











## OpenAIRE

is about opening-sharing-reusing research outcomes

# Social + technical links Shifting scholarly communication towards open and reproducible science

Set Science. Free.

## OpenAIRE is not just about open access to publications...

Open research data

Open software

Open methodologies/protocols

Open educational resources

Open processes

Open research to non-researchers

All linked together - 360° view of research

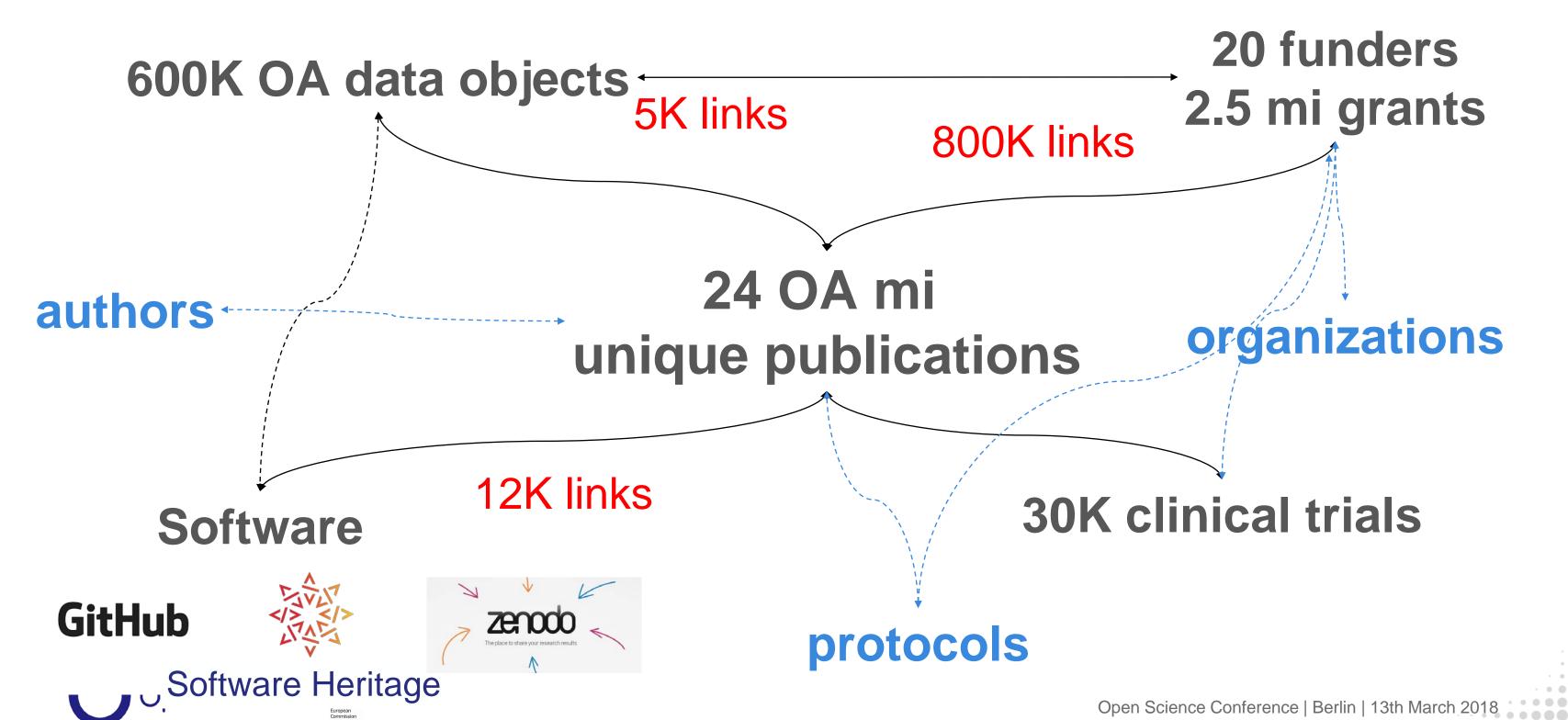








#### What we have



## What we do for Open Science

For funders, institutions, RIs, initiatives

For Content providers, RIs

For Researchers, ...

