



<Lecture 2>OpenAIRE: Open Access Infrastructure for Research in Europe

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OpenAIRE: Open Access Infrastructure for Research in Europe

Open Access policies by HORIZON 2020 and
international issues regarding open science

October 13th-14th, 2015 – Kobe University, Japan



Outline

- Origin: EC OA mandate
- OpenAIRE Infrastructure overview
- Future steps highlight

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EC OA Mandate



“The European Commission’s vision is that information already paid for by the public purse should not be paid for again each time it is accessed or used, and that it should benefit European companies and citizens to the full.”

http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf

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2008: OA EU Pilot Mandate



Seventh Framework Programm OA Pilot

- Grant agreement Special Clause 39
- 20% programme areas
- Deposit in repositories an electronic copy of the published version or the final manuscript accepted for publication
- OA after embargo period (6-12 months)
- Gold payments during the project

OpenAIRE

An instrument to support and monitor the
OA mandate

Science. Set free.

11,456,839 publications and 7,314 datasets from 5,862 repositories and OA journals

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OpenAIRE Phase-1

OpenAIRE

Dec. 2009 - Nov. 2012

OpenAIREplus

Dec. 2011 – Dec. 2014

Infrastructure for:

- Identification, deposition, access and monitoring of OA articles
- Linking of articles with data and other contextual information
- Monitoring the compliance to EC OA mandates for publications
- Support decision makers with indicators

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Open

2014: Horizon2020 OA Mandate Progression

“Open access can be defined as the practice of providing on-line access to scientific information that is free of charge to the end-user and that is re-usable. In the context of research and innovation, 'scientific information' can refer to

- peer-reviewed scientific research articles** (published in scholarly journals) or
- research data** (data underlying publications, curated data and/or raw data)”



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EU funded projects Grant Agreement Art. 29.2 - OA to publications

Each beneficiary must ensure open access to all peer-reviewed scientific publications relating to its results

- Deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications and aim to deposit at the same time the research data needed to validate the presented results
- Ensure open access to the deposited publication and its metadata— (max embargo period 6 months)
- The bibliographic metadata format must satisfy few constraints
- Publications must be at least readable online, downloadable and printable
- Additional rights should be provided, e.g. the right to copy, distribute, search, link, crawl, and mine
- Open access to other types of scientific publications (e.g. monographs, books, conference proceedings and grey literature) should be encouraged

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Art. 29.3 - OA to research data H2020 Open Data Pilot



Regarding the digital research data generated in the action, the beneficiaries must:

- Deposit in a research data repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate, free of charge for any user, the following:
 - the data, including associated metadata, needed to validate the results presented in scientific publications;
 - other data, including associated metadata, as specified and within the deadlines laid down in the 'data management plan';
- Provide information, via the repository, about tools and instruments at the disposal of the beneficiaries and necessary for validating the results (and, where possible, provide the tools and instruments themselves.)

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OpenAIRE Phase-2

OpenAIRE2020
Jan. 2015 a Jun. 2018

OpenAIRE Legal entity

Extended infrastructure:

- Framework for the implementation of the Open Data Pilot for H2020
- Pan-European Research Information Management System
- Impact measurement definition
 - Multidimensional indicators of scholarly performance
 - Social, cultural and economic impact
- Liaison with similar initiatives around the world

Open Access p...

Open Access p...

