous monitoring and evaluation processes that have been maintained to guarantee procedural, financial, and technical alignment. The structured monitoring system has enabled consistent risk management, timely re-planning, and active collaboration among all project partners

By June 2025, 59 out of 75 Intermediate Objectives had been completed across all eight Work Packages, with 16 rescheduled to ensure successful achievement within the extended timeframe. Deliverable progress stands at 167 out of 222 completed, with 14 new deliverables introduced under the updated plan.

In terms of procedural monitoring, the project has activated 165 recruitment processes,

engaging 188 fixed-term staff including 44 PhD fellows at 15 universities, and has launched more than 770 procurement procedures, corresponding to 96% of the total budget committed. Reported expenditure has reached approximately €100 million.

Scientific dissemination remains highly active, with over 300 journal articles, 340 conference proceedings, 130 posters, 110 oral presentations, and more than 70 datasets produced to date. ITINERIS's strategic role was further reinforced through participation in the GEO Global Forum 2025.

Next steps include the release of pending deliverables, finalization of technical and financial reports, and organisation of the final project meeting scheduled for spring 2026.

Figure 2. WP1 – Coordination and management

3.3. WP2 – Access to facilities, fair data and related services

Presented by Dr. Carmela Cornacchia (CNR-IMAA)

The presentation on Access to Facilities, FAIR Data and Related Services (WP2) focused on the progress made in improving accessibility, interoperability, and data management across the Italian environmental research infrastructures.

A central achievement presented was the establishment of the ITINERIS Hub, a single-entry point offering seamless access to environmental datasets, observatories, laboratories, and analytical tools provided by Italian research infrastructures. The Hub also includes FAIR-enabling services—such as metadata, persistent identifiers (DOI), and terminology tools—ensuring that all resources are discoverable, accessible, interoperable, and reusable.

The presentation detailed the progress on data integration, with 11 research infrastructures

now connected to the HUB, and 34 DOIs already assigned to atmospheric datasets, while further integrations are ongoing. The moderated catalogue structure, role-based permissions, and onboarding of catalogue editors across the RIs ensure quality control and harmonized data publication.

In parallel, the common framework for access provision was outlined, with its shared access policies, management plans, and platforms to ensure equitable and transparent access to facilities and services. This framework aligns with European principles of open science and FAIR data, supporting both national and transnational users. Training activities have also been launched to reinforce capacity building in access management and FAIR implementation.

Significant progress has been achieved in the application of the FAIR principles across participating RIs. The development of FAIR Implementation Profiles (FIPs) has helped identify technological choices, assess levels of FAIRness, and promote interoperability. Thirteen infrastructures produced new FIPs by 2025, demonstrating a growing alignment in metadata standards, registries, and communication protocols.

The presentation also highlighted work on semantic interoperability,with more than 500 semantic artefacts are now accessible through the HUB, and 3972 mappings among vocabularies have been identified to strengthen inter-domain connectivity. These efforts are crucial for creating a unified knowledge graph across environmental domains.

Looking ahead, WP2 will focus on sustaining standardization efforts beyond the project lifetime, simplifying access processes, and expanding outreach to broader user communities, consolidating the Hub as a long-term national and European reference point for environmental research data.

Figure 3. WP2 – Access to facilities, fair data and related services.

3.4. WP3 – ITINERIS Training Programme.

Presented by Prof. Alberto Basset (Università del Salento/CNR-IRET)

The presentation highlighted the progress made in training, knowledge sharing, and platform development. The training programme included 70 courses delivered between October 2024 and December 2025, addressing the needs of research infrastructure staff and future researchers across all thematic domains — atmospheric, marine, biosphere, geosphere, and trans-domain. Around 1,000 participants took part in sessions covering topics from scientific communication and citizen engagement to technical methodologies and digital research tools. Participant satisfaction averaged above 4.4/5 in all evaluation categories, confirming the high quality and relevance of the programme and the effectiveness of the adopted training approach across all communities.

A key achievement was the launch of the ITINERIS Training Platform, fully operational for over a year, which currently hosts more than 790 users and over 1,100 digital training resources organised by thematic area and metadata catalogues, offering structured access to courses, tutorials, and domain-specific materials for research staff and PhD students. Complementing this, the ITINERIS Semantic Platform for Environmental Sciences is about to be released, enabling semantic searches, management of digital training objects (DTOs), and access to 20 recorded scientific talks supporting open knowledge dissemination across domains.

Capacity building was further reinforced through 20 PhD fellowships funded under the XXXVIII and XXXIX cycles at five Italian universities — Naples Federico II, Naples Parthenope, Pisa, Salento, and Tuscia — covering a wide range of research topics aligned with ITINERIS scientific priorities.

Next steps include finalizing remaining deliverables, completing metadata uploads for training resources, and delivering the final scientific communication course scheduled for December 2025.

Figure 4. WP3 ITINERIS Training Programme.

3.5. WP4 – Atmosphere

Presented by Dr. Lucia Mona (CNR-IMAA)

The presentation highlights the strategic integration and harmonization of major Italian atmospheric research infrastructures, including ACTRIS, ICOS, and SIOS, to create a more cohesive and technologically advanced national observation system.

A primary achievement of this WP is the successful ingestion of all atmospheric domain metadata and data into the ITINERIS HUB, ensuring full compliance with international standards and the FAIR principles of findability, accessibility, interoperability, and reuse. This digital integration is supported by a significant enhancement of instrumental capabilities across the country, which has allowed for more precise monitoring of atmospheric variables and their interactions with other environmental domains.

Technological advancements have been particularly notable in the fields of aerosol characterization and trace gas analysis. The implementation of advanced Lidar systems and the development of AI-based algorithms for determining the Planetary Boundary Layer height have significantly improved the ability to monitor air quality and vertical atmospheric profiles in real time. Furthermore, the work package has strengthened Italy's leadership in isotopic analysis; by upgrading four key sites for carbon and methane isotope measurements, the project has enhanced the ability to distinguish between natural and anthropogenic emission sources. Chemical analysis of particulate matter has also seen major upgrades at strategic stations in Venice, Potenza, and Lecce, providing a more detailed understanding of aerosol composition.