#### **Monitor**

- Open Science
- Research outcomes

#### **Accelerate**

- Interoperability
- Exchange

#### Support

- OS Helpdesk
- RDM services

Services & Support





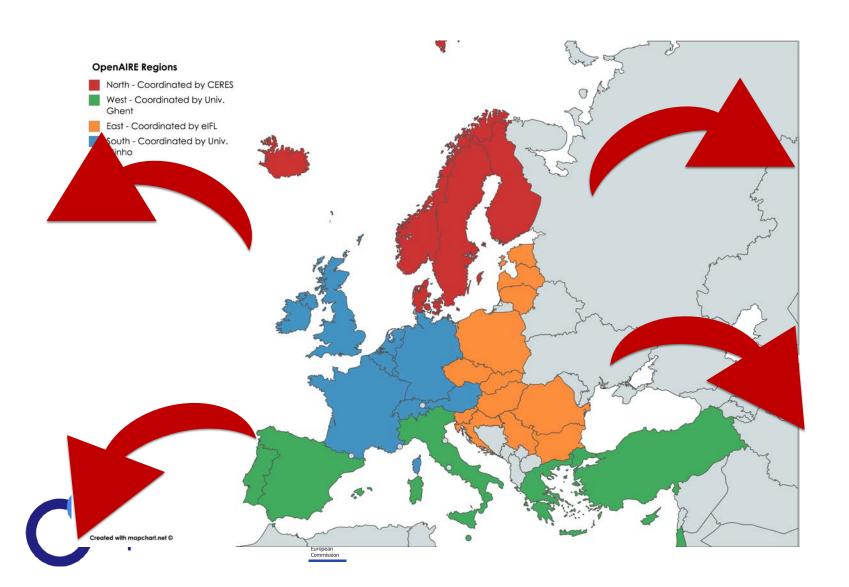




### National Open Access Desks (NOADs)

#### **Facts**

- Research is global, support is local
- Diversity in culture & maturity of national/local infras
- Not one size fits all in OA and open science



Our pan-European network

---> 34 countries

Key national organizations

---> 4 area coordinators

Moving to OS

Linked to infras around the world

Open Scien



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## The Open Science Helpdesk



CROATIA STOJANOVSKI



SYLVIA KOUKOUNIDOU

ESTONIA

ANNELI SEPP

MORE

GERMANY

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FRANK MANISTA

It's people that make the difference!

. . . . . . . . . . . . .

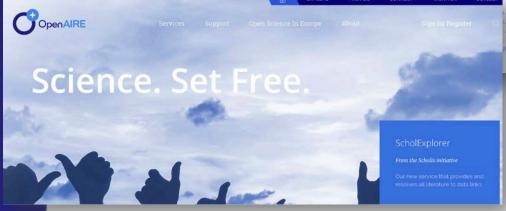








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EGI Federation

OpenAIRE PROVIDE

EGI is a federated e-Infrastructure set up to provide advanced computing services for research and innovation. The EGI einfrastructure is publicly-funded and comprises hundreds of data centres and cloud providers spread across Europe and worldwide.

SUBSCRIBE

Environment and Economy Marine environmental Research Community science

the national/EU node of the United Nations
Sustainable Development Solutions Network adipiscing elit, sed do eiusmod tempor sets out to build an infrastructure to gather incididunt ut labore et dolore magna aliqual publications, data (in repositories and in Public Sector Information portals), and link them to EU and national funding ea commodo consequat.