OpenAIRE

OPEN ACCESS INFRASTRUCTURE



Human Network

www.openaire.eu



Technical Infrastructure

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Participatory Approach

Building on existing assets



Human Network

ORGANIZATIONS
PEOPLE
REPOSITORIES
TECHNOLOGIES



Technical Infrastructure

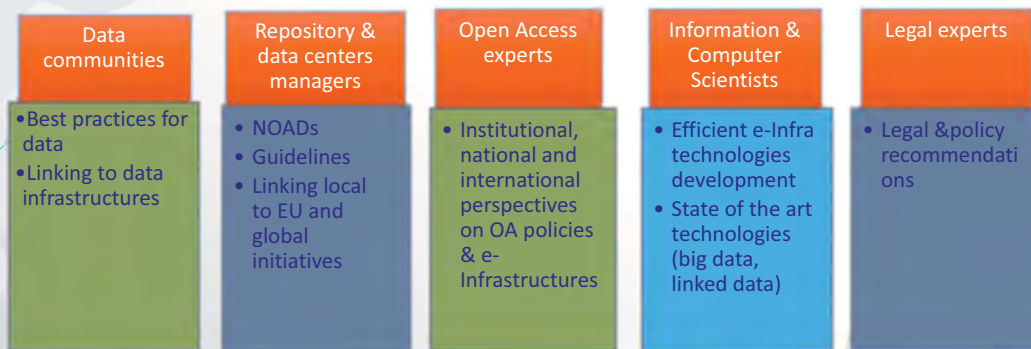


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Building and operating an Infrastructure: a multidisciplinary effort

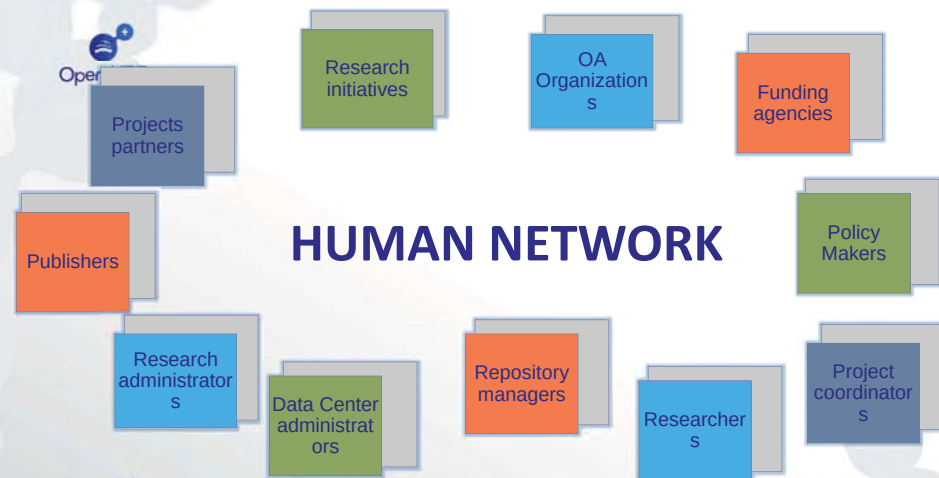
50 Project consortium partners



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HUMAN NETWORK



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Many connections & collaborations



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OpenAIRE2020 Networking Organisation



Different implementation models in EU Member States



- Strong national distributed repository networks
- Strong national repository network integrated with CRIS system
- Nationally centralized solutions
- Significant number of repositories and some “strong” ones

Flavours of Mandates

Diverse European landscape. Still in the ‘Early Stages’ of Development



- **Institutional mandates**
 - General agreement on benefits of gathering research output
 - Mandatory vs voluntary
- **National/funder mandates**
 - UK has taken Gold route
 - Many countries take the Green route
- **EC OA policy is a guiding framework**
- **Harmonisation of policies is happening**

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NOADs contribution

- **National coordination**
 - Research libraries and data centers
 - National research environments
- **OA advocacy through targeted activities**
 - Helpdesk, workshops, training
- **Harmonisation of OA policies**
- **Definition of shared guidelines**

