



# RESILIENCE

Grant Agreement 101079792, RESILIENCE PPP

## Data Management Plan

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00.02	05/08/2024	WORKING	Working Version	Review and inclusion of feedback from discussions with Data Unit Members
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## Glossary

**Application Profile (AP):** An application profile (AP) describes how a standard is to be applied in a particular domain or application.

**Data Management Plan (DMP):** A data management plan, or DMP, is a formal document that outlines how data will be handled during and after a research project. The purpose of writing DMP is to describe which research data you will generate and use in your research, and plan how to organise, document, store, preserve and share them, in line with ethical and legal requirements that apply. Most research funders require beneficiaries to write and implement a DMP.

**Dataset:** A dataset is an organised collection of data, which in the context of research (infrastructure) is preferably made findable, accessible, interoperable and reusable (FAIR).

**DOI:** A Digital Object Identifier is a persistent identifier used to uniquely identify an object.

**EOSC:** The European Open Science Cloud will provide European researchers and others with a federated and open multi-disciplinary environment where they can publish, find and reuse data, tools and services for research, innovation and educational purposes.

**FAIR:** Guiding principles that improve the **F**indability, **A**ccessibility, **I**nteroperability, and **R**euse of digital assets.

**GLAM:** GLAM is an acronym for galleries, libraries, archives, and museums and refers to cultural institutions with a mission to provide access to knowledge by making their primary sources accessible to researchers.

**Open Science (OS):** An approach to the scientific process that focuses on spreading knowledge as soon as it is available using digital and collaborative technology. Open Science facilitates sharing and collaboration, thereby accelerating the discovery process, improving research quality, and making science more impactful and central to human and societal development<sup>1</sup>.

**Research Data Lifecycle:** The research data lifecycle includes everything from planning how data will be collected, to publication, to long term data preservation, to possible reuses of data.

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<sup>1</sup> [https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science\\_en](https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en)

**Research Data Management (RDM):** Research Data Management (RDM) refers to the handling of research data (collection, organisation, storage, and documentation) during and after a research activity. Good data management helps ensure that researchers share their data in a FAIR way (findable, accessible, interoperable, and reusable)<sup>2</sup>.

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<sup>2</sup> <https://scienceeurope.org/our-priorities/research-data/research-data-management/>

## 1 Introduction

### 1.1 Scope

This document entails the first version of the recommended data management practices and guidelines for our members, associated partners, data providers and researchers affiliated to the RESILIENCE community working with or depositing data to the RESILIENCE ecosystem. The Grant Agreement of the RESILIENCE Preparatory Phase Project (PPP) specifies that D2.4 Data Management Plan details “how to make data FAIR, including what data RESILIENCE manages, whether and how it is made accessible for verification and re-use, and how it will be curated and preserved”<sup>3</sup>. The final version of this deliverable is due in September 2025.

Though this deliverable is specified as document type “DMP – Data Management Plan” in the Grant Agreement, it goes beyond the scope of the RESILIENCE PPP DMP of which the initial version was delivered as part of WP6 – T6.2 in Month 6<sup>4</sup>. The RESILIENCE PPP DMP specifically entails the data management within the Grant Agreement Project 101079792 and utilises the Data Management Plan template for Horizon Europe. An updated version of the RESILIENCE PPP DMP is provided in annex ‘III. RESILIENCE PPP DMP (v02.00, July 2024)’ of this document.

D2.4 in its entirety goes beyond the scope of the Preparatory Phase project and the consortium members involved. It is intended to be a living document in which information can be made available on a finer level of granularity through updates as the implementation of the project progresses and when significant changes occur. This document provides the first set of recommended practices, guidelines and services for working with data according to the FAIR principles within the context of the RESILIENCE Research Infrastructure (RI). RESILIENCE will continue to monitor and adjust this document as the RI matures and new services become available.

### 1.2 Document overview

This document, titled “Data Management Plan,” is identified as Deliverable D2.4 within the RESILIENCE PPP project framework. The primary goal of this document is to outline the recommended data management

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<sup>3</sup> Grant Agreement Project 101079792 — RESILIENCE PPP, Part A - p17.

<sup>4</sup> T6.3 Data Management: The Data Management Plan, devised and updated in the frame of T2.5, is translated into practice in T6.3. The activity of the task is to implement the DMP by ensuring that all the activities of RESILIENCE comply with it, not only as far as WP2 (services) is concerned, but also with regards to the other WPs. From: Grant Agreement Project 101079792 — RESILIENCE PPP, Part A – p11.

practices and guidelines for researchers, data producers, and data providers associated with the Religious Studies community and the RESILIENCE ecosystem. The Data Management Plan (DMP) serves as a comprehensive guide to ensure that data handled within the RESILIENCE project adheres to high standards of management, accessibility, and usability. The document extends beyond the initial scope defined in the RESILIENCE Preparatory Phase Project (PPP) Grant Agreement, aiming to provide a living document that evolves with the project.

The **introduction** outlines the objective of the DMP, emphasising the importance of making data FAIR (Findable, Accessible, Interoperable, Reusable).

The **target audience** includes data producers, such as researchers and organisations that create or collect data within the context of the RESILIENCE project, and data providers, entities that supply primary and secondary data, such as libraries, archives, and museums (GLAM sector), which are crucial for the Religious Studies research community. It also considers research data management practices and tools relevant for the Religious studies community.

The section on the **Open Science and FAIR principles** briefly touches on the RESILIENCE Open Science policy. It continues to discuss important existing tools that play a vital role in ensuring that the data is managed according to the FAIR principles and remains accessible and reusable over time. For **data producers**, the document outlines the importance of creating a DMP early in the project, providing templates and tools like ARGOS for DMP creation. It offers recommendations for using appropriate metadata standards, organising files, securing storage, and adhering to legal and ethical guidelines. References to relevant guidelines for sharing data according to the FAIR principles are provided, including the use of persistent identifiers, rich metadata, and open licences. **Data providers** are guided on how to include information on collections and datasets on the RESILIENCE website, the requirements for submitting datasets to the RESILIENCE Zenodo community, ensuring compliance with metadata standards and open licensing, and the process for contributing metadata to the RelReSearch platform, including standards, protocols, and legal requirements.

By leveraging the usage of the Zenodo, and EUDAT B2DROP infrastructures, RESILIENCE ensures that data management practices are robust, scalable, and aligned with the principles of Open Science. These tools and services are integral to the project's commitment to making research data findable, accessible,



interoperable, and reusable, thereby enhancing the overall quality and impact of the research conducted within the Religious Studies community.

The document includes **several annexes** providing detailed templates, agreements, and application profiles to support the practical implementation of the guidelines. These annexes include the ReIReSearch Ingest Agreement, which details the settings and procedures for ingesting data into the ReIReSearch discovery environment, the ReIReSearch Application Profile, which defines the supported metadata elements and standards for integrating data into the ReIReSearch platform, the RESILIENCE PPP DMP, an updated version of the Data Management Plan specific to the Grant Agreement Project 101079792, and the Metadata Requirements for Zenodo RESILIENCE Community, which provides detailed requirements for submitting metadata to the Zenodo community.

This Data Management Plan is an essential document for the RESILIENCE project, providing a robust framework for managing, sharing, and preserving research data in accordance with Open Science and FAIR principles. It aims to enhance the accessibility and usability of research data, fostering a collaborative and transparent research environment within the Religious Studies community.

## 2 Target audience and resource type

The recommended practices and guidelines in this document are aimed at two target audiences: data producers and data providers.

A **Data Producer in the context of RESILIENCE** creates, generates or collects data for research purposes. This will typically be the researchers making use of the RESILIENCE research infrastructure services. In addition, resources will be produced in the context of various RESILIENCE activities performed by the members in the different working units. The details on the type of data collected and agreed practices on data handling by the RESILIENCE PPP consortium are described in the RESILIENCE PPP DMP which was delivered as part of WP6 in Month 6 of the project. An updated version of the project DMP can be found in the annexes section 'III. RESILIENCE PPP DMP (v02.00, July 2024)'.

RESILIENCE aims to provide tools and services that assist researchers in all steps of the research data life cycle and will provide access to knowledge, training and advice to achieve a higher level of uptake of Open Science practices by our research community, including FAIR data sharing. This document contains the guidelines for managing and sharing research data by the Religious Studies community.

A **Data Provider in the context of RESILIENCE** supplies or makes primary and secondary data available to our community of researchers for reuse. Important data providers for RESILIENCE are libraries, archives and museums (GLAM sector) as they hold valuable collections that form the basis of research in Religious Studies. This target audience is important because RESILIENCE needs to work with data providers such as data librarians and data managers to improve access to relevant data for the Religious Studies community.

A data provider may or may not be the original producer and the RESILIENCE infrastructure itself can act as provider to other platforms (e.g. SSH Open Marketplace, EOSC portal). This document contains the guidelines for sharing relevant data for reuse by the Religious Studies community.

In alignment with the Social Sciences & Humanities Open Marketplace, we can categorise research infrastructure resource types into 5 types: tools & services, training materials, publications, datasets, workflows<sup>5</sup>. **Data Management mainly concerns datasets**. A **dataset** is an organised collection of data, which in research (infrastructure) context is preferably made findable, accessible, interoperable and reusable (FAIR). In the GLAM sector datasets are often referred to as 'Collections as Data'. This comes from

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<sup>5</sup> SSH Open Marketplace: <https://marketplace.sshopencloud.eu/>

the idea that digital information about collections (e.g. metadata, digital representations, other documentation) can serve as data for computationally driven research enquiries<sup>6</sup>.

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<sup>6</sup> Padilla, T., Scates Kettler, H., Varner, S., & Shorish, Y. (2023). Vancouver Statement on Collections as Data. Zenodo. <https://doi.org/10.5281/zenodo.8342171>

### 3 Open Science and FAIR principles within the context of RESILIENCE

The RESILIENCE Open Science Policy<sup>7</sup> reflects the values of our community that recognizes that access to scientific knowledge is a universal right. As such, RESILIENCE wishes to make the knowledge produced through its service offerings as openly accessible as possible for everybody.

RESILIENCE recognizes Open Science as one of its guiding principles and commits to it by:

- supporting Open Science research practice and the uptake of the FAIR principles through support of skills development;
- enabling the free dissemination of knowledge and the accessibility of outputs related to open science;
- encouraging open access to publications and their metadata;
- encouraging and facilitating the sharing of data and software under open licences;
- facilitating usage of world class infrastructure and services in support of open science;
- engaging with related SSH research infrastructures to ensure effective dissemination of existing knowledge and cooperation to advance open science.

In line with Open Science principles, RESILIENCE is committed to supporting our community in making their research outputs FAIR through existing state-of-the-art tools for research data management and FAIR data sharing. The most important tools at this early stage of RDM practice by the Religious Studies community are:

- **ARGOS**<sup>8</sup>: ARGOS is an open extensible service operated as part of the OpenAIRE infrastructure. The platform simplifies the management, validation, monitoring and maintenance of Data Management Plans (DMPs). It allows actors (researchers, managers, supervisors etc.) to create actionable DMPs that may be freely exchanged among infrastructures for carrying out specific aspects of the data management process in accordance with the intentions and commitment of data owners.

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<sup>7</sup> The RESILIENCE Open Science Policy is part of D2.1 Services Preparation and Implementation Strategy, v1 (March 2024).

<sup>8</sup> <https://argos.openaire.eu>

- **Zenodo**<sup>9</sup>: Zenodo is a general-purpose open repository operated by CERN. It allows researchers to deposit research papers, data sets, research software, reports, and any other research related digital artefacts. For each submission, a persistent digital object identifier (DOI) is minted, which makes the stored items easily citable. RESILIENCE has its own community space on Zenodo which was specifically set up to better support our research community towards open and FAIR data sharing practices<sup>10</sup>. Researchers making use of the RESILIENCE community on Zenodo will be required to publish their data under an open licence, with CC-BY being the default standard. This licence enables reusers, including commercial users, to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator.<sup>11</sup> Exceptions are made for legal opt-outs due to privacy, intellectual property rights, ethical aspects, and aspects of dual use. Deposit of data resources in the RESILIENCE ecosystem does not indicate direct ownership or control by RESILIENCE. Data and associated data services resulting from the work of the different RESILIENCE working units will apply to the same principles of openness and FAIR.
- **EUDAT B2DROP**<sup>12</sup>: B2DROP is a low-barrier, user-friendly and trustworthy storage environment which allows users to synchronise their active data across different desktops and to easily share this data with peers. B2DROP offers a free public basic instance with 20 GB of storage for any researcher and is a valuable alternative to commercial cloud solutions for the RESILIENCE community.

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<sup>9</sup> <https://zenodo.org/>

<sup>10</sup> <https://zenodo.org/communities/resilience/>

<sup>11</sup> <https://creativecommons.org/licenses/by/4.0/>

<sup>12</sup> <https://eudat.eu/service-catalogue/b2drop>

## 4 Best practices and guidelines for data producers

*Disclaimer: There is already a wealth of information on good RDM practices and tools available online. As RESILIENCE encourages reuse, some of the most relevant online resources from both our consortium partners and from other European Research Infrastructures are listed below.*

Data producers using the RESILIENCE services are encouraged to share their data according to the FAIR principles (Findable, Accessible, Interoperable, Reusable)<sup>13</sup> to ensure that other researchers can easily find, access, understand, and reuse data that has been collected and generated with the help of RESILIENCE resources. To achieve a high level of FAIRness, good data management practices should be followed throughout the research data lifecycle. Below are the basic recommendations for the Religious Studies community. At this point RESILIENCE does not restrict to certain metadata standards and formats accepted due to the variety of data types present in SSH research and the limited knowledge on standards by many researchers in Religious Studies domain at present, which would at this stage inhibit the uptake of data sharing practices by the community. The below therefore presents general guidance with links to relevant learning resources related to:

- writing a Data Management Plan (DMP),
- managing data according to RDM best practices,
- sharing data according to the FAIR principles.

### 4.1 Writing a Data Management Plan (DMP)

A Data Management Plan will help researchers to think about and prepare for the organisation, documentation, storage, preservation and sharing of research data during their project. Most research funders require beneficiaries to write and implement a DMP and expect regular updates throughout the project. Also without this obligation, researchers should consider writing a first basic version of a DMP as early as the project conception and proposal phase. This will help clarify what data will be collected, how it will be managed and shared with colleagues and the wider community, what tools will be needed and will help with a better estimation of the budget needed for data management throughout the research data lifecycle of the project.

