



D 3.3 Report First activity report of Activity 3.1, 3.2, 3.3, 3.4, 3.5



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Author(s) (Partner-OU):	Alessandro Gibertini (CNR-ISMAR), Daniela Andreani (CNR-IGG), Mario Ciotti (CNR-IRETLE), Paolo Sconocchia (CNR-IRETRM)
Reviewed by:	Alberto Basset (CNR-IRETLE),
Note:	

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Table of contents

1.	<i>INTRODUCTION</i>	4
2.	<i>FIRST ACTIVITY REPORT OF ACTIVITY 3.1</i>	5
2.1	RTD recruitment	5
2.2	Agreements for ITINERIS WP3 fellowships in the XXXVIII and XXXIX PhD cycles	5
2.3	Coordination of the Training Programme	6
2.4	ITINERIS training platform and relative training catalogue	7
3.	<i>FIRST ACTIVITY REPORT OF ACTIVITY 3.2</i>	8
3.1	RTD recruitment	8
3.2	Training Programme	8
4.	<i>FIRST ACTIVITY REPORT OF ACTIVITY 3.3</i>	10
4.1	RTD recruitment	10
4.2	Training Programme	10
5.	<i>FIRST ACTIVITY REPORT OF ACTIVITY 3.4</i>	11
5.1	RTD recruitment	11
5.2	Training Programme	11
6.	<i>FIRST ACTIVITY REPORT OF ACTIVITY 3.5</i>	12
6.1	RTD recruitment	12
6.2	Training Programme	12
7.	<i>LIST OF ACRONYMS</i>	13

1. INTRODUCTION

The deliverable 3.3 was planned to be released within the framework of the ITINERIS project and it is part of the activities of the Work Package (WP)3 concerning the training activities organized in the first year of the project by all the OUs involved.

This deliverable was expected to be released in Bimester 6 and to be included into the Intermediate Objective 3.3 of bimester 6; it is produced under the responsibility of the Operative Unit (OU) of the National Research Council, Research Institute on Terrestrial Ecosystems (CNR-IRET).

The main aim of the deliverable 3.3 is to provide a general overview of details on the structure, organization and contents of the actions organized in the first year by the OUs involved in activities 3.1, 3.2, 3.3, 3.4 and 3.5.

The document is structured in 7 chapters, including this chapter. Chapter 2 of the report describes the activities carried out by the OU CNR-IRETLE in the first year of the project with particular focus on the coordination of the WP3 activities, including also the training programme activities and the signature of protocols of agreement of the universities for the ITINERIS fellowships in WP3 of the XXXVIII and XXXIX PhD cycles. Chapters 3-6 are dedicated to the specific activities carried out with other OUs within the different activities of the project, namely: Chapter 3 describes the actions of Activity 3.2, Chapter 4 describes the actions of Activity 3.3, Chapter 5 describes the actions of Activity 3.4 and Chapter 6 describes the actions of Activity 3.5. Finally, Chapter 7 presents the list of acronyms used in the report.

2. FIRST ACTIVITY REPORT OF ACTIVITY 3.1

During the first year of the project, all the activities were carried out by the OU CNR-IRETLE responsible for the activity 3.1 are reported in this chapter; these are briefly summarized in the following points:

- Coordination of the recruitment of the RTD dedicated to the training activities;
- Coordination of the development of the protocols of agreement, in according with the universities, for the fellowship of the XXXVIII and XXXIX PhD cycles;
- Co-organising of the training programmes for the RI scientific and technical personnel, PhD students and RI employees;
- Purchase of ITINERIS training platform and relative training catalogue.

2.1 RTD recruitment

Regarding temporary personnel with a level III Technologist profile, the process for the development of the Term of Reference for the n. 3 TD positions has been completed during the first two-month period. The publication request was sent on 20.12.2022 for the “BANDO N. 400.3 IRET PNRR Prot.5636” and for the “BANDO 400.4 IRET PNRR Prot. 5638”, they were both published on the G.U. n. 2 of the 10.01.2023. The CNR-IRETLE promptly nominated the committee for candidates’ selection with the evaluation process began in February and the whole selection process closed before the end of the B3. The contract signatures have been finalized at the begin of B4 for n. 3 units of personnel hired at the OU CNR-IRET-Lecce, with contract starting date on 02.03.2023. The n. 2 level III technologist positions in “BANDO N. 400.3 IRET PNRR Prot.5636” have been assigned to Dr. Beli Elena and Dr. Ciotti Mario, while the level III technologist position published with “BANDO 400.4 IRET PNRR Prot. 5638” has been assigned to Dr. Coli Paola.