The presentation also emphasized the practical application of these technologies through cross-infrastructure research campaigns such as ITINERIS-EYES and the monitoring of

extreme events. For instance, the system demonstrated its effectiveness by tracking the transport of smoke plumes from the 2025 Canadian wildfires, providing critical data on how such remote events affect local atmospheric composition. These activities have fostered stronger links between atmospheric research groups and stakeholders like ISPRA and regional environmental agencies.

Looking ahead, the WP4 roadmap focuses on processing datasets from recently deployed instruments, upscaling pilot services to additional sites, and producing community papers to share these scientific results. The final phase will prioritize the integration of atmospheric data with other scientific domains to provide a comprehensive understanding of environmental changes by the end of the project.

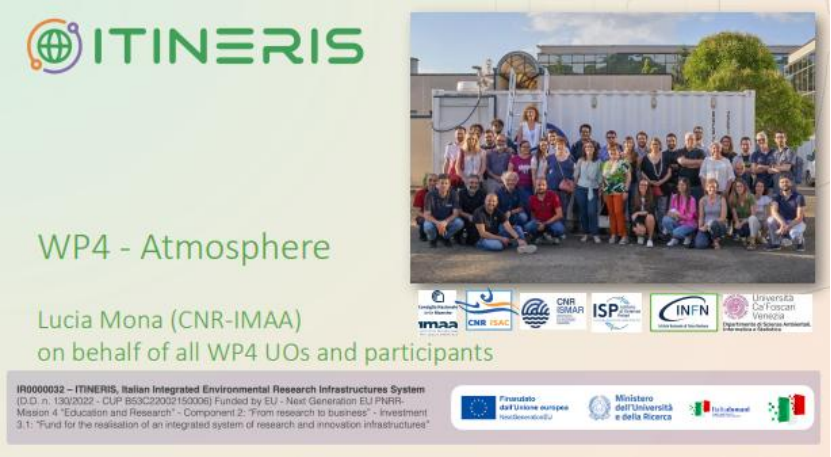

Figure 5. WP4 – Atmosphere

3.6. WP5 – Marine domain.

Presented by Dr. Rosalia Santoleri (CNR-ISMAR)

The presentation outlined the activities and results of the WP, focusing on the development of the Italian Integrated Ocean Observing System (IT-IOOS) and its role in harmonizing and integrating national marine research infrastructures.

The presentation highlighted the creation of the IT-IOOS Marine Data Store and Portal, which provide unified access to data from eleven infrastructures and support international collaborations through GOOS and EOOS.

The deployment of new technological components were illustrated, such as the submarine cable at the Western Ionian Sea, designed to enhance data and power connectivity for deep-sea observatories, and the implementation of the Ocean Sound Monitoring Sub-

system for real-time acoustic data acquisition. Significant upgrades were also achieved in Arctic monitoring platforms under the IT-SIOS observatory, as well as the establishment of the LTER-Italy Digital Asset Registry, improving data sharing and compliance with international standards.

Further advancements included the introduction of innovative marine observation tools—BGC Argo and Deep-Argo floats, Biodiversity-Argo networks, and Biogeochemical Lagrangian drifters—to improve monitoring of Essential Ocean and Climate Variables (EOVs, ECVs, EBVs).

Additionally, the enhancement of oceanographic research vessels, R/V Gaia Blu and R/V Laura Bassi, was presented, emphasizing their upgraded real-time data transmission systems and sensor suites.

The development of digital observatories—such as those in the Po Delta and North Adriatic Lagoons—to strengthen Italy's contribution to marine and coastal ecosystem research at both European and global levels.

A special attention was given to the ITINERIS' EYES multidisciplinary cruise campaigns as key demonstrations of cross-infrastructure integration and technological interoperability.

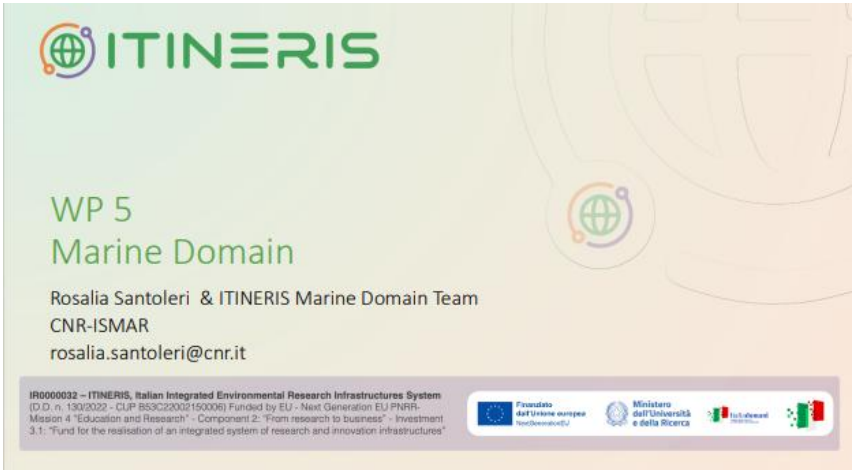

Figure 6. WP5 – Marine domain.

3.7. WP6 – Terrestrial biosphere

Presented by Dr. Gabriele Guidolotti (CNR-IRET)

The presentation illustrated the progress achieved in integrating research infrastructures dedicated to the observation of terrestrial ecosystems, inland waters, and biodiversity within ITINERIS. A key focus was on inland waters monitoring, including advanced studies on methane dynamics in Lake Maggiore — where two lateral surface sources of CH_4 were identified from shoreline inflows and photosynthetic production in oxic conditions - complemented by real-time monitoring of Lake Bidighinzu and Lake Orta through publicly accessible platforms, ensuring transparency and citizen engagement.

Virtual Laboratory activities centred on the LifeWatch Italy Phytoplankton Virtual Research Environment, improving assessments of phytoplankton size structure and community dynamics under climate change, including modelling work predicting an increase in spherical or globular species by 2100. Physical Laboratory upgrades equipped the Data Production Experimental Centre with next-generation sequencing, stable isotope analysis, respirometric systems, and advanced microscopy for metagenomics and behavioral studies.