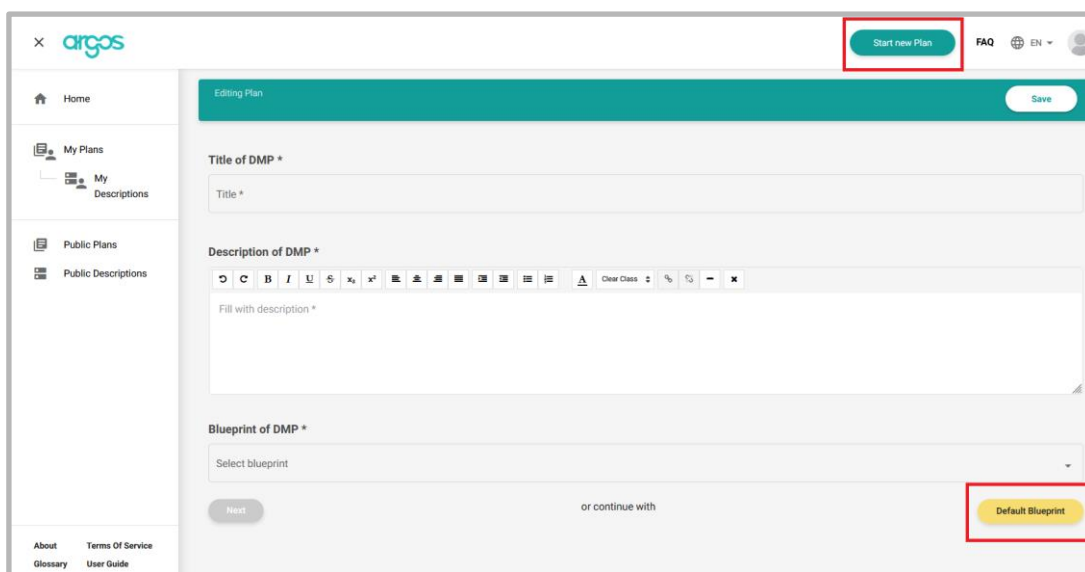
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<sup>13</sup> <https://www.go-fair.org/fair-principles/>

Sometimes funders provide a specific DMP template so one should always check funder requirements. ARGOS can be used as a free tool to create a DMP in case no funder DMP tool or template is available. At this point RESILIENCE does not have its own DMP template in ARGOS as there are already several high quality templates available for reuse. Relevant templates for our community are:

- Horizon Europe: The Argos instance of the Horizon Europe template.<sup>14</sup>
- Science Europe: The Science Europe template based on the RDM Practical Guide.<sup>15</sup>
- Data Management Plan Template - University of Bologna: Template prepared by the Data Stewards of the University of Bologna to support researchers in drafting a DMP.
- IOSSG Template for ITSERR: Template inspired by the work done by the IOSSG Data Management Plan Checklist. It was created by a project affiliated to RESILIENCE, ITSERR<sup>16</sup>, to support EU Horizon and Next Generation EU Research Projects.<sup>17</sup>

Researchers can 'Start a new Plan' and then select the 'Default Blueprint' in the right bottom corner.



ARGOS DPM tool. Click top right to start a new plan, Click bottom right to select the 'Default Blueprint' template.

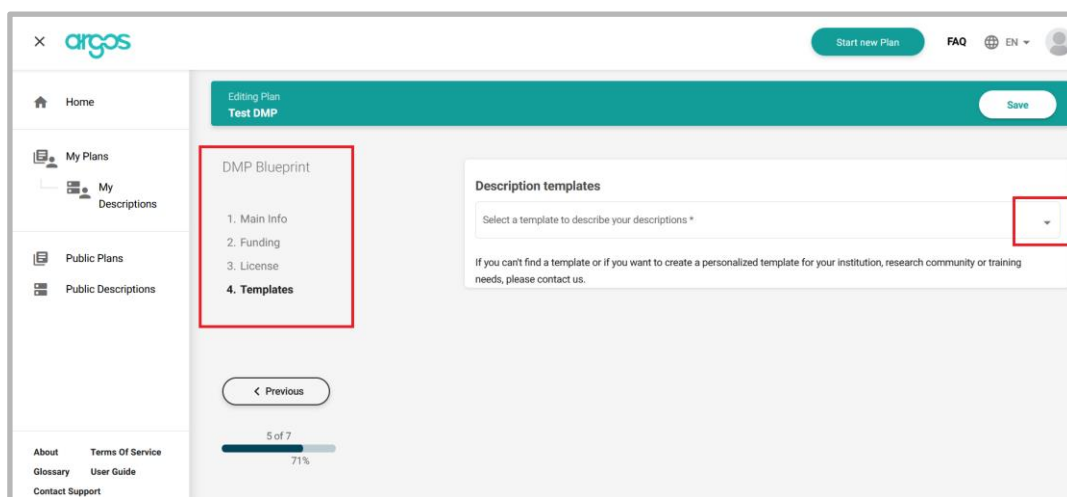
<sup>14</sup> [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/report/data-management-plan\\_he\\_en.docx](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/report/data-management-plan_he_en.docx)

<sup>15</sup> <https://scienceeurope.org/our-resources/practical-guide-to-the-international-alignment-of-research-data-management/>

<sup>16</sup> The purpose of the ITSERR project is to strengthen the RESILIENCE RI in its preparatory phase. The project is funded by the Italian Ministry of Research with NextGenerationEU programme. <https://www.itserr.it/>

<sup>17</sup> <https://sites.google.com/view/iossg/materialmaterials>

The next step is to complete the required information under '1. Main Info', '2. Funding' and '3. Licence' and select a description template from the drop-down '4. Templates' to add the required details. For more guidance on ARGOS, see the table below.



ARGOS DPM tool. Selection of a description template in tab '4. Templates' drop-down.

Resource name	Link
Research Data Lifecycle intro	<a href="https://ukdataservice.ac.uk/learning-hub/research-data-management/">https://ukdataservice.ac.uk/learning-hub/research-data-management/</a>
Research Data Lifecycle video	<a href="https://youtu.be/OL_Vd9dd-AQ?feature=shared">https://youtu.be/OL_Vd9dd-AQ?feature=shared</a>
ARGOS - Start your DMP	<a href="https://argos.openaire.eu/home">https://argos.openaire.eu/home</a>
ARGOS - User guide	<a href="https://argos.openaire.eu/user-guide">https://argos.openaire.eu/user-guide</a>
ARGOS - Tool tutorial	<a href="https://www.youtube.com/watch?v=FNQ88o1VX1c">https://www.youtube.com/watch?v=FNQ88o1VX1c</a>
Practical guidance	<a href="https://www.dcc.ac.uk/dmps">https://www.dcc.ac.uk/dmps</a>
Example DMPs	<a href="https://www.dcc.ac.uk/resources/data-management-plans/guidance-examples">https://www.dcc.ac.uk/resources/data-management-plans/guidance-examples</a>

## 4.2 Managing data according to RDM best practices

This section includes information on the use of appropriate metadata standards and open file formats, good file organisation and storage practices, and proper data handling according to data privacy, intellectual property rights and ethical guidelines. The RESILIENCE community is encouraged to:

- Use widely adopted standards in social science and humanities. For instance, Dublin Core, TEI, DDI, CIDOC CRM etc. An overview of standards and vocabularies can be found on <https://fairsharing.org>.



This platform provides among others an overview of curated resources on data and metadata standards with a possibility to filter on standards applicable to social sciences and humanities.

- Use standard, interchangeable or open data formats to ensure long-term accessibility and usability of data (e.g. CSV instead of MS Excel). Cf. 'Preferred file formats' references in table below.
- Organise files in a clear (folder) structure and use clearly named and version-controlled file names throughout the research project. It is important to develop procedures before data gathering starts.
- Select secure storage that provides regular back-ups. Don't store data on local devices (laptop, USB) as you risk losing it (e.g. theft, crash). Use the storage solutions offered by your organisation (e.g. institutional Microsoft OneDrive storage). Researchers who don't have access to secure institutional storage solutions can also use the EUDAT B2DROP service which offers a 20GB free storage space for researchers in a secure environment<sup>18</sup>.
- Handle data according to privacy (GDPR, personal identifiable information), ethical (research involving human participants) and legal regulations (copyright, 3<sup>rd</sup> party rights).

Resource name	Link
General guidance on RDM	<a href="https://ukdataservice.ac.uk/learning-hub/research-data-management/">https://ukdataservice.ac.uk/learning-hub/research-data-management/</a>
Guidance on RDM in Humanities	<a href="https://campus.dariah.eu/resource/posts/dariah-pathfinder-to-data-management-best-practices-in-the-humanities">https://campus.dariah.eu/resource/posts/dariah-pathfinder-to-data-management-best-practices-in-the-humanities</a>
General guidance on data standards	<a href="https://www.kuleuven.be/rdm/en/guidance/data-standards">https://www.kuleuven.be/rdm/en/guidance/data-standards</a>
Knowledge clip on data standards	<a href="https://kuleuven.mediaspace.kaltura.com/media/Data+description/1_xrq5kkur">https://kuleuven.mediaspace.kaltura.com/media/Data+description/1_xrq5kkur</a>
Overview of standards and vocabularies	<a href="https://fairsharing.org/">https://fairsharing.org/</a> ; <a href="https://www.dcc.ac.uk/resources/subject-areas/social-science-humanities">https://www.dcc.ac.uk/resources/subject-areas/social-science-humanities</a>
Preferred file formats	<a href="https://dans.knaw.nl/en/about/services/easy/information-about-depositing-data/before-depositing/file-formats">https://dans.knaw.nl/en/about/services/easy/information-about-depositing-data/before-depositing/file-formats</a> , <a href="https://www.kuleuven.be/rdm/en/rdr/file-formats">https://www.kuleuven.be/rdm/en/rdr/file-formats</a>
File organisation system	<a href="https://www.kuleuven.be/rdm/en/guidance/data-standards/file-organisation">https://www.kuleuven.be/rdm/en/guidance/data-standards/file-organisation</a>
Legal and ethical guidance	<a href="https://www.kuleuven.be/rdm/en/guidance/legal-ethical/legal_ethical">https://www.kuleuven.be/rdm/en/guidance/legal-ethical/legal_ethical</a>

<sup>18</sup> <https://eudat.eu/service-catalogue/b2drop>

### 4.3 Sharing data according to the FAIR principles

Key elements of the FAIR principles are rich metadata for findability, a persistent identifier for permanent access, the usage of standards and standard/open file formats for interoperability, the application of a licence and provision of documentation for reuse. Repositories such as Zenodo support the FAIR principles by providing a Digital Object Identifier (DOI), allowing for rich metadata descriptions on the dataset level, as well as Creative Commons licences. Submitting a dataset to the RESILIENCE community on Zenodo will undergo quality control and will require minimal registration of metadata compliant with the DataCite metadata schema<sup>19</sup> and a selection of an open licence with exceptions allowed for legal opt-outs being privacy, intellectual property rights, ethical aspects, and aspects of dual use.

Creating a DMP in the early stages of project planning and managing data according to research data management best practices are crucial steps to guarantee FAIRness at the time of deposit and publication of a dataset in a repository such as Zenodo. The section below provides links to relevant learning resources on the FAIR principles and the publication of datasets in the RESILIENCE Zenodo community. For more details on the latter, cf. annex 'IV. Metadata requirements Zenodo RESILIENCE community'.

Resource name	Link
FAIR principles	<a href="https://www.go-fair.org/fair-principles/">https://www.go-fair.org/fair-principles/</a>
Guidance on the FAIR principles	<a href="https://www.kuleuven.be/rdm/en/guidance/fair">https://www.kuleuven.be/rdm/en/guidance/fair</a>
Knowledge clip on the FAIR principles	<a href="https://kuleuven.mediaspace.kaltura.com/media/FAIR+data/1_fasgyfas">https://kuleuven.mediaspace.kaltura.com/media/FAIR+data/1_fasgyfas</a>
How to deposit and publish on Zenodo	<a href="https://help.zenodo.org/docs/deposit/create-new-upload/">https://help.zenodo.org/docs/deposit/create-new-upload/</a>
How to submit a published record to a community	<a href="https://help.zenodo.org/docs/share/submit-to-community/">https://help.zenodo.org/docs/share/submit-to-community/</a>
RESILIENCE community on Zenodo	<a href="https://zenodo.org/communities/resilience/">https://zenodo.org/communities/resilience/</a>

<sup>19</sup> Zenodo's metadata is compliant with [DataCite's Metadata Schema](#) minimum and recommended terms, with a few additional enrichments.

## 5 Best practices and guidelines for data providers

Data providers supply or make primary and secondary data available to our community of researchers for reuse. Important data providers for RESILIENCE are libraries, archives and museums (GLAM sector) as they hold valuable collections that form the basis of research in Religious Studies. Data providers can contribute to RESILIENCE in several ways:

- Offer information on available collections via a dedicated webpage on the RESILIENCE website.
- Deposit a FAIR compliant dataset in the RESILIENCE Zenodo community.
- Deliver rich metadata to RelReSearch (<https://reiresearch.eu/>), the Religious Studies collection discovery platform.

The details on how to contribute data as a provider can be found below. It's important to note that the integration or deposit of data resources in the RESILIENCE ecosystem does not indicate direct ownership or control by RESILIENCE. The rights statement and licence information provided with the resource indicate how a resource can be used by the community. RESILIENCE has a strong preference for data being made available under open licences such as CCo (public domain), CC BY, CC BY-SA or in second order CC BY-NC, CC BY NC-SA. For more details on these Creative Commons licences see <https://creativecommons.org/share-your-work/ccllicenses/>.

### 5.1 How to include information on collections on the RESILIENCE website

The RESILIENCE website provides an overview of existing datasets (manuscripts, documents, rare books, archives, databases ...) for the study of religion, available at RESILIENCE partners and other institutions: <https://www.resilience-ri.eu/datasets/>. Some of the datasets are also findable via the unified discovery environment RelReSearch.