OpenAIRE Guidelines

For data sources- what Repository are expected to provide



<http://guidelines.openaire.eu>

GUIDELINES FOR LITERATURE REPOSITORIES

based on Dublin Core

GUIDELINES FOR DATA REPOSITORIES

based on Datacite

GUIDELINES FOR CRIS MANAGERS

based on CERIF

TECHNICAL INFRASTRUCTURE

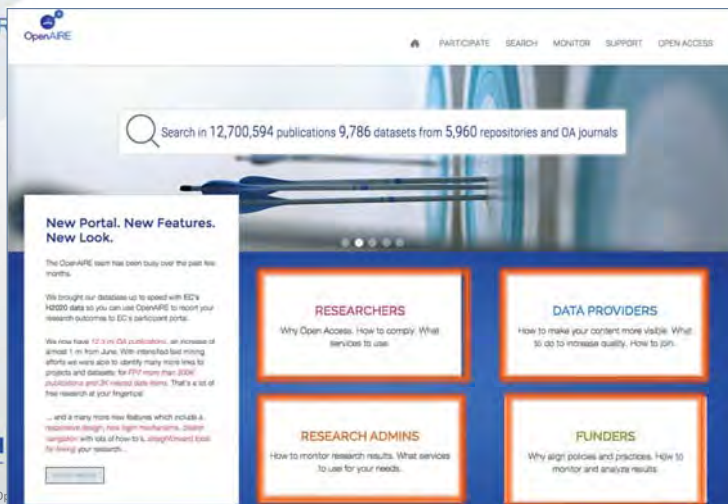
e-Infrastructure

Repository service

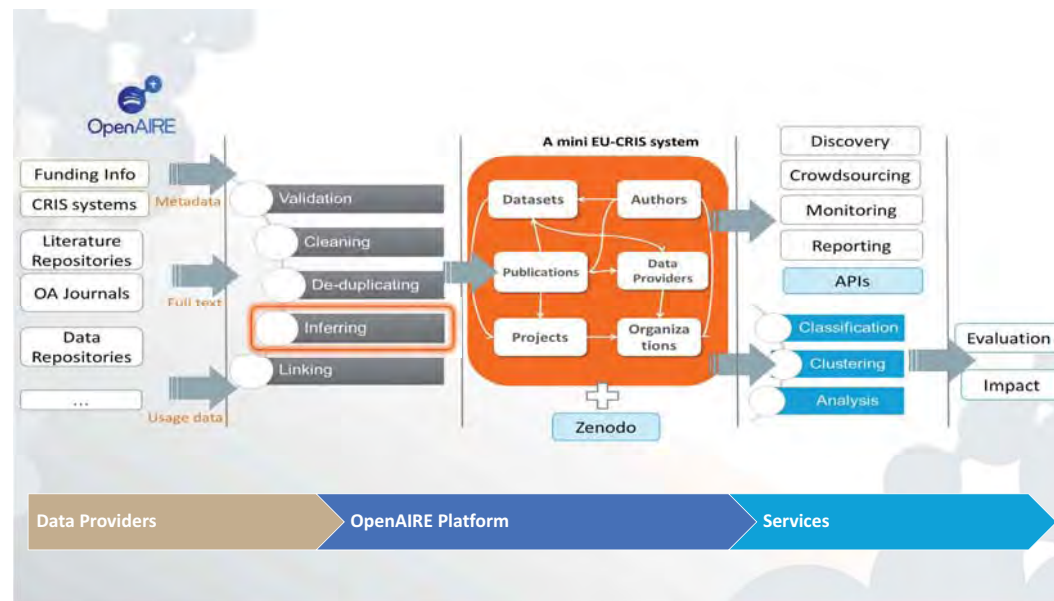
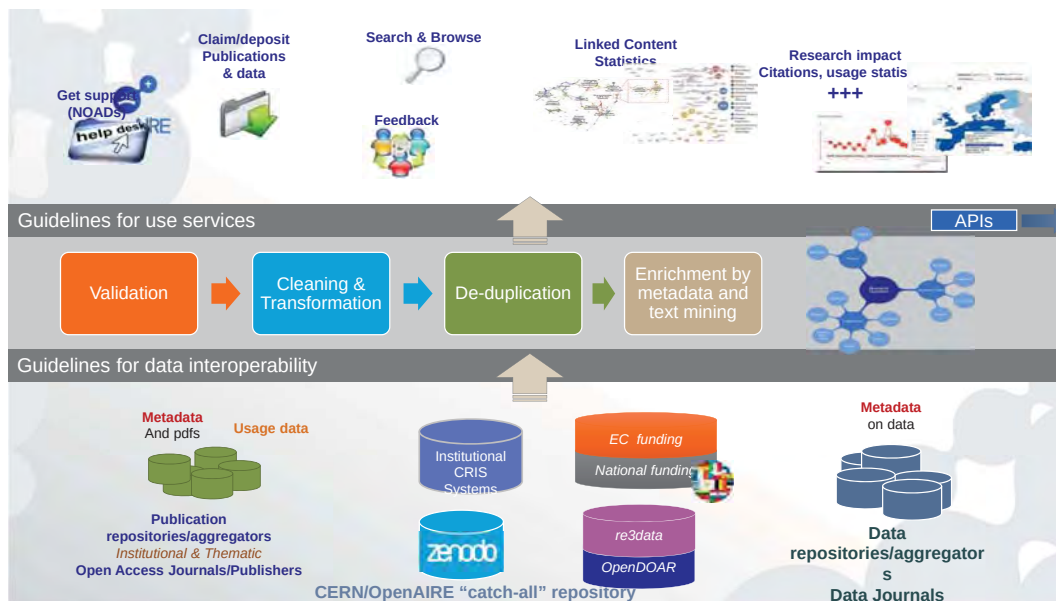
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Services for a variety of users



