

OpenAIRE services for Open Science

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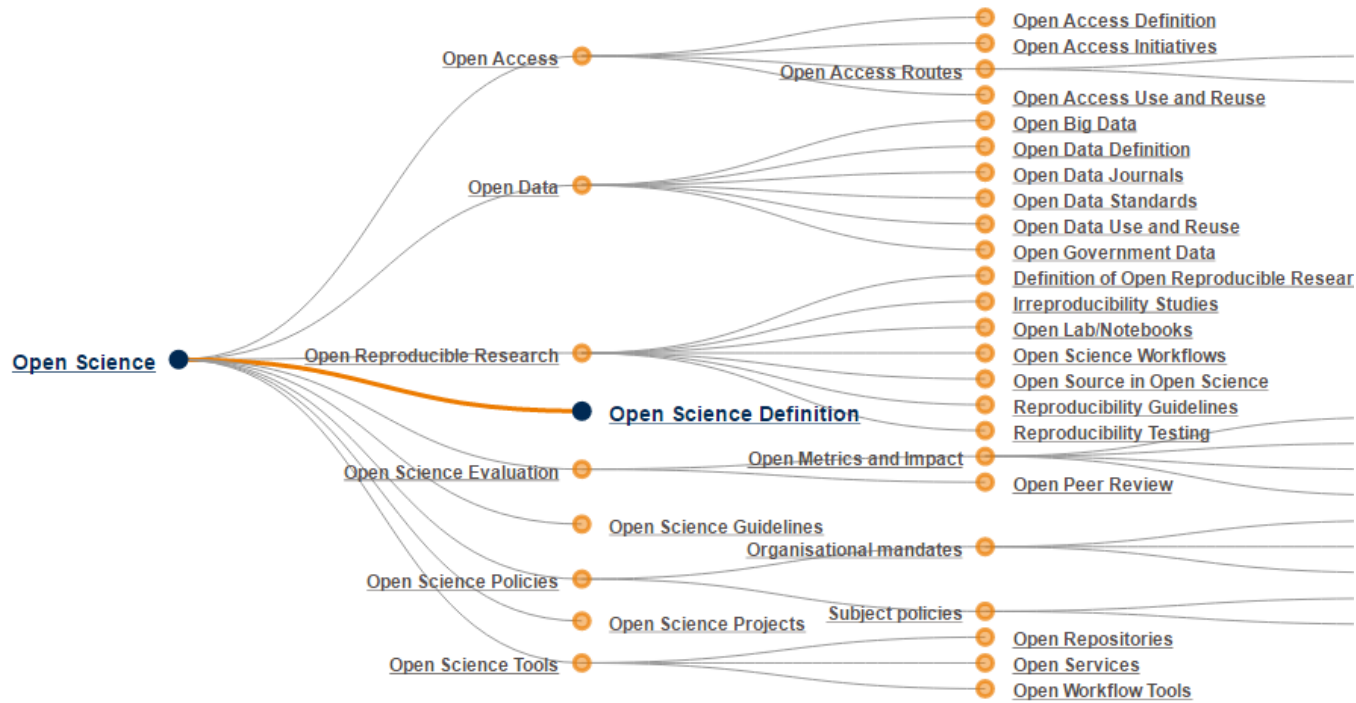
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DARIAH Annual Event 2019