The current overview has been established with input collected from the consortium members and researchers of the community and is expected to continuously grow with new references being added. Collection holders can reach out to the general contact address [resilience@fscire.it](mailto:resilience@fscire.it) with a request to include relevant datasets on the website. They should include the following information in their requests:

- Title of the collection/dataset/database
- A short description of the collection/dataset/database demonstrating its relevance for Religious Studies

- Link to the catalogue of the collection/dataset/database in case of open access and/or link to a webpage with more information on the collection/dataset/database

Preferably these collections are also offered in a machine actionable way according to the principles of 'Collection as Data'<sup>20</sup>, though many of the RESILIENCE users will give preference to interaction via user interfaces.

When receiving a new request, the RESILIENCE Data Unit will review the request for inclusion on the website, consulting the necessary experts on collections within the consortium and if their feedback is positive, the collection data will be published on RESILIENCE website.

## 5.2 How to deposit a FAIR compliant dataset in the RESILIENCE Zenodo community

For the deposit of datasets in the Zenodo community, the same conditions apply as those stated above for data producers (cf. '5.3 Sharing data according to the FAIR principles'). Submitting a dataset to the RESILIENCE community on Zenodo will undergo quality control. Dataset submissions by data providers must consider:

- The minimal registration of dataset metadata in Zenodo compliant with the DataCite schema (cf. Annex IV. Metadata Requirements Zenodo RESILIENCE Community).
- The usage of applicable domain standards such as MARC XML for Libraries, EAD XML for archival data, LIDO XML for heritage data. Dublin Core XML or Schema.org JSON-LD can be used as common denominators as well as other well-established standards in the GLAM sector.<sup>21</sup> Metadata can in addition be added in a CSV format. For many researchers in the domain of Religious Studies this will be more effective as it requires less technical skills to work with. In this case the structure will be flat instead of hierarchical. Column headers as well as documentation should therefore clearly specify the meaning of the headers and relation (mapping) to the original standard.
- The usage of open file formats.<sup>22</sup>

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<sup>20</sup> [A workflow to publish Collections as Data: the case of Cultural Heritage data spaces](#)

<sup>21</sup> An overview of relevant standards for the GLAM sector can be found here: [https://meta.wikimedia.org/wiki/GLAM/Metadata\\_standards\\_and\\_Wikimedia](https://meta.wikimedia.org/wiki/GLAM/Metadata_standards_and_Wikimedia).

<sup>22</sup> Cf. <https://dans.knaw.nl/en/about/services/easy/information-about-depositing-data/before-depositing/file-formats>; <https://www.kuleuven.be/rdm/en/rdr/file-formats> for an overview of recommended file formats

- The availability of documentation such as a ReadMe file that facilitates the interpretation and the usage of the data in research.<sup>23</sup>
- The availability of licence information.

Datasets will only be accepted if provided with a licence such as CCo (public domain), CC BY, CC BY-SA that allow reuse without restriction. In a second order CC BY-NC and CC BY-NC-SA can be considered if motivated. Datasets must be made openly accessible in Zenodo apart from legal opt-outs being privacy, intellectual property rights, ethical aspects, and aspects of dual use. Data providers must have the authority (e.g. being the rights holder, having written consent) to share the data under the given licence.

References to documentation on how to deposit to Zenodo and submit to a community can be found in section '5.3. Sharing data according to the FAIR principles' and the annexes section. Parties interested to upload and deposit datasets to the RESILIENCE community as a data provider can reach out to the general contact address [resilience@fscire.it](mailto:resilience@fscire.it) with a request to include relevant datasets on Zenodo. This communication should include:

- A short description of the dataset.
- A short motivation why the provider is seeing inclusion in the RESILIENCE Zenodo community.
- The standards and formats used.
- The rights status and applicable licence information.
- A link to available online information if available.

The RESILIENCE Data Unit will review the request for inclusion in Zenodo, consulting the necessary experts on collections within the consortium, and get back to the provider to start the submission process.

### 5.3 How to deliver metadata to ReIReSearch

ReIReSearch (<https://reiresearch.eu/>) addresses the growing need of scholars in Religious Studies to discover more data, regardless of location with a platform where disparate digital resources and databases are searchable in a unified and standardised way. It's a discovery platform bringing together metadata from different collection holders or data providers. Data providers can have the metadata of their relevant collections included in the platform. The metadata should be sufficiently rich to support optimal discovery and preferably contain a persistent link to a digital representation, though metadata only contributions are

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<sup>23</sup> More information on ReadMe files: <https://www.kuleuven.be/rdm/en/guidance/documentation-metadata/README>

also accepted. At this point the data types accepted include books, manuscripts and journal articles metadata. In time, additional types such as archival records and research dataset descriptions will be added to the platform.

Data providers who want to have their collections discoverable via ReReSearch can reach out to the general contact address [resilience@fscire.it](mailto:resilience@fscire.it) with a request to include relevant datasets on ReReSearch. This first request should contain information on the content and technical state so the Data Unit can review the request and set up a virtual onboarding call to discuss the details. Below are the basic content-, legal-, and technical conditions for inclusion into ReReSearch. Annexes 'I. ReReSearch Ingest agreement' and 'II. ReReSearch application profile' contains more detailed information for Library IT staff and collection experts.

### 5.3.1 Data ingest agreement

Each dataset provider must fill out a detailed ingest agreement (cf. annex 'I. ReReSearch Ingest agreement') that stipulates the exact definitions regarding data delivery, licensing, contact information etc.

### 5.3.2 Data integration: accepted standards and protocols

To be integrated in ReReSearch, the data must be mapped to and delivered in an agreed data format for the ReReSearch platform. The data will then be imported into the central data pool, from which indexes are built and data can be delivered to users when searched.<sup>24</sup>

ReReSearch currently accepts data delivery in the following standards:

- [METS XML](#)
- [MARC XML](#)
- [Schema.org](#) JSON-LD

In time more metadata standards such as EAD XML will be accepted.

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<sup>24</sup> Federated search is since December 2023 no longer supported due to the high technical maintenance and the often problematic integration such as combined sort options. All metadata should be delivered for integration into the datahub index which ensures a speedy delivery of search results and overall optimal integration results.

Only basic metadata is required to contribute data: a link to the original record and to a digital representation (when available), an identifier and a name for the record are the minimal requirements. Details on the required (mandatory), recommended and optional metadata elements can be found in the annexes section 'I. ReReSearch application profile'.

Data can be delivered using [OAI-PMH](#), via [FTP](#) transfer or via REST API (Schema.org JSON-LD only).

### 5.3.3 Data rights holder, access and licence

Data providers can only deliver metadata for integration into ReReSearch when they are the rights holder of the data or if they have the explicit written approval of the original rights holder. This declaration must be attached to the ingest agreement.

At this point in time only openly accessible datasets are accepted in line with the RESILIENCE Open Science policy:

- Metadata should be in the public domain (CCo) or have a creative common CC BY or CC BY-SA licence. Exceptions for CC BY-NC and CC BY-NC-SA can be considered.
- Digital representations are preferably shared under an open licence and should be openly accessible.<sup>25</sup> Legal opt-outs of open access are allowed in case of privacy, intellectual property rights, ethical aspects, and aspects of dual use.
- I think that here a paragraph on how we communicate the guidelines to our community and how we encourage their usage is needed. We set the "rules/indications", but how do we make them shared, embraced and used? Maybe we put here the 6 points list that you included below and try to be more pragmatic in how we'll do them?

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<sup>25</sup> Login to view is accepted, but registering for an account should be easy and free of charge.

## 6 Putting the plan in action

FAIR data management practices are not yet well understood by the Religious Studies community. RESILIENCE has an important role to play in generating awareness on their usage and benefits, and providing access to training materials and guidance. To address the current gaps in understanding and practising FAIR data management within the Religious Studies community, RESILIENCE is committed to a proactive approach in education and capacity building. During the PPP the main effort goes towards informing and training the involved staff of consortium members and associated partners, though smaller initiatives are being taken to onboard the wider Religious Studies community into the concepts of Open Science such as the September 2023 Webinar and Workshop on FAIR data management in Religious Studies. In order to spread the knowledge of the DMP within the consortium and associated partners, a dedicated session will be organised in which the plan is presented, an introductory training of the mentioned tools is provided with ample time for Q&A.

From the Implementation Phase onwards the RESILIENCE consortium identified the following actions to ensure the adoption of the FAIR principles within the broader community. This would require to have on board a dedicated profile specialised in Open Science practices within the domain of SSH in general and Religious Studies specifically. Ideally this would be a staff member employed at the RESILIENCE headquarters, hence the inclusion of a 0.5 FTE of an Open Science officer in the D1.3 Financial Sustainability Plan<sup>26</sup>. The Open Science officer would have the responsibility to initiate and steer the development of the defined actions together with the members. Any future actions will refer to or make use of existing resources. Only when necessary, new materials that align with the specific needs and contexts of the Religious Studies community will be created. Keeping these preconditions in mind, we see potential in:

1. **Developing Customised Training Materials:** We will create and distribute tailored training materials that align with the specific needs and contexts of the Religious Studies community. These materials will include practical examples, case studies, and step-by-step guides based on familiar scenarios.
2. **Organizing Workshops and Webinars:** RESILIENCE will host regular workshops and webinars focused on Open Science and Research Data Management (RDM) practices. These sessions will

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<sup>26</sup> RESILIENCE\_WP1\_D1.3\_FSP\_FinancialSustainabilityPlan\_01.00\_FINAL, p. 17.



- provide hands-on training and facilitate discussions on best practices with specific examples relevant for our community.<sup>27</sup> Where possible this will be organised in collaboration with other RI.
3. **Curating Online Resources:** A comprehensive collection of existing online guidance and training materials will be curated and made accessible through the RESILIENCE website. This will include links to high-quality resources from reputable sources, ensuring our community has easy access to relevant information. We will look towards collaboration and integration with existing platforms such as the SSHOC marketplace, FAIRsharing.org etc.
  4. **Building a Support Network:** RESILIENCE will establish a support network comprising data management experts and experienced researchers who can offer personalised advice and assistance. This network will be accessible through online forums, helpdesks, and scheduled consultation sessions.
  5. **Promoting Success Stories:** To illustrate the benefits of FAIR practices, we will showcase success stories and case studies from within our community. These real-world examples will demonstrate the positive impact of adopting Open Science and RDM practices.

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<sup>27</sup> To familiarise our community with the FAIR principles, a RESILIENCE panel on 'FAIR Data in Religious Studies in the Context of the EOSC' was organised as part of the European Academy of Religion (EuARe) 2023 conference. Later, an online Workshop on 'FAIR Principles and Religious Studies' was organised providing our community a more in-depth introduction to the topic with a concrete example of data management by one of our community members. Participants also had the opportunity to ask questions in relation to their own research context. The webinar presentations on the topic of data management and making data compliant with the FAIR principles was recorded and is available to our community via the RESILIENCE YouTube channel. Similar initiatives will follow as the RESILIENCE Services Unit is currently preparing the development of the RESILIENCE Training Framework which includes an Online Training Prototype for Librarians/Archivists on FAIR Data.

## 7 Annexes

### 7.1 RelReSearch Ingest agreement

#### 7.1.1 Introduction

This ingest agreement specifies the details of the ingest settings of a collection/dataset into the RelReSearch discovery environment. This agreement should not be considered an official contract between two parties. It is used as a document of reference for both the data providing organisation and RESILIENCE following up on the ingest of the dataset into the discovery environment.

A new ingest agreement must be created for each individual collection/dataset. The below template contains guidelines and examples for reference on how to complete the template. An empty template will be provided after the onboarding call.

#### 7.1.2 Administrative information

<b>Data provider name</b>  <i>Use the same name for every data set provided by your organisation. Keep into account that this name is shown in the public user interface. Only data that is delivered under the same data provider name and data provider ID will be grouped together in the interface.</i>	<i>Example: KU Leuven</i>
<b>Data provider acronym</b>  <i>Use the same acronym for every data set provided by the institute. Keep into account that this acronym is shown in the public user interface.</i>	<i>Example: KU Leuven</i>
<b>Data provider ID (provided by system)</b>  <i>This code should be mentioned in all communications when the data provider wishes to update a previously ingested collection/dataset.</i>	[to be added by RESILIENCE]  <i>Example: KULeuven</i>
<b>Collection/dataset name</b>  <i>Provide the full name of the collection/dataset. Keep in mind that this name will be shown in the public user interface.</i>	<i>KU Leuven Libraries Maurits Sabbe</i>
<b>Data set ID (provided by system)</b>  Structure: REIRES_<provider_id>_<data setid>	[to be added by RESILIENCE]  <i>Example: REIRES_&lt;KULeuven&gt;_&lt;MauritsSabbe&gt;</i>

<p><i>This code should be mentioned in all communications when the data provider wishes to update a previously ingested collection/dataset.</i></p>	
<p><b>Access status of the dataset</b></p> <p><i>Select from the list and remove what does not fit. Note that at this point only open access and free access after registration and login are allowed.</i></p>	<ul style="list-style-type: none"> <li>• Open access</li> <li>• Registration required (free access after login)</li> </ul>
<p><b>Logo (URL or embedded logo)</b></p> <p><i>Please provide the official logo for your institution or collection. Keep in mind that this logo will be shown in the public user interface so it should be of proper resolution for web publishing.</i></p>	<p>Example:  <a href="https://www.kuleuven.be/iportfolio/images/logos/kuleuven.png/view">https://www.kuleuven.be/iportfolio/images/logos/kuleuven.png/view</a></p>

<p><b>Main contact person – name</b></p> <p><i>The contact person responsible for the data delivery.</i></p>	
<p><b>Main contact person - email</b></p>	
<p><b>Main contact person – telephone (please provide country code)</b></p>	
<p><b>Main contact person – role</b></p>	

<p><b>Other contact person – name</b></p> <p><i>Other important contact persons such as curator of the collection or technical contact person. Add multiple if applicable and specify the role.</i></p>	
<p><b>Other person - email</b></p>	
<p><b>Other person collection - telephone</b></p>	
<p><b>Other contact person - role</b></p>	

**Attention:** A data provider should inform RESILIENCE if any of the above information changes by contacting [reiresearch.helpdesk@libis.be](mailto:reiresearch.helpdesk@libis.be).