They were allocated to run the ITINERIS Training Centre in order to coordinate all the training activities, to co-organize the training events, to handle the administrative management of WP reports, and to develop ITINERIS Training Centre Platforms with an associated Training Resource Catalogue, accessible via the ITINERIS HUB, with the aim of provide access to the training digital object developed in ITINERIS training programme to the all users of the European Research Infrastructure (ERI). However, it has reported that Dr. Beli resigned during the month of August 2023, with the closure of her contract set for 31.08.2023. The coordination activities of training and tender development for ITINERIS training platform/courses by the technologists continued during the following two-months periods.

2.2 Agreements for ITINERIS WP3 fellowships in the XXXVIII and XXXIX PhD cycles

Regarding the fellowship for the XXXVIII Phd cycles financed by ITINERIS project, it was primarily necessary to sign agreement protocols between the CNR-IRET and the universities involved. The development of the first draft of the protocols of agreement between the CNR-IRET and the Universities of Naples Federico II, Naples Parthenope, Pisa, Salento and Tuscia for the PhD fellowships supported by ITINERIS for the XXXVIII PhD Cycle, was closed during the first two-month period.

Even with the administrative efforts of the parties involved, the signature of the protocols of agreement between the CNR-IRET was possible only for four of the five universities, i.e. Universities of Naples Federico II, Pisa, Salento and Tuscia, since the University Naples Parthenope couldn’t manage to include the ITINERIS fellowships in its calls launched for the PhD positions.

The start dates for the ITINERIS fellowships of XXXVIII PhD cycle in the four Universities were: 01.01.2023 for University of Naples Federico II, 01.03.2023 for University of Pisa, 01.03.2023 for University of Salento and 01.03.2023 for University of Tuscia.

A total of n.12 PhD fellowships has been assigned as follow: n.3 PhD fellowships to the University of Naples Federico II for the Atmospheric Domain; n.3 PhD fellowships to the University of Pisa for the Solid Earth Domain; n.3 PhD fellowships to the University of Salento for the eScience Domain; n.3 PhD fellowships to the University of Tuscia for the Terrestrial Domain.

Regarding the fellowship for the XXIX Phd cycle financed by ITINERIS project, the signature of the protocols of agreement between the CNR-IRET was done only for three of the five universities, i.e. University of Naples Parthenope, University of Salento, and University of Tuscia, since for the University of Naples Federico II and University of Pisa was not possible to include the ITINERIS PhD positions as planned since the financial support could cover only half of the budget required respect to the full fellowship costs.

The start dates for the ITINERIS fellowships of XXIX PhD cycle in the three Universities were: 01.11.2023 for University of Naples Parthenope, 01.11.2023 for University of Salento and 01.11.2023 for University of Tuscia.

The calls for applications for n. 9 PhD positions ITINERIS have been published for the three Universities involved and the evaluation procedures of the candidates have been completed before the end of the first year of the project for a total of n.8 PhD fellowships as follow: n. 2 PhD positions to the University of Naples Parthenope, n. 3 PhD positions to the University of Salento and n. 3 PhD positions to the University of Tuscia.

A total of n.8 PhD fellowships has been assigned as follow: n. 2 PhD positions to the University of Naples Parthenope, n. 3 PhD positions to the University of Salento and n. 3 PhD positions to the University of Tuscia. The start of the PhD courses and the related start of work have been fixed at the beginning of two-months period 7.

2.3 Coordination of the Training Programme

The OU CNR-IRETLE has been carried out the activity of planning and coordination of the training activities dedicated to technical and scientific personnel of RIs, students of XXXVIII and XXXIX PhD cycles, and RIs employees dedicated to science communication.

In a first phase, with respect to the courses dedicated to infrastructure, there was a full actively collaborative effort among the participating research infrastructures and the WPs of ITINERIS project. It has been conducted an initial RIs staff interest mapping of needs in order to define the formative contents of the two years training plan.