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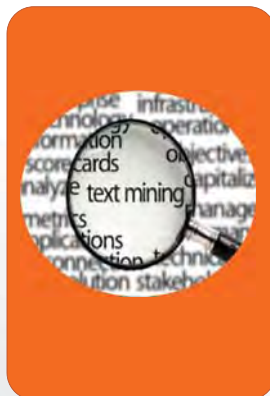


Enrichment through mining

Examples

Property inference by mining publication PDFs

- Title of papers
- Authors of papers
- Affiliation of the authors at time of publication
- Subject classification



Relationship inference by mining publication PDFs

- Project-publication: EC and National projects (e.g. WT)
- Dataset-publication: DOI connections
- Publication-publication: citations by bibliography, text similarity

OpenAIRE information space

(September 2015)

- 12M publications (de-duplicated)
- 200,000 links publication-project from 5 funders
- 9,000 datasets linked to publications or projects
- 34,000 organizations (de-duplicated)



OpenAIRE information space: aggregated data sources (September 2015)

Datasource typology	Number of datasource	Type of objects
Journal Platform	5549	publications
Publication Repository	510	publications
Data Repository	38	datasets and publications
Aggregator of Publication Repositories	7	publications
Publication Catalogues	9	publications
Aggregator of Data Repositories	1	datasets
Aggregator/Publisher of Journals	4	publications
Entity Registry (data sources offering authoritative lists of entities)	11	data sources (publication repositories, data repositories), projects, funders
CRIS systems	0 (the first CRIS systems will be aggregated by the end of 2015)	publications, datasets, projects, persons

Serving data providers & researchers

DATA PROVIDERS

How to make your content more visible. What to do to increase quality. How to join.

Check of compliancy to OpenAIRE Guidelines

RESEARCHERS

Why Open Access. How to comply. What services to use.

Deposit once and become compliant the EC OA mandates, be part of an European CRIS system, be visible by all the OpenAIRE "customers"

Automatic enrichment of own research outcome with contextual information, access to the research outputs of the others

Serving researcher administrators

RESEARCH ADMIN

How to monitor research results. What services to use for your needs.

- The EC report system SYGMA relies on OpenAIRE to pre-fetch publications possibly linked to projects
- EC project reports can be dynamically generated from OpenAIRE website
- Project web sites can take advantage of OpenAIRE widgets to dynamically show the list of related publications
- Project results can be compared with that of other projects enabling a virtuous circle of science

Serving funders: trends & indicators

OpenAIRE Monitoring

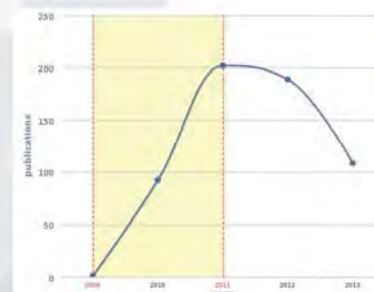


12,700,594 publications from 658 data sources

12,295,576 published in OA and 234,502 of them are linked to funding

FUNDERS

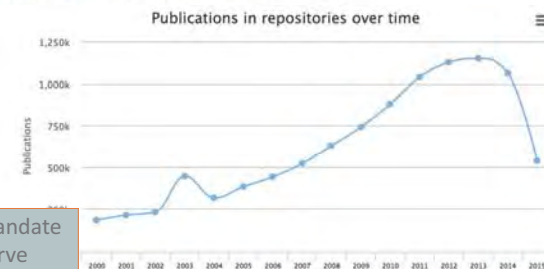
Why align policies and practices: How to monitor and analyze results.