### 7.1.3 Ingest configuration information

<p><b>Scheme type</b></p> <p>Select one from the list and remove what does not fit.</p>	<p>Not applicable. At this point only CreativeWork is accepted. MediaObject, Person, Organization, Place, Event can be part of the CreativeWork scheme<sup>28</sup>.</p>
<p><b>Item Type</b></p> <p>Select one from the list and remove what does not fit. If a single dataset contains more than one type of item, specify which types and how they are identified as such in the metadata (e.g. element name).</p>	<ul style="list-style-type: none"> <li>• Article</li> <li>• Book</li> <li>• PublicationIssue</li> <li>• PublicationVolume</li> </ul> <p>Example: The set contains both books and articles. This is defined in the following MARC tags:</p> <p>Book:</p> <pre>&lt;datafield tag="653" ind1="" ind2="6"&gt;   &lt;subfield code="a"&gt;Books before 1840&lt;/subfield&gt; &lt;/datafield&gt;</pre> <p>Article:</p> <pre>&lt;datafield tag="653" ind1="" ind2="6"&gt; &lt;subfield code="a"&gt;Articles&lt;/subfield&gt;</pre>
<p><b>Title of the collection/dataset</b></p> <p>Information will be added on the about RelReSearch about pages (<a href="https://reiresearch.eu/#/page/aboutdatasets">https://reiresearch.eu/#/page/aboutdatasets</a>) and on the RESILIENCE website (<a href="https://www.resilience-ri.eu/datasets/">https://www.resilience-ri.eu/datasets/</a>)</p>	<p>Example: <i>KU Leuven Libraries Maurits Sabbe</i></p>
<p><b>Collection/dataset description</b></p> <p>Information will be added on the about RelReSearch about pages (<a href="https://reiresearch.eu/#/page/aboutdatasets">https://reiresearch.eu/#/page/aboutdatasets</a>) and on the RESILIENCE website (<a href="https://www.resilience-ri.eu/datasets/">https://www.resilience-ri.eu/datasets/</a>)</p>	<p>Example: <a href="#">Maurits Sabbe Library (KU Leuven)</a> The Maurits Sabbe Library at the Faculty of Theology and Religious Studies (KU Leuven) is an internationally renowned research and heritage library in the domain of theology and religious studies. It boasts an extensive research collection of 1,3 million volumes. In addition to the modern works, the library has a collection of over 200 000 rare books, printed before 1800, and 1200 manuscripts. Its foci lie on Bibles, Bible commentaries, the Church Fathers, synodal documents, canon law and liturgical texts. The Maurits Sabbe Library also hosts a large collection of Jesuitica.</p>
<p><b>Record Identifier</b></p> <p>From which metadata field can the record id be extracted?</p>	<p>Example: <code>mms_id "9983846510101488"</code></p>

<sup>28</sup> For more information on CreativeWork type, cf. RelReSearch application profile and <https://schema.org/docs/full.html>.

<p><b>Language(s) of the metadata</b></p> <p><i>If the language is specified in the metadata export, then explain where to find the information.</i></p>	<p><i>Example: Language information can be found in the</i>  <code>&lt;/datafield&gt;&lt;datafield ind1="" ind2="" tag="546"&gt;&lt;subfield code="a"&gt;Latin&lt;/subfield&gt;&lt;/datafield&gt;</code></p>
<p><b>Metadata element containing the link (URI) to the source record/data provider catalogue record</b></p> <p><i>To prevent broken links, partners should use persistent identifiers and notify <a href="mailto:reiresearch.helpdesk@libis.be">reiresearch.helpdesk@libis.be</a> in case of changes to the source record URI.</i></p>	<p><i>Example: Records contain persistent links to digital representations. These links can be found in the MARC XML datafield tag="856". /representation refers to the digital representation in a viewer application, /thumbnail to the preferred thumbnail.</i></p> <pre>&lt;datafield tag="856" ind1="4" ind2="2"&gt;   &lt;subfield code="3"&gt;stream&lt;/subfield&gt;   &lt;subfield code="u"&gt;https://lib.is/IE2365310/representation&lt;/subfield&gt;   &lt;subfield code="w"&gt;IE2365310&lt;/subfield&gt; &lt;/datafield&gt; &lt;datafield tag="856" ind1="4" ind2="2"&gt;   &lt;subfield code="3"&gt;thumbnail&lt;/subfield&gt;   &lt;subfield code="u"&gt;https://lib.is/IE2365310/thumbnail&lt;/subfield&gt;   &lt;subfield code="w"&gt;IE2365310&lt;/subfield&gt; &lt;/datafield&gt;</pre>
<p><b>Metadata element containing the link (URI) to digital representation</b></p> <p><i>To prevent broken links, partners should use persistent identifiers and notify <a href="mailto:reiresearch.helpdesk@libis.be">reiresearch.helpdesk@libis.be</a> in case of changes to the digital representation URI.</i></p>	<p><i>Example: The persistent link to the record in the catalogue consist of the prefix <a href="https://lib.is/">https://lib.is/</a> combined with the MMS ID. <a href="https://lib.is/alma9983846510101488">https://lib.is/alma9983846510101488</a>. Note that you will always get a request for login for the KU Leuven Libraries catalogue. The visitor can ignore this request and continue as guest.</i></p>
<p><b>Metadata licence for the collection/dataset</b></p> <p><i>Please select one of creative commons: <a href="https://creativecommons.org/share-your-work/licensing-types-examples/">https://creativecommons.org/share-your-work/licensing-types-examples/</a>. For metadata CCo, CC-BY and CC-BY-SA are preferred. Exceptions considered are CC-BY-NC and CC-BY-NC-SA.</i></p> <p><i>If the licence is included in a specific metadata element in the export file, please mention the element name.</i></p>	<p><i>Example: Attribution (CC BY) - <a href="https://creativecommons.org/licenses/by/4.0/">https://creativecommons.org/licenses/by/4.0/</a></i></p>
<p><b>Licence information for the linked digital representations (e.g. images, PDF ...) in the collection/dataset</b></p> <p><i>Please select one of creative commons: <a href="https://creativecommons.org/share-your-work/licensing-types-examples/">https://creativecommons.org/share-your-work/licensing-types-examples/</a> or specify where to find the licence information. For digital representation CCo, CC-BY and CC-BY-SA are preferred. Exceptions considered are CC-BY-NC</i></p>	<p><i>Example: <a href="https://creativecommons.org/publicdomain/zero/1.0/">https://creativecommons.org/publicdomain/zero/1.0/</a></i></p> <p><i>KU Leuven Libraries offers the available data that was created through digitisation of public domain library materials to the public as open data. More specifically, this concerns the consultation copies of those items from the KU Leuven Libraries collection that date from before 1901. Everyone interested may download and freely use these images.</i></p>

<p>and CC-BY-NC-SA. More restrictive rights statements and licences are only allowed in case of the following legal opt-outs: privacy, intellectual property rights, ethical aspects, and aspects of dual use.</p> <p>If the licence is included in a specific metadata element in the export file, please mention the element name.</p>	<p><a href="https://bib.kuleuven.be/english/BD/digit/digitisation/images-as-open-data">https://bib.kuleuven.be/english/BD/digit/digitisation/images-as-open-data</a></p>
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#### 7.1.4 Workflow

<p><b>Responsible organization for the mapping work</b></p>	<p>Not applicable. At this point mapping and data transformation should happen by the data provider.</p>
<p><b>What metadata standard and export format are used</b></p> <p>Select one from the list and remove what does not fit.</p>	<ul style="list-style-type: none"> <li>● MARC XML</li> <li>● METS XML</li> <li>● DC XML</li> <li>● Schema.org JSON-LD</li> </ul> <p>Example: MARC XML</p>
<p><b>Data transfer protocol and access information</b></p> <p>Select one from the list and remove what does not fit.</p>	<p>Currently accepted:</p> <ul style="list-style-type: none"> <li>FTP</li> <li>API</li> <li>OAI-MPH</li> </ul> <p>Example: MARC XML</p>
<p><b>Provide documentation available on the metadata standards and data export methods (e.g. OAI endpoint) used</b></p>	
<p><b>All data should be provided in UTF8 character encoding</b></p>	<p><a href="https://en.wikipedia.org/wiki/UTF-8">https://en.wikipedia.org/wiki/UTF-8</a></p>

#### 7.1.5 Maintenance (for information)

<p><b>Procedure for the update of aggregated datasets</b></p> <p>This includes adding new records to a previously submitted dataset.</p>	<p>Partners can provide an updated version of a dataset when required by mailing to <a href="mailto:reiresearch.helpdesk@libis.be">reiresearch.helpdesk@libis.be</a>. The email must include the following information</p> <ul style="list-style-type: none"> <li>- Data provider ID</li> <li>- Data set ID</li> <li>- Short motivation for update</li> <li>- Are records removed?</li> <li>- Are records added?</li> <li>- Will you be delivering the entire dataset again or provide a delta (only the updated, deleted and/or new records)?</li> </ul> <p>Important notice: Data for update should preferably be provided in the same standard as the original transfer.</p>
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<b>Removal of dataset</b>	<i>Partners can contact RESILIENCE <a href="mailto:reiresearch.helpdesk@libis.be">reiresearch.helpdesk@libis.be</a> in case a dataset needs to be removed. Data providers must include reasons for removal and mention the data set ID created by the system (cf. <a href="#">Administrative information</a>).</i>
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## 7.2 RelReSearch application profile

### 7.2.1 Introduction

The RelReSearch application profile was developed during the RelReS project<sup>29</sup> and is based on the Schema.org vocabulary<sup>30</sup>. Not the entire Schema.org vocabulary is supported. The RelReSearch application profile is limited to a subset of types and properties according to what information is applicable to the community. Current supported classes and subclasses include: CreativeWork with subclasses Article, Book, PublicationIssue, PublicationVolume. The classes MediaObject, Person, Organization, Place and Event are also defined and supported though they are usually created by the system on import based on the metadata provided (e.g. dc:creator will be mapped to the 'Name' property of the Schema.org class 'Person'). In time the application profile can be extended with new classes and properties for inclusion of other data types.

For the integration of data in RelReSearch, there are mandatory, recommended and optional metadata elements. The supported classes (the "record types", referred to as "Things" in Schema.org) and properties are listed below. The following information is included for each element:

- Schema.org property including link to the Schema.org property page
- the definition of that property
- the scheme it belongs to (i.e. CreativeWork, MediaObject, Person, Organization, Place and Event)
- common name for the data element (e.g. author, title, publication date ...)
- the class and subclasses it applies to
- expected values/data type (e.g. text, a numerical value, a URL ....)
- status (i.e. **M** - mandatory, **R** - recommended, **O** - optional)

### 7.2.2 Scheme CreativeWork - <https://schema.org/CreativeWork>

Property	<a href="#">identifier</a>	
Definition	The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links.	<b>M</b>

<sup>29</sup> D6.2 Integrated metadata model ([https://reires.eu/wp-content/uploads/2019/04/RelReS\\_Deliverable\\_6.2\\_vo4.00.pdf](https://reires.eu/wp-content/uploads/2019/04/RelReS_Deliverable_6.2_vo4.00.pdf))

<sup>30</sup> <https://schema.org/>



Scheme	CreativeWork	
Used for	Identifier (a meaningful ID besides a unique record identifier)	
Class & Subclasses	Thing	
Values expected	Text, URL	

	<a href="#">license</a> (Created by system if not provided by partner.)	<b>M</b>
Definition	A license document that applies to this content, typically indicated by URL.	
Scheme	CreativeWork	
Used for	Work license	
Class & Subclasses	CreativeWork	
Values expected	URL	

	<a href="#">name</a>	<b>M</b>
Definition	The name of the item.	
Scheme	CreativeWork	
Used for	Title	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#">provider</a>	<b>M</b>
Definition	The service provider, service operator, or service performer; the goods producer. Another party (a seller) may offer those services or goods on behalf of the provider. A provider may also serve as the seller.	
Scheme	CreativeWork (system element)	
Used for	Data provider	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#">sdDatePublished</a>	<b>M</b>
Definition	Indicates the date on which the current structured data was generated / published. Typically used alongside sdPublisher	
Scheme	CreativeWork (system element)	
Used for	Record publication date	
Class & Subclasses	CreativeWork	
Values expected	Date	

	<a href="#">sdLicense</a>	<b>M</b>
Definition	A license document that applies to this structured data, typically indicated by URL.	
Scheme	CreativeWork (system element)	
Used for	Record license	
Class & Subclasses	CreativeWork	

Values expected	URL	
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	<a href="#">sdPublisher</a>	
Definition	Indicates the party responsible for generating and publishing the current structured data markup, typically in cases where the structured data is derived automatically from existing published content but published on a different site. For example, student projects and open data initiatives often re-publish existing content with more explicitly structured metadata. The sdPublisher property helps make such practices more explicit.	<b>M</b>
Scheme	CreativeWork (system element)	
Used for	Record publisher	
Class & Subclasses	CreativeWork	
Values expected	Organization	

	<a href="#">url</a>	
Definition	URL of the item.	<b>M</b>
Scheme	CreativeWork (system element)	
Used for	Persistent ReIReSearch link	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">additionalType</a>	
Definition	An additional type for the item, typically used for adding more specific types from external vocabularies in microdata syntax. This is a relationship between something and a class that the thing is in. In RDFa syntax, it is better to use the native RDFa syntax - the 'typeof' attribute - for multiple types. Schema.org tools may have only weaker understanding of extra types, in particular those defined externally.	<b>R</b>
Scheme	CreativeWork	
Used for	Type	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">alternateName</a>	
Definition	An alias for the item.	<b>R</b>
Scheme	CreativeWork	
Used for	Other title	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#">associatedMedia</a>	
Definition	A media object that encodes this CreativeWork. This property is a synonym for encoding.	<b>R</b>
Scheme	CreativeWork	

Used for	Media	
Class & Subclasses	CreativeWork	
Values expected	MediaObject > Allowed subtypes are ImageObject, VideoObject, SoundObject, DataDownload	