15-17 May 2019

Open Science



Open Data

Open Source

Open Methodology

Open Peer Review

Open Access

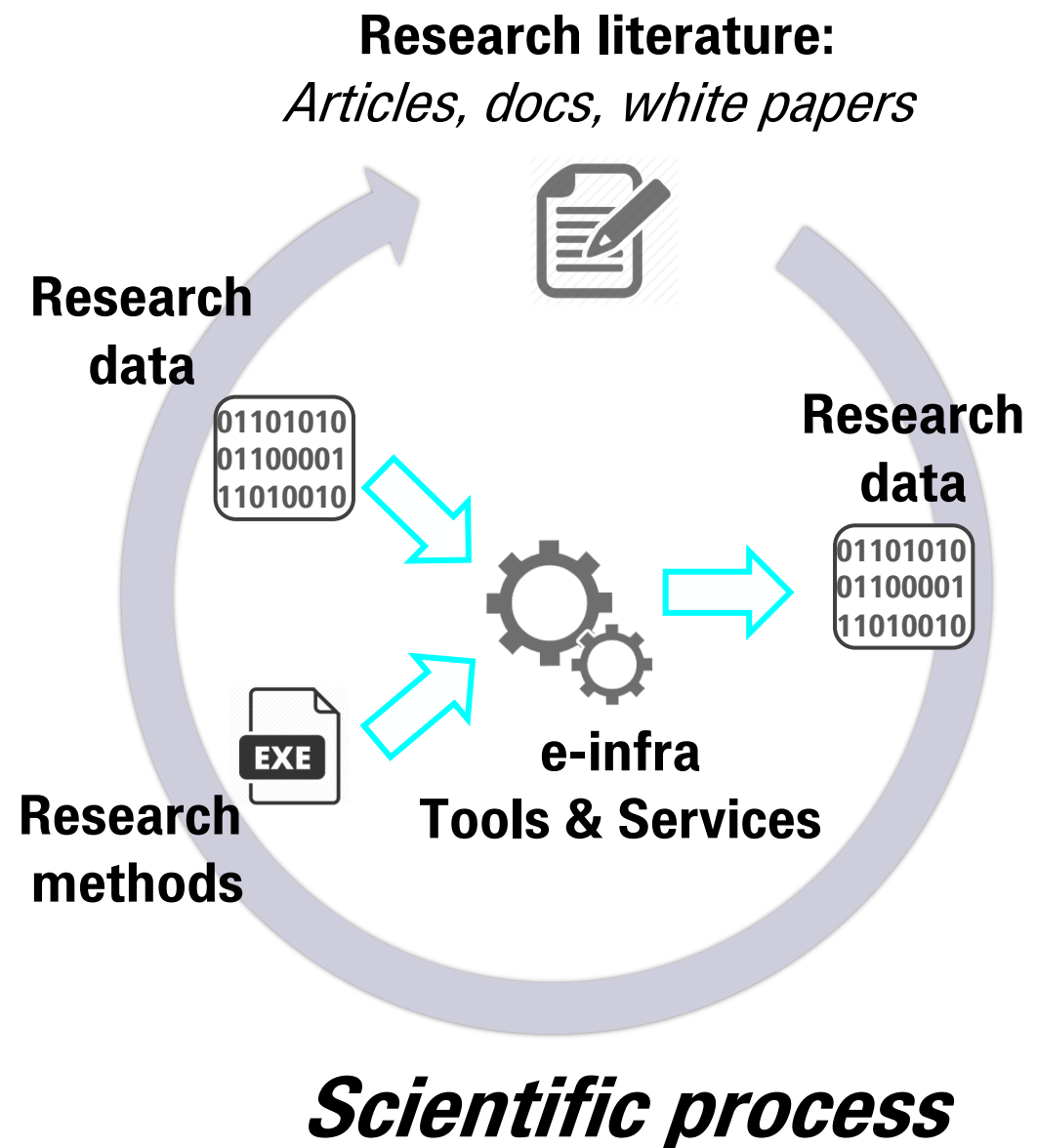
Open Educational Resources



Open Science is the practice of science in such a way that others can **collaborate** and contribute, where research data, lab notes and other research processes are **freely available**, under terms that enable **reuse**, **redistribution** and **reproduction** of the research and its underlying data and methods.

Open Science publishing

Supporting reproducibility, transparent evaluation, and omni-comprehensive scientific reward



