**OpenAIRE: Supporting Open Science scholarly communication**

- **Foster** and **encourage** the shift of scholarly communication towards Open Science
- **Monitor** Open Science scholarly communication
- **Support** Open Science publishing
The OpenAIRE scholarly communication graph

Building and maintaining an open metadata scholarly communication graph of interlinked scientific products, in turn linked to Open Access information, funding information and community views.
Collecting metadata about all products of science
- Literature, datasets, software, other products

Collecting metadata about other entities of science
- Funders, projects, authors, organizations, data sources

Collecting and inferring product-product links and product-entities link
- Scholexplorer for dataset-article links and text mining for article-project, article-software, article-dataset, article-article links

Collecting usage statistics from repositories
De-duplicated

- Publications
  - Products with “equivalent” PIDs, title, authors, dates are grouped

- Dataset
  - Products with “equivalent” PIDs are grouped

- Software
  - Products with “equivalent” original URLs are grouped

- Other products
  - Products with “equivalent” PIDs, title, authors, dates are grouped
Participatory

- Rely on quality scholarly communication sources of different kinds and giving them visibility by provenance
  - Institutional repositories, aggregators, data archives, software repositories, research infrastructure sources, funder grant repositories, entity registries, publishers
- Include solutions and content from any interested and quality-driven content provider in scholarly communication
Metadata collection and Dashboards

OpenAIRE Dashboards

Info Space Services

**CONNECT**
- Research communities

**EXPLORE**
- Researchers (All)

**PROVIDE**
- Content providers

**DEVELOP**
- Innovators

**MONITOR**
- Research managers
  - Funders

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**metadata collection and Dashboards**

**OpenAIRE Dashboards**

**Metadata collection**

- Brokering
- Cleaning
- Validation
- Harvesting
- Scholastic Machine
- De-duplication
- Inference
- Uploading

**Info Space Services**

**Content Providers**

- Publications repositories
- Data repositories
- Software repositories
- OA Journals
- CRIS systems

**EOSC-Hub**

**Research Infras**

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**TERMS OF USE**
OpenAIRE Data Model and Flows

- Funding
- Funder
- Organization
- Project
- community
- Source
- Result
- Publication
- Research Data
- Software
- Other res. products

**Deposition**

**Mining**

**Harvesting**
ALL Publications, Research data, Software, Other research products

- Respecting the OpenAIRE guidelines (DataCite metadata)
- Using PIDs with resolvers
Harvesting: Revised Classification of Research Products

- Publications
  - Article
  - Preprint
  - Report
  - ...
- Datasets
  - Dataset
  - Collection
  - Clinical Trials
  - ...
- Software
  - Research Software
  - ...
- Other Research Products
  - Service
  - Workflow
  - Interactive Resource
  - ...

Repositories:
- Institutional/publication repositories
- Journals/publishers
- Data repositories
- Software repositories
- Other Products repositories
Content acquisition policy transition: from Oct 2018 to November 2018

- Literature: 0 to 100000000
- Research Data: 0 to 150000000
- Software: 0 to 80000
- Other research products: 0 to 36000000
Content: October 2018 (OA bias from previous CAP)

• Publications (20,997,018)
  ○ OA, non-OA with links to projects

• Research data (606,183)
  ○ OA with links to publications

• Software (45,507)
  ○ OA, non-OA with links to projects

• Other products (2,910,663)
  ○ OA, non-OA with links to projects
  ○ Under “cleaning”
Content: November 2018 (numbers from testing)

- Publications (100,000,000)
  - CrossRef, Unpaywall, DOAJ, publication repositories, national/thematic aggregators
- Research data (10,000,000)
  - DataCite, RI repositories, publication repositories
- Software (70,000)
  - Research Software Repositories, publication repositories
- Other products (2,000,000)
  - Data repositories, publication repositories, other product repositories
Key to Open Science uptake: services for all