	<a href="#"><u>author</u></a>	R
Definition	HTML 5 provides a special mechanism for indicating authorship via the rel tag. That is equivalent to this and may be used interchangeably.	
Scheme	CreativeWork	
Used for	Author	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#"><u>creator</u></a>	R
Definition	The creator/author of this CreativeWork. This is the same as the Author property for CreativeWork.	
Scheme	CreativeWork	
Used for	Creator	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#"><u>contributor</u></a>	R
Definition	A secondary contributor to the CreativeWork or Event.	
Scheme	CreativeWork	
Used for	Contributor	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#"><u>dateCreated</u></a>	R
Definition	The date on which the CreativeWork was created or the item was added to a DataFeed.	
Scheme	CreativeWork	
Used for	Creation/Publication date	
Class & Subclasses	CreativeWork	
Values expected	Date, DateTime	

	<a href="#"><u>datePublished</u></a>	R
Definition	Date of first broadcast/publication.	
Scheme	CreativeWork	
Used for	Publication date	
Class & Subclasses	CreativeWork	
Values expected	Date	

	<u><a href="#">description</a></u>	
Definition	A description of the item.	<b>R</b>
Scheme	CreativeWork	
Used for	Description	
Class & Subclasses	Thing	
Values expected	Text	

	<u><a href="#">editor</a></u>	
Definition	Specifies the Person who edited the CreativeWork.	<b>R</b>
Scheme	CreativeWork	
Used for	Editor	
Class & Subclasses	CreativeWork	
Values expected	Person	

	<u><a href="#">genre</a></u>	
Definition	Genre of the creative work, broadcast channel or group.	<b>R</b>
Scheme	CreativeWork	
Used for	Discipline/Classification	
Class & Subclasses	CreativeWork	
Values expected	Text, URL	

	<u><a href="#">hasPart</a></u>	
Definition	Indicates an item or CreativeWork that is part of this item, or CreativeWork (in some sense). Inverse-property: isPartOf.	<b>R</b>
Scheme	CreativeWork	
Used for	Has part	
Class & Subclasses	CreativeWork	
Values expected	CreativeWork	

	<u><a href="#">inLanguage</a></u>	
Definition	The language of the content or performance or used in an action. Please use one of the language codes from the IETF BCP 47 standard. See also availableLanguage.	<b>R</b>
Scheme	CreativeWork	
Used for	Language	
Class & Subclasses	CreativeWork	
Values expected	Language, Text	

	<u><a href="#">isbn</a></u>	
Definition	The ISBN of the book.	<b>R</b>
Scheme	CreativeWork	

Used for	ISBN	
Class & Subclasses	CreativeWork, Book	
Values expected	Text	

	<a href="#"><u>isPartOf</u></a>	R
Definition	Indicates an item or CreativeWork that this item, or CreativeWork (in some sense), is part of. Inverse-property: hasPart.	
Scheme	CreativeWork	
Used for	Is part of	
Class & Subclasses	CreativeWork	
Values expected	CreativeWork, Collection	

	<a href="#"><u>issn</u></a>	R
Definition	The International Standard Serial Number (ISSN) that identifies this serial publication. You can repeat this property to identify different formats of, or the linking ISSN (ISSN-L) for, this serial publication.	
Scheme	CreativeWork	
Used for	ISSN	
Class & Subclasses	CreativeWork, CreativeWorkSeries	
Values expected	Text	

	<a href="#"><u>issueNumber</u></a>	R
Definition	Identifies the issue of publication; for example, "iii" or "2".	
Scheme	CreativeWork	
Used for	Issue number	
Class & Subclasses	CreativeWork, PublicationIssue	
Values expected	Integer, Text	

	<a href="#"><u>keywords</u></a>	R
Definition	Keywords or tags used to describe this content. Multiple entries in a keywords list are typically delimited by commas.	
Scheme	CreativeWork	
Used for	Keywords	
Class & Subclasses	CreativeWork	
Values expected	Text	

	<a href="#"><u>locationCreated</u></a>	R
Definition	The location where the CreativeWork was created, which may not be the same as the location depicted in the CreativeWork.	
Scheme	CreativeWork	
Used for	Place of creation/publication	
Class & Subclasses	CreativeWork	

Values expected	Place	
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	<a href="#">pagination</a>	
Definition	Any description of pages that is not separated into pageStart and pageEnd; for example, "1-6, 9, 55" or "10-12, 46-49".	R
Scheme	CreativeWork	
Used for	Pagination	
Class & Subclasses	CreativeWork, Article, PublicationIssue, PublicationVolume	
Values expected	Text	

	<a href="#">publisher</a>	
Definition	The publisher of the creative work.	R
Scheme	CreativeWork	
Used for	Publisher	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#">sameAs</a>	
Definition	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Wikidata entry, or official website.	R
Scheme	CreativeWork	
Used for	Source record	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">volumeNumber</a>	
Definition	Identifies the volume of publication or multi-part work; for example, "iii" or "2".	R
Scheme	CreativeWork	
Used for	Volume number	
Class & Subclasses	CreativeWork, PublicationVolume	
Values expected	Integer, Text	

	<a href="#">about</a>	
Definition	The subject matter of the content. Inverse-property: subjectOf.	O
Scheme	CreativeWork	
Used for	Subject	
Class & Subclasses	CreativeWork	
Values expected	Thing	

	<a href="#">articleBody</a>	
Definition	The actual body of the article.	O
Scheme	CreativeWork	

Used for	Full text/Transcription/Annotation	
Class & Subclasses	CreativeWork, Article	
Values expected	Text	

	<a href="#"><u>bookEdition</u></a>	O
Definition	The edition of the book.	
Scheme	CreativeWork	
Used for	Edition	
Class & Subclasses	CreativeWork, Book	
Values expected	Text	

	<a href="#"><u>contentLocation</u></a>	O
Definition	The location depicted or described in the content. For example, the location in a photograph or painting. E.g.: The Church at Auvers by Vincent van Gogh depicts a church in Auvers-sur-Oise, but was created in Saint-Rémy-de-Provence.	
Scheme	CreativeWork	
Used for	Subject: Location	
Class & Subclasses	CreativeWork	
Values expected	Place	

	<a href="#"><u>copyrightHolder</u></a>	O
Definition	The party holding the legal copyright to the CreativeWork.	
Scheme	CreativeWork	
Used for	Copyright holder	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#"><u>copyrightYear</u></a>	O
Definition	The year during which the claimed copyright for the CreativeWork was first asserted.	
Scheme	CreativeWork	
Used for	Copyright year	
Class & Subclasses	CreativeWork	
Values expected	Number	

	<a href="#"><u>dataset</u></a>	O
Definition	A dataset contained in this catalog. Inverse property: includedInDataCatalog.	
Scheme	CreativeWork	
Used for	Has datasets	
Class & Subclasses	CreativeWork	
Values expected	Dataset	

	<u>distribution</u>	
Definition	A downloadable form of this dataset, at a specific location, in a specific format.	O
Scheme	CreativeWork	
Used for	Data download	
Class & Subclasses	CreativeWork, Dataset	
Values expected	DataDownload	

	<u>endDate</u>	
Definition	The end date and time of the item (in ISO 8601 date format).	O
Scheme	CreativeWork	
Used for	Publication date - end of series	
Class & Subclasses	CreativeWork, CreativeWorkSeries	
Values expected	Date, DateTime	

	<u>illustrator</u>	
Definition	The illustrator of the book.	O
Scheme	CreativeWork	
Used for	Illustrator	
Class & Subclasses	CreativeWork, Book	
Values expected	Person	

	<u>itemReviewed</u>	
Definition	The item that is being reviewed/rated.	O
Scheme	CreativeWork	
Used for	Item reviewed	
Class & Subclasses	CreativeWork	
Values expected	Thing	

	<u>material</u>	
Definition	A material that something is made from, e.g. leather, wool, cotton, paper.	O
Scheme	CreativeWork	
Used for	Material	
Class & Subclasses	CreativeWork	
Values expected	Text, URL	

	<u>mentions</u>	
Definition	Indicates that the CreativeWork contains a reference to, but is not necessarily about a concept.	O
Scheme	CreativeWork	
Used for	Subject: Persons	
Class & Subclasses	CreativeWork	



Values expected	Thing	
	<a href="#"><u>numberOfPages</u></a>	
Definition	The number of pages in the book.	O
Scheme	CreativeWork	
Used for	Number of pages	
Class & Subclasses	CreativeWork, Book	
Values expected	Integer	
	<a href="#"><u>pageEnd</u></a>	
Definition	The page on which the work ends; for example "138" or "xvi".	O
Scheme	CreativeWork	
Used for	Pagination	
Class & Subclasses	CreativeWork, Article, PublicationIssue, PublicationVolume	
Values expected	Integer, Text	
	<a href="#"><u>pageStart</u></a>	
Definition	The page on which the work starts; for example "135" or "xiii".	O
Scheme	CreativeWork	
Used for	Pagination	
Class & Subclasses	CreativeWork, Article, PublicationIssue, PublicationVolume	
Values expected	Integer, Text	
	<a href="#"><u>reviews</u></a>	
Definition	A review of the item.	O
Scheme	CreativeWork	
Used for	Review	
Class & Subclasses	CreativeWork	
Values expected	Review	
	<a href="#"><u>spatialCoverage</u></a>	
Definition	The spatialCoverage of a CreativeWork indicates the place(s) which are the focus of the content. It is a subproperty of contentLocation intended primarily for more technical and detailed materials. For example with a Dataset, it indicates areas that the dataset describes: a dataset of New York weather would have spatialCoverage which was the place: the state of New York.	O
Scheme	CreativeWork	
Used for	Subject: Specific area	
Class & Subclasses	CreativeWork	
Values expected	Place	
	<a href="#"><u>startDate</u></a>	O

Definition	The start date and time of the item (in ISO 8601 date format).	
Scheme	CreativeWork	
Used for	Publication date - start of series	
Class & Subclasses	CreativeWork, CreativeWorkSeries	
Values expected	Date, DateTime	

	<a href="#"><u>subjectOf</u></a>	O
Definition	A CreativeWork or Event about this Thing. Inverse property: about.	
Scheme	CreativeWork	
Used for	Subject of	
Class & Subclasses	CreativeWork	
Values expected	CreativeWork, Event	

	<a href="#"><u>temporal</u></a>	O
Definition	The "temporal" property can be used in cases where more specific properties (e.g. temporalCoverage, dateCreated, dateModified, datePublished) are not known to be appropriate.	
Scheme	CreativeWork	
Used for	Approximate Publication date	
Class & Subclasses	CreativeWork	
Values expected	DateTime, Text	

	<a href="#"><u>temporalCoverage</u></a>	O
Definition	The temporalCoverage of a CreativeWork indicates the period that the content applies to, i.e. that it describes, either as a DateTime or as a textual string indicating a time period in ISO 8601 time interval format. In the case of a Dataset it will typically indicate the relevant time period in a precise notation (e.g. for a 2011 census dataset, the year 2011 would be written "2011/2012"). Other forms of content e.g. ScholarlyArticle, Book, TVSeries or TVEpisode may indicate their temporalCoverage in broader terms - textually or via well-known URL. Written works such as books may sometimes have precise temporal coverage too, e.g. a work set in 1939 - 1945 can be indicated in ISO 8601 interval format format via "1939/1945".	
Scheme	CreativeWork	
Used for	Subject: Date/Period	
Class & Subclasses	CreativeWork	
Values expected	DateTime, Text, URL	

	<a href="#"><u>text</u></a>	O
Definition	The textual content of this CreativeWork.	
Scheme	CreativeWork	
Used for	Full text/Transcription/Annotation	
Class & Subclasses	CreativeWork	

Values expected	Text	
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	<a href="#">thumbnailUrl</a>	
Definition	A thumbnail image relevant to the Thing.	O
Scheme	CreativeWork	
Used for	Thumbnail	
Class & Subclasses	CreativeWork	
Values expected	URL	

	<a href="#">translator</a>	
Definition	Organization or person who adapts a creative work to different languages, regional differences and technical requirements of a target market, or that translates during some event.	O
Scheme	CreativeWork	
Used for	Translator	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#">translationOfWork</a>	
Definition	The work that this work has been translated from. e.g. 物种起源 is a translationOf "On the Origin of Species".	O
Scheme	CreativeWork	
Used for	Translation of work	
Class & Subclasses	CreativeWork	
Values expected	CreativeWork	

	<a href="#">version</a>	
Definition	The version of the CreativeWork embodied by a specified resource.	O
Scheme	CreativeWork	
Used for	Version	
Class & Subclasses	CreativeWork	
Values expected	Number, Text	

	<a href="#">workTranslation</a>	
Definition	A work that is a translation of the content of this work. e.g. 西遊記 has an English workTranslation "Journey to the West", a German workTranslation "Monkeys Pilgerfahrt" and a Vietnamese translation Tây du ký bình khảo.	O
Scheme	CreativeWork	
Used for	Has translation	
Class & Subclasses	CreativeWork	
Values expected	CreativeWork	

### 7.2.3 Scheme MediaObject - <https://schema.org/MediaObject>

	<u><a href="#">identifier</a></u> [Created by system if not provided by partner]	
Definition	The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links. See background notes for more details.	<b>M</b>
Scheme	MediaObject	
Used for	Identifier	
Class & Subclasses	Thing	
Values expected	Text, URL	

	<u><a href="#">license</a></u>	
Definition	A license document that applies to this content, typically indicated by URL.	<b>M</b>
Scheme	MediaObject	
Used for	Work license	
Class & Subclasses	CreativeWork	
Values expected	URL	

	<u><a href="#">provider</a></u>	
Definition	The service provider, service operator, or service performer; the goods producer. Another party (a seller) may offer those services or goods on behalf of the provider. A provider may also serve as the seller.	<b>M</b>
Scheme	MediaObject (system element)	
Used for	Data provider	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<u><a href="#">sdDatePublished</a></u>	
Definition	Indicates the date on which the current structured data was generated / published. Typically used alongside sdPublisher	<b>M</b>
Scheme	MediaObject (system element)	
Used for	Record publication date	
Class & Subclasses	CreativeWork	
Values expected	Date	

	<u><a href="#">sdLicense</a></u>	
Definition	A license document that applies to this structured data, typically indicated by URL.	<b>M</b>
Scheme	MediaObject (system element)	
Used for	Record license	
Class & Subclasses	CreativeWork	