A major achievement was the DiSSCo-ITINERIS community, uniting natural science collections from Italian universities within the European DiSSCo infrastructure. By mid-2025, over 300,000 specimens had been digitised, 96,000 images acquired, and 104 FAIR-compliant datasets released. In parallel, IBISBA-IT developed harmonised platforms for environmental metagenomics and bioprocess development, while EMPHASIS-IT and AnaEE contributed to sustainable agriculture and forest monitoring, including the FO3X facility in Florence for studying vegetation responses to ozone exposure.

Cross-infrastructure activities included UAV hyperspectral data acquisition over ICOS, eLTER, and AnaEE sites for vegetation and carbon flux modelling, and ecosystem resilience assessments at the Castelporziano cluster following pine forest dieback

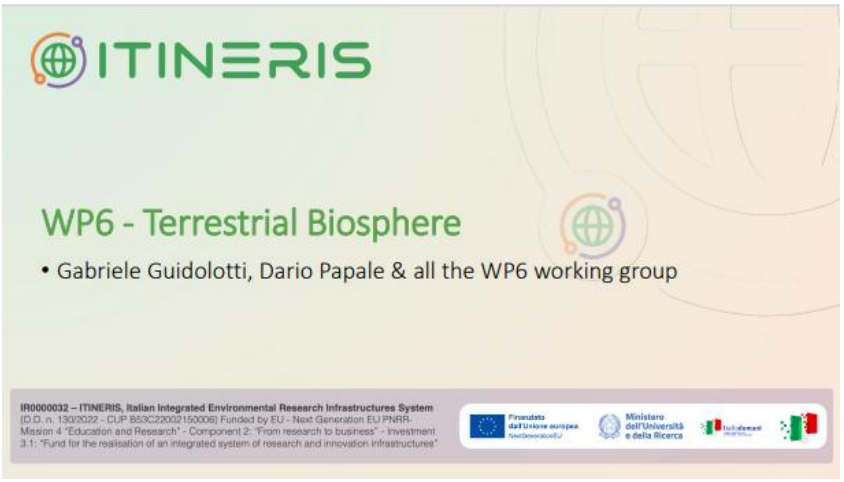

Figure 7. WP6 – Terrestrial biosphere.

3.8. WP7 – Geosphere-Landsurface

Presented by Dr. Giuliana Rossi (OGS)

The presentation illustrated the main achievements in developing and integrating research infrastructures dedicated to geophysical exploration, seismic monitoring, and land surface observation within ITINERIS. A central focus was on the digitalization and FAIR publication of geological and geophysical datasets, strengthening interoperability among infrastructures such as SMINO, ATLaS, ECORD–ICDP, and EUFAR, with pilot activities carried out at three sites in Friuli Venezia Giulia, Tito, and Potenza (Basilicata). Among the key advancements, the ECORD and IODP infrastructures introduced new repositories, metadata catalogues, and geoportals for sharing drilling core data and subsurface structural information. The ATLaS Early Warning Platform was presented as a major innovation, providing real-time monitoring, 3D visualization, and forecasting algorithms for risk management. The SMINO network launched the FReDNet portal for seismic data distribution, while a pioneering regional seismic monitoring initiative in Friuli Venezia Giulia used optical fiber and Distributed Acoustic Sensing (DAS) systems developed in collaboration with INSIEL and the regional government. The SNAP system was also introduced as a FAIR-compliant access point for over 100,000 km of seismic lines and 350,000 km² of multibeam data.

Significant instrumental upgrades included electrical resistivity tomography systems, GB-SAR and GB-RAR devices, airborne hyperspectral imagers, fiber-optic seismic sensors with machine-learning capabilities, and UAV-based LiDAR, GPR, and electromagnetic survey technologies. The PiTOP geophysical test site within ECCSEL–ERIC demonstrated advanced subsurface monitoring using wireless seismic nodes and DAS cables, while collaborative field campaigns at the Carlone landslide site in Tito integrated multi-sensor datasets for landslide monitoring. Cross-domain collaboration was also reported between WP5, WP7, and WP8 for the development of Downstream VRE toolboxes connecting marine and land domains.

Two stakeholder demonstrations were held in June and July 2025 in Tito and Udine to showcase new monitoring products and datasets.

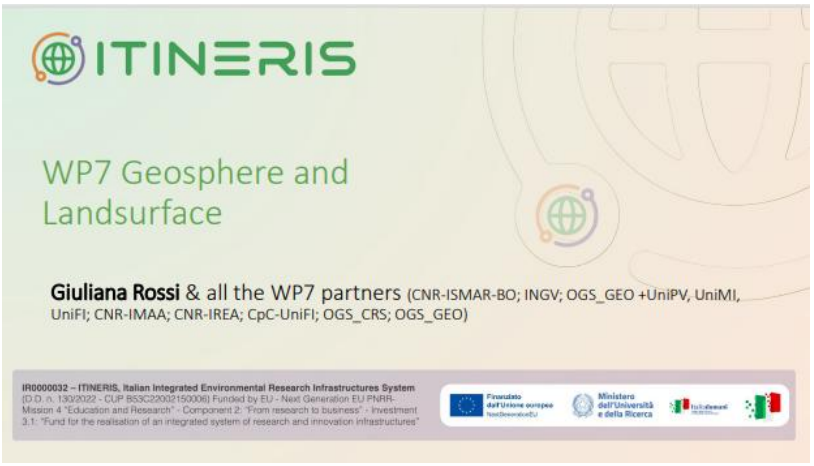

Figure 8. WP7 – Geosphere Landsurface.

3.9. WP8 – Virtual Research Environments and cross-disciplinary activities

Presented by Dr. Antonello Provenzale (CNR-IGG)

The presentation highlighted the development of integrated digital infrastructures designed to enhance data accessibility, reproducibility, and interdisciplinary collaboration across environmental research domains.

As part of the digital backbone of ITINERIS, WP8 focuses on creating specialized Virtual Research Environments (VREs) that allow scientists to manage, visualize, and model complex environmental data through cloud-based platforms and Open Science principles.