SUBS

APIs to expose data in various ways

Bulk access

OAI-PMH Bulk access to projects Selective access via HTTP API

Documentation OpenAIRE LOD Ontology OpenAIRE RDF dump SPARQL endpoint

Linked Open Data

**OpenAIRE Content Provider Dashboard** 

A ONE-STOP-SHOP FOR SHARING, FINDING AND ENRICHING YOUR CONTENT

START HERE

**Schole** plorer

18 Tracking, reporting, monitoring made easy23 INS





## Gaps in RDM

- Culture why?
- Skills & services how?
- Commitment & investment how much?





### Culture – why should I do it?

## Researches are people, and are motivated by the same things as normal people:

- Money, for themselves, for their groups, and to support their science.
- Reputation, which is usually (but not necessarily)
  measured by citations, h-indices, download
  counts, placement of students, etc.
- Sufficient time, space, and resources to think and do their research.

Dan Gezelter, "What is exactly Open Science"







Balance incentives vs. mandates
Domain specific

(Open) metrics for all research outcomes

#### Skills and services – how do I do it?

#### Skills

 What: data stewardship, data science, data and science, legal & ethical Caution on the (over)use of terms

- What level: open vs. FAIR, FAIR data vs. FAIR metadata
- Where to find help: skilled people at key position university, library, lab

Set and expect pragmatic goals

#### Services

 Simple to use, trusted service offer, embedded in research workflows (transparent)





## Commitment & investment – how much, who to, for how long?

- Data curation/stewardship vs. data management
  - Long tail of science vs. big science: different needs
  - Management includes processing, transferring, ...
- How much does data curation cost?
  - · 5%? 10%? ...
  - What are the revenue streams?
  - Who pays in the end?
- Who is responsible
  - Organization, team, person?







# Unleashing data: Research Data Management 2. OpenAIRE approach

#### **Training**

Multiple levels

#### Services

OpenDMP, Amnesia, Open Science Observatory, Zenodo

#### Legal support

Advice, recommendations, tools





#### RDM: train-the-trainers programme

- Using the natural hierarchy
  - EU → National → Institution → Library → Lab
- Webinars (38 webinars, 2900 participants)
- Collaboration with FOSTER and other RIs