Values expected	URL	
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	<a href="#">sdPublisher</a>	
Definition	Indicates the party responsible for generating and publishing the current structured data markup, typically in cases where the structured data is derived automatically from existing published content but published on a different site. For example, student projects and open data initiatives often re-publish existing content with more explicitly structured metadata. The sdPublisher property helps make such practices more explicit.	<b>M</b>
Scheme	MediaObject (system element)	
Used for	Record publisher	
Class & Subclasses	CreativeWork	
Values expected	Organization	

	<a href="#">url</a>	
Definition	URL of the item.	<b>M</b>
Scheme	MediaObject (system element)	
Used for	Persistent RelReS link	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">name</a> (Created by system if not provided by partner.)	
Definition	The name of the item.	<b>R</b>
Scheme	MediaObject	
Used for	Name	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#">sameAs</a>	
Definition	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Wikidata entry, or official website.	<b>R</b>
Scheme	MediaObject	
Used for	Source record	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">copyrightHolder</a>	
Definition	The party holding the legal copyright to the CreativeWork.	<b>O</b>
Scheme	MediaObject	
Used for	Copyright holder	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#">copyrightYear</a>	
Definition	The year during which the claimed copyright for the CreativeWork was first asserted.	○
Scheme	MediaObject	
Used for	Copyright year	
Class & Subclasses	CreativeWork	
Values expected	Number	

	<a href="#">creator</a>	
Definition	The creator/author of this CreativeWork. This is the same as the Author property for CreativeWork.	○
Scheme	MediaObject	
Used for	Creator	
Class & Subclasses	CreativeWork	
Values expected	Person, Organization	

	<a href="#">embedUrl</a>	
Definition	A URL pointing to a player for a specific video. In general, this is the information in the src element of an embed tag and should not be the same as the content of the loc tag.	○
Scheme	MediaObject	
Used for	Embed URL	
Class & Subclasses	MediaObject	
Values expected	URL	

	<a href="#">encodingFormat</a>	
Definition	Media type typically expressed using a MIME format (see IANA site and MDN reference) e.g. application/zip for a SoftwareApplication binary, audio/mpeg for .mp3 etc.). In cases where a CreativeWork has several media type representations, encoding can be used to indicate each MediaObject alongside particular encodingFormat information. Unregistered or niche encoding and file formats can be indicated instead via the most appropriate URL, e.g. defining Web page or a Wikipedia/Wikidata entry. Supersedes fileFormat.	○
Scheme	MediaObject	
Used for	Format	
Class & Subclasses	MediaObject	
Values expected	Text, URL	

	<a href="#">sourceOrganization</a>	
Definition	The Organization on whose behalf the creator was working.	○
Scheme	MediaObject	
Used for	Affiliated organisation	

Class & Subclasses	CreativeWork	
Values expected	Organization	

	<u>text</u>	O
Definition	The textual content of this CreativeWork.	
Scheme	MediaObject	
Used for	Full text/Transcription/Annotation	
Class & Subclasses	CreativeWork	
Values expected	Text	

	<u>thumbnailUrl</u>	O
Definition	A thumbnail image relevant to the Thing.	
Scheme	MediaObject	
Used for	Thumbnail	
Class & Subclasses	CreativeWork	
Values expected	URL	

	<u>transcript</u>	O
Definition	If this MediaObject is an AudioObject or VideoObject, the transcript of that object.	
Scheme	MediaObject	
Used for	Transcript	
Class & Subclasses	CreativeWork, AudioObject, VideoObject	
Values expected	Text	

#### 7.2.4 Scheme Person - <https://schema.org/Person>

	<u>identifier</u> [Created by system if not provided by partner]	M
Definition	The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links. See background notes for more details.	
Scheme	Person	
Used for	Identifier	
Class & Subclasses	Thing	
Values expected	Text, URL	

	<u>name</u>	M
Definition	The name of the item.	
Scheme	Person	

Used for	Full name	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#"><u>provider</u></a>	<b>M</b>
Definition	The service provider, service operator, or service performer; the goods producer. Another party (a seller) may offer those services or goods on behalf of the provider. A provider may also serve as the seller.	
Scheme	Person (system element)	
Used for	Data provider	
Class & Subclasses	Extension	
Values expected	Person, Organization	

	<a href="#"><u>sdDatePublished</u></a>	<b>M</b>
Definition	Indicates the date on which the current structured data was generated / published. Typically used alongside sdPublisher	
Scheme	Person (system element)	
Used for	Record publication date	
Class & Subclasses	Extension	
Values expected	Date	

	<a href="#"><u>sdLicense</u></a>	<b>M</b>
Definition	A license document that applies to this structured data, typically indicated by URL.	
Scheme	Person (system element)	
Used for	Record license	
Class & Subclasses	Extension	
Values expected	URL	

	<a href="#"><u>sdPublisher</u></a>	<b>M</b>
Definition	Indicates the party responsible for generating and publishing the current structured data markup, typically in cases where the structured data is derived automatically from existing published content but published on a different site. For example, student projects and open data initiatives often re-publish existing content with more explicitly structured metadata. The sdPublisher property helps make such practices more explicit.	
Scheme	Person (system element)	
Used for	Record publisher	
Class & Subclasses	Extension	
Values expected	Organization	

	<a href="#"><u>url</u></a>	<b>M</b>
Definition	URL of the item.	



Scheme	Person (system element)	
Used for	Persistent RelReS link	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#"><u>alternateName</u></a>	R
Definition	An alias for the item.	
Scheme	Person	
Used for	Alternate name	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#"><u>birthDate</u></a>	R
Definition	Date of birth.	
Scheme	Person	
Used for	Date of birth	
Class & Subclasses	Person	
Values expected	Date	

	<a href="#"><u>birthPlace</u></a>	R
Definition	The place where the person was born.	
Scheme	Person	
Used for	Birth place	
Class & Subclasses	Person	
Values expected	Place	

	<a href="#"><u>deathDate</u></a>	R
Definition	Date of death.	
Scheme	Person	
Used for	Date of death	
Class & Subclasses	Person	
Values expected	Date	

	<a href="#"><u>deathPlace</u></a>	R
Definition	The place where the person died.	
Scheme	Person	
Used for	Death place	
Class & Subclasses	Person	
Values expected	Place	

	<a href="#"><u>description</u></a>	R
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Definition	A description of the item.	
Scheme	Person	
Used for	Description	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#"><u>familyName</u></a>	R
Definition	Family name. In the U.S., the last name of a Person. This can be used along with givenName instead of the name property.	
Scheme	Person	
Used for	Family name	
Class & Subclasses	Person	
Values expected	Text	

	<a href="#"><u>givenName</u></a>	R
Definition	Given name. In the U.S., the first name of a Person. This can be used along with familyName instead of the name property.	
Scheme	Person	
Used for	Given name	
Class & Subclasses	Person	
Values expected	Text	

	<a href="#"><u>nationality</u></a>	R
Definition	Nationality of the person.	
Scheme	Person	
Used for	Nationality	
Class & Subclasses	Person	
Values expected	Country	

	<a href="#"><u>sameAs</u></a>	R
Definition	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Wikidata entry, or official website.	
Scheme	Person	
Used for	Source record	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#"><u>additionalName</u></a>	O
Definition	An additional name for a Person, can be used for a middle name.	
Scheme	Person	
Used for	Additional name	
Class & Subclasses	Person	

Values expected	Text	
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	<a href="#">affiliation</a>	
Definition	An organization that this person is affiliated with. For example, a school/university, a club, or a team.	O
Scheme	Person	
Used for	Affiliation	
Class & Subclasses	Person	
Values expected	Organization	

	<a href="#">alumniOf</a>	
Definition	An organization that the person is an alumni of.	O
Scheme	Person	
Used for	Alumni	
Class & Subclasses	Person	
Values expected	Organization, EducationalOrganization	

	<a href="#">children</a>	
Definition	A child of the person.	O
Scheme	Person	
Used for	Child	
Class & Subclasses	Person	
Values expected	Person	

	<a href="#">colleague</a>	
Definition	A colleague of the person.	O
Scheme	Person	
Used for	Colleague	
Class & Subclasses	Person	
Values expected	Person, URL	

	<a href="#">follows</a>	
Definition	The most generic uni-directional social relation.	O
Scheme	Person	
Used for	Follows	
Class & Subclasses	Person	
Values expected	Person	

	<a href="#">funder</a>	
Definition	A person or organization that supports (sponsors) something through some kind of financial contribution.	O
Scheme	Person	

Used for	Funder	
Class & Subclasses	Person	
Values expected	Person, Organization	

	<a href="#"><u>gender</u></a>	O
Definition	Gender of the person. While <a href="http://schema.org/Male">http://schema.org/Male</a> and <a href="http://schema.org/Female">http://schema.org/Female</a> may be used, text strings are also acceptable for people who do not identify as a binary gender.	
Scheme	Person	
Used for	Gender	
Class & Subclasses	Person	
Values expected	GenderType, Text	

	<a href="#"><u>hasOccupation</u></a>	O
Definition	The Person's occupation. For past professions, use Role for expressing dates.	
Scheme	Person	
Used for	Occupation	
Class & Subclasses	Person	
Values expected	Occupation	

	<a href="#"><u>honorificPrefix</u></a>	O
Definition	An honorific prefix preceding a Person's name such as Dr/Mrs/Mr.	
Scheme	Person	
Used for	Honorific prefix	
Class & Subclasses	Person	
Values expected	Text	

	<a href="#"><u>honorificSuffix</u></a>	O
Definition	An honorific suffix preceding a Person's name such as M.D. /PhD/MSCSW.	
Scheme	Person	
Used for	Honorific suffix	
Class & Subclasses	Person	
Values expected	Text	

	<a href="#"><u>image</u></a>	O
Definition	An image of the item. This can be a URL or a fully described ImageObject.	
Scheme	Person	
Used for	Image	
Class & Subclasses	Thing	
Values expected	ImageObject, URL	

	<a href="#"><u>jobTitle</u></a>	O
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Definition	The job title of the person (for example, Financial Manager).	
Scheme	Person	
Used for	Job title	
Class & Subclasses	Person	
Values expected	Text	

	<a href="#"><u>knows</u></a>	O
Definition	The most generic bi-directional social/work relation.	
Scheme	Person	
Used for	Knows	
Class & Subclasses	Person	
Values expected	Person	

	<a href="#"><u>memberOf</u></a>	O
Definition	An Organization to which this Person or Organization belongs. Inverse property: member.	
Scheme	Person	
Used for	Membership	
Class & Subclasses	Person	
Values expected	Organization	

	<a href="#"><u>parent</u></a>	O
Definition	A parent of this person.	
Scheme	Person	
Used for	Parent	
Class & Subclasses	Person	
Values expected	Person	

	<a href="#"><u>relatedTo</u></a>	O
Definition	The most generic familial relation.	
Scheme	Person	
Used for	Family	
Class & Subclasses	Person	
Values expected	Person	

	<a href="#"><u>sibling</u></a>	O
Definition	A sibling of the person.	
Scheme	Person	
Used for	Sibling	
Class & Subclasses	Person	
Values expected	Person	

	<u><a href="#">sponsor</a></u>	
Definition	A person or organization that supports a thing through a pledge, promise, or financial contribution. e.g. a sponsor of a Medical Study or a corporate sponsor of an event.	O
Scheme	Person	
Used for	Sponsor	
Class & Subclasses	Person	
Values expected	Person, Organization	

	<u><a href="#">spouse</a></u>	
Definition	The person's spouse.	O
Scheme	Person	
Used for	Spouse	
Class & Subclasses	Person	
Values expected	Person	

	<u><a href="#">subjectOf</a></u>	
Definition	A CreativeWork or Event about this Thing. Inverse property: about.	O
Scheme	Person	
Used for	Subject of	
Class & Subclasses	Thing	
Values expected	CreativeWork, Event	

	<u><a href="#">worksFor</a></u>	
Definition	Organizations that the person works for.	O
Scheme	Person	
Used for	Employer	
Class & Subclasses	Person	
Values expected	Organization	

### 7.2.5 Scheme Organization - <https://schema.org/Organization>

	<u><a href="#">identifier</a></u> [Created by system if not provided by partner]	
Definition	The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links. See background notes for more details.	M
Scheme	Organization	
Used for	Identifier	
Class & Subclasses	Thing	
Values expected	Text, URL	

	<u><a href="#">name</a></u>	
Definition	The name of the item.	<b>M</b>
Scheme	Organization	
Used for	Name	
Class & Subclasses	Thing	
Values expected	Text	

	<u><a href="#">provider</a></u>	
Definition	The service provider, service operator, or service performer; the goods producer. Another party (a seller) may offer those services or goods on behalf of the provider. A provider may also serve as the seller.	<b>M</b>
Scheme	Organization (system element)	
Used for	Data provider	
Class & Subclasses	Extension	
Values expected	Person, Organization	

	<u><a href="#">sdDatePublished</a></u>	
Definition	Indicates the date on which the current structured data was generated / published. Typically used alongside sdPublisher	<b>M</b>
Scheme	Organization (system element)	
Used for	Record publication date	
Class & Subclasses	Extension	
Values expected	Date	

	<u><a href="#">sdLicense</a></u>	
Definition	A license document that applies to this structured data, typically indicated by URL.	<b>M</b>
Scheme	Organization (system element)	
Used for	Record license	
Class & Subclasses	Extension	
Values expected	URL	

	<u><a href="#">sdPublisher</a></u>	
Definition	Indicates the party responsible for generating and publishing the current structured data markup, typically in cases where the structured data is derived automatically from existing published content but published on a different site. For example, student projects and open data initiatives often re-publish existing content with more explicitly structured metadata. The sdPublisher property helps make such practices more explicit.	<b>M</b>
Scheme	Organization (system element)	
Used for	Record publisher	
Class & Subclasses	Extension	

Values expected	Organization	
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	<a href="#">url</a>	
Definition	URL of the item.	<b>M</b>
Scheme	Organization (system element)	
Used for	Persistent RelReS link	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">alternateName</a>	
Definition	An alias for the item.	<b>R</b>
Scheme	Organization	
Used for	Alternate name	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#">description</a>	
Definition	A description of the item.	<b>R</b>
Scheme	Organization	
Used for	Description	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#">sameAs</a>	
Definition	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Wikidata entry, or official website.	<b>R</b>
Scheme	Organization	
Used for	Source record	
Class & Subclasses	Thing	
Values expected	URL	

