

# Infrastructure Policies



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## D9.2 – Infrastructure Policies

Version 1.1 – Final

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This deliverable contains the policies ruling the OpenAIRE infrastructure. It includes: compliance to GDPR, citation policy, acceptable use policies, infrastructure participation policies and service level agreements.



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# Document Description

## D9.2 – Infrastructure Policies

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V0.1	Draft version	Initial draft	Paolo Manghi Natalia Manola	CNR-ISTI ARC
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V0.3	Draft version	Content acquisition policies	Paolo Manghi Pedro Principe Jochen Schirrwagen Natalia Manola	CNR-ISTI UMINHO UNIBI ARC
V0.4	Draft version	Acceptable Use policies	Paolo Manghi Natalia Manola	CNR-ISTI ARC
V1.0	Edited version	Editing and compliance to the document template	Alessia Bardi	CNR-ISTI
V1.1	Final version	Added image templates in citation policy section	Alessia Bardi	CNR-ISTI

# Table of Contents

<b>1  INTRODUCTION</b>	<b>6</b>
<b>2  GLOBAL POLICIES</b>	<b>7</b>
2.1 GDPR	7
2.2 INFRASTRUCTURE ACCEPTABLE USE POLICY	8
2.3 ACCEPTABLE USE POLICY	9
2.3.1 OPENAIRE APIS	10
2.3.2 SCHOLEXPLORER	10
2.3.3 ZENODO	10
2.4 CITATION POLICY	11
<b>3  INFRASTRUCTURE PARTICIPATION POLICIES</b>	<b>14</b>
3.1 CONTENT PROVIDERS PARTICIPATION POLICY	14
3.1.1 CONSENTS FOR RE-USE	14
3.1.2 ADDITIONAL PROVISIONS TO ENSURE QUALITY OF SERVICE	15
3.1.3 CONTENT ACQUISITION POLICY	15
3.2 SITE PARTICIPATION POLICIES	16
<b>4  SERVICE LEVEL AGREEMENT</b>	<b>18</b>
4.1 CONTENT ACCESS SLA	18
4.2 CONTENT STORAGE SLA	18
4.3 OPENAIRE APPLICATIONS AS-A-SERVICE HOSTING SLA	19
4.4 SUPPORT RESPONSE TIME SLA	19
4.5 SCHEDULED INFRASTRUCTURE DOWNTIME SLA	20

# Table of Figures

Figure 1 Citation template 1 .....	12
Figure 2 citation template 2 .....	12
Figure 3 citation template 3 .....	12
Figure 4 Citation template 4 .....	12
Figure 5 Citation template 5 .....	13
Figure 6 Citation template 6 .....	13
Figure 7 Citation template 7 .....	13
Figure 8 Citation template 8 .....	13
Figure 9 citation template 9 .....	13

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## Acronyms

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API	Application Program Interface
GDPR	General Data Protection Regulation
IPB	Infrastructure Policy Board
IPR	Intellectual Property Rights
QoS	Quality of Service
SLA	Service Level Agreement
ToU	Terms of Use

# Publishable Summary

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## OPENAIRE POLICIES

OpenAIRE is an open service infrastructure whose assets may vary during its lifetime in order to add/update functionalities or add/provide content. Examples are the additions of re3data, OpenDOAR, DOAJ or funder databases to collect content or the interoperability with SYGMA Cordis Portal and other databases and registries to deliver content. If such dynamicity is one of the most powerful features of the OpenAIRE infrastructure, to achieve its full potential, sustainability, and in respect of European legislation, it has to be constrained by precise rules and an established vision.

The OpenAIRE Infrastructure Policy Board (IPB) is a body in charge of establishing the policies ruling the infrastructure ecosystem over time in terms of: (i) terms required by extra services to be included in the infrastructure ecosystem (e.g. QoS), (ii) terms required by new content providers to be aggregated in the information space (e.g. OpenAIRE guidelines, SLAs), (iii) OpenAIRE content acquisition policies defining the range/typology of content that will be included in the information space and relative Terms of Agreement, (iv) Service Level Agreements, and (iv) the IPR issues related with reuse of OpenAIRE data and services (e.g. license, “credit and citation policy”).