The first-year training plan has been primary structured in such a way to *I)* ensure full complementarity in the ESFRI subdomain, regardless of the heterogeneity of the RIs due to the different degree of maturity and size of the research infrastructures involved, *II)* full focuses on filling gaps and enhance human capital of RIs providing specialized training course that complements the expertise of each ESFRI subdomain. This first year training programme has been amplified, in coordination with the Universities which signed the protocols of agreement for XXXVIII and XXXIX PhD programmes with the CNR-IRET, with courses dedicated to early career environmental scientists in ITINERIS PhD programmes, which are focused on the main research area of the RIs involved. During the following two-month periods, thanks to the effective collaboration of all the Operating Units (OUs) involved in WP3 and the referents of the universities (i.e. Universities of Naples Federico II, Naples Parthenope, Pisa, Salento and Tuscia) for the XXXVIII and XXXIX PhD cycles, it was possible to design the second-year training courses for both RI technical and scientific

staff and PhD students avoiding duplication in training contents and maximizing the cross-disciplinary approach.

Despite the commitment of the staff involved, the training courses scheduled have not yet been released due to the need of postponing the launch of the call for tender related to the training course delivery which was majority affect by the delays in the recruitment process of the fixed-term personnel responsible of the training activities in WP3 and the personnel that shall be subject to the training; besides the duration of the selections, in many cases the lack of candidates suitable for the specifications required by the calls led to the need to re-publish the procedures.

However, these delays will not affect the quantity and quality of the training courses that will be delivered to the trainees in ITINERIS and to the organization of the courses and the selection of highly qualified trainers. The training programme will be partially compressed in the second half of ITINERIS workplan as mentioned in Deliverable 3.2 Report Training Executive Working Plan for the second year.

With respect to the delivery of Reports and Deliverables planned are released on time, reporting the motivation of the absence of courses in the first year of the project and reporting the list of the courses that were planned and that will be delivered to the trainees during the second year / beginning of third year of the project.

2.4 ITINERIS training platform and relative training catalogue

As regards the purchase of the training platform and the related training catalogue ITINERIS, it was firstly conducted by the OU a mapping of the availability of training materials, as digital training objects, and of European hosting FAIR training platforms as deeply mentioned in “Deliverable 3.1 Asset: ITINERIS Training Centre Platform”.

The tender with the technical requirements of the training platform and catalogue, and the administrative documents were carefully prepared by OU CNR-IRETLE, with all the necessary requirements to achieve the publication of the tender. The procedures required to launch the tender for the Training Platform has taken a bit longer period respect to programmed plan, but it has been completed during the Bimester 6 and the publication of the DAC will be realized in the next two-month period with a budget of 98.000,00 €. The economic operator for the realization of training platform and the related training catalogue ITINERIS has been identified by the OU CNR-IRETLE in Apphia s.r.l. It is planned to be opened, upon signing the contract, the communication channels with the chosen IT company involving meetings, emails, or calls to establish a working relationship and workplan with the OU. The IT company's proposals for developing the training platform and the related catalogue ITINERIS will be actively assessed under the supervision of the OU in order to ensure that the products meet the needs and the alignment of the project.

3. FIRST ACTIVITY REPORT OF ACTIVITY 3.2

Activity 3.2 focused on the co-organization and management of the training courses planned on access (WP2), and in the atmospheric (WP4) and solid Earth (WP7) domains. To this end, the activities will be supported by hiring two TD units of personnel at CNR-IMAA Potenza, that will work on the issues related to the training activities.

3.1 RTD recruitment

In December 2023 both recruitments were completed. In particular, two units of personnel have been selected: a technologist and a researcher who will support CNR-IMAA activities in the involved work packages. These two TD are working in filling the gap between the WP2, WP4, and WP7 OUs and the training activities.

The technologist was hired through the hiring procedure 400.1 IMAA prot. 2375, published on the 23/12/2022 for hiring 7 technologists at IMAA, one of which will be working on the WP3 activities. The selected units of personnel did not accept the position and communicated it on the 28/04/2023 and 01/05/2023, another TD will be selected within the eligible candidates.

A second unit of personnel has been hired as a researcher supporting the activities of the WP3. Dr. Alessandro Mauceri was hired through the hiring procedure 400.8 IMAA prot. 2383, published on the 23/12/2022. Dott. Mauceri started his activities on the 01/05/2023 unfortunately he quit the position and ended the working activities on the 31/08/2023. Since it was not possible to recruit personnel from the list, a new hiring procedure 400.21 IMAA prot. 0252257, was published on the 29/08/2023.

3.2 Training Programme

During the first year of activity, the permanent staff of CNR-IMAA has been working to guarantee the advancement of activity 3.2 with the organization of training activities, for RI operators and future RIs research staff, on WP2, WP4 and on the solid Earth domain (in collaboration with WP7).

The first activities were focused on the analysis of the training needs on these two scientific topics and domains. The analysis of training needs of the scientific and technical personnel involved in the RIs is essential to support the correct and optimal organization up to the definition of the ITINERIS training programme.

