

---

# **OpenAIRE Guidelines**

*Release 1.0 alpha*

**OpenAIRE**

**Jun 08, 2018**



---

## Contents

---

|          |  |          |
|----------|--|----------|
| <b>1</b> | <b>Introduction</b>  | <b>3</b> |
| 1.1      | Aim . . . . .  | 3        |
| 1.2      | OpenAIRE (Open Access Infrastructure for Research in Europe) . . . . . | 3        |
| 1.3      | Rationale . . . . .  | 3        |
| <b>2</b> | <b>Application Profile Overview</b>                                    | <b>5</b> |
| <b>3</b> | <b>Acknowledgements &amp; Contributors</b>                             | <b>7</b> |



These guidelines describe the application profile for Software Repository managers to be compatible with OpenAIRE.



### 1.1 Aim

The OpenAIRE Guidelines for Software Repository Managers 1.0 provide orientation for software repository managers to define and implement their local software management policies in exposing metadata for software products. These guidelines are intended to provide indications on how to make software products citable in order to make them first-level citizen of an Open Science, interlinked scholarly communication ecosystem. By adhering to the guidelines exposure, visibility, and re-use of repository content will be significantly increased.

OpenAIRE is happy to assist in adherence to these guidelines.

### 1.2 OpenAIRE (Open Access Infrastructure for Research in Europe)

According to the content acquisition policies of the OpenAIRE infrastructure, metadata from software archives can be included in the OpenAIRE information space when:

- the software is an open source research software,
- the software is related to a publication or a dataset already in OpenAIRE e.g. a software referred by an open access article,
- the software is linked to a project.

### 1.3 Rationale

The goal of the OpenAIRE guidelines for software is to give immediate visibility of software as a “citable research product” based on the current state of the art in the scholarly communication, while indicating the way towards “good software citation practices”. Research software is currently available from the following kinds scholarly communication repositories:

- Institutional repositories: software descriptions are currently provided as Dublin Core metadata records

- Data repositories: software descriptions are currently provided as DataCite/DataVerse metadata records
- Software repositories: most of them are software repositories a-la-GitHub, where metadata is oriented to software re-use, rather than citation; in some cases they are defined as research repositories, hence including metadata for discovery and citation

The guidelines aim at making these repositories readily compliant so as to start exposing software entities to discovery and citation services. This means the guidelines should be endorsed by the community (e.g. include properties that reflect the need of software citation), do not impose high efforts to sources (e.g. mandatory citation metadata not available to sources), while recommending best practices (e.g. placing metadata recommended/optional for citation). Accordingly, the guidelines have been defined with a pragmatic approach, keeping mandatory properties to the minimum, focusing on properties for citation (attribution and access), disregarding discover-for-reuse properties, but keeping in mind that any property can be added in the future to reflect changes that should and hopefully will occur at the repositories side and in the behaviour of scientists who create, share, cite, and re-use research software. The guidelines take inspiration from the following initiatives on software description and citation:

- [Force 11 Software Citation Principles](#)
- [DataCite](#)
- [OpenMinTed SHARE-OMTD](#)
- [Codemeta initiative](#)
- [DOE CODE initiative](#)

Mappings from the OpenAIRE guidelines to such initiatives are available [here](#) and open to comments and revision.



---

## Application Profile Overview

---

This documentation uses the following namespace abbreviation:

- `datacite:` <http://datacite.org/schema/kernel-4>

| OpenAIRE-Field                            | Metadata Element                          |
|---|---|
| <code>datacite:identifier</code>          | <code>datacite:identifier</code>          |
| <code>oas:author</code>                   | <code>datacite:creator</code>             |
| <code>oas:contactPerson</code>            | <code>datacite:contributor</code>         |
| <code>oas:contactGroup</code>             | <code>datacite:contributor</code>         |
| <code>oas:name</code>                     | <code>datacite:title</code>               |
| <code>oas:repository</code>               | <code>datacite:publisher</code>           |
| <code>oas:softwareType</code>             | <code>datacite:resourceType</code>        |
| <code>datacite:subject</code>             | <code>datacite:subject</code>             |
| <code>oas:releaseDate</code>              | <code>datacite:date</code>                |
| <code>oas:descriptionLanguage</code>      | <code>datacite:language</code>            |
| <code>datacite:alternateIdentifier</code> | <code>datacite:alternateIdentifier</code> |
| <code>oas:landingPage</code>              | <code>datacite:alternateIdentifier</code> |
| <code>oas:distributionLocation</code>     | <code>datacite:alternateIdentifier</code> |
| <code>oas:documentation</code>            | <code>datacite:relatedIdentifier</code>   |
| <code>oas:relation</code>                 | <code>datacite:relatedIdentifier</code>   |
| <code>oas:programmingLanguage</code>      | <code>datacite:format</code>              |
| <code>oas:versionNumber</code>            | <code>datacite:version</code>             |
| <code>oas:accessRights</code>             | <code>datacite:rights</code>              |
| <code>oas:licenseCondition</code>         | <code>datacite:rights</code>              |
| <code>datacite:description</code>         | <code>datacite:description</code>         |
| <code>oas:tool</code>                     | <code>datacite:description</code>         |
| <code>datacite:fundingReference</code>    | <code>datacite:fundingReference</code>    |
| <code>oas:distributionForm</code>         | <code>datacite:description</code>         |



---

## Acknowledgements & Contributors

---

### Editors

- Miriam Baglioni (CNR, Italy)
- Alessia Bardi (CNR, Italy)
- Paolo Manghi (CNR, Italy)
- Leo Mack (JISC, UK)

### Experts & Reviewers

#### *OpenAIRE*

- Jochen Schirrwagen (Bielefeld University, Germany)
- Claudio Atzori (CNR, Italy)
- Lars Holm Nielsen (CERN, Switzerland)
- Leo Mack (JISC, UK)

#### *SoftwareHeritage*

- Roberto Di Cosmo (INRIA, France)

#### *DOE CODE* (U.S. Department of Energy, Office of Scientific and Technical Information - OSTI.gov)

- Shelby Stooksbury (DOE project coordinator)
- Lynn Davis
- Carly Robinson
- Lance Vowell

#### *Software Sustainability Institute (SSI)*

- Neil Chue Hong (SSI director)

#### *University of Manchester*

- Carole Goble