	<a href="#">alumni</a>	
Definition	Alumni of an organization. Inverse property: alumniOf.	<b>O</b>
Scheme	Organization	
Used for	Alumni	
Class & Subclasses	Organization	
Values expected	Person	

	<a href="#">department</a>	
Definition	A relationship between an organization and a department of that organization, also described as an organization (allowing different urls, logos, opening hours). For example: a store with a pharmacy, or a bakery with a cafe.	<b>O</b>



Scheme	Organization	
Used for	Department	
Class & Subclasses	Organization	
Values expected	Organization	

	<a href="#"><u>image</u></a>	O
Definition	An image of the item. This can be a URL or a fully described ImageObject.	
Scheme	Organization	
Used for	Image	
Class & Subclasses	Thing	
Values expected	ImageObject, URL	

	<a href="#"><u>founder</u></a>	O
Definition	A person who founded this organization. Supersedes founders.	
Scheme	Organization	
Used for	Founder	
Class & Subclasses	Organization	
Values expected	Person	

	<a href="#"><u>foundingDate</u></a>	O
Definition	The date that this organization was founded.	
Scheme	Organization	
Used for	Founding date	
Class & Subclasses	Organization	
Values expected	Date	

	<a href="#"><u>foundingLocation</u></a>	O
Definition	The place where the Organization was founded.	
Scheme	Organization	
Used for	Founding location	
Class & Subclasses	Organization	
Values expected	Place	

	<a href="#"><u>funder</u></a>	O
Definition	A person or organization that supports (sponsors) something through some kind of financial contribution.	
Scheme	Organization	
Used for	Funder	
Class & Subclasses	Organization	
Values expected	Person, Organization	

	<u>location</u>	
Definition	The location of for example where the event is happening, an organization is located, or where an action takes place.	O
Scheme	Organization	
Used for	Location	
Class & Subclasses	Organization	
Values expected	Place, Text	

	<u>logo</u>	
Definition	An associated logo.	O
Scheme	Organization	
Used for	Logo	
Class & Subclasses	Organization	
Values expected	ImageObject, URL	

	<u>member</u>	
Definition	An Organization to which this Person or Organization belongs. Inverse property: memberOf.	O
Scheme	Organization	
Used for	Member	
Class & Subclasses	Organization	
Values expected	Person, Organization	

	<u>memberOf</u>	
Definition	An Organization (or ProgramMembership) to which this Person or Organization belongs. Inverse property: member.	O
Scheme	Organization	
Used for	Member of	
Class & Subclasses	Organization	
Values expected	Organization	

	<u>parentOrganization</u>	
Definition	The larger organization that this organization is a subOrganization of, if any. Supersedes branchOf. Inverse property: subOrganization.	O
Scheme	Organization	
Used for	Parent organization	
Class & Subclasses	Organization	
Values expected	Organization	

	<u>sponsor</u>	
Definition	A person or organization that supports a thing through a pledge, promise, or financial contribution. e.g. a sponsor of a Medical Study or a corporate sponsor of an event.	O

Scheme	Organization	
Used for	Sponsor	
Class & Subclasses	Organization	
Values expected	Person, Organization	

	<a href="#"><u>subjectOf</u></a>	O
Definition	A CreativeWork or Event about this Thing. Inverse property: about.	
Scheme	Organization	
Used for	Subject of	
Class & Subclasses	Thing	
Values expected	CreativeWork, Event	

	<a href="#"><u>subOrganization</u></a>	O
Definition	A relationship between two organizations where the first includes the second, e.g., as a subsidiary. See also: the more specific 'department' property. Inverse property: parentOrganization.	
Scheme	Organization	
Used for	Subordinate organization	
Class & Subclasses	Organization	
Values expected	Organization	

### 7.2.6 Scheme Place - <https://schema.org/Place>

	<a href="#"><u>identifier</u></a> [Created by system if not provided by partner]	M
Definition	The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links. See background notes for more details.	
Scheme	Place	
Used for	Identifier	
Class & Subclasses	Thing	
Values expected	Text, URL	

	<a href="#"><u>name</u></a>	M
Definition	The name of the item.	
Scheme	Place	
Used for	Name	
Class & Subclasses	Thing	
Values expected	Text	

	<a href="#"><u>provider</u></a>	M
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Definition	The service provider, service operator, or service performer; the goods producer. Another party (a seller) may offer those services or goods on behalf of the provider. A provider may also serve as the seller.	
Scheme	Place (system element)	
Used for	Data provider	
Class & Subclasses	Extension	
Values expected	Person, Organization	

	<a href="#"><u>sdDatePublished</u></a>	
Definition	Indicates the date on which the current structured data was generated / published. Typically used alongside sdPublisher	<b>M</b>
Scheme	Place (system element)	
Used for	Record publication date	
Class & Subclasses	Extension	
Values expected	Date	

	<a href="#"><u>sdLicense</u></a>	
Definition	A license document that applies to this structured data, typically indicated by URL.	<b>M</b>
Scheme	Place (system element)	
Used for	Record license	
Class & Subclasses	Extension	
Values expected	URL	

	<a href="#"><u>sdPublisher</u></a>	
Definition	Indicates the party responsible for generating and publishing the current structured data markup, typically in cases where the structured data is derived automatically from existing published content but published on a different site. For example, student projects and open data initiatives often re-publish existing content with more explicitly structured metadata. The sdPublisher property helps make such practices more explicit.	<b>M</b>
Scheme	Place (system element)	
Used for	Record publisher	
Class & Subclasses	Extension	
Values expected	Organization	

	<a href="#"><u>url</u></a>	
Definition	URL of the item.	<b>M</b>
Scheme	Place (system element)	
Used for	Persistent ReIReS link	
Class & Subclasses	Thing	
Values expected	URL	

	<u><a href="#">description</a></u>	
Definition	A description of the item.	R
Scheme	Place	
Used for	Description	
Class & Subclasses	Thing	
Values expected	Text	

	<u><a href="#">sameAs</a></u>	
Definition	URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Wikidata entry, or official website.	R
Scheme	Place	
Used for	Source record	
Class & Subclasses	Thing	
Values expected	URL	

	<u><a href="#">address</a></u>	
Definition	Physical address of the item.	O
Scheme	Place	
Used for	Address	
Class & Subclasses	Place	
Values expected	PostalAddress, Text	

	<u><a href="#">alternateName</a></u>	
Definition	An alias for the item.	O
Scheme	Place	
Used for	Alternate name	
Class & Subclasses	Thing	
Values expected	Text	

	<u><a href="#">geo</a></u>	
Definition	The geo coordinates of the place.	O
Scheme	Place	
Used for	Geo coordinates	
Class & Subclasses	Place	
Values expected	GeoCoordinates, GeoShape	

	<u><a href="#">hasMap</a></u>	
Definition	A URL to a map of the place. Supersedes map, maps.	O
Scheme	Place	
Used for	Map	
Class & Subclasses	Place	

Values expected	URL	
	<a href="#"><u>image</u></a>	O
Definition	An image of the item. This can be a URL or a fully described ImageObject.	
Scheme	Place	
Used for	Image	
Class & Subclasses	Thing	
Values expected	ImageObject, URL	
	<a href="#"><u>subjectOf</u></a>	O
Definition	A CreativeWork or Event about this Thing. Inverse property: about.	
Scheme	Place	
Used for	Subject of	
Class & Subclasses	Thing	
Values expected	CreativeWork, Event	

### 7.3 RESILIENCE PPP DMP (v02.00, July 2024)

This document contains the data management plan (DMP) for RESILIENCE PPP, which sets out the parameters for archiving, accessing and disseminating the data generated by the project. The DMP defines the guidelines for dealing with the types of data produced and is kept up to date during the project, making it an effective means of work for those activities of the project that collect, create or disseminate data.

This document contains the intermediate DMP, referred to as 'RESILIENCE PPP DMP – v02.00, July 2024'.

This plan is based on: Data management plan template for Horizon Europe<sup>31</sup>.

#### Administrative details

PROJECT	
Project number:	101079792
Project acronym:	RESILIENCE PPP
Project name:	RESILIENCE Preparatory Phase Project

DATA MANAGEMENT PLAN	
Date:	[19/07/2024]
Version:	DMP version 2

**Project Data Contact:** Roxanne Wyns; Roxanne.Wyns@kuleuven.be

**Description of the project<sup>32</sup>:** RESILIENCE (Religious Studies Infrastructure: tooLs, Innovation, Experts, conNections and Centres in Europe) is a distributed Research Infrastructure that entered the ESFRI Roadmap in 2021. Its mission is to address the challenge of creating a larger, structured involvement of excellent scholars who innovatively produce competencies, knowledge, approaches, and impact within the scientific domain of Religious Studies. The main objective of the RESILIENCE Preparatory Phase Project (PPP) proposal is to bring the RI to the completion of its Preparatory Phase, which started in 2021 and will end in 2025. The work includes legal, governance, financial, technical, strategic, and administrative aspects carried out in 6 work packages. The primary outcomes of the PPP are the setting-up of the legal and financial frameworks of the functioning of the RI; the preparation of signature-ready documents towards the implementation phase; the completion of the RESILIENCE service catalogue, and the establishment of legal agreements and technical frameworks for their operation.

<sup>31</sup> [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/report/data-management-plan\\_he\\_en.docx](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/temp-form/report/data-management-plan_he_en.docx)

<sup>32</sup> RESILIENCE PPP, Grant agreement ID: 101079792, <https://cordis.europa.eu/project/id/101079792>

## 1. Data summary

**Will you re-use any existing data and what will you re-use it for? State the reasons if re-use of any existing data has been considered but discarded.**

The project mainly reuses data and information generated during the planning and implementation of other ESFRI Research Infrastructures that is openly accessible as well as relevant information already gathered during the RESILIENCE Design Phase project<sup>33</sup>. It concerns the usage of relevant information related to the establishment and running of research infrastructures such as documents on governance, policy, services etc. These serve as relevant examples and background information in preparation towards becoming an ERIC.

**What types and formats of data will the project generate or reuse?**

The project generates and reuses textual and numeric data, mainly in MS Office formats. The use of open formats, such as .csv, etc. is encouraged.

**What is the purpose of the data generation or re-use and its relation to the objectives of the project?**

The data collected or generated as part of RESILIENCE PPP is intended to support and document the activities necessary for planning and building a research infrastructure (RI) in the field of Religious Studies.

**What is the expected size of the data that you intend to generate or re-use?**

The storage needed for the data created and gathered for the execution and management of this project and all its work packages will be limited in size since it will mainly concern textual data and some image material. Some audio and video recordings of online meetings and workshops will be stored as well. We estimate a max. size of 20 GB.

**What is the origin/provenance of the data, either generated or re-used?**

Most data results from the actions undertaken by the RESILIENCE PPP consortium to develop a sustainable RI environment for researchers in Religious Studies. This is data coming from dissemination and communication, networking, coordination, support services, surveys and dialogues with stakeholders, learning exercises etc. This type of data rarely relates to scientific publications so in the strict sense does not concern research data. In addition there might be a very limited amount of computer source code resulting from the development activities by project partners, who contribute to the development of the IT architecture of the RI, though this is not a part of the planned objectives and required deliverables.

**To whom might your data be useful ('data utility'), outside your project?**

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<sup>33</sup> RESILIENCE, Grant agreement ID: 871127, <https://cordis.europa.eu/project/id/871127>



Public data can be useful for other projects aiming to design, plan and build a RI or for others interested in an overview of the field of Religious Studies and service providers focusing on humanities.

## 2. FAIR data

### 2.1 Making data findable, including provisions for metadata

#### **Will data be identified by a persistent identifier?**

Public deliverables, reports, plans etc. will be published on the RESILIENCE community in Zenodo and will receive a DOI which is a mandatory field for each record.

Data and documents created by the RESILIENCE PPP consortium as part of daily activities of the RI are stored and managed using Google Drive services. This data is only findable to the consortium. This data does not relate to research publications.

#### **Will rich metadata be provided to allow discovery? What metadata will be created? What disciplinary or general standards will be followed? In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how.**

RESILIENCE PPP does not create research data related to scientific research publications. Public deliverables, documents and reports produced in the framework of the preparatory phase project will be made findable and accessible via Zenodo and be assigned basic metadata. Zenodo's metadata is compliant with DataCite's Metadata Schema minimum and recommended terms, with a few additional enrichments. Specific actions and their results, as well as other outputs, are also disseminated and made accessible via the dedicated project website. Working documents for internal use will not require metadata because they are intended for people involved in the project. For this, clear naming conventions for files and folders are implemented and sufficient.

#### **Will search keywords be provided in the metadata to optimise the possibility for discovery and then potential re-use?**

Data and documents with a public status accessible via Zenodo will be provided with search keywords. Documents for internal use will not be assigned keywords because it is intended for people involved in the project. For this, naming conventions for files and folders should suffice.

#### **Will metadata be offered in such a way that it can be harvested and indexed?**

Metadata of each record published in Zenodo is indexed and searchable directly in Zenodo's search engine immediately after publishing. Metadata of each record is sent to DataCite servers during DOI registration and indexed there.

### 2.2 Making data accessible

**Repository:****Will the data be deposited in a trusted repository?**

Public deliverables, documents and reports produced in the framework of the preparatory phase project will be deposited in Zenodo as part of the RESILIENCE community.

**Have you explored appropriate arrangements with the identified repository where your data will be deposited?**

Not applicable. RESILIENCE PPP does not produce data files larger than the allowed 50 GB deposit per record in Zenodo.

**Does the repository ensure that the data is assigned an identifier? Will the repository resolve the identifier to a digital object?**

Zenodo assigns a DataCite DOI to each record.

**Data:****Will all data be made openly available? If certain datasets cannot be shared (or need to be shared under restricted access conditions), explain why, clearly separating legal and contractual reasons from intentional restrictions. Note that in multi-beneficiary projects it is also possible for specific beneficiaries to keep their data closed if opening their data goes against their legitimate interests or other constraints as per the Grant Agreement.**

RESILIENCE PPP will not create research data as such. It is a project related to the design of a RI in Religious Studies. When relevant and possible (e.g. there are no IPR or privacy issues) the consortium will make data and documents related to the design of the RI with a public status findable and accessible using Zenodo. Personal data from survey results or workshops that cannot be anonymized will not be made openly available and will be protected in accordance with GDPR.