A dedicated agenda points of the recurrent internal meeting of WP2 and WP4 has been dedicated to the selection of specific training topics among the WP4 participants.

During the WP2 meetings the OUs showed interest in organizing a training course on the access theme. In particular, the willing of providing RIs participant the practical knowledge for physical and remote access principles, policies and management emerged. Due to the relevance of the course, the OUs agreed to keep the same course both for the first and the second years.

Regarding the WP4 training programme, during the meeting, the OUs showed interest in a series of courses targeted to the shared knowledge of laboratory activities. An initial draft of the themes of the courses is listed below:

- Atmospheric Standardized observations: methods and maintenance in the labs – In Situ (First year)
- Atmospheric Data acquisition, processing and submission - Remote Sensing (First year)
- Atmospheric composition data exploitation (First year)
- Climate change and urban pollution: challenges and objectives for the atmospheric research (First year)

- Atmospheric Standardized observations: methods and maintenance in the labs - Remote Sensing
- Atmospheric Data acquisition, processing and submission - In Situ

WP4 OUs and partners started to contact scientific experts on the atmospheric domain (including members of the WP4 Scientific Advisory Board) to survey their interest in being involved as teachers in the training courses.

For the WP7, several internal meetings have been carried out for individuate training needs of personnel working in RIs SMINO, ATLaS, and EUFAR. Moreover, CNR-IMAA collaborated with CNR-IREA, OGS, Firenze University and Pisa University for defining the training needs of PhD students for the Solid Earth domain. Regarding the WP7 training programme, during the meeting, the OUs showed interest in a series of courses suggested by CNR-IMAA targeted to the shared knowledge of new instruments purchased with ITINERIS project and the use of Machine Learning for geophysics.

Then, the activities have been oriented to design and define the content of the training programme for the access, atmospheric and solid Earth domains and the time schedule for the 1-year and 2-year courses. We worked on the detailed programme of each course and on the identification of national and international experts that could act as trainers.

4. FIRST ACTIVITY REPORT OF ACTIVITY 3.3

During the first project period, the activities carried out from CNR-IRET Montelibretti can be summarized in the following points:

- Definition of an exploratory survey on the training needs of the RIS.
- Analysis of exploratory survey results and training courses definition.
- Administrative management of purchases of materials and equipment.

4.1 RTD recruitment

Regarding temporary personnel with a level III Technologist profile, the process for the development of the Term of Reference for the n. 2 TD positions has been completed during the first two-month period. The publication request was sent on 20.12.2022 for the “BANDO N. 400.3 IRET PNRR Prot.5636” and for the “BANDO 400.4 IRET PNRR Prot. 5638”, they were both published on the G.U. n. 2 of the 10.01.2023. The CNR-IRETLE promptly nominated the committee for candidates’ selection with the evaluation process began in February and the whole selection process closed before the end of the B3. The contract signatures have been finalized at the begin of B4 for n. 2 units of personnel hired at the CNR-IRET-Montelibretti. The n. 1 level III technologist positions in “BANDO N. 400.3 IRET PNRR Prot.5636” has been assigned to Dr. Sconocchia Paolo, while the level III technologist position published with “BANDO 400.4 IRET PNRR Prot. 5638” has been assigned to Dr. Volpato Erica. Dr. Sconocchia starts his activity on 02/05/2023, and Dr. Volpato on 01/06/2023

The 2 units were allocated respectively Dr. Sconocchia to develop and support training activity for WP6, and Dr. Volpato, who as an administrative role, to manage the purchasing procedures for materials and equipment.

5.2 Training Programme

Several meetings were held to define training program in coordination with the other working groups. The coordination activity aimed to build a course program that did not overlap with that of other groups. The first activity was to define an exploratory survey to collect information from RIS coordinators. A google sheet with specific questions has been prepared and sent to all the interested parties. All results were collected and analysed.

An exploration was carried out to identify the most suitable locations to organize training activity, considering the possibility of carrying out practical and laboratory activity.

5. FIRST ACTIVITY REPORT OF ACTIVITY 3.4

The WP5 strategically worked for the development and implementation of specialized training programs aimed at enhancing the expertise and capabilities of personnel involved in RIs and the education of ITINERIS PhD students (XXXIX Cycle) within the marine sciences domain. Recognizing the critical importance of addressing the evolving challenges and opportunities in marine research, the initiative conducted a thorough analysis through online surveys, direct consultations, and a key meeting in Rome in September 2023. This comprehensive engagement process served to identify the specific training needs across two distinct groups: the staff of research infrastructures and ITINERIS PhD students. The outcome of these discussions was the development of targeted training programs, designed to bridge knowledge gaps and elevate the competencies required for advancing marine research and its applications.