A central achievement is the Critical Zone VRE, which supports the study of the interface between the atmosphere, hydrosphere, biosphere, and geosphere. Integrating datasets from diverse observatories such as Ny-Ålesund and Pianosa, it enables advanced analysis of CO_2 fluxes and soil dynamics using R, Python, and Google Earth Engine.

Similarly, the Biomass VRE, hosted on the LifeWatch ERIC platform, provides operational workflows to monitor climate change impacts on biodiversity and trophic dynamics.

For climate and biological data, the Essential Variables VRE (EV-VRE) grants access to over 50 databases from the eLTER and ICOS networks through interactive applications.

The WP8 portfolio also includes the AERO-VRE, a user-friendly tool for desert dust monitoring and air quality analysis that integrates European infrastructure data with ITINERIS outputs.

In the marine and terrestrial sectors, the Downstream VRE facilitates the study of ocean acidification and land surface instabilities, while the newly introduced Isotope VRE standardizes isotopic datasets (C, N, $\delta^{13}C$, $\delta^{15}N$) across Mediterranean sites to identify bioindicators of anthropogenic impact.

The roadmap for WP8 concludes with the completion of all VRE modules by December 2025. This will be followed by a final harmonization phase from January to March 2026 to ensure full interoperability between these digital environments, ultimately providing the scientific community with advanced, interoperable tools for data-driven research across all environmental domains.

Figure 9. WP8 - Virtual Research Environments and cross-disciplinary activities.

3.10. Short oral presentations - Sessions 1-2

The first day of the meeting featured Sessions 1 and 2 of the Short Oral Presentations, which proved to be one of the most interactive and dynamic segments of the event.

4. DAY 2: FRIDAY 26 SEPTEMBER 2025

4.1. Short oral presentations - Sessions 3

The second day opened with the continuation of the Short Oral Presentations, completing the full program of oral sessions. In total, 56 contributions were presented across the two days, providing a comprehensive and updated overview of the project's overall progress. This extensive series of presentations demonstrated measurable advances in both scientific research and the development of long-term user services, consolidating ITINERIS's role as a coordinated national hub for environmental infrastructures.

The presentations showcased the vitality of the ITINERIS research community and underscored the significant added value generated by integrating atmospheric, marine, biosphere, and geosphere research. These contributions confirmed the project's ambition to build sustainable, open, and internationally connected infrastructures, reinforcing Italy's contribution to the European and global environmental research landscape while moving toward full service interoperability by the project's conclusion.

The list of presentations and speakers is reported in ANNEX 1 – AGENDA.

The full set of presentations is available for consultation via the following link: SHORT ORAL PRESENTATION SESSION. For a detailed technical overview of all contributions, please refer to the comprehensive Book of abstracts.

Figure 11. The book of abstracts

4.2. ITINERIS HUB

Presented by Dr. Giuseppe Gargano (CNR-IMAA)

The presentation illustrated the progress achieved in the development of the ITINERIS HUB, the central digital infrastructure of the project designed as a unified gateway to the Italian Environmental Research Infrastructures. The HUB consolidates distributed resources into a single ecosystem, eliminating the need for multiple entry points and significantly enhancing interoperability and user experience for the scientific community. Among the contents now available, the HUB features a Catalogue of Resources providing access to over 500,000 datasets from 11 infrastructures across atmospheric, marine, terrestrial, and geospheric domains, supported by a moderated onboarding workflow with hierarchical user roles to ensure data quality. FAIR principles are actively promoted through DOI assignment via DataCite, ensuring full traceability and citability of all published datasets. The HUB also integrates Virtual Research Environments (VREs) and the Training Platform — as detailed in the progress presented under WP8 and WP3 respectively. The Access Platform, supported by a strategic document on access policies and management plans, has successfully governed physical and hybrid interactions with research facilities and services during the ITINERIS-ACTRIS Access Pilot Call.
The presentation also addressed the sustainability and governance of the HUB beyond the project's lifetime. The infrastructure is designed to evolve into a dynamic asset capable of integrating further national and European research infrastructures, in alignment with EOSC and ENVRI-Hub, and through connections with governmental agencies to consolidate Italy's thematic research network and ensure a lasting impact at both national and international levels.

4.3. DISCUSSION AND CONCLUSIONS

The concluding session provided a comprehensive summary of the ITINERIS project's progress and outlined the key actions emerging from the plenary discussions. The Scientific Coordinator, Dr. Gelsomina Pappalardo, highlighted how the project has achieved steady progress and met its primary objectives through effective teamwork and the active participation of all partners.

A central theme of the wrap-up was the strategic alignment for the project's final phase. With

the extension of the activities until April 30, 2026, the coordinator emphasized that constant interaction between all Operational Units (OUs), Work Packages (WPs), and coordination levels remains essential. This collaborative effort is crucial to ensure the timely completion of all tasks and to proactively mitigate risks. In this context, the prompt preparation of monitoring data was identified as a vital tool for the early detection of issues at the activity level.

The session also underscored the need for intensified collaboration between individual WPs and the coordination activities of WP1 and WP2. Such synergy is fundamental to ensuring the full harmonization of results and facilitating their integration into the ITINERIS HUB and the Resource Catalogue..

The meeting concluded with a strong recognition of the dedication shown by the entire research community. Special appreciation was expressed to the Italian environmental RI community and to the CNR for its steadfast support in coordinating this ambitious project.

The event closed with a roundtable discussion focused on the long-term legacy of ITINERIS. Participants explored strategies to leverage achieved results, foster deeper engagement with users and stakeholders, and define the necessary actions to ensure the project's lasting impact on the national and international research landscape.