Publishing

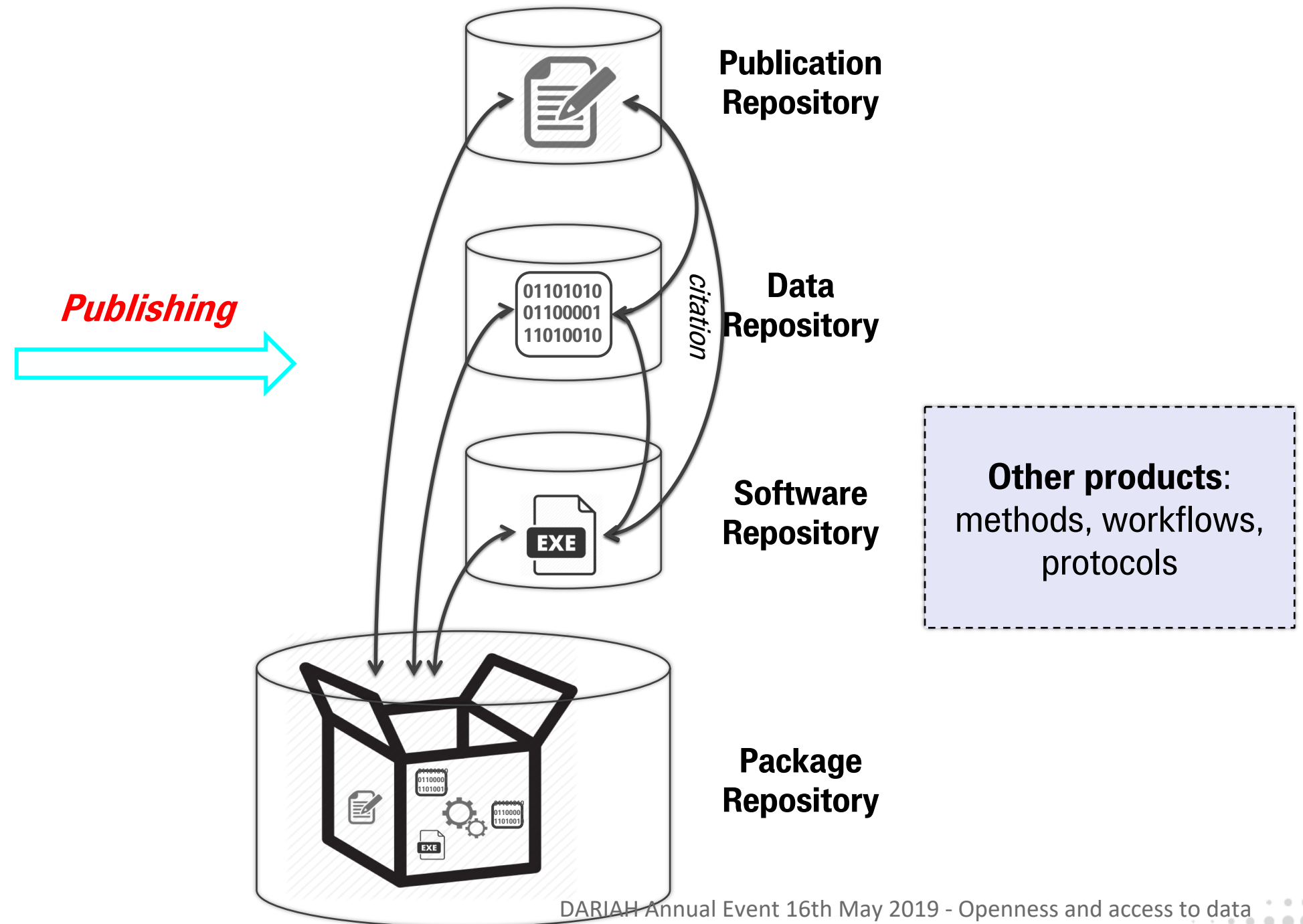
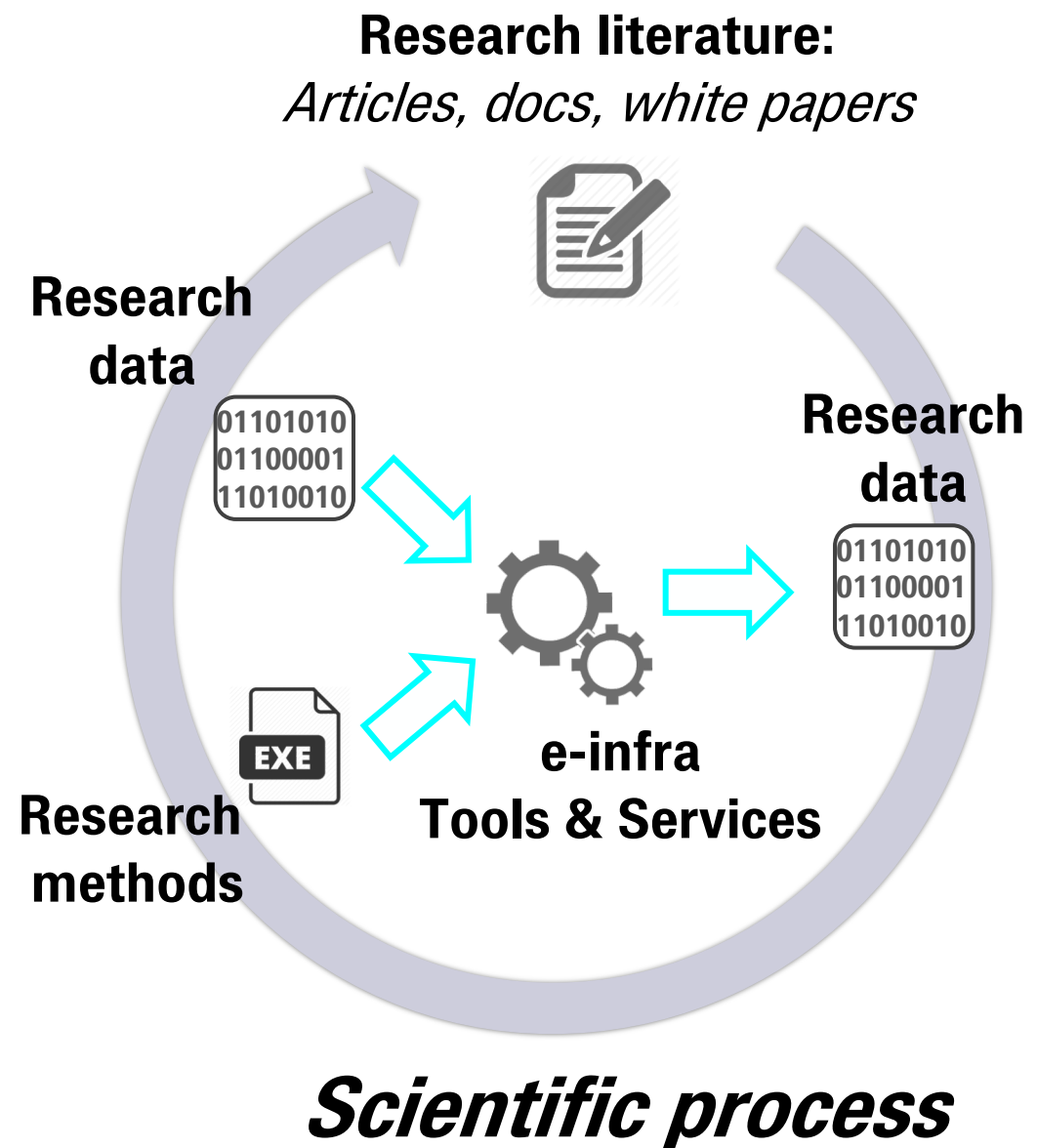
**Repeat/Reproduce/Reuse and
Evaluation**

