@openaire_eu

Science. Set free.

Consiglio Nazionale delle Ricerche

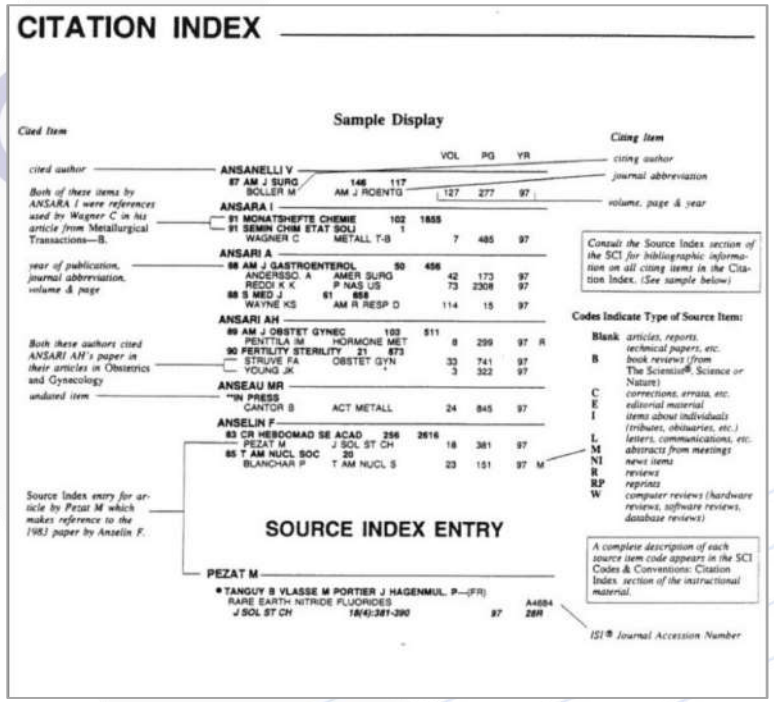
ISTITUTO DI SCIENZA E TECNOLOGIE DELL'INFORMAZIONE "A. FAEDO"

OpenAIRE Graph

An open resource for Open Science

Claudio Atzori, PhD
CNR-ISTI

Research evaluation and Open Science a transition in the making

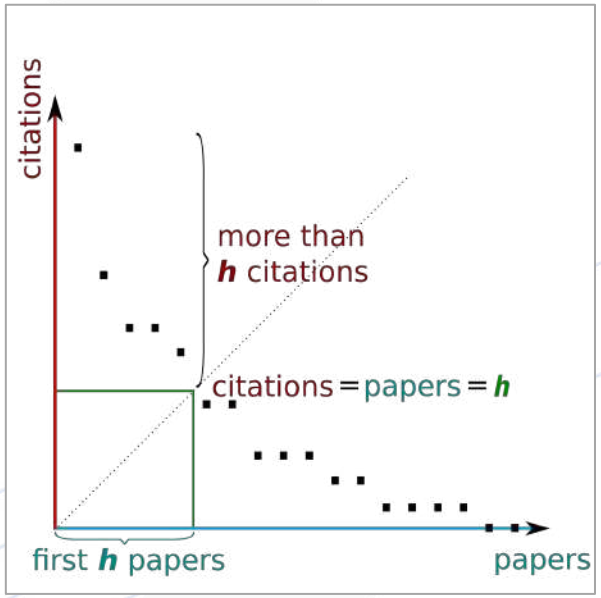


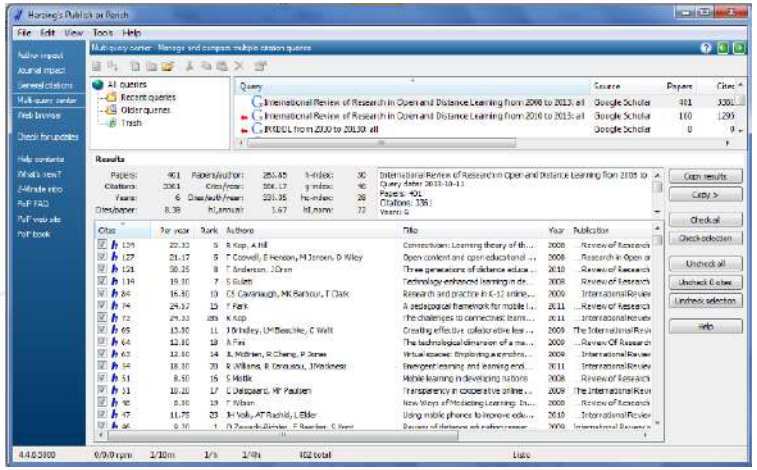
WEB OF SCIENCE

ELSEVIER Scopus

- Pre – Internet era: Science Citation Index (SCI), Current Contents, Journal Citation Reports
- WOS: monopoly based on sole database focused on the “core” science, shared algorithms, proprietary tools
- Scopus: sold for having more content, rising questions about the coverage

Research evaluation and Open Science a transition in the making





- Google Scholar + H-index + publish or perish: bibliometrics @ home
- Google Scholar researcher profiles

