



D3.15 – Assets: Second release of the training resources made available by the Environmental RIs on the ITINERIS FAIR Training Catalogue



Deliverable number:	D3.15
Work package:	WP3 – ITINERIS Training Centre
Intermediate Objective:	IO3.8
Deliverable type:	<input checked="" type="checkbox"/> Document, report
	<input type="checkbox"/> Websites, patent filings, videos, etc.
	<input type="checkbox"/> Other: please specify
Dissemination level:	<input checked="" type="checkbox"/> Public
	<input type="checkbox"/> Restricted
Estimated delivery (bimester):	B20
Actual delivery date:	27/02/2026
Author(s) (Partner-OU):	Mario Ciotti (CNR-IRETLE),
Reviewed by:	Alberto Basset (CNR-IRETLE)
Note:	

IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System - CUP B53C22002150006 (D.D. n. 130/2022)
 Funded by EU - Next Generation EU
 Mission 4 “Education and Research” - Component 2: “From research to business” -
 Investment 3.1: “Fund for the realisation of an integrated system of research and innovation infrastructures”

Table of contents

1. INTRODUCTION.....	4
2. DIGITAL TRAINING OBJECTS: OVERVIEW OF ASSETS.....	5
3. IMPLEMENTATION OF THE FAIR METADATA PRINCIPLES IN WP3 DIGITAL TRAINING OBJECTS.....	7
4. ACRONYM LIST	9

1. INTRODUCTION

The document describes the release of the training assets made available for the environmental Research Infrastructures involved in the project, which are now accessible through the LifeWatch Italy and ITINERIS Metadata Catalogues, focusing on the management of Digital Training Objects (DTOs) and their metadata information.

This document was expected to be released in Bimester 20 and to be included in Intermediate Objective IO3.8; it is produced under the responsibility of the Operative Unit (OU) of the National Research Council – Research Institute on Terrestrial Ecosystems (CNR-IRET).

The document is organized into four chapters, including this one. Chapter 2 provides a brief quantitative analysis of the digital assets derived from the 70 training courses delivered within WP3. Chapter 3 describes the workflow that accompanies each resource from creation to validation, while Chapter 4 contains the acronyms used in this document

2. DIGITAL TRAINING OBJECTS: OVERVIEW OF ASSETS

The resources defined as Digital Training Objects are the self-contained and reusable digital learning units, such as presentations, videos, and interactive modules, specifically designed to support the training activities of WP3. These resources originate from the 70 courses delivered within WP3, which targeted *I*) the scientific and technical personnel of the 22 Research Infrastructures (Activity 3.6); *II*) the PhD students from the XXXVIII and XXXIX PhD cycles from the five universities (i.e. University of Naples Federico II, University of Naples Parthenope, University of Pisa, University of Salento and University of Tuscia) supported by ITINERIS and involved in Activity 3.7, and, *III*) the personnel of research infrastructures responsible for scientific communication (Activity 3.8).

The ITINERIS training platform (training.itineris.cnr.it), illustrated in Figure 2.1, serves as the central hub for the delivery of the WP3 training courses and resources. To date, the platform hosts a catalogue of over **1.200** digital resources, structured to provide comprehensive coverage of topics within scientific research and eScience. The available digital resources are centralized around the major ESFRI sub-domains in the environmental field, offering specialized insights into the atmosphere, terrestrial biosphere, geosphere, and marine environment. Furthermore, the platform fosters crucial skills in programming, FAIR data management, ICT methodologies, and provides dedicated resources for the use and development of Virtual Research Environments (VREs) and for the science communication.