## 1 | INTRODUCTION

The OpenAIRE Infrastructure Policy Board (IPB) is the body in charge of establishing the policies ruling the OpenAIRE infrastructure over time. IPB consists of the following people:

- Paolo Manghi, CNR-ISTI (technical director)
- Natalia Manola, University of Athens (managing director)
- Jochen Schirrwagen, University of Bielefeld (content aggregator manager)
- Pedro Principe, University of Minho (support manager)
- Marek Horst, ICM (inference)
- Alessia Bardi, CNR-ISTI (data integrator)
- Michal Politowski, ICM (system operations)
- Panoraia Spiliopoulou, ARC (legal advisor)

A policy is typically described as a principle or rule to guide decisions and achieve rational outcomes.<sup>1</sup> In the case of the OpenAIRE infrastructure, three main families of policies have been defined:

- Global Policies:** policies meant to be valid for the infrastructure as a whole and as such they have “global” scope. Examples of such policies include Acceptable Use Policies.
- Infrastructure Participation Policies:** policies meant to regulate content providers. Examples of such policies include Content Provider Participation Policies and Site Provider Participation Policies.
- Service Level Agreement Policies:** policies meant to regulate the level of service that the OpenAIRE Infrastructure has to guarantee to its users.

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<sup>1</sup> <http://en.wikipedia.org/wiki/Policy>

## 2 | GLOBAL POLICIES

The Policies which are described in this section are global policies applied to Users accessing the infrastructure as consumers or providers of:

- Services
- Data
- Sites (Computation and Storage).

The following policies have been defined:

- Infrastructure Acceptable Use Policy
- Acceptable Use Policy
- Citation Policy

### 2.1 GDPR

OpenAIRE services collect personal information about the users and content providers. The collected information includes, but not exclusively, names, organizations, country of origins or residence, telephone, contact information like email, social site contacts and website. Log information, including information provided by Users or Services via the applications/APIs running on the Site shall be processed for administrative, operational, accounting, monitoring and security purposes only and according to the GDPR regulations. OpenAIRE undertakes to process personal data according to the principles of GDPR regulations (article 5 of the GDPR) and ensure that users and content providers may exercise their rights.

According to the [Ethical Report](#) produced by the OpenAIRE Ethics advisor Gloria Origgi, OpenAIRE shall:

- Guarantee the protection of privacy** for all the stakeholders (researchers, participants to experiments, general audience) in compliance with the GDPR guidelines: “Whereas they must, whatever the nationality or residence of natural persons, respect their fundamental rights and freedoms, notably the right to privacy, and contribute to economic and social progress, trade expansion and the well-being of individuals” (PRIVACY/CONFIDENTIALITY)
- Protect the rights of data providers** by complying with the evolution of data copyright regulations in Europe. (DATA GOVERNANCE)

As highlighted in the Ethic Report, as a research organization, OpenAIRE may avoid many restrictions on processing data. According to article 89 of the GDPR: “Where personal data are processed for scientific or historical research purposes or statistical purposes, Union or Member State law may provide for derogations”. However, the following elements of GDPR impact on OpenAIRE policies and must be addressed by the OpenAIRE infrastructure: right to be forgotten (opt-out options) and anonymity provisions.



For the use of the OpenAIRE Usage Statistics Service, repository managers must install a plugin that intercepts usage data (e.g. download, view). The plugin features embedded anonymization according to the GDPR regulations.

At any time, the user can decide to unregister his/her data. All user's requests are immediately accepted and operated by the OpenAIRE Infrastructure. The option to delete the account is clearly visible in the OpenAIRE portal in the login form and, after login, in the "Contact Info" page of the User.

Zenodo-specific policies are published at <http://about.zenodo.org/policies/> .

## 2.2 Infrastructure Acceptable Use Policy

By registering in the OpenAIRE Infrastructure any User shall be deemed to accept these conditions of use:

- The User shall not use the OpenAIRE Infrastructure for any unlawful purpose and not (attempt to) breach or circumvent any administrative or security controls.
- The User shall respect intellectual property and confidentiality agreements.
- The User shall protect its access credentials (e.g. private keys or passwords).
- The User shall immediately report any known or suspected security breach or misuse of the OpenAIRE Infrastructure or access credentials to the incident reporting locations specified by the OpenAIRE Infrastructure.
- Use of the OpenAIRE Infrastructure is at User's risk. There is no guarantee that the OpenAIRE Infrastructure will be available at any time or that it will suit any purpose.
- Logged information is used for administrative, operational, accounting, monitoring and security purposes only.
- Resource Providers are entitled to regulate, suspend or terminate the User access, within their domain of authority, and the User shall immediately comply with their instructions.
- The User is liable for the consequences of violating any of these conditions of use.