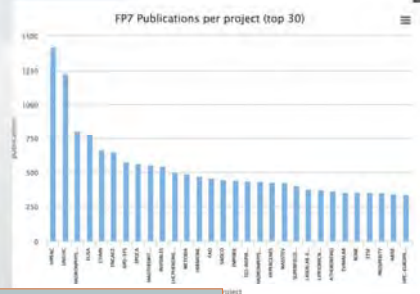
Project productivity over time

Post project-end monitoring

OA mandate curve



Serving funders (cont.)



Comparing projects

FCT - Fundação para a Ciência e a Tecnologia

10,087 publications in 3,575 projects (total of 10,688 projects)
6,217 are OA, 3 are restricted and 0 are still in embargo (Graph)



National Funders statistics

D-Net Enabling system



www.d-net.research-infrastructures.eu

- Open Source (Apache License)
- Exploited by Argentina, Spain (La Recolecta) to create National aggregators
- Exploited also for other kind of infrastructures:
 - European Film Gateway (<http://www.europeanfilmgateway.eu/>).
 - HOPE – Heritage of Peoples' Europe (<http://www.peoplesheritage.eu>)
 - EAGLE – Europeana Network of Ancient Greek and Latin Epigraphy (<http://www.eagle-network.eu>)

Zenodo: the OpenAIRE offered repository

www.zenodo.org

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Zenodo

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A taste of on-going activities

Literature Broker Service for Institutional Repositories

Data Literature Interlinking

Support to Data Mgmt Plan

http://diservice.research-infrastructures.eu

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A taste of on-going activities (cont.)

Global alignment of repository networks through COAR

RDA-ANDS (Australia)

SHARE (United States)

La Referencia (South America)

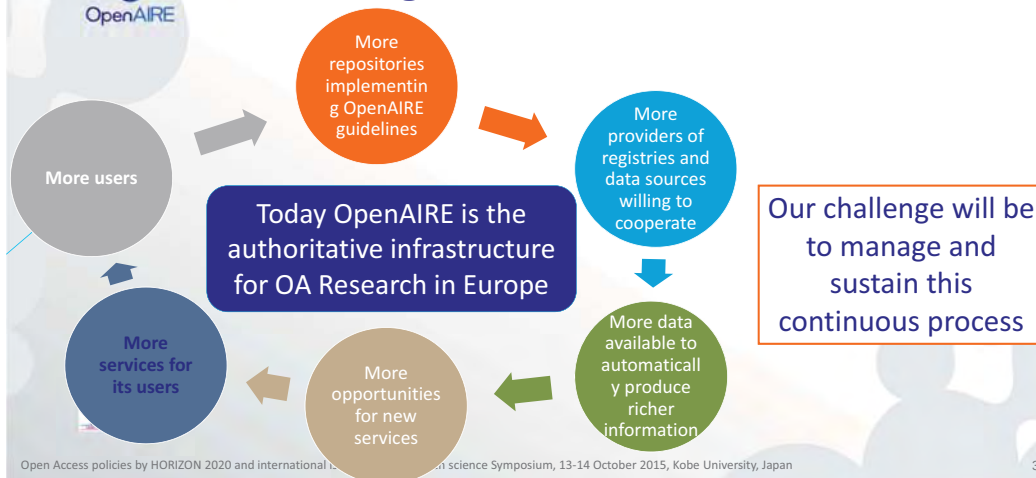
CAS (China)

- Global voice for repository community
- Facilitating interoperability across networks and repositories (and with other types of systems)
- Building capacity at the local level developing and adopting value added services

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Concluding remarks



Thank you!

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 linkedin.com/groups/OpenAIRE-3893548

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