Involve and engage various stakeholders





## What?

#### **HORIZON 2020 – OA & ORD**

• Contacting Projects; Administrators

#### REPOSITORY/INFRASTRUCURE COMPLIANCE

• Encouraging Interoperability

#### **OPEN RESEARCH DATA**

- H2020 Obligations, RDM, DMPs, use of infras
- Legal Issues

#### **OS POLICY**

Act as experts

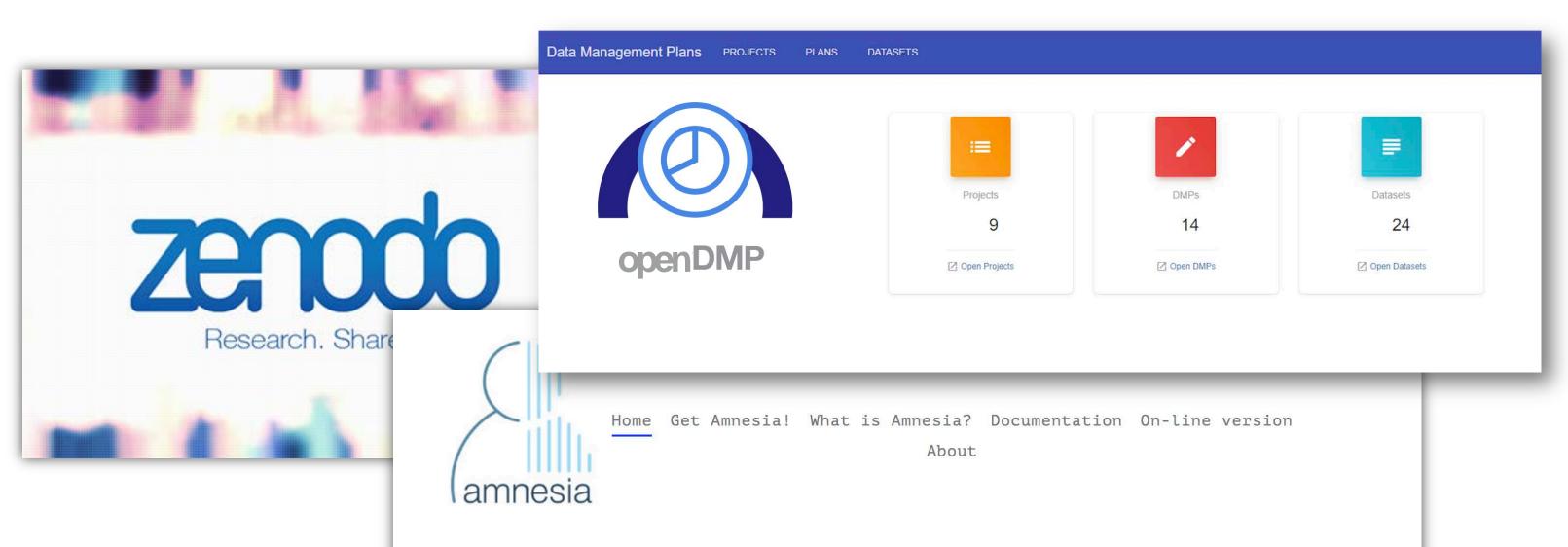




H2020 is the vehicle, support is for all funders with OA policies

#### Our NOADs tasks

#### **Services for RDM**



#### Amnesia

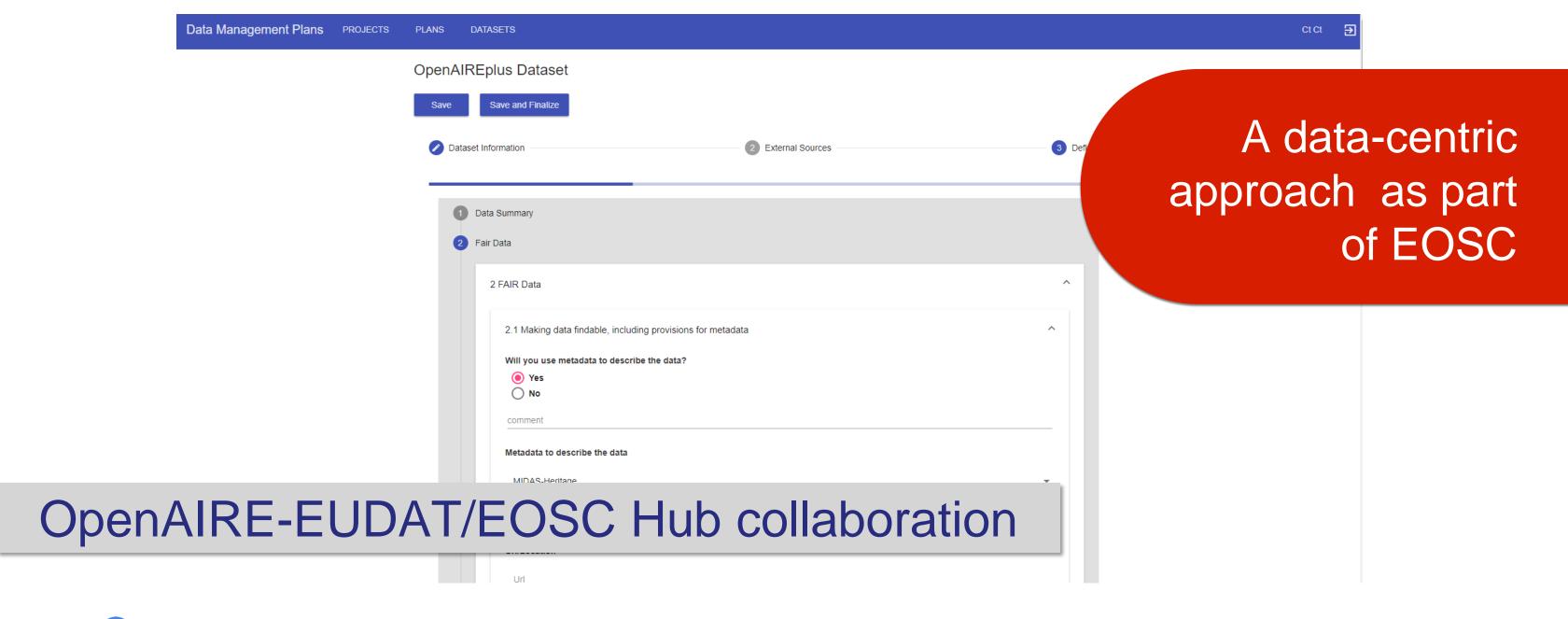
Amnesia is a data anonymization tool, that allows to remove identifying information from data. Amnesia not only removes direct identifiers like names, SSNs etc but also transforms secondary identifiers like birth date and zip code so that individuals cannot be identified in the data. Amnesia supports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