**Research
Communication
Infrastructure**

What does Open
Science Publishing
mean?

Open Science publishing

Supporting reproducibility, transparent evaluation, and omni-comprehensive scientific reward



Open Science publishing: enabling factors

**Enabling transparent
evaluation**

Enabling reproducibility

**Enabling omni-comprehensive
scientific reward**

**Publishing of all kinds of research
artefacts**

Publishing packages of artefacts

**Publishing an up-to-date record of
research artefacts metadata and links**

Barriers

- **Focus (funding) is not on scholarly communication practices**
- **Reward policies focus on research literature**
- **Research communities lack culture on Open Science publishing**
- **Lack of tools for Open Science publishing in Research Infrastructures**
- **Research outcome scattered across repositories**

The OpenAIRE Initiative



European (and beyond) infrastructure for Open Science



Networking infrastructure: Open Science advocacy and support, global alignment and interoperability, etc.



Technical infrastructure: services for monitoring of Open Science, research impact for funders, sharing and reporting for research communities, tools supporting Open Science publishing practices

Who is OpenAIRE

34 National Open Access Desks

Organizations experts in OA

Regional/Topical Experts

4 regional coordinators
3 topical coordinators

e-Infrastructure / e-Science Service Providers

Infrastructure experts
Metadata experts
Big data technologists
Text & data analytics experts