ANNEX 1 – AGENDA

giovedì 25 settembre 2025

Registrazione partecipanti - Sala Convegni CNR (09:30 - 10:30)

Saluti istituzionali - Sala Convegni CNR (10:30 - 10:40)

- Presentatore: PETRACCHINI, FRANCESCO (DIRETTORE DSSTTA - CNR)

Apertura lavori: stato del progetto e focus del meeting - Sala Convegni CNR (10:40 - 10:55)

- Presentatore: PAPPALARDO, GELSOMINA (CNR)

Session 1: Presentazioni dei Work Package - Sala Convegni CNR (10:55 - 13:30)

time	[id] title	presenter
10:55	[101] WP1 – Coordination And Management	GARGANO, GIUSEPPE (CNR)
11:10	[102] WP2 – Access To Facilities, Fair Data And Related Services	CORNACCHIA, CARMELA (CNR)
11:30	[103] WP3 – ITINERIS Training Programme	BASSET, ALBERTO (CNR)
11:50	[104] WP4 – Atmosphere	MONA, LUCIA (CNR)
12:10	[105] WP5 – Marine Domain	SANTOLERI, ROSALIA (CNR)
12:30	[106] WP6 – Terrestrial Biosphere	PAPALE, DARIO (CNR)
12:50	[107] WP7 – Geosphere-Landsurface	ROSSI, GIULIANA (CNR)
13:10	[108] WP8 – Virtual Research Environments and cross-disciplinary activities	PROVENZALE, ANTONELLO (CNR)

Session 2: Short oral presentations - Sala Convegni CNR (14:30 - 16:00)

Questa sessione prevede brevi presentazioni orali da parte di ricercatori, tecnologi, tecnici e collaboratori coinvolti nel progetto ITINERIS. Tali presentazioni offriranno una panoramica concisa delle attività e dei risultati significativi realizzati nel progetto, rappresentando un'opportunità per la condivisione delle conoscenze e la promozione della discussione all'interno della comunità ITINERIS.

time	[id] title	presenter
14:30	[39] RIs as knowledge-sparkling environment among the Ecosystems of Territorial Cohesion strategy: a study case about the social impact of the ITINERIS Project	RUSSO, CORRADO
14:35	[64] Semantic Interoperability in Environmental Sciences: insights from ITINERIS	MURESAN, ALEXANDRA NICOLETA
14:40	[74] ITINERIS–ACTRIS Pilot Access Program: Enhancing Scientific Collaboration through Coordinated National and European Infrastructure Access	RICCIARDI, FRANCESCA
14:45	[77] FAIR convergence analysis across ITINERIS Research Infrastructure	INGROSSO, GIANMARCO
14:50	[81] The ITINERIS Catalogue: Unifying Environmental Resources Across Research Infrastructures	SAGANEITI, LUCIA
14:55	[98] Advancing User-Centered Strategies for Integrated Environmental Research Infrastructures: The ITINERIS Approach	LOPERTE, SIMONA
15:00	[42] Ecological effects of mitochondrial dysfunction in pancreatic cancer	BRAMATO, Grazia

15:05	[14] Assessing Outdoor Thermal Comfort through Microclimatic Modeling: A Case Study in Lecce (Italy)	GIANGRANDE, Francesco
15:10	[15] On the discrimination between volcanic ash and desert dust leveraging photometer and depolarization lidar measurements	PAPAGIANNOPOULOS, NIKOLAOS
15:15	[17] Experimental activities at ChAMBRe	VERNOCCHI, VIRGINIA
15:20	[22] Characterization of volatile organic compounds in two urban sites in the Italian Po Valley: Milan and Bologna	ZANNONI, NORA
15:25	[29] A lifetime effort at Cimone to understand the black carbon climatology though observations and modelling	ZANATTA, MARCO
15:30	[30] Aerosol Characterization Through Combined Depolarization and Fluorescence Lidar Observations at CIAO	DEROSA, BENEDETTO
15:35	[32] 3D scanning atmospheric - marine LIDAR	GIULIANO, GIOVANNI
15:40	[33] Comparison of Online and Offline XRF Techniques for Atmospheric PM10 Measurement	DELUCA, Giuseppe
15:45	[40] Integrating remote sensing and in-situ measurements to assess the impact of PBL dynamics on air pollution in Milan, Po valley (Italy)	PERFETTI, Camilla
15:50	[47] High time resolution measurements of equivalent black carbon in an urban background site of Italy	CESARI, DANIELA
15:55	[49] Unraveling the Synergistic Impact of Anthropogenic and Biogenic Emissions on New Particle Formation: Evidence from the CERN CLOUD Chamber	PIGNATELLI, Alessia

Coffee break - Sala Convegni CNR (16:00 - 16:30)

Session 2: Short oral presentations - Sala Convegni CNR (16:30 - 18:00)

Questa sessione prevede brevi presentazioni orali da parte di ricercatori, tecnologi, tecnici e collaboratori coinvolti nel progetto ITINERIS. Tali presentazioni offriranno una panoramica concisa delle attività e dei risultati significativi realizzati nel progetto, rappresentando un'opportunità per la condivisione delle conoscenze e la promozione della discussione all'interno della comunità ITINERIS.

time	[id] title	presenter
16:30	[52] Analysis And Characterization Of Wind Circulation In A Central Mediterranean Site During Heatwave event	GANDOLFI, Ilaria
16:35	[53] Tracing Carbon in the Sky: CO□ and CH□ Isotope Signatures under Dust and Fire Events at the POT Station, Part of the CIAO Observatory (CNR-IMAA)	ZACCARDO, ISABELLA
16:40	[54] Tracking the source: first evaluation of benzothiazoles in airport non-exhaust emissions	MAZZI, Giovanna
16:45	[62] Non-refractory submicron aerosols in the Po Valley: Sources, vertical transport, and chemical composition from measurements at Bologna (54 m a.s.l.) and Mt. Cimone (2167 m a.s.l.) within AirPoDynamic	RAPUANO, Marco
16:50	[70] The ACTRIS in-situ aerosol National Facility at CIAO: Advancing integrated ground-based atmospheric observations	CARDELLICCHIO, Francesco
16:55	[73] Comparison of reference upper-air GRUAN and homogenized RHARM data with GNSS-RO	MARRA, FABRIZIO