Users may submit two kinds of information to the OpenAIRE infrastructure: *personal sign in information* or *claims*, intended as assertions of associations between research products (publications, datasets, software, other products) and between research products and research projects or research communities. By submitting content to the OpenAIRE Infrastructure any authorized User shall be deemed to accept these conditions of use:

- GDPR's opt out for OpenAIRE users:** At any time, the User can decide to unregister his/her data. All user's requests are accepted and operated by OpenAIRE Infrastructure within one business day.
- The ownership of any **intellectual property rights** is not in any way transferred to the OpenAIRE Infrastructure. In short, what belongs to a User remains exclusively of that User.
- The **User remains responsible** for any misuse of the data by other Infrastructure Users.

- The OpenAIRE Infrastructure can **reproduce, modify, and generate derivative works** from the content it stores
- The OpenAIRE Infrastructure will not otherwise move or distribute user's data for any purpose, except when required to do so by law.
- The OpenAIRE Infrastructure is not responsible of the data uploaded and hosted by the infrastructure.
- The OpenAIRE Infrastructure will not be responsible of any issue regulating intellectual property rights infringement or illegal use of User's data.
- The OpenAIRE Infrastructure will make reasonable efforts to ensure that data are persisted. In the event of hardware or software failures caused by failures to a hard drive or power supply, the OpenAIRE Infrastructure will make reasonable attempts to restore the user's data. No guarantee whatsoever is provided on the success of any User's data recovery.

## 2.3 Acceptable Use Policy

By accessing OpenAIRE services deployed into the OpenAIRE Infrastructure any User shall be deemed to accept these conditions of use:

- Any authorized User can use content in any circumstance and for all usage, reproduce the data, modify the data, and make derivative data based upon the original data, communicate to the public, including the right to reproduce or display the data or copies thereof to the public and perform publicly, as the case maybe, the data.
- Any authorized User cannot in any circumstance and for any usage redistribute the data or copies thereof, lend and rent the data or copies thereof, sub-license rights in the data or copies thereof, unless otherwise authorized by the OpenAIRE infrastructure.
- Metadata license is CC-BY: the metadata records returned by the services can be freely re-used by commercial and non-commercial partners under CC-BY license, hence as long as OpenAIRE is acknowledged as content provider.
- If the OpenAIRE Infrastructure reasonably believes any of the User Content violates the law, infringes or misappropriates the rights of any third party, the User of the Prohibited Content will be notified and requested that such content be removed from the OpenAIRE Services or access to it be disabled. If a User does not remove or disable access to the Prohibited Content within 2 business days of our notice, the OpenAIRE Infrastructure may remove or disable access to the Prohibited Content or suspend its access to the OpenAIRE Services.
- Users will reasonably cooperate with OpenAIRE Infrastructure to identify the source of any problem with the OpenAIRE Services that may be attributable to Users Content or any end user materials that the User control.

### 2.3.1 OpenAIRE APIs

The OpenAIRE APIs provide access to a graph of interlinked metadata records and to a corpus of article PDFs. While metadata records are accessible as CC-BY, access to PDFs may only take place on request and is subject to restrictions based on the content providers.

If Users create technology that works with OpenAIRE API Services, they must comply with the current technical documentation applicable to the used OpenAIRE Services available at <http://develop.openaire.eu>.

Any authorized User shall be deemed to the specific rate limits of the used service as specified below. Rate limits might be changed by the OpenAIRE IPB at any time. Changes will be published in the documentation page of the relative services.

#### GENERIC API RATE LIMITS

For updates, please check <http://develop.openaire.eu>

- no more than 30 concurrent connections from single IP to any APIs
- no more than 67 concurrent requests in total

#### HTTP API RATE LIMITS

For updates, please check <http://develop.openaire.eu/api.html>

- no more than 37 concurrent requests in total (max 30 per single IP);
- no more than 15 requests/second (in total, not per IP). If this limit is reached, requests will be delayed.

### 2.3.2 ScholeXplorer

For updates on terms of use, please check <http://scholexplorer.openaire.eu/#/api>

**REST APIs:** ScholeXplorer's REST APIs are free-to-use (no sign-up needed) by any third-party service. Note that the service limits each query to around 10,000 paged results (pages are by default of length 100 and can be navigated via resumption token). For unlimited access to the APIs please contact the service administrators.

**Metadata license is CC-BY:** Scholix metadata records returned by the service can be freely re-used by commercial and non-commercial partners under CC-BY license, hence as long as OpenAIRE ScholeXplorer is acknowledged as content provider.