Legal Experts

IPR
Data privacy

Data Communities

EU Research Infrastructures

Citizen Science

Schools
Citizen science groups

Open Innovation

Industrial cluster facilitators
Innovation management coordinators

3 pillars of action



Policies and Training

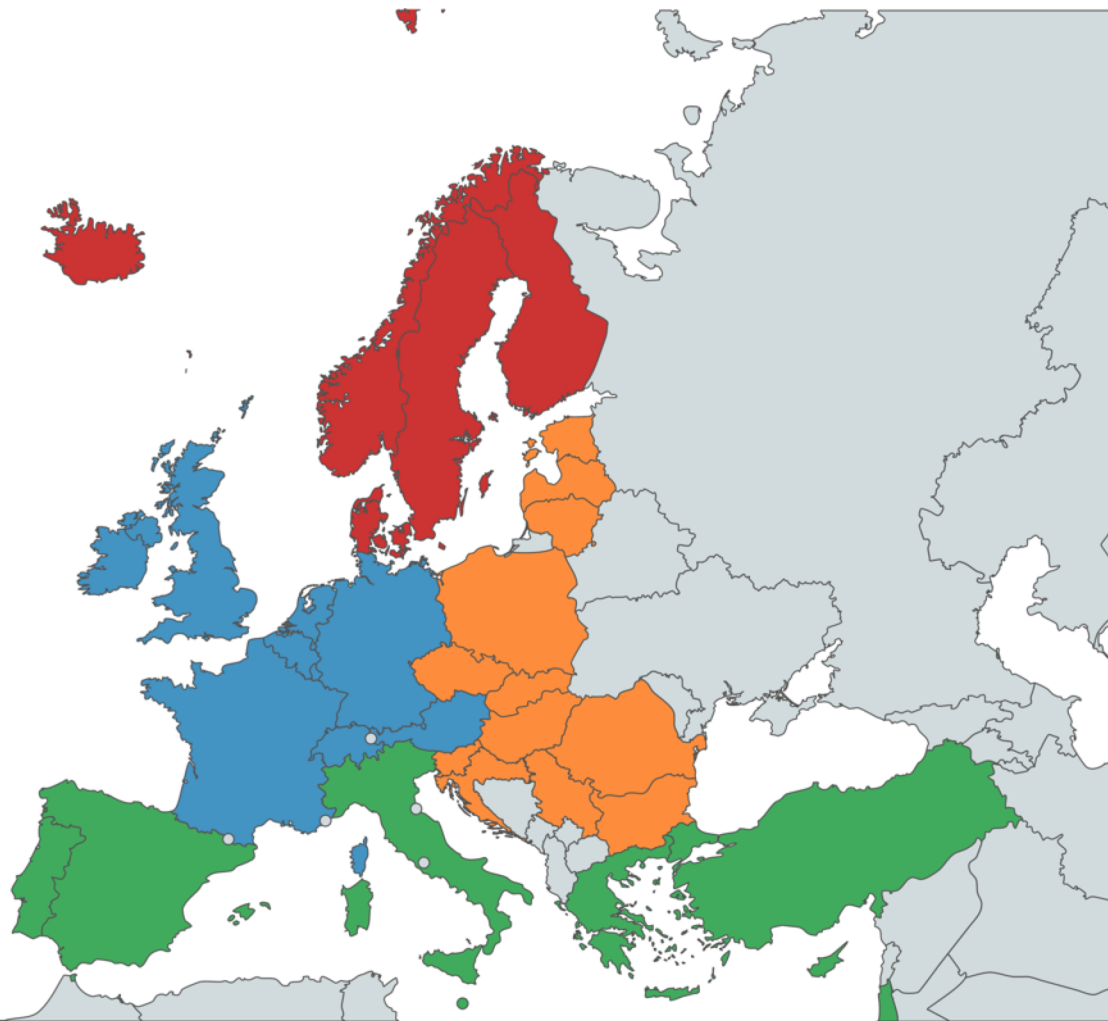


OpenAIRE National open Access Desks (NOADs)

A pan-European network to address diversity in culture
& maturity of national/local infras

OpenAIRE Regions

- North - Coordinated by CERES
- West - Coordinated by Univ. Ghent
- East - Coordinated by eIFL
- South - Coordinated by Univ. Minho



34 countries

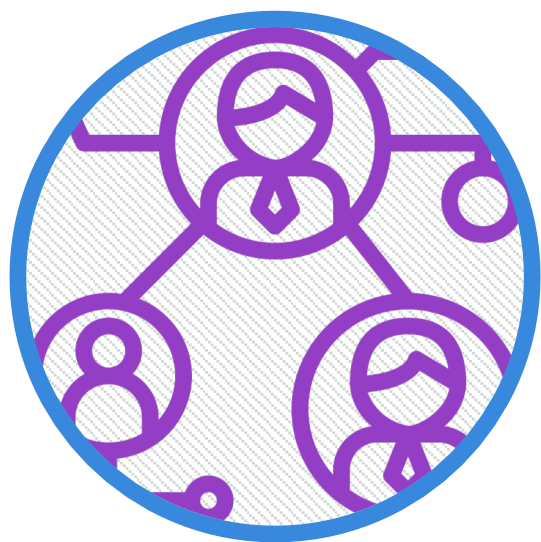
→ Key national organizations

4 regional area coordinators

3 coordinators for

- Policies
- RDM
- Legal

NOADs: A key vehicle in policies and training



Outreach



Support



Training



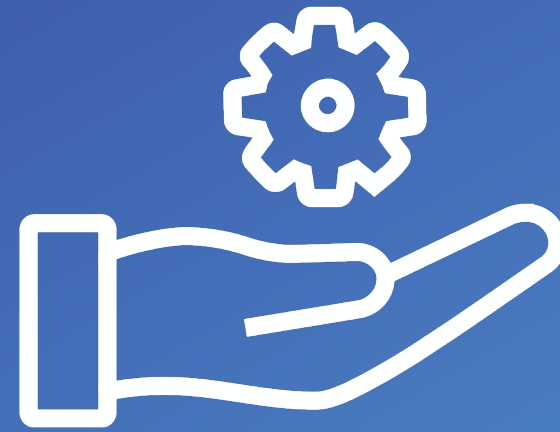
Policy

10 national workshops **1048** participants
170 conferences attended, presented in **96**
9 funder mandates
4109 repositories, **1720** OA journals contacted

2018

45 webinars **2790** participants
55 f2f training events **1637** participants
8 train-the-trainer events **155** OS trainers