- Question about openness

Research evaluation and Open Science
a transition in the making

OpenAIRE Graph

Putting research into context, making the connections

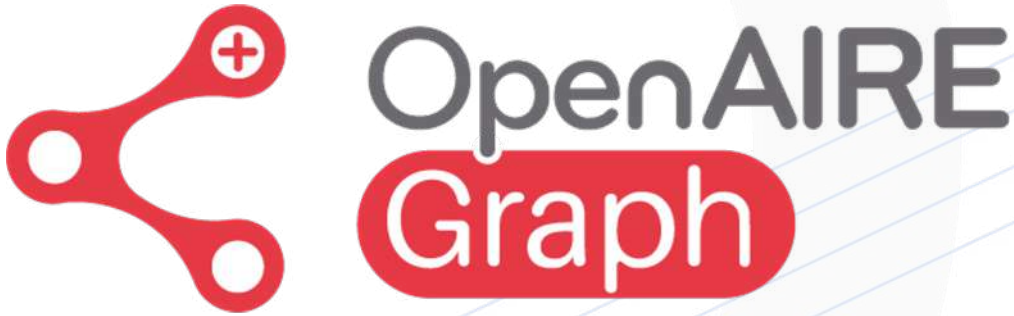
Foundations of a complete, open, and transparent scholarly publishing infrastructure

Reproducibility and transparency require tracking of all products of research, their “context”, and their semantic links

Monitoring and assessing quality, impact, and ”open scienceness” of research must be a transparent, reproducible process, inclusive of research “context” and metrics

Discovery of reproducible research must find new ways, moving beyond the “article-driven” search, taking into account metrics and intent

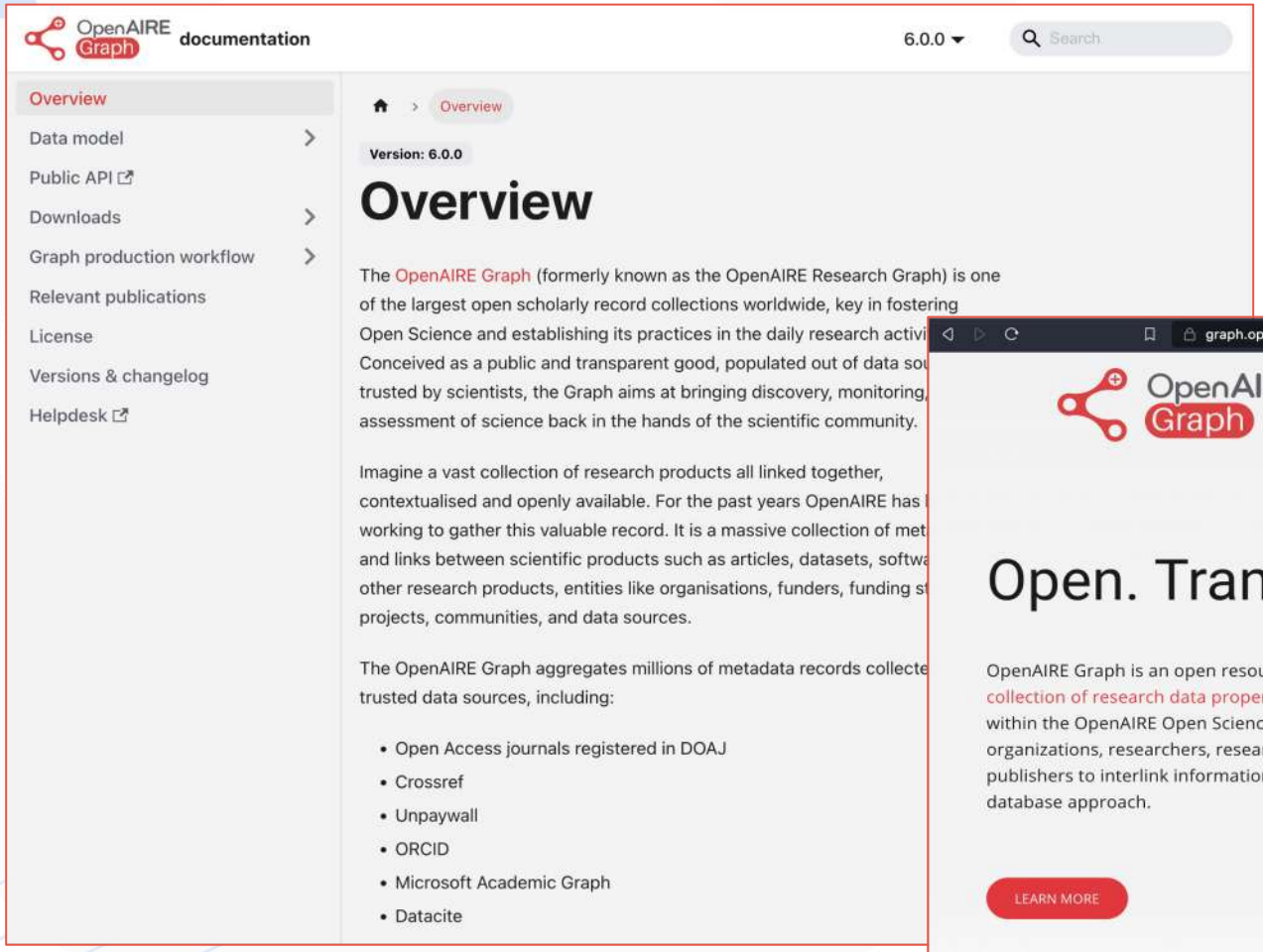
Overview of the OpenAIRE Graph