17:00	[76] Enhanced atmospheric observation capacity of the Seneca III airborne platform	DI LIBERTO, Luca
17:05	[78] Emissions of climate-altering species from open vegetation fires in the Mediterranean region: methods and data review	HUNDAL, Rabia
17:10	[87] Mountain Intercomparison of Radon Analyzers (MIRA)	CAVALIERE, Alice
17:15	[93] Datasets, methodologies and indicators for open-fire emission studies	CALIDONNA, Claudia Roberta D'AMICO, Francesco
17:20	[95] Simultaneous advection of volcanic ash and desert dust in Naples Mediterranean aera	SPINOSA, Salvatore
17:25	[24] The ITINERIS' EYES oceanographic cruise: InTegrating, INnovating, Evolving Research InfraStructures for hEalthY and predicted marine ecosystemS	ORGANELLI, EMANUELE
17:30	[86] The Ocean Sound monitoring Sub-system	SANFILIPPO, Simone
17:35	[58] From project to ocean: First ITINERIS glider-based insights in the Ligurian sea	KOKKINI, ZOI MAGALDI, MARCELLOGATIMU
17:40	[67] Strengthening Long-Term ecological observations in marine and transitional eLTER sites through the ITINERIS project	BERGAMI, CATERINA

venerdì 26 settembre 2025

Session 3: Short oral presentations - Sala Convegni CNR (09:00 - 10:30)

Questa sessione prevede brevi presentazioni orali da parte di ricercatori, tecnologi, tecnici e collaboratori coinvolti nel progetto ITINERIS. Tali presentazioni offriranno una panoramica concisa delle attività e dei risultati significativi realizzati nel progetto, rappresentando un'opportunità per la condivisione delle conoscenze e la promozione della discussione all'interno della comunità ITINERIS.

time	[id] title	presenter
09:00	[72] Advancing the integration of monitoring and modelling of the physico-chemical and biogeochemical state of the Marano and Grado Lagoon (Italy)	SCROCCARO, Isabella
09:05	[85] Upgrades to the Italian Marine Research Observatory in the Arctic Region	PALADINIDEMENDOZA, FRANCESCO MISEROCCHI, STEFANO AZZARO, MAURIZIO
09:10	[56] From Nets to Imaging: Towards Next-Generation Zooplankton Monitoring in ITINERIS	CAMATTI, ELISA
09:15	[88] IT-IOOS: how to integrate multi-source digital data and their near real time processing for management phases	CACCAVALE, MAURO
09:20	[90] Towards Interoperable Ocean Observations: Demonstrating Cross-Infrastructure Integration in the South Adriatic	CARDIN, Vanessa
09:25	[43] Comparative Analysis of Enterococcus spp. from Conventional and Organic Farms: Impact of Antibiotic Use on AMR Profiles	MALLARDI, Alessandra
09:30	[45] Cross-RI dataset provision of UAV multi platform hyperspectral data and site level measurements over different RI ecosystem sites (eLTER, ICOS, ANAEE) and comparison with satellite products	PANCORBODEONATE, JOSELUIS
09:35	[59] Assisted regeneration of Quercus robur (L.) from laboratory to the field in the Castelporziano Presidential Estate (Roma, Italy)	ZAHER, Nour
09:40	[66] Plant growth-promoting rhizobacteria as a sustainable method to enhance drought tolerance in tomato crop	ATZORI, GIULIA
09:45	[71] DiSSCo–ITINERIS: Digitizing Foraminiferal Collections for Biodiversity and Environmental Monitoring in the Mediterranean	DONOFRIO, ROBERTA
09:50	[79] Mobilising biodiversity data: results and outputs	CECCHI, Lorenzo
09:55	[83] A vegetation survey on woody species encroachment of abandoned pastures in the Alps	FERRARIS, Daria
10:00	[91] Monitoring of GHGs fluxes at "Le Viote" alpine peatland (Italy) by smart chamber system in a climate change context.	RUBRIANTE, Laura
10:05	[13] Enhanced workflows and algorithms for rock mass characterization: the Passo della Morte test site	BENI, Tommaso
10:10	[20] Scientific drilling infrastructure: improved access and progress in digital archiving of samples and data	FONSECA, Julia
10:15	[26] Advances in Seismic Risk Assessment of the city of Potenza (Southern Italy)	GANGONE, GIOVANNI

Coffee break - Sala Convegni CNR (10:30 - 11:00)

Session 3: Short oral presentations - Sala Convegni CNR (11:00 - 12:00)

Questa sessione prevede brevi presentazioni orali da parte di ricercatori, tecnologi, tecnici e collaboratori coinvolti nel progetto ITINERIS. Tali presentazioni offriranno una panoramica concisa delle attività e dei risultati significativi realizzati nel progetto, rappresentando un'opportunità per la condivisione delle conoscenze e la promozione della discussione all'interno della comunità ITINERIS.

time	[id] title	presenter
11:00	[27] A Distributed System for Near Real-Time Forecasting of Shallow Landslides at Regional Scale	MASI, Elena Benedetta
11:05	[28] Integrated Geophysics and Data Science for Soil Moisture Characterization and Hydrogeological Risk Assessment in Urban and Peri-Urban Areas	MARTINO, Luigi
11:10	[35] Parallel implementation of Time-Domain airborne SAR focusing	EUILLADES, Jorge A.
11:15	[37] 3D subsurface imaging from UAV-based GPR and magnetic data.	BARONE, ANDREA
11:20	[38] Strengthening of the geophysical facility PiTOP for seismic characterization and monitoring purposes in the ECCSEL-ERIC consortium	ROSSI, Giuliana
11:25	[41] Fiber-optic seismic and geodetic monitoring network of Friuli Venezia Giulia: implementation and first results from the ITINERIS project	CHIAPPETTA, Giuseppe Davide
11:30	[12] The VRE Carbon and related research	VAGLIOLAURIN, GAIA
11:35	[19] Downstream VRE: Land and Marine domain toolboxes	FRANCESCHINI, Rachele
11:40	[46] A Virtual Research Environment-based analysis of the influence of atmospheric circulation types on seasonal carbon fluxes in a Mediterranean beech forest	COSTAFREDAAUMEDES, SERGI
11:45	[57] First data from CO2 fluxes from glacier forelands: data access and analysis through the CZ VRE	GENNARO, SIMONA
11:50	[60] ISOTOPE STUDIO: A FAIR-Compliant VRE for Harmonized Isotope Data and Modelling within the ITINERIS Framework	DI GIUSEPPE, PAOLO
11:55	[63] Enhancing Aerosol characterization through a Virtual Research Environment	LAPENNA, EMILIO

Session 4: Impatti, stakeholder, sfide e prospettive future – Tavola rotonda - Sala Convegni CNR (12:00 - 13:30)

Il programma dettagliato della sessione sarà comunicato prossimamente.