### 2.3.3 Zenodo

Users of Zenodo shall be deemed to accept the conditions available on the Zenodo website at <http://about.zenodo.org/terms/>:

The Zenodo service (“Zenodo”) is offered by CERN as part of its mission to make available the results of its work.

Use of Zenodo, both the uploading and downloading of data, denotes agreement with the following terms:

- Zenodo is a research data repository for the preservation and making available of research, educational and informational content. Access to Zenodo's content is open to all, for non-military purposes only.
- Content may be uploaded free of charge by those without ready access to an organized data centre.
- The uploader shall ensure that their content is suitable for open dissemination, and that it complies with these terms and applicable laws, including, but not limited to, privacy, data protection and intellectual property rights.
- All content is provided "as-is". Users of content ("Users") shall respect applicable license conditions. Download and use of content from Zenodo does not transfer any intellectual property rights in the content to the User.
- Users are exclusively responsible for their use of content, and shall hold CERN free and harmless in connection with their download and/or use.
- CERN reserves the right, without notice, at its sole discretion and without liability, (i) to alter or delete inappropriate content, and (ii) to restrict or remove User access where it considers that use of Zenodo interferes with its operations or violates these Terms of Use or applicable laws.
- Unless specified otherwise, Zenodo metadata may be freely reused under the [CC0 waiver](#). Bulk downloading of email addresses taken from Zenodo is not allowed.
- These Terms of Use are subject to change by CERN at any time and without notice, other than through posting the updated Terms of Use on the Zenodo website.

## 2.4 Citation Policy

By exploiting resources and services offered via the OpenAIRE infrastructure any User must acknowledge the services that he/she accessed via the infrastructure and used to produce research.

### FOR SCIENTIFIC PUBLICATIONS

- When mentioning a specific service in a scientific article, please include the URL to the service and the time of access.
- To acknowledge the use of OpenAIRE services and funding from the project:
  - This work used the OpenAIRE service(s) [SERVICE NAME LIST] and is co-funded by the OpenAIRE-Advance project (Horizon 2020) under Grant number 777541.
  - Example: This work used the OpenAIRE service Search API and is co-funded by the OpenAIRE-Advance project (Horizon 2020) under Grant number 777541.
- To acknowledge the adoption of OpenAIRE services:

- This work used the OpenAIRE service(s) [SERVICE NAME LIST].
  - Example: This work used the OpenAIRE services Search API and Catch-All Notification Broker.
- To cite OpenAIRE content: cite the OpenAIRE content dump available from Zenodo that was used to produce research:
- LOD dump: <https://doi.org/10.5281/zenodo.609943>
  - ScholeXplorer dump: <https://doi.org/10.5281/zenodo.1200252>
  - DOIBoost dump: <https://doi.org/10.5281/zenodo.1438355>

#### FOR WEB SITES AND SERVICES

Third-parties web sites and services using OpenAIRE services or receiving funding from OpenAIRE-Advance should explicitly acknowledge OpenAIRE. Acknowledgement should be visible at the portals and source code public repositories.

The templates in Figure from 1 to 9 can be used:

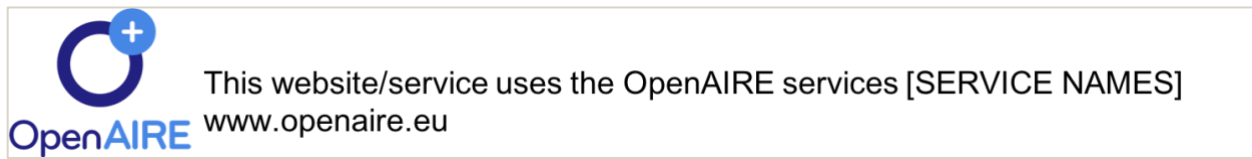


FIGURE 1 CITATION TEMPLATE 1

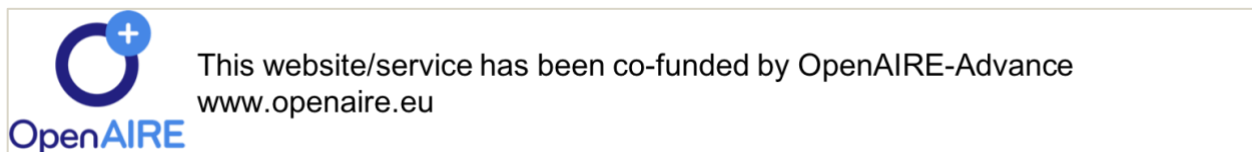


FIGURE 2 CITATION TEMPLATE 2

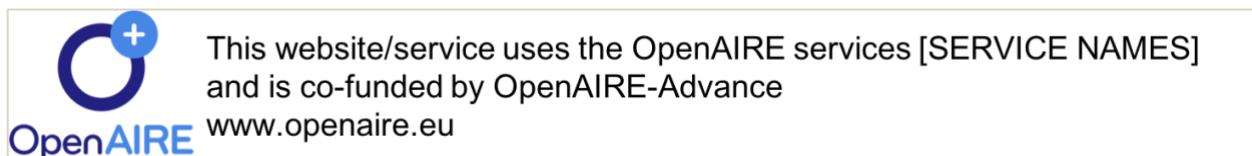


FIGURE 3 CITATION TEMPLATE 3

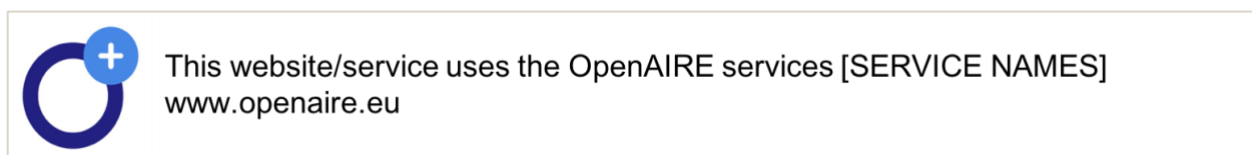


FIGURE 4 CITATION TEMPLATE 4

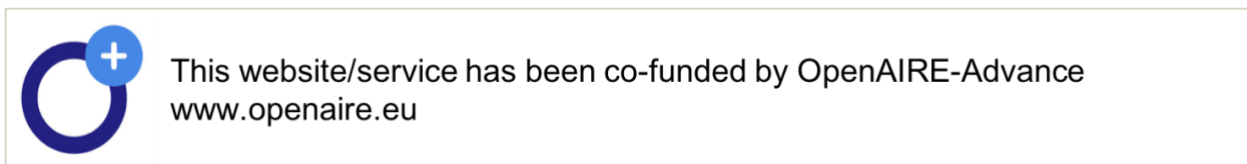


FIGURE 5 CITATION TEMPLATE 5

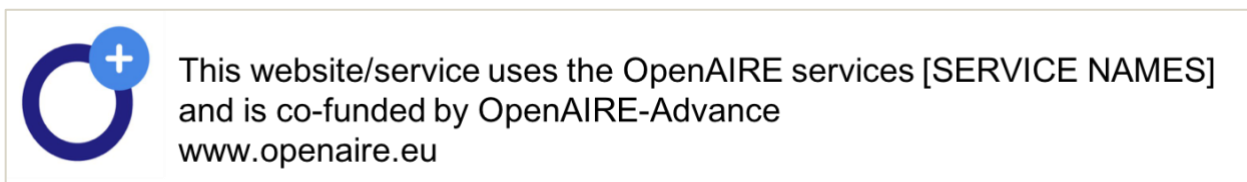


FIGURE 6 CITATION TEMPLATE 6

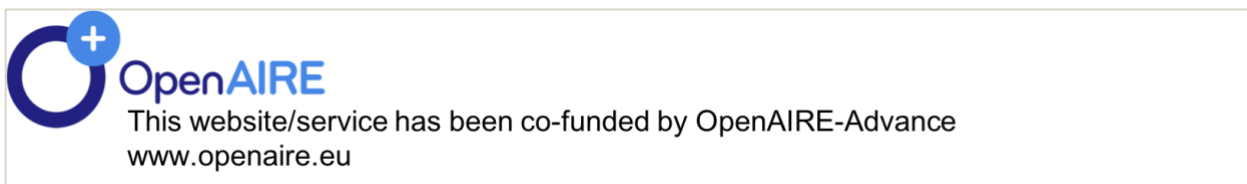


FIGURE 7 CITATION TEMPLATE 7

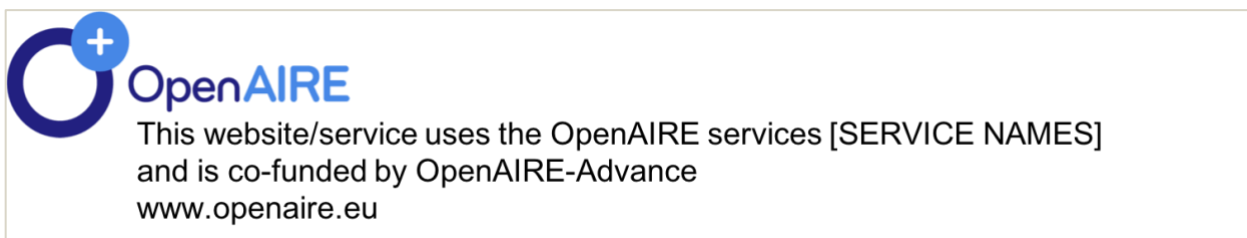


FIGURE 8 CITATION TEMPLATE 8

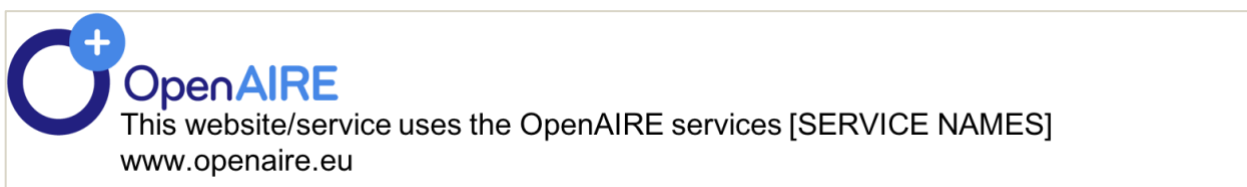


FIGURE 9 CITATION TEMPLATE 9

## 3 | INFRASTRUCTURE PARTICIPATION POLICIES

Resource provision in the context of the OpenAIRE Infrastructure is regulated by a defined set of policies:

- Content Provider Participation Policy
- Site Participation Policy

### 3.1 Content Providers Participation Policy

Content providers may register to the OpenAIRE Infrastructure to ensure global visibility and reporting to the funders. In doing so they commit to the following practices:

- If the content provider is an institutional or thematic publication repository, it is mandatory for the repository to be registered to [OpenDOAR](#).
- If the content provider is a research dataset repository, it is mandatory for the repository to be registered to [re3data.org](#).
- Registered content provider should conform to the [OpenAIRE guidelines](#)
- The content provider is responsible for the compliance of data with the law, with any claims relating to the data, and any violation with respect person's rights.

#### 3.1.1 Consents for re-use

In particular, by registering to the OpenAIRE infrastructure a content provider obeys to the following [Terms of Agreements](#):