2018



Technical Services

Science publishing, evaluation, and monitoring



Science publishing, evaluation, and monitoring

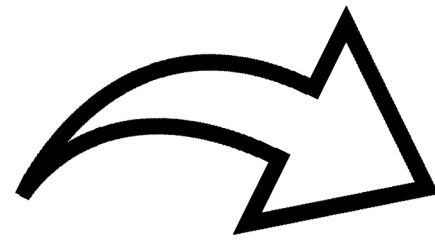


WEB OF SCIENCE

Scopus®



Science publishing, evaluation, and monitoring



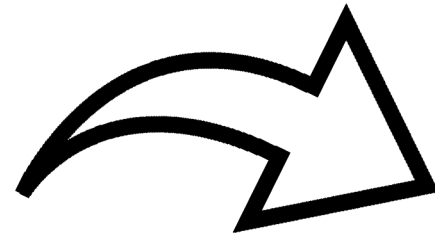
Open
Science



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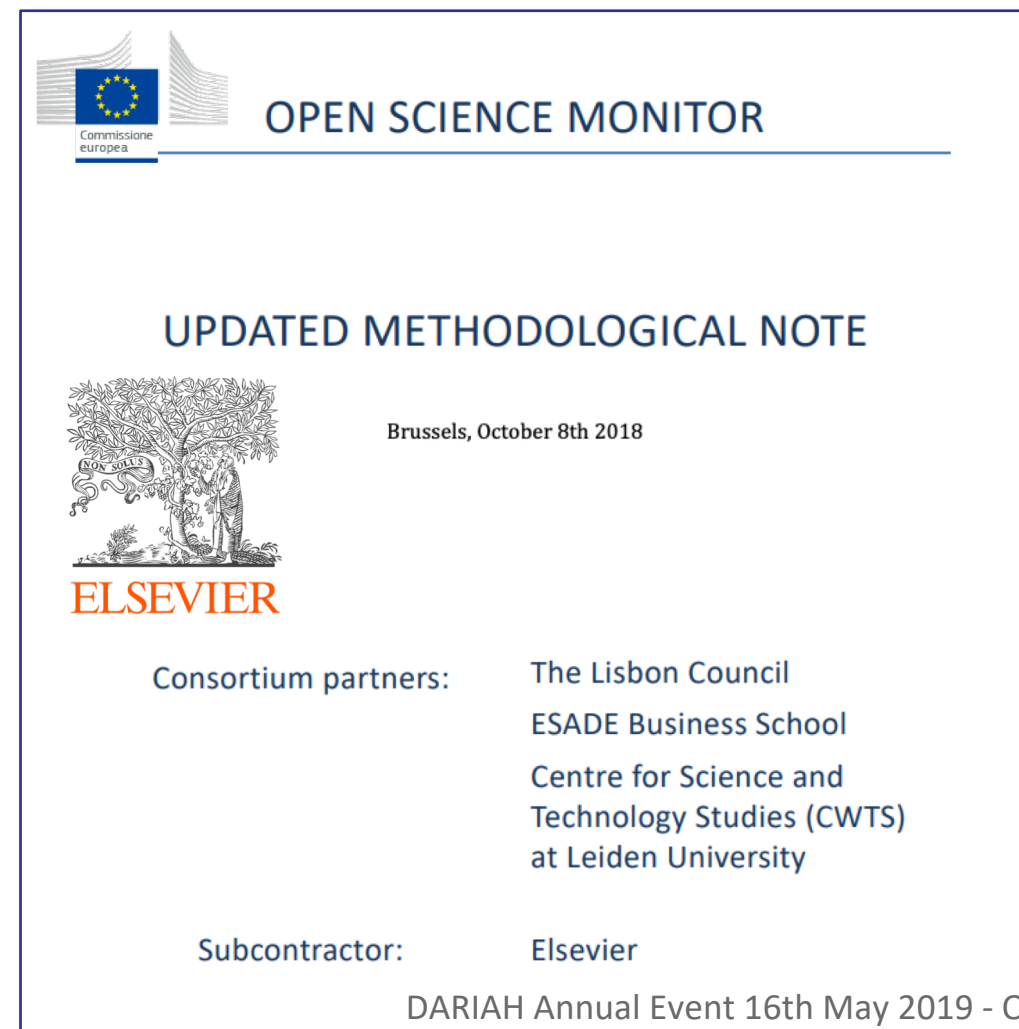