Lunch break with catering buffet - Sala Convegni CNR (13:30 - 15:00)

ANNEX 2 – LIST OF PARTICIPANTS

NOME	COGNOME	AFFILIAZIONE	NOME	COGNOME	AFFILIAZIONE
Basset	Alberto	Università del Salento	Viviano	Andrea	CNR-IRET Firenze
Priori	Alberto	INFN	Marinoni	Angela	CNR-ISAC
Di Sarra	Alcide	ENEA	Perrone	Angela	CNR-IMAA
Lanzoni	Alessandra	OGS	Camerlenghi	Angelo	OGS
Mallardi	Alessandra	CNR-IBBA	Iadanza	Annalisa	CNR-DSSTTA
Stella	Alessandra	CNR-IBBA	Correggiari	Annamaria	CNR-ISMAR Bologna
Bracci	Alessandro	CNR-ISAC	Boselli	Antonella	CNR-IMAA
Bragagni	Alessandro	CNR-ISMAR	Petrocelli	Antonella	CNR-IRSA
Celi	Alessandro	CNR-ISMAR	Provenzale	Antonello	CNR-IGG
Fiore	Alessandro	Università del Salento	Ottaviani	Antonello	CNR-Sede
Gibertini	Alessandro	CNR-ISMAR	Cobucci Ponzano	Beatrice	CNR-IBBR
Messeri	Alessandro	CNR-IBE	Giambenedetti	Beatrice	INGV
Oggioni	Alessandro	CNR-IREA	De Rosa	Benedetto	CNR-IMAA
Zaudri	Alessandro	CNR-IBBI	Gioli	Beniamino	CNR-IBE
Mei	Alessandro	CNR-IA	Castiglioni	Bianca Maria	CNR-IBBA
Montaghi	Alessandro	CNR-IBE	Raco	Brunella	CNR-IGG
Pignatelli	Alessia	Università di Napoli	Perfetti	Camilla	CNR-ISAC
Sannino	Alessia	Università di Napoli	Colangelo	Canio	CNR-IMAA
Muresan	Alexandra Nicoleta	CNR-IRET	Calfapietra	Carlo	CNR-IRET
Baronetti	Alice	CNR-IGG	Cornacchia	Carmela	CNR-IMAA
Cavaliere	Alice	CNR-ISP	Bergami	Caterina	CNR-ISMAR
Atena	Andrea	CNR-IMAA	Mapelli	Caterina	CNR-IMAA
Barone	Andrea	CNR-IREA	Leonardi	Chiara	CNR-DIR-GEN
Berton	Andrea	CNR-IGG	Fanelli	Claudia	CNR-ISMAR
Di Macco	Andrea	CNR-ISMAR	Calidonna	Claudia Roberta	CNR-ISAC
Sbrilli	Andrea	CNR-IRSA	Dema	Claudio	CNR-IMAA
Scartazza	Andrea	CNR-IRET	Russo	Corrado	CNR-IMAA

NOME	COGNOME	AFFILIAZIONE	NOME	COGNOME	AFFILIAZIONE
Cesari	Daniela	CNR-ISAC	Manfredonia	Filippo	CNR-ISMAR
Meloni	Daniela	ENEA	Barnaba	Francesca	CNR-ISAC
Contini	Daniele	CNR-ISAC	Caparrini	Francesca	CNR-IGG
Lagomarsino Oneto	Daniele	CNR-ISMAR	Ricciardi	Francesca	CNR-IMAA
Ferraris	Daria	Università della Tuscia	Spataro	Francesca	CNR-ISP
Embriaco	Davide	INGV	Cardellicchio	Francesco	CNR-IMAA
Vernazzani	Davide	CNR-ISMAR	D'Amico	Francesco	CNR-ISAC Lamezia Terme
Chiappetta	Davide	OGS	Giangrande	Francesco	Università del Salento
Dionisi	Davide	CNR-ISMAR	Mazzenga	Francesco	CNR-IBE
De Paola	Domenico	CNR-IBBR	Mercogliano	Francesco	CNR-IREA
Canu	Donata	OGS	Paladini de Mendoza	Francesco	CNR-ISP
Masi	Elena Benedetta	Università di Firenze	Bucci	Gabriele	CNR-IBBR
Camatti	Elisa	CNR-ISMAR Venezia	Nardone	Gabriele	ISPRA
Lori	Elisabetta	Università di Firenze	Guidolotti	Gabriele	CNR-IRST
Pedrazzini	Emanuela	CNR-IBBA	Vaglio Laurin	Gaia	CNR-IRET
Organelli	Emanuele	CNR-ISMAR	Pappalardo	Gelsomina	CNR-IMAA
Lapenna	Emilio	CNR-IMAA	Di Fiore	Gianluca	CNR-IMAA
Nestola	Enrica	CNR-IRET	Ingrosso	Gianmarco	CNR-IRET
Palladino	Enrica	CNR-DIR-GEN	Matteucci	Giorgio	CNR-IBE
Perrone	Erico	CNR-IGG	Riccobene	Giorgio Maria	INFN
Ripepi	Ermann	CNR-IMAA	Mazzi	Giovanna	Università Ca' Foscari Venezia
Trumpy	Eugenio	CNR-IGG	Gangone	Giovanni	CNR-IMAA
Marra	Fabrizio	CNR-IMAA	Giuliano	Giovanni	CNR-ISMAR
Ferraccioli	Fausto	OGS	Atzori	Giulia	CNR-IPSP
De Lise	Federica	CNR-IBBR	Rossi	Giuliana	OGS
Bellati	Federico	CNR-ISMAR	Pacente	Giulio	CNR-IMAA
Carotenuto	Federico	CNR-IBE	Deluca	Giuseppe	CNR-ISAC
Pasqualini	Ferdinando	CNR-ISAC	Denti	Giuseppe	CNR-IRSA