**Will the data be accessible through a free and standardised access protocol?**

(meta)data are retrievable by their identifier using a standardised communications protocol (OAI-PMH and REST API.)

**Emargo, restrictions on use, data access committee**

Not applicable. All public deliverables and reports will be shared under a CC-BY licence in Zenodo and will be openly accessible.

**Metadata:**

**Will metadata be made openly available and licenced under a public domain dedication CCo, as per the Grant Agreement?**

Yes, metadata is publicly accessible and licensed under public domain. No authorization is ever necessary to retrieve it.

**How long will the data remain available and findable? Will metadata be guaranteed to remain available after data is no longer available?**

There is currently no limit on the availability of (meta)data published in Zenodo. RESILIENCE has no intention of removing the published data.

**Will documentation or reference about any software be needed to access or read the data be included?**

No, all file formats will be open and accessible with standard software.

**2.3 Making data interoperable****What data and metadata vocabularies, standards, formats or methodologies will you follow to make your data interoperable to allow data exchange and re-use within and across disciplines? Will you follow community-endorsed interoperability best practices? Which ones?**

The project does not collect or create research data as such. User stories, statistical information and textual information for the design and preparation of the project are gathered and created in conventional Office formats. In case any type of other data is collected or created, conventional standards and vocabularies will be used. In previous phases RESILIENCE has preferred Schema.org for the normalisation of the (meta)data from primary and secondary sources. Code is managed using Git, though this is not applicable for this phase of the project as no development work is included in the GA.

**Will your data include qualified references to other data (e.g. other data from your project, or datasets from previous research)?**

Not applicable. References will be limited to project deliverables and reports (PDF) from the RESILIENCE design phase and ReReS project.

**2.4 Increase data re-use****How will you provide documentation needed to validate data analysis and facilitate data re-use (e.g. readme files with information on methodology, codebooks, data cleaning, analyses, variable definitions, units of measurement, etc.)?**

RESILIENCE does not create research data. The information gathered will be used to inform project deliverables with subsequent reference to the source. Information on methodology, templates and information collected are described in detail as part of the deliverables and data annexes are uploaded when

applicable (e.g. CSV file with collected user stories). Any necessary documentation will be provided in text-based form (readme file).

**Will your data be made freely available in the public domain to permit the widest re-use possible? Will your data be licensed using standard reuse licences, in line with the obligations set out in the Grant Agreement?**

All documents defined with a public status will be shared under the CC-BY licence. Sufficient information and metadata will be provided for interpretation. Code will, if possible (e.g. other licence types when reusing existing ecosystems or proprietary software may occur), be licensed under OSI approved licence. The source code will be documented according to established practices. Documentation will be provided in text-based form.

**Will the data produced in the project be useable by third parties, in particular after the end of the project?**

Yes, all RESILIENCE output and deliverables will be published under a CC-BY licence.

**Will the provenance of the data be thoroughly documented using the appropriate standards?**

Yes, when applicable. RESILIENCE mainly references other RI project deliverables, policy documents etc. and does not collect research data. E.g. PROV Family of Documents (<https://www.w3.org/TR/prov-overview/>) defines a model, corresponding serialisations and other supporting definitions to enable the inter-operable interchange of provenance information in heterogeneous environments such as the Web.

**Describe data quality assurance processes.**

The cloud storage is organised according to working units and purpose of the document, to be maintained by the corresponding WU leaders. The storage offers a detailed history of all changes made in a library and each document contains a change history. For publication of public deliverables and reports on Zenodo, sufficient metadata needs to be added for proper findability. WP6, responsible for the DMP, will review metadata quality upon submission of deliverables and reports for upload to the RESILIENCE community on Zenodo.

**When will the data be made available for re-use? If an embargo is sought to give time to publish or seek patents, specify why and how long this will apply, bearing in mind that research data should be made available as soon as possible.**

RESILIENCE PPP will not create research data. Most of the data created and collected will pertain to the setup of a research infrastructure and will therefore only be shared after the end of the project.

**Further to the FAIR principles, DMPs should also address research outputs other than data, and should carefully consider aspects related to the allocation of resources, data security and ethical aspects.**

RESILIENCE PPP does not create research data. This DMP therefore applies to the broad sense of outputs such as deliverables and reports produced in the context of the preparation of establishing the RI as an ERIC.

### 3. Other research outputs

RESILIENCE PPP does not create research data or other research outputs such as protocols or models. At this point no software is being created within the context of the project but the same principles and open licences apply as specified for project deliverables and reports produced, though code will be published in Github instead of in Zenodo.

### 4. Allocation of resources

**What will the costs be for making data or other research outputs FAIR in your project (e.g. direct and indirect costs related to storage, archiving, re-use, security, etc.) ?**

RESILIENCE does not create or collect research data and mostly generates textual information in relation to the preparation of the RI establishment. Most outputs will therefore be PDFs. The dissemination of public deliverables will be done via Zenodo which is free of charge. Working documents are stored on Google Drive which is free of charge. Proper management and organisation of files (e.g. folder management, file naming conventions) is part of each consortium member's task and will require minimal effort.

**How will these be covered? Note that costs related to research data/output management are eligible as part of the Horizon Europe grant (if compliant with the Grant Agreement conditions)**

Not applicable. Minimal effort for file management and organisation is taken care of as part of the PMs assigned to each project member.

**Who will be responsible for data management in your project?**

KU Leuven is responsible for data management together with the WP leaders, who produce and collect relevant information as part of their work package. The WP leaders are responsible for sharing any important changes to the conditions stated in the DMP with KU Leuven. KU Leuven is responsible for the DMP and its updates. The WP leaders are responsible for maintaining file storage related to the activities of their WP. KU Leuven together with WP6 leader FSCIRE is responsible for informing them about the DMP and reminding them of their responsibilities.

**How will long term preservation be ensured? Discuss the necessary resources to accomplish this (costs and potential value, who decides and how, what data will be kept and for how long)?**

Zenodo guarantees the preservation of both data files and metadata free of cost for an unlimited period of time. Of course deliverables are also uploaded to the EC funding & tender platform, providing an additional copy.

### 5. Data security

**What provisions are or will be in place for data security (including data recovery as well as secure storage/archiving and transfer of sensitive data)?**

Data will be stored in an external cloud storage.

Data and documents created by the consortium as part of the construction and daily activities of the RI are stored and managed using Google Drive storage. Public deliverables and project outcomes will also be uploaded and made available via Zenodo.

Zenodo guarantees the preservation of both data files and metadata. Google Drive maintains backups of primary data for disaster recovery and business continuity purposes — for example, hardware failure, data center outage, or natural disasters like earthquake, hurricane and so on.

**Will the data be safely stored in trusted repositories for long term preservation and curation?**

Zenodo does not do long term preservation (conforming to the OAIS standard) but does take care of fixity checks and guarantees long term storage. Zenodo itself does not provide curation though uploads submitted to the RESILIENCE community on Zenodo will be checked on metadata completeness and quality.

## 6. Ethics

**Are there any ethical or legal issues that can have an impact on data sharing?**

Not applicable. Some data, mainly from surveys related to user needs for the RESILIENCE RI, will be created in collaboration with participants. Respondents will be fully aware of the nature and purpose of the research and the type of data collected. They will participate on a voluntary basis and any results shared will be fully anonymized and/or shared in an aggregated method as part of deliverables.

## 7. Other issues

**Do you, or will you, make use of other national/funder/sectorial/departmental procedures for data management? If yes, which ones (please list and briefly describe them)?**

Not applicable

**Name conventions and versioning**

Documents will be named following this naming convention:

- RESILIENCE\_[WP number]\_[Title]\_[VersionID]\_[Draft/Final status].
- For deliverables, the number of the deliverable precedes the title: RESILIENCE\_ [WP number]\_[Deliverable number]\_[Title]\_[VersionID]\_[Draft/Final status]
- The minutes of meetings include 'MM' after 'RESILIENCE'.

In repositories used by the consortium, folders are structured according to work units. For the storage of data and working documents, the folders are structured according to task. This will help those working for the consortium find what they need.

Versions of documents, both deliverables and other documents, both public and confidential, should be inserted in the table Change History in the RESILIENCE document template.

- The first version of the document is always: ID: 00.01 / Name: First draft / Status: DRAFT
- For every major revision, ID and Name change accordingly, but the Status doesn't: ID: 00.02; 00.03; 00.04; ... / Name: Working Version; First revisioned text; EB revised version; ... / Status: DRAFT
- The Final draft version is named as follows: ID: 01.00 / Name: Final Version / Status: FINAL

HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
01.00	05.05.2021	Initial version.
01.01	01.04.2022	Reformatted to align with other deliverables templates.
02.00	05.08.2024	Updated in accordance with Horizon Europe DMP template (instead of previous H2020 template). Small refinements and clarifications added.

## 7.4 Metadata requirements Zenodo RESILIENCE community

### Instruction notes:

- To submit a new record to the RESILIENCE community on Zenodo, go to <https://zenodo.org/communities/resilience/>, and click the 'New upload' button.
- To submit an existing record to the RESILIENCE community on Zenodo, complete the required metadata and follow the steps as described here: <https://help.zenodo.org/docs/share/submit-to-community/>
- More information on how to create an upload can be found here: <https://help.zenodo.org/docs/deposit/create-new-upload/>
- Zenodo only has a limited number of required fields. To increase the FAIRness of the deposit, RESILIENCE requires additional metadata fields to be completed. The table below provides an overview of all the metadata fields and whether they are required, recommended or optional. RESILIENCE also highly recommends completing the 'recommended' fields.
- The working language for the metadata in the RESILIENCE Zenodo community is English. Do not use another language in the metadata fields unless it is explicitly allowed in the description (e.g. Translated title).
- Only public deposits are allowed with exception for:
  - Legal opt-outs due to privacy, intellectual property rights, ethical aspects, and aspects of dual use in which case restricted publication.
  - Embargoed publications of max. 6 to exceptionally 12 months due to publisher agreements, ongoing research etc.

Metadata field	Description & Tips	required / recommended / optional
Files	Drag and drop or upload your files. File upload is required. Exceptions are only allowed when files have been published in another trustworthy repository.	required
Digital Object Identifier (DOI)	Select 'Yes' and add the DOI in case you already have one or 'No' to generate a new DOI.	required
Resource type	Select the appropriate resource type (e.g. Dataset, Publication, Presentation) from the drop-down.	required
Title	Enter a title in English. For additional titles (translated, alternative, subtitle, other) click the '+ Add titles' button.	required
Publication date	Filled automatically. In case the upload was already published elsewhere (cf. 'Files' above), use the data of the first publication.	required
Creator	The person(s), corporate body(ies), or agency(ies)	required



	<p>responsible for creating the work. Click '+ Add creator' and select 'Person' or 'Organization' and complete the information.</p> <p>It is recommended to complete as many of the fields as possible. By adding identifiers (e.g. ORCID), publications can be automatically linked to your profile cross-environment.</p> <p>Author names are by default shown in order of entry but you can drag-and-drop to change the order of the list.</p>	
Description	Add a description in English with the purpose, scope, nature of the deposit. For additional descriptions (methods, table of content ...) click the '+ Add description' button.	required
Licences	Select the appropriate Creative Commons License? Creative Commons Attribution 4.0 International (CC BY) is recommended ( <a href="https://creativecommons.org/licenses/by/4.0/legalcode">https://creativecommons.org/licenses/by/4.0/legalcode</a> ). Exceptions can be made after motivation for CC BY-SA and CC BY-NC-SA.	required
Contributors	The organisation or person responsible for either collecting, managing, or otherwise contributing in some form to the development of the resource. Click '+ Add Contributor' and select 'Person' or 'Organization' and complete the information.	recommended (if applicable)
Keywords and subjects	Select from EuroSiVoc (e.g. Religions) list and add other free text keywords for better findability. Preferably, reuse keywords/subjects from well established vocabularies such as <a href="https://authorities.loc.gov/">https://authorities.loc.gov/</a> . Always add the following keyword(s): RESILIENCE	required
Languages	Add the main language(s) used in the deposited files. More than one language can be added.	required
Dates	Use YYYY-MM-DD format and select the date type. You can add more Dates by clicking the '+ Add date' button.	recommended
Version	Version number, recommended in case of software or	recommended

	datasets uploads.	
Publisher	The default is Zenodo. Only change in case the resource has been published elsewhere (cf. exception in 'Files')	required
Funding	Add awards and grant information. In case a grant was received through RESILIENCE TNA, add this as custom information via the '+ Add custom' button.	optional, mandatory in case a grant was received from RESILIENCE
Alternate identifiers	Another unique identifier that identifies this deposit (e.g. producer's database number or another repository's number such as local accession number).	optional
Related works	This field can be used for structured references to related works such as a dataset forming the basis of a publication. It is highly recommended to add such cross-references. Specify identifiers of related works. Supported identifiers include DOI, Handle, ARK, PURL, ISSN, ISBN, PubMed ID, PubMed Central ID, ADS Bibliographic Code, arXiv, Life Science Identifiers (LSID), EAN-13, ISTC, URNs, and URLs. For more related works, click the '+ Add related work' button.	recommended (if applicable)
References	In case no structured reference information is available (cf. Related works field), you can add a reference string here.	recommended (if applicable)
Software	Add repository URL (e.g. Github URL), programming language, development status information in case the deposit concerns code or requires the use of software to access and reuse the deposit.	recommended (if applicable)
Publishing information	In case the deposit was published in a Journal (e.g. ISSN) or as an Imprint (e.g. ISBN), complete the fields.	recommended (if applicable)
Conference	In case the deposit is a conference proceeding (e.g. European Academy of Religion), complete the fields.	recommended (if applicable)

## 8 Reference Documents

Reference documents are intended to provide background and supplementary information.

ID	Date	Title/Reference
R1	18/08/2022	GRANT AGREEMENT, Project: 101079792 — RESILIENCE PPP — HORIZON-INFRA-2021-DEV-02



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