Open Science



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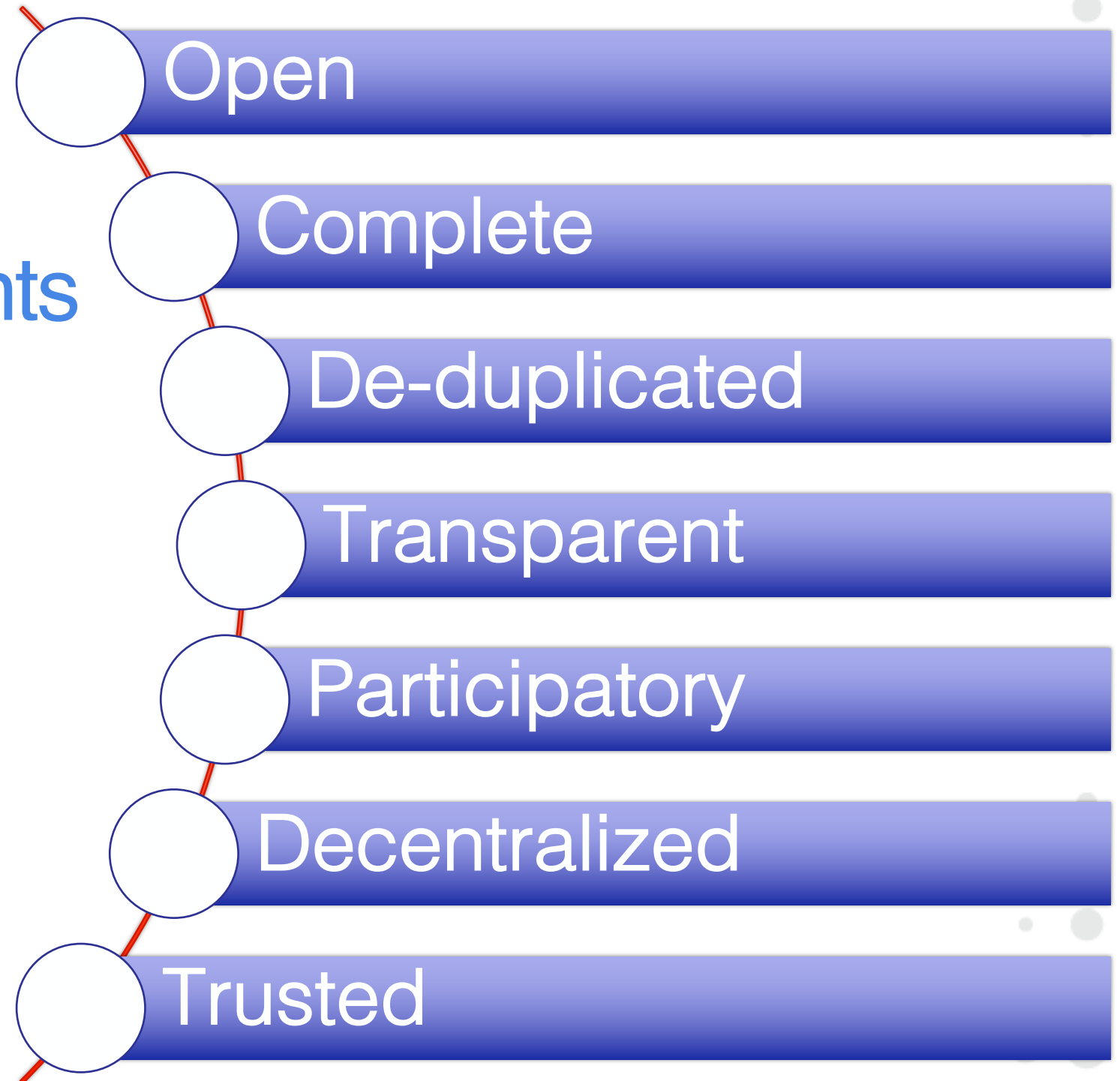
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The OpenAIRE research graph

Providing an **open metadata research graph** of **interlinked scientific products**, with **access rights information**, linked to **funding information**, **research communities** and **infrastructures**

- Monitoring and assessment by **organizations**, **funders**, **research infrastructures**, and **researchers**
- Business by **SMEs**
- Research by **scientists**