NOME	COGNOME	AFFILIAZIONE	NOME	COGNOME	AFFILIAZIONE
Rubino	Fernando	CNR-IRSA	Gargano	Giuseppe	CNR-IMAA
Saponara	Giuseppina	CNR-IMAA	Di Liberto	Luca	CNR-ISAC
Bramato	Grazia	Università del Salento	Mascolo	Giuseppe	CNR-IRSA
Arduini	Igor	Università di Urbino	Valente	Luca	CSI
Catapano	Ilaria	CNR-IREA	Mona	Lucia	CNR-IMAA
Gandolfi	Ilaria	CNR-IMAA	Saganeiti	Lucia	CNR-IMAA
Rosati	Ilaria	CNR-IRET	Spada	Lucia	CNR-IRSA
Sammartino	Irene	CNR-ISMAR	Ranieri	Luciana	CNR-DIR-GEN
Tunno	Irene	CNR-IRET	Capotondi	Lucilla	CNR-ISMAR
Scroccaro	Isabella	OGS	Luciani	Lucrezia	CNR-IBBA
Zaccardo	Isabella	CNR-IMAA	Martino	Luigi	CNR-IMAA
Farace	Ivan	CNR-ISMAR	Felsani	Marcello	CNR-ISMAR
Ammoscato	Ivano	CNR-ISAC	Magaldi	Marcello	CNR-ISMAR
Busatto	Jacopo	CNR-ISMAR	Bellacicco	Marco	CNR-ISMAR
Pitarch	Jaime	CNR-ISMAR	Procaccini	Marco	CNR-IGG
Rauseo	Jasmin	CNR-ISP	Rapuano	Marco	CNR-ISAC
Eullidades	Jorge	CNR-IRSA	Roman	Marco	Università Ca' Foscari Venezia
Pancorbo	Jose Luis	CNR-IBE	Zanatta	Marco	CNR-ISAC
Fonseca	Julia	OGS	Conte	Marianna	CNR-ISAC
Schroeder	Katrin	CNR-ISMAR	Sprovieri	Mario	CNR-ISMAR
Pavirani	Laura	Università di Pisa	Esmaeili	Maryam	Università di Firenze
Renzi	Laura	CNR-ISAC	Moscatelli	Massimiliano	CNR-IGAG
Rubriante	Laura	Università della Tuscia	Bilotta	Massimo	INGV
Beranzoli	Laura	INGV	Manzo	Matteo	Università di Napoli
Langone	Leonardo	CNR-ISP	Rossi	Matteo	CNR-IBE
Costanza	Letizia	CNR-IGG	Sabatini	Mattia	CNR-ISMAR
Masi	Lorenza	CNR-ISMAR UNIPARTHENOPE	Iannuccilli	Maurizio	CNR-IBE
Cecchi	Lorenzo	Università di Firenze	Caccavale	Mauro	CNR-ISMAR
Liberatore	Lorenzo	CNR-IRET Lecce	Di Fenza	Mauro	CNR-IBBR

NOME	COGNOME	AFFILIAZIONE	NOME	COGNOME	AFFILIAZIONE
Curci	Nicola	CNR-IBBR	Adil	Muhammad	CNR-ISMAR Napoli
Papagannopous	Nicolaos	CNR-IMAA	Russo	Nadia	CNR-IREA
Zannoni	Nora	CNR-ISAC	Trippetta	Serena	CNR-IMAA
Zaher	Nour	Università della Tuscia	Costafreda-Aumedes	Sergi	CNR-IBE
Lucarelli	Oliva	CNR-BIBLIOTECA	Marta	Silvio	CNR-IGG
Semeraro	Paola	CNR-ISAC Lecce	Armeli Minicante	Simona	CNR-ISMAR
Bagiacchi	Paolo	INGV	Denni	Simona	CNR-ISMAR Roma
Cristofanelli	Paolo	CNR-ISAC	Gennaro	Simona	CNR-IGG
Di Giuseppe	Paolo	CNR-IGG	Loperte	Simona	CNR-IMAA
Favali	Paolo	INGV	Longo	Simona	CNR-CENTRALE
Frizzera	Paolo	INGV	Cardoni	Simone	CNR-IRSA
Bove	Pasquale	CNR-IGG	Gagliardi	Simone	CNR-IMAA
Giordano	Patrizia	CNR-ISP	Toller	Simone	CNR-ISMAR
Palazzo	Quinzia	CNR-IMAA	Colella	Simone	CNR-ISMAR
Hundal	Rabia	IUSS Pavia	Montaguti	Simonetta	CNR-ISAC
Franceschini	Rachele	OGS	Di Natale	Stefano	Università di Firenze
Renna	Ramona Amelia	CNR-IRSA	Miserocchi	Stefano	CNR-ISP
Giusti	Riccardo	CNR-IBE	Pescatore	Tanita	CNR-ISP
Tagliavini	Riccardo	CNR-ISMAR	Di Iorio	Tatiana	ENEA
D'Onofrio	Roberta	CNR-ISMAR	Beni	Tommaso	Università di Firenze
Santoleri	Rosalia	CNR-ISMAR	Giampaolo	Valeria	CNR-IMAA
Spinosa	Salvatore	Università di Napoli	Ibello	Valeria	CNR-ISMAR Roma
Viola	Salvatore	INFN-LNS	Cardin	Vanessa	OGS
Marulli	Salvatore	CNR-ISMAR	Lapenna	Vincenzo	CNR-IMAA
Trifirò	Sandra	CNR-IGG	Vernocchi	Virginia	INFN - Genova
Pacifico	Savina	CNR-IMAA	Vitale	Vito	CNR-ISP
Botteghi	Serena	CNR-IGG	Brando	Vittorio	CNR-ISMAR
Kokkini	Zoi	CNR-ISMAR Lerici	Ali	Zeeshan	Università di Napoli
			Arianpouya	Zeinab	Università del Salento

ANNEX 3 - PICTURES FROM THE MEETING


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"Muoiono gli imperi, ma i teoremi di Euclide conservano eterna giovinezza"
Vito Volterra, 1931
"Voi siete qui per un'opera che non è solo di studio di una scienza [...], ma è anche e soprattutto di formazione del pensiero, di elevazione delle menti, di maturazione delle coscienze"
Gustavo Colonnetti, 1944
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LA LUCE DELLA SCIENZA