5.1 RTD recruitment

Regarding temporary personnel with a level III Technologist profile, the process for the development of the Term of Reference for the n. 7 TD positions of which 1 position in WP3 has been completed during the first two-month period. The publication request was sent on 17.12.2022 for the “BANDO 400.1 ISMAR PNRR Prot. 6870”, it is published on the G.U. n. 4 of the 17.01.2023. The CNR-ISMAR nominated in March 2023 the committee for selection with the evaluation process began at the end of March and the whole selection process closed at the beginning of the B4. The contract signatures have been finalized in B5 for n. 1 units of personnel hired at the OU CNR-ISMAR, with contract starting date on 03.07.2023. The n. 1 level III technologist positions in “BANDO N. 400.1 ISMAR PNRR Prot.6860” have been assigned to Dr. Giulia Bologna.

5.2 Training Programme

Following the initial identification of educational and skill-related gaps, the WP5 team embarked on the detailed development of two tailored training programs. For research infrastructure personnel, the program is centred around three primary objectives: enhancing skills in the management of oceanographic data in alignment with FAIR and TRUST principles, deepening the understanding of research infrastructure operations and their potential for scientific advancement, and expanding practical experience with a range of oceanographic instruments and methodologies. This program aims to equip staff with the necessary tools and knowledge to effectively manage and utilize oceanographic data, fostering an environment conducive to innovation and discovery in marine research.

In parallel, the training program for the ITINERIS PhD students in marine sciences was developed in collaboration with the supervisor of the XXXIX Cycle. It was designed to address three critical areas of development: reinforcing knowledge of modelling and observational resources, providing hands-on experience with autonomous oceanographic instrumentation, and advancing techniques for data processing and analysis. By focusing on these key aspects, the program intends to prepare the next generation of marine scientists with a comprehensive skill set that spans the theoretical and practical dimensions of marine research. This initiative underscores a commitment to nurturing talent and expertise that will drive future innovations and solutions in addressing global marine and environmental challenges.

6. FIRST ACTIVITY REPORT OF ACTIVITY 3.5

During the first year of the project, the activity 3.5 was carried out by the OU CNR-IGG responsible for trans-Domain organizing transdisciplinary courses the Virtual Research Environments And Cross-Disciplinary.

The training plan is scheduled with intensive courses/hands-on for:

- RI scientific and technical personnel,
- PhD students/future RI research staff
- RI staff on science communication and citizen engagement in science.

6.1 RTD recruitment

The publication request was sent on 24/11/2022 for the “BANDO N. 400.4 IGG PNRR Prot.3218”.

The CNR-IGG promptly nominated the committee for candidates’ selection and contract signature has been finalized at the begin of B5 for n. 1 units of personnel hired at the OU CNR-IGG Pisa, with contract starting date on 03.07.2023. Hiring letter: Prot. n. 196115 of 26/06/2023. Contract: Prot. n. 204603 of 03/07/2023. Start of contract: Prot. n. 204630 of 03/07/2023.

6.2 Training Programme

During B6 the following activities were carried out:

- meeting organized by WP3 “ITINERIS training programme” to discuss organization of training course, minute n.5 dated 21/09/2023 “Lifewatch Italy Community” (<https://community.lifewatchitaly.eu/working-groups/itineris/repository/>)”.
- meetings with ITINERIS staff to define the training course for WP 3.5 activities for year 2024 - 2025 for RI staff and user communities (3.6), future RI research staff (3.7),
- training courses for RI scientific and technical personnel about:
 - Safety in the field work related to RIs (fire risk and sea activities)
 - How to write a successful proposal
 - Safety in the field work related to RIs (towers climbing and hiking principles)
 - VRE operating mode – basic
 - Use open scientific infrastructure facilities and VRE -Advanced
- training courses PhD students/future RI research staff:
 - VRE operating mode – basic
 - Use open scientific infrastructure facilities and VRE - Advanced
 - Safety in lab and field work related to RIs
 - How to present your activities and results

7. LIST OF ACRONYMS

ERI: European Research Infrastructure

ESFRI: European Strategy Forum on Research Infrastructures

FAIR: Findable, Accessible, Interoperable and Reusable

OU: Operative Unit

RI: Research Infrastructure

WP: Work Package