Provide standards, tools and services for Open Science implementation and ensure their uptake on a global level.
15+ Services
From basic infrastructure level to value added
Explore: Search for scholarly works. Link your research

https://explore.openaire.eu

21 mi publications, 609 K research data from 13 K content providers and 17 funders linked together for an integrated research search
Publications (11,681)
Research Data (481)
Software (3)
Other Research Products (1,877)
Projects (643)
Content Providers (1)
Organizations (90)

Aid and Entrepreneurship in Tanzania

Gran, Thorvald; (1993)

Tanzania

Part of book or chapter of book [English] [OPEN]

Lange, Siri; (2007)

Tanzania: Ujamaa and Development
Digital Library of the Tanzania Health Community

Results with funding information: 355
OAI-PMH: http://hi.eprints.org/cgi/oai2
Detailed content provider information (OpenDOAR)

Countries: TZ

Publications (2,367)
Research Data (1)
Software (0)
Other Research Products (502)
Organizations (1)
Statistics
Metrics
Services for RDM & FAIR data

Amnesia

Amnesia is a data anonymization tool, that allows to remove identifying information from data. Amnesia not only removes direct identifiers like names, SSNs etc but also transforms secondary identifiers like birth date and zip code so that individuals cannot be identified in the data. Amnesia supports k-anonymity and k^t-anonymity.
OpenAIRE services for researchers

- **Zenodo** [https://zenodo.org](https://zenodo.org)
  - A catch-all repository for all researchers, all research outputs

- **AMNESIA** [https://amnesia.openaire.eu](https://amnesia.openaire.eu)
  - Anonymize your data sets

- **Open science training & helpdesk** [https://www.openaire.eu/support](https://www.openaire.eu/support)
  - Support materials, ask a question service, training

- **OpenAIRE ScholeXplorer** [http://scholexplorer.openaire.eu](http://scholexplorer.openaire.eu)
  - The data & literature interlinking service
one stop shop for your Open Science needs

A window to community’s research. Open Science as a Service
Research community?

Use a trusted partner to share, link, disseminate and monitor your research.

OpenAIRE.CONNECT

Are you a researcher?

A virtual environment designed for your community to

share all your research results
link all your research
gather all your research results in one place
monitor & report

Are you managing a research community?

Use the OpenAIRE dashboard to configure

the community profile
the community content
statistics & charts
users links

Need help?

Learn about open science policies and how to align
Learn more on how to manage your data in the open science era
Find out how to use OpenAIRE to best serve your needs
View our training material on a variety of related topics
Contact us

The Research Community Dashboard is currently in beta, ready to be released.
Neuroinformatics

Recent research results

Data

Poldracklab/Fmriprep: 1.0.4

OPEN SOURCE

Esteban, Oscar; Blair, Ross; Markiewicz, Christopher J.; Berleant, Shoshana L.; Moodie, Craig; Goncalves, Mathias; ... (2018)

Release notes

This release fixes minor issues found during Testing Phase 2, and gives a new version of Fmriprep. Poldracklab/Fmriprep: 1.0.4-1

Accessing via RCD and APIs

Publishing via RCD and APIs
Services for funders, projects and institutions

Tracking and monitoring

MONITOR DASHBOARD
Tracking, reporting, monitoring made easy

20,996,390 PUBLICATIONS  606,153 DATASETS  45,507 SOFTWARE  16 FUNDERS

monitor.openaire.eu
Research manager?
Use our monitoring services and easily track all relevant research results.

OpenAIRE.MONITOR

Are you a funder?
All you need to do is to provide OpenAIRE with a 'very limited' set of metadata fields from your database and we will take it up from there.

Learn how to participate and ensure that your information is picked up by OpenAIRE.

Advanced Analytics
Using text mining (topic modeling) on the full texts we can discover hidden structures and identify useful patterns, similarities, correlations, trends and communities.

Our tech team would be happy to work with new use cases as this is the real value of using open science for transparent decision policy making. Our services have already been successfully applied for the evaluation of parts of FP7, and we are continuing with the rest.