**Consent for re-use of metadata:** By registering to OpenAIRE, the content provider:

- Allows OpenAIRE to **BULK DOWNLOAD** metadata records via at least one of the following protocols: OAI-PMH, FTP (and REST APIs if agreed with OpenAIRE)
- Allows OpenAIRE to **TRANSFORM** metadata records, if necessary, to make it uniform to the OpenAIRE data model;
- Allows OpenAIRE to **ENRICH** the metadata, using OpenAIRE's best efforts of deduplication, text-mining, and end-user feedback.
- Allows OpenAIRE to **PUBLISH** the harvested and transformed records, thus to provide public access to them as CC-BY without any restrictions on reuse in original and derivative forms.

**Consent for re-use of full texts:** By registering to OpenAIRE, the content provider:

- Allows **BULK DOWNLOAD** of the full-text files of the publications whose licence is Open Access (as described by the OpenAIRE guidelines) via at least one of the following means:
  - by providing links to the full text files in the record metadata and allowing OpenAIRE to download the files;

- by allowing web crawling services to identify full text links on the publication landing page enabling OpenAIRE to download the files;
- by access to an ftp-service (or similar) to download full text files;
- Allows OpenAIRE to **TEMPORARILY** store the full text files of publications in order to apply text mining techniques; OpenAIRE **WILL NOT** provide the full text files for public distribution, i.e. OpenAIRE users will have to download files from the original data source, unless otherwise authorized by the content provider
- Allows OpenAIRE to **PUBLISH** mining results, thus to store the results of mining and further processing in the OpenAIRE database and to provide public access to them as CC-BY without any restrictions on reuse in original and derivative forms.

### 3.1.2 Additional provisions to ensure quality of service

Content providers must guarantee:

- Whitelisting OpenAIRE harvesting services: agrees not to block the IP address range used by the OpenAIRE crawling and/or download service;
- Data integrity: informs OpenAIRE about changes of existing record identifiers (e.g. due to platform migrations or updates)

OpenAIRE guarantees that:

- At any time, the content provider can decide either to unregister its data source or to suspend temporarily the access to it. All content provider's requests are accepted and operated by the OpenAIRE Infrastructure within one business day.
- Ownership of content: The ownership of content remains exclusively to the content provider. The content provider is solely responsible for the development, content, operation, and maintenance of the data.
- Data source API care: OpenAIRE undertakes best efforts not to harm the accessibility of the content provider by a proper crawling or download interval for subsequent requests;
- Provenance: OpenAIRE undertakes best efforts to increase the visibility of the content provider by enriching metadata records with the relative data source information.

### 3.1.3 Content Acquisition Policy

Content acquisition policies are available for consultation on the [OpenAIRE portal](#) and published on [Zenodo](#). In brief, the new content acquisition policy, published in October 2018, broaden the coverage of metadata that OpenAIRE collects, enabling the construction of a more comprehensive scholarly communication graph. The main changes to the content acquisition are:

- Metadata records about Open Access and non-Open Access research products will be collected by OpenAIRE, regardless the existence of a link to a project or to an Open Access publication.



- Metadata records about research software and other types of research products can be collected by OpenAIRE, in addition to research literature and datasets.

Metadata records from each content provider is collected periodically, possibly in incremental mode (i.e. collect only the changes since the last collection). Scheduling is usually set once a week, although special agreements can be set up with specific content providers in case collection should happen more frequently or rarely.

Collected metadata records are subject to enrichments (e.g. values cleaned according to controlled vocabularies, de-duplicated, additional metadata properties and links to research products and projects are inferred by OpenAIRE mining algorithms) and used to construct the OpenAIRE Scholarly Communication Graph. The OpenAIRE Scholarly Communication Graph is published on the OpenAIRE portal and API about every two weeks.

At any time, repository managers can subscribe to the [Content Provider Dashboard](#) to monitor the aggregation status of their repositories.

## 3.2 Site Participation Policies

By participating in the OpenAIRE Infrastructure to offer computational and storage capabilities any Site must agree to the following conditions.

- Every Site should appoint at least one person to the role of Site Manager. The Site Manager will be registered to the [OpenAIRE infrastructure issue tracker](#). The Site Manager is requested to react to his/her tickets as quickly as possible.
- Every Site must agree with the OpenAIRE Infrastructure Managers on procedures and access levels which
  - enable initial deployment, scheduled upgrades and security updates of relevant OpenAIRE services and supporting software at the Site,
  - enable collection of performance metrics for the OpenAIRE services deployed at the Site,
  - give OpenAIRE Infrastructure Managers access to current metrics data for OpenAIRE services, while being compatible with Site practices and procedures.
- Logs information, including information provided by Users or Services via the applications/APIs running on the Site, should be used for administrative, operational, accounting, monitoring and security purposes only and according to the GDPR regulations.
- The participation in the OpenAIRE Infrastructure as a Site shall not create any intellectual property rights in software, information and data stored or deployed in the Site.
- Provisioning of storage and computing resources to the OpenAIRE Infrastructure is at the Site's risk. Any application provided by the OpenAIRE Infrastructure is provided on an as-is basis only, and subject to its own software license conditions. There is no guarantee that any procedure applied by the applications running on the Site is correct or sufficient for any

particular purpose. The OpenAIRE Infrastructure is not liable for any loss or damage in connection with the Site participation to the OpenAIRE Infrastructure.

- The Site shall comply with the OpenAIRE infrastructure's Incident Management response procedures, regarding the notification of security incidents and where appropriate, shall restore access as soon as reasonably possible. Additional specific policies will be added in the future as they are currently under definition due to migration to a new data center, still under ICM premises.
- The Site will deliver uptime on a best effort basis and should be monitored by the Site Manager. Only failures due to hardware and hypervisor layers delivering individual servers constitute Failures and so only those Failures are covered this SLA. Examples of Failures include power interruptions, hardware problems such as failures to a hard drive or power supply, and failures to the hypervisor environment supporting User Web Applications.
- Services running on the Site will be monitored via OpenAIRE Infrastructure monitoring tools (e.g. Prometheus/Nagios). A monthly availability rate below 99.5% will require a further extraordinary approval managed via an issue tracker ticket through the OpenAIRE [Support RedMine system](#).

## 4 | SERVICE LEVEL AGREEMENT

When describing the OpenAIRE Infrastructure Service Level Agreements (SLAs) we refer to the levels of availability, serviceability, performance, operation, or other attributes of the Infrastructure. The level of service is specified as "target" and "minimum," which allows the user of the OpenAIRE Infrastructure to be informed what to expect (the minimum), while providing a measurable (average) target value that shows the level of organization performance.

The following OpenAIRE Infrastructure SLAs have been defined:

- Content Access SLA,
- Content Storage SLA,
- Applications as-a-service hosting SLA,
- Support Response Time SLA,
- Scheduled Infrastructure Downtime SLA.

### 4.1 Content Access SLA

The OpenAIRE APIs provide access to a graph of interlinked metadata records and to a corpus of article PDFs. While metadata records are accessible as CC-BY, access to PDFs may only take place on request and is subject to restrictions based on the content providers.

If Users create technology that works with OpenAIRE API Services, they must comply with the current technical documentation applicable to the used OpenAIRE Services available at <http://develop.openaire.eu>.

All API services are running in production on a best effort basis, targeting 24/7, within the OpenAIRE infrastructure premises deployed at the data center facilities of the [Interdisciplinary Centre for Mathematical and Computational Modelling \(ICM\)](#).<sup>2</sup>

### 4.2 Content Storage SLA

#### **OpenAIRE users**

Users may submit two kinds of information to the OpenAIRE infrastructure: *personal sign in information* or *claims*, intended as assertions of associations between research products (publications, datasets, software, other products) and between research products and research projects or research communities.

The OpenAIRE Infrastructure will make reasonable efforts to ensure that data are persisted. In the event of hardware or software failures caused by failures to a hard drive or power supply, the OpenAIRE Infrastructure will make reasonable attempts to restore the user's data. No guarantee whatsoever is provided on the success of any User's data recovery.

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<sup>2</sup> Data center facilities at ICM, Poland: <http://icm.edu.pl/en/centre-of-technology>

### OpenAIRE Content Providers

Content providers submit two kinds of information to the OpenAIRE infrastructure: *personal/organizational sign in information* and *operational information to access their metadata and full-texts*.

The OpenAIRE Infrastructure will make reasonable efforts to ensure that data are persisted. In the event of hardware or software failures caused by failures to a hard drive or power supply, the OpenAIRE Infrastructure will make reasonable attempts to restore the Content provider's data. No guarantee whatsoever is provided on the success of any Content provider's data recovery.

## 4.3 OpenAIRE applications as-a-service hosting SLA

OpenAIRE may offer applications as-a-service (e.g. aggregators and brokers), whereas external organizations operate/administrate instances of OpenAIRE services hosted by the OpenAIRE infrastructure. Once deployed, such instances will deliver a best effort uptime as monitored within the OpenAIRE Infrastructure monitoring system. The following holds:

- Only failures due to hardware and hypervisor layers delivering individual servers constitute Failures and so only those Failures are covered this SLA. Examples of Failures include power interruptions, hardware problems such as failures to a hard drive or power supply, and failures to the hypervisor environment supporting User Web Applications.
- Individual aggregators will be monitored by Prometheus/Nagios and monthly availability rate below 99.5% will require a further extraordinary approval managed via an incident ticket through the OpenAIRE [Support RedMine system](#).
- The OpenAIRE Infrastructure will make reasonable efforts to ensure that server storage is "persistent" by performing overnight dumps of the content. In the event of hardware or software Failures as defined above, the OpenAIRE Infrastructure will restore the previous pre-Failure state including restoring the Application software as configured by the User and Data. Furthermore, these efforts will include supporting the User via chat or Email at the User's choosing. No guarantee whatsoever is provided on the success of any Users recovery.

## 4.4 Support Response Time SLA

The Production System Support Team (ISTI-CNR, Italy - ICM, Poland) is responsible for the resolution of all production support requests related to the OpenAIRE production system. This SLA covers incident tickets in the case of issue related to infrastructure incidents (e.g. it does not cover the resolution time of the issues coming from software bugs). In case of incident, a reply time of at most 1 business day is ensured, including the initiation of a resolution procedure. The resolution time may depend on the specific incident (e.g. on warranty terms from hardware suppliers, which are generally longer than 1 day).

## 4.5 Scheduled Infrastructure Downtime SLA

Scheduled Infrastructure Downtimes occur during a OpenAIRE Infrastructure maintenance window, which can be scheduled for Infrastructure Upgrades or scheduled infrastructure interventions (e.g. scheduled power cuts). This SLA applies to the user notice period via electronic communication:

- Scheduled Infrastructure Downtime User notice > 24 hours.