#### A fresh view on DMPs







## OpenDMP key characteristics



- From funder template ---> data profile
  - FAIR is the default funders should converge to FAIR
  - Enabling domain discipline specific off-the shelf plans

#### Links to registries and infrastructures

- Registries (re3data, RDA metadata registry)
- OpenAIRE, EOSC hub, FAIR sharing, ...
- Service catalogues (e.g., elnfraCentral)
- Open APIs for national and institutional infras





## OpenDMP key characteristics

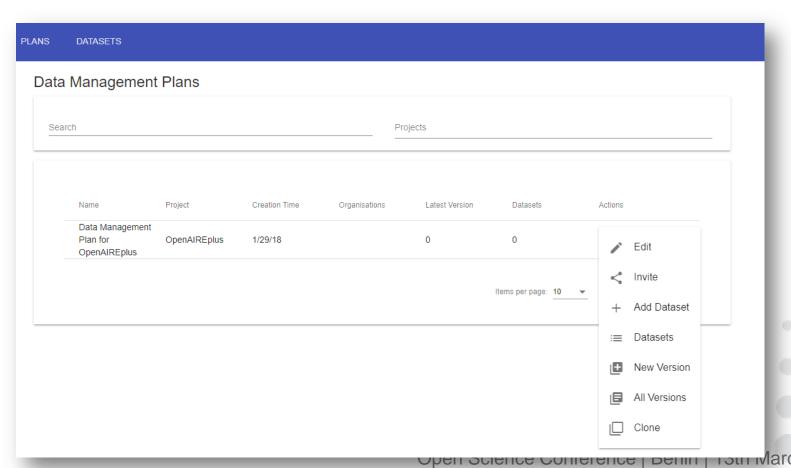


- Versioning and publishing (e.g., Zenodo)
- Machine readable (RDA) ---> enable monitoring
- Supporting collaborative projects
- Supporting institutions with customized installations

Current status: Validating with RDA use cases







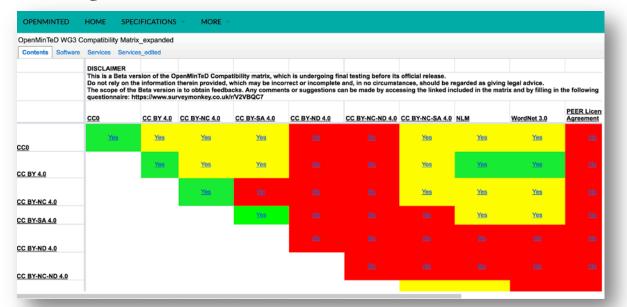
## Legal & ethics support – in the making

#### Advice - legal guidelines

 A policy toolkit aimed at institutional (RPO) and MS level that includes legal and ethical topics related to IPR, research data, licensing, copyright for TDM, data privacy

#### **Tools**

License compatibility matrix











A window to community's research.

A bundle of OpenAIRE's tools and services providing

Open Science as a Service

## Thank you!

**Natalia Manola** 

natalia@di.uoa.gr