Have more questions?
Learn about open science policies and how to align
Learn more on how to manage your data in the open science era
Find out how to use OpenAIRE to best serve your needs
View our training material on a variety of related topics
Contact us
European Union
European Commission – H2020
European Commission – FP7
ERC - European Research Council (EU)

European Funders
Austria
FWF - Austrian Science Fund

Croatia
HRZZ - Croatian Science Foundation (CSF)
MZOS - Ministry of Science, Education and Sports of the Republic of Croatia (MSES)

Ireland
SFI - Science Foundation Ireland

Netherlands
NWO - Netherlands Organisation for Scientific Research

Portugal
FCT - Fundação para a Ciência e a Tecnologia

Serbia
MESTD - Ministry of Education, Science and Technological Development of Republic of Serbia

International Funders
Australia
ARC - Australian Research Council
NHMRC - National Health and Medical Research Council Statistics

USA
NIH - National Institutes of Health
NSF - National Science Foundation

What we do
One of our key services for Open Science is to aggregate content from many different sources from Europe and beyond.

But we don't stop there! We also:
Apply cleaning, transformation, disambiguation processes to identify relationships among all research entities: publications, data, funding, researchers, organisations and data sources

Identify grant ids in publications-data-software acknowledgement sections and make the appropriate links

Link research results to funding information, specifically programme information

Create online reports and statistics based on the OpenAIRE scholarly communication graph

Combine the OpenAIRE data with other types of data and provide

Over 20 funders in production + 5 in beta
Monitor: Funder dashboard – aims

**Funding Impact**
Publications, research data, software published thanks to grants awarded by the funder

**Open Access/Science Impact**
Monitoring of Open Science impact: data/software FAIRness, reproducibility trends

Tracking, reporting, monitoring made easy

20,996,390 publications | 606,153 datasets | 45,507 software | 16 funders
Monitor: Institutional dashboard (under development) – aims

**Research Impact**
Ability of researchers affiliated with the institution to produce innovative and quality scientific products

**Service capacity impact**
Ability of services maintained and operated by the institution to support researchers at producing or storing scientific products

**Funding Impact**
Ability of institution to reach funding from different funders and disciplines
Added-value functionalities

• Funders
  • Recent and past EC and other funders’ activities (representing various funding levels)
  • Checking compliance to funder mandates

• Institutions
  • Collaboration network (by institution) via projects and products

• Projects
  • Compare project portfolio against that of other similar institutions (anonymized)
one stop shop for all OpenAIRE content providers

Services for repository managers, OA publishers

DASHBOARD FOR CONTENT PROVIDERS
Content Provider Dashboard

A one-stop-shop for sharing, finding and enriching your content

provide.openaire.eu
Content provider?

Join OpenAIRE, use our tools and make your content more visible around the world.

OpenAIRE.PROVIDE

Validate
Interoperable metadata is key for effective content sharing.

Register
Reach a wider audience around the world

Enrich
Improve your metadata. Get more connections

Measure
Open research impact empowers Open Science
### Enrichments for Universidade do Minho: RepositoriUM

**MORE**

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<th>Description</th>
<th># of Events</th>
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**MISSING**

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<tr>
<td>enrich/missing/pid</td>
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<tr>
<td>enrich/missing/subject/occ</td>
<td>OpenAIRE discovered Dewey Decimal classification terms (DDC) that can be associated to your publications</td>
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</table>
THE SERVICE COLLECTS AND EXPLOITS USAGE METRICS LIKE DOWNLOADS AND METADATA VIEWS.
www.openaire.eu

**Content provider?**
Join OpenAIRE, use our tools and make your content more visible around the world.

OpenAIRE.PROVIDE
provide.openaire.eu

**Research manager?**
Use our monitoring services and easily track all relevant research results.

OpenAIRE.MONITOR
monitor.openaire.eu

**Research community?**
Use a trusted partner to share, link, disseminate and monitor your research.

OpenAIRE.CONNECT
connect.openaire.eu

**Researcher?**
Explore all OA research results. Link all your research. Build your profile

OpenAIRE.EXPLORE
explore.openaire.eu

**Developer?**
Get access to OpenAIRE data and capitalize on Europe's open linked research

OpenAIRE.DEVELOP
develop.openaire.eu
Thank you!

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