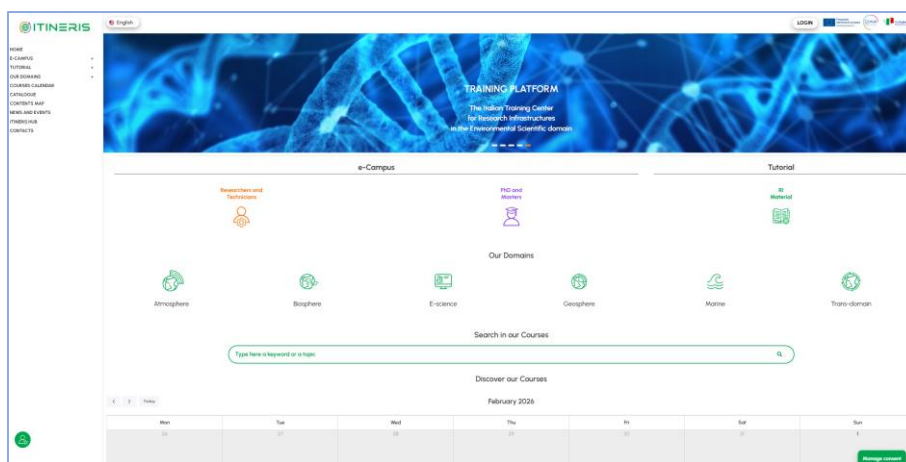


Figure 2.1. ITINERIS training platform homepage. The scientific domains of interest, under which the resources are categorized, are displayed at the centre. Users can access courses and their related materials by selecting a specific domain of interest, searching for a resource via the search bar or the Knowledge Base, or picking a course directly from the calendar located at the bottom. Alternatively, the sidebar offers an e-campus section, where courses are grouped according to the target audience (i.e., infrastructure personnel or PhD students).

Of the more than 1,200 digital resources available on the ITINERIS training platform, the 100% of the DTOs provided in WP3 activities, precisely **603**, have been indexed and their metadata have been made available in the LifeWatch Italy Metadata Catalogue (<https://metadatalogue.lifewatchitaly.eu>) (Figure 2.2) and are subsequently harvest by the ITINERIS FAIR Metadata Catalogue.

Almost the entirety of these resources are fully Open Access, full fitting the project’s aims to provide high-quality scientific knowledge openly and free of charge in order to improve Research Infrastructures and their users to effectively address the technological challenges that impact the quality of life. A smaller fraction remains restricted only for participants, as not all DTOs could be released under fully open licenses (e.g., CC-BY). In a few cases, lecturers or their organizations opted for more restrictive licenses to protect proprietary data or comply with Intellectual Property (IP) constraints regarding the original training materials.

Instead, the remaining portion of approximately 600 resources, which are not indexed in the metadata catalogue, consists of *I*) target-specific duplicates, that are versions of DTOs tailored by lecturers for different student audiences, which were excluded from metadata indexing to avoid redundancy; *II*) training courses or resources that cannot be made Open Access due to decisions by the lecturers or their respective organizations to prevent the public release of data or information protected by copyright or intellectual property rights; *III*) auxiliary support materials, that are resources not classified as DTOs but which serve as essential functional assets used during Activities 3.6, 3.7, and 3.8 and include pre-course assessments, scientific papers, certificate generation tools, exam modules, satisfaction-evaluation surveys, and shared working folders;

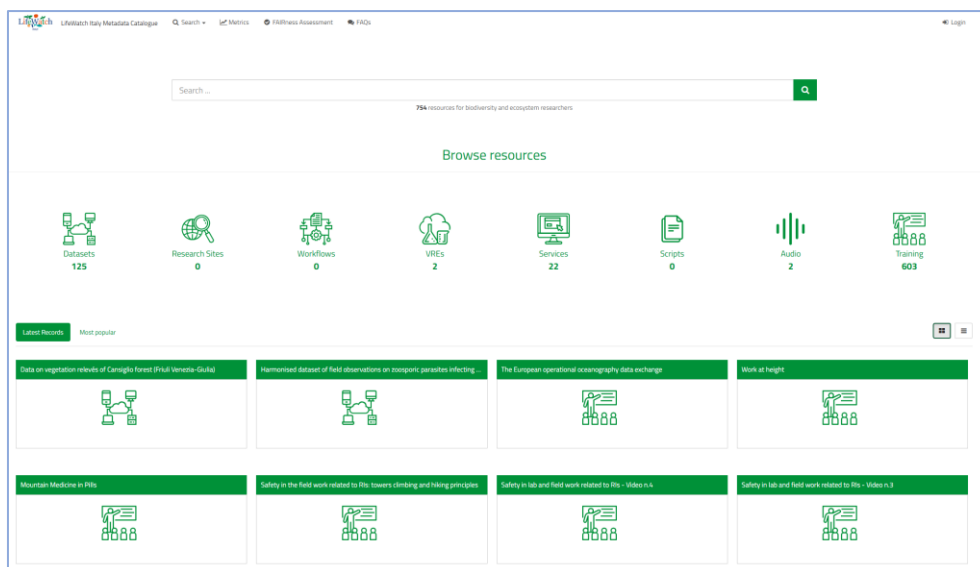


Figure 2.2. Metadata Catalogue homepage. At the centre there are the categories for the uploaded metadata, the last one correspond to the “training section” where the 603 metadata of the WP3 digital training objects are uploaded. The latest metadata entries added to the catalogue are shown at the bottom.

3. IMPLEMENTATION OF THE FAIR METADATA PRINCIPLES IN WP3 DIGITAL TRAINING OBJECTS

To ensure the FAIR principles (Findable, Accessible, Interoperable, Reusable), each DTO is accompanied by a rigorous set of descriptive metadata, and for this purpose, the *EOSC – Training Profile* was utilized, which includes basic information, detailed access data, contacts, and learning-related information. As previously reported in the preceding chapter, the majority of the 603 DTOs have been published in Open Access mode; in only a few cases were more restrictive licenses adopted due to intellectual property constraints on the original materials. The workflow, from upload to the validation and publication of metadata, is illustrated in the conceptual map in the figure 3.1. Every phase has been developed under the coordination and supervision of the UO CNR-IRET Lecce of the Training Centre.

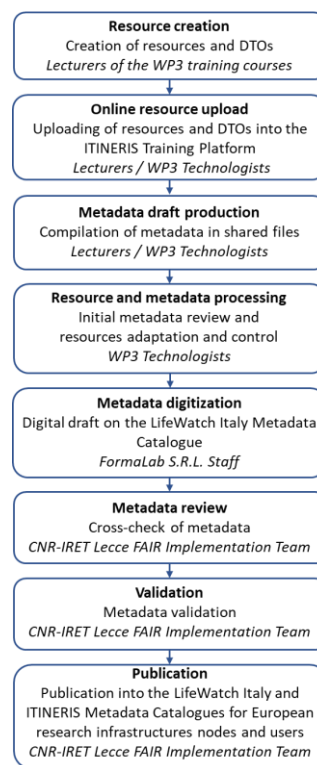
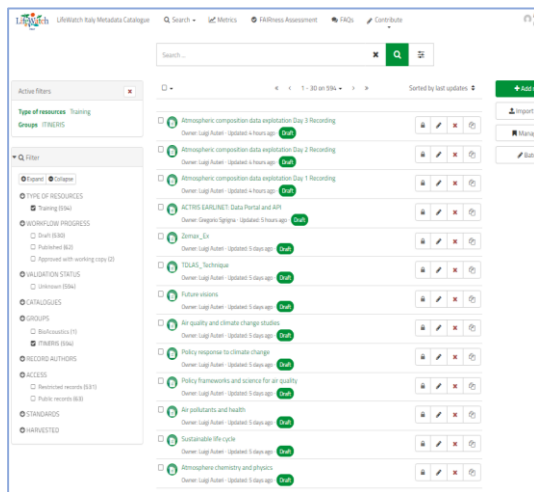
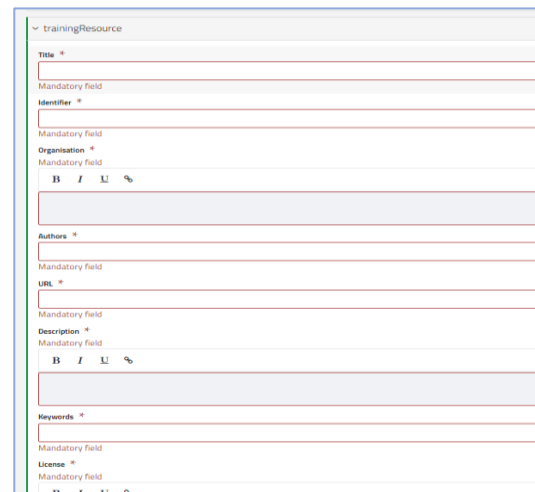


Figure 3.1. The workflow describes the lifecycle of the digital training objects, from their creation to their publication in the metadata catalogues. The process is structured into eight sequential phases involving different categories of operators.

Figure 3.2 illustrates part of the specific phase of the metadata ingestion process for a training resource within the LifeWatch Italy Metadata Catalogue. Since the Metadata informations, the training resources, and the Wp3 platforms are foundational components of LifeWatch ERIC Service Centre, the long-term sustainability and operational continuity of these assets are intrinsically guaranteed. This structural alignment ensures that governance, technical maintenance, and accessibility will persist well beyond the official conclusion of the ITINERIS project, allowing all the resources, the services and investments made to continue and be available to the national and international scientific community.



A



B

Figure 3.2. LifeWatch Italy Metadata Catalogue. A Metadata control and management page for users with editor privileges, the interface displays all the uploaded metadata and allows for the addition of new records via the configuration menu in the top right corner. B Input page for training resources information; many fields are mandatory, while others are optional.

4. ACRONYM LIST

ESFRI: European Strategy Forum on Research Infrastructures

ICT: Information and Communication Technology

IP: Intellectual Property

DTO: Digital Training Resource

FAIR: Findable, Accessible, Interoperable, Reusable

RI: Research Infrastructure

VRE: Virtual Research Environments

WP: Work Package