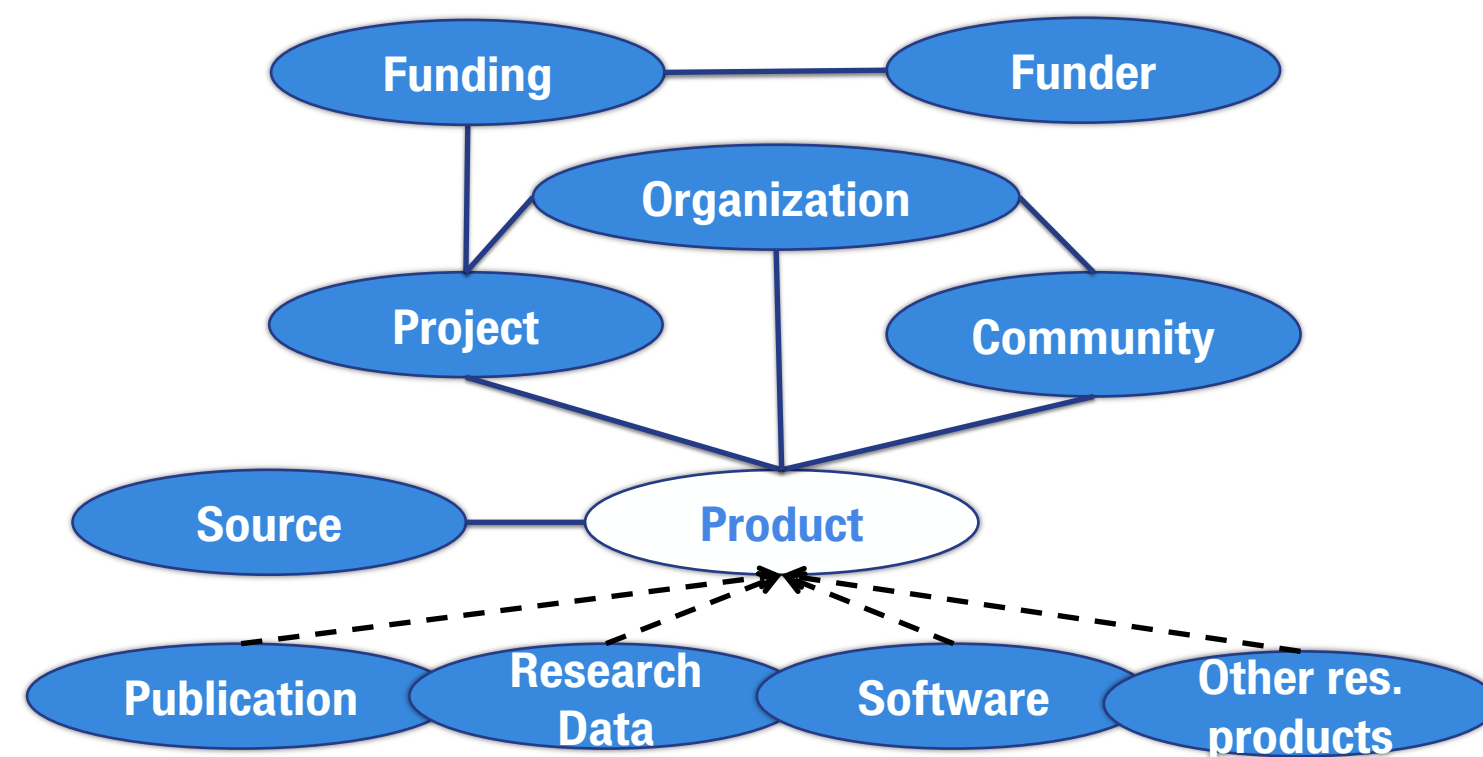
OpenAIRE e-infrastructure

Materializing the Open Science graph

- Harvested data sources
 - 10K +
- Harvested records
 - 500Mi +
- Publication full-texts
 - 10Mi +
- Harvested/mined links
 - 60Mi +

CONNECT PROVIDE EXPLORE

DEVELOP MONITOR



Harvesting



Deduplication



User links



Mining



Complete aggregation coverage



... and more



... and more



PARTHENOS
Pooling Activities, Resources and Tools
for Heritage E-research Networking,
Optimization and Synergies



OpenDOAR



... and more



... and more



Open metadata graph

Repositories
Archives



Springer
Microsoft



Using the graph

DEVELOP

Programmatic access
via APIs

DEPOSIT ANYTHING

Zenodo.org: catch-all
repository

EXPLORE

- Discover research products
- Find Open Access versions
- Reporting tool for project coordinators

PROVIDE

Services for content providers:

- Support on interoperability
 - Usage statistics
- Metadata Enrichment

CONNECT

Open Science gateways for
research communities

MONITOR

For funders and research
infrastructures to monitor:

- Research impact
- Compliance to OA mandates
- Uptake of Open Science publishing practices

Strategic for Open Science



Making the research graph
an **EOSC** asset

Open, Trusted, Complete, De-duplicated,
Participatory, Transparent, Decentralized

Actors

Institutions, research organizations, funders,
content providers, researchers, SMEs, etc.



Added value services

e.g. discovery services, monitoring services

Overcoming the barriers to Open Science



Barrier

Research communities lack culture on Open Science publishing

Solution
Training



Barrier

Focus (funding) is not on scholarly communication practices

Solution
Support seamless **integration** with RI services



Barrier

Reward policies focus on research literature

Solution
Involvement of NOADs in **national OS policies**.
Improve the OpenAIRE Research graph and build services to support **OS indicators**



Barrier

Lack of tools for Open Science publishing in RI

Solution
Dedicated **Open Science gateways** (OpenAIRE Research Community Dashboard)



Barrier

Research outcome scattered across repositories

Solution
Materialisation of the **OpenAIRE Research Graph**

Thank you!

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