

Deliverable 2.

Guidelines for how to get DOIs in ITINERIS



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1. INTRODUCTION

The DOI (Document Object Identifier) is a unique and permanent identifier for digital objects, such as for example a dataset, research paper, software, etc ...

The main aim of a DOI is to provide a stable and permanent link to the digital object, to allow users to easily locate and access it over long-term, also in case its physical location changes.

DOIs are managed by trusted registration agencies, such as CrossRef, DataCite, or mEDRA, and they resolve to a landing page that provides metadata and access to the object being identified.

Detailed information about the DOI System can be found in DOI Handbook (the latest current version of the handbook: <https://doi.org/10.1000/182> [DOI® Handbook](#)).

Having a DOI for digital objects provides several benefits:

1. Permanent and stable access.
2. Improved discoverability, increasing visibility and impact of research.
3. Reliable citing.
4. Better data management.

One of the main ITINERIS project objectives is to provide easy, fast, and open access to data and other research outputs already existing and made available by the Italian Research Infrastructures in the environmental scientific domain or produced through the project. To unlock the potential of analysis and data integration at scale and across a distributed, federated infrastructure is one of the key benefits of making FAIR a reality. In order to put this into practice, ITINERIS promotes and coordinates specific actions needed to ensure data and other research outputs are made FAIR.

One of this action is ITINERIS DOI assignment service.

2. BEST PRACTICES FOR DOI ASSIGNMENT

The format of DOIs typically consists of a prefix followed by a unique identifier assigned by the registration agency. The DOI resolves to a landing page that provides metadata and access to the digital object being identified.

Best practices for coining DOIs could be here summarized:

1. Assign unique DOIs: each DOI must be unique and permanent and cannot change over time.
2. Use a trusted DOI registration agency: use a recognized and trusted DOI registration community with an accurate and consistent list of metadata properties.
3. Ensure resolvability: DOIs should resolve to a landing page that provides metadata and access to the full-text or object being identified.

4. Provide complete metadata: the landing page should provide complete and accurate metadata, including title, authors, publication date, persistent DOI URL and citation.
5. Use a consistent format: such as recommended by the International DOI Foundation.
6. Update and maintain the DOI record: regularly update and maintain the DOI record to ensure that it continues to resolve to the correct landing page.

3. ITINERIS General requirements for DOI assignment

CNR-IMAA, on behalf of ITINERIS may assign a DOI on datasets or other data related to ITINERIS, through the trusted community DataCite metadata service (<http://doi.datacite.org/>).

The related repository is the “ITINERIS HUB” managed by CNR-IMAA.

The repository is also registered on re3data.org, a global registry of research data repositories: <http://doi.org/10.17616/R31NJNPD> and on FAIRsharing.org, a resource on data and metadata standards, inter-related to databases and data policies: <https://doi.org/10.25504/FAIRsharing.da9bec>.

The landing page associated to the DOI will be <https://hub.itineris.cnr.it/>. During full operation of the ITINERIS HUB there will be an automated procedure in the metadata catalogue to add metadata to datasets and assign a DOI.

ITINERIS Data Manager is Ermann Ripepi (CNR-IMAA).

The Data Creator will include always the WP leader of the specific domain or sub-domain that have in charge the responsibility to approve the dataset or the scientific product.

This document provides guidelines for the distribution of ITINERIS DOIs, recommendations on granularity and a list of recommended metadata to include.

4. Granularity

DOI can identify a whole dataset, a subset of a dataset, or a single data file within a dataset taking into account the nature, purpose, and scope of the data products. Granularity in DOIs is the level of detail to which a DOI is assigned, and it depends on how the data provider assigns and registers DOIs for their data products.

When deciding on granularity in DOIs data user should be carefully considered in order to avoid confusion or inconsistency (for example of different levels of granularity are used for citing or accessing the same type of data products). Moreover, a right balance has to be taken into account: if a dataset is produced every day, a collection of datasets over time might be more sensible than a dedicated DOI for each dataset.

As a general rule in ITINERIS, the recommendation is to have the granularity of one DOI for each dataset (no single data). In special cases other granularities can be considered.

5. Steps in generating a DOI

- 1) Contact the CNR-IMAA team at dedicated email address: doi@itineris.cnr.it in order to get a DOI.
- 2) Fill in the template with all the requested information (see Annex 1).
- 3) Check the draft DOI before to set it to “findable and persistent state” After receiving confirmation from the requester/responsible person, the DOI will be assigned and the related landing page created. A confirmation email will be sent to the requester/responsible person.

6. Required fields to associate the DOI

The metadata schema used for coining the DOIs follows the DataCite metadata schema. For more information visit: <https://schema.datacite.org/>.

Attached you will find the template with the required fields to associate a DOI with a dataset. Subsequently, we will also publish templates for other types of digital objects (software, documentation, paper)

Fields descriptions:

- The first sheet contains general information.
- The second sheet is related to the Creators field and is mandatory (e.g., PI, Deputy, and other main researchers involved in producing the data, or the authors of the publication, in priority order).
- The third sheet is related to the 'Contributors - Data collector' and is optional (people involved in carrying out observations and/or managing instruments).
- The fourth sheet is related to the 'Contributors - Data curator' and is optional (person tasked with reviewing, enhancing, cleaning, or standardizing metadata and the associated data submitted for storage, use, and maintenance within a data center or repository - for example, the WP2 DOI team).
- The last sheet is related to funding sources.

Example

10.71763/itineris-hub/randomic_suffix

Title:

Title of the product for which the DOI is being associated.

Description:

Brief description of the product for which the DOI is being associated.

Creators:

Names of the people (ORCID ID) with their affiliation to the Institution (ROR ID): PI, Deputy, and people involved in generating the final product.

ITINERIS WP environmental subdomains leader.

2/3 ITINERIS HUB WP2 people who contributed to generating the DOI.

Contributor – Data Collector:

Names of the people (ORCID ID) with their affiliation to the Institution (ROR ID).

Contributor – Data Curator: ITINERIS WP2 DOI team, WP2 leader.

Contributors: DataManager:

ITINERIS WP2

Contributors: ContactPerson:

Point of contact OU/site

Contributors: HostingInstitution:

CNR-IMAA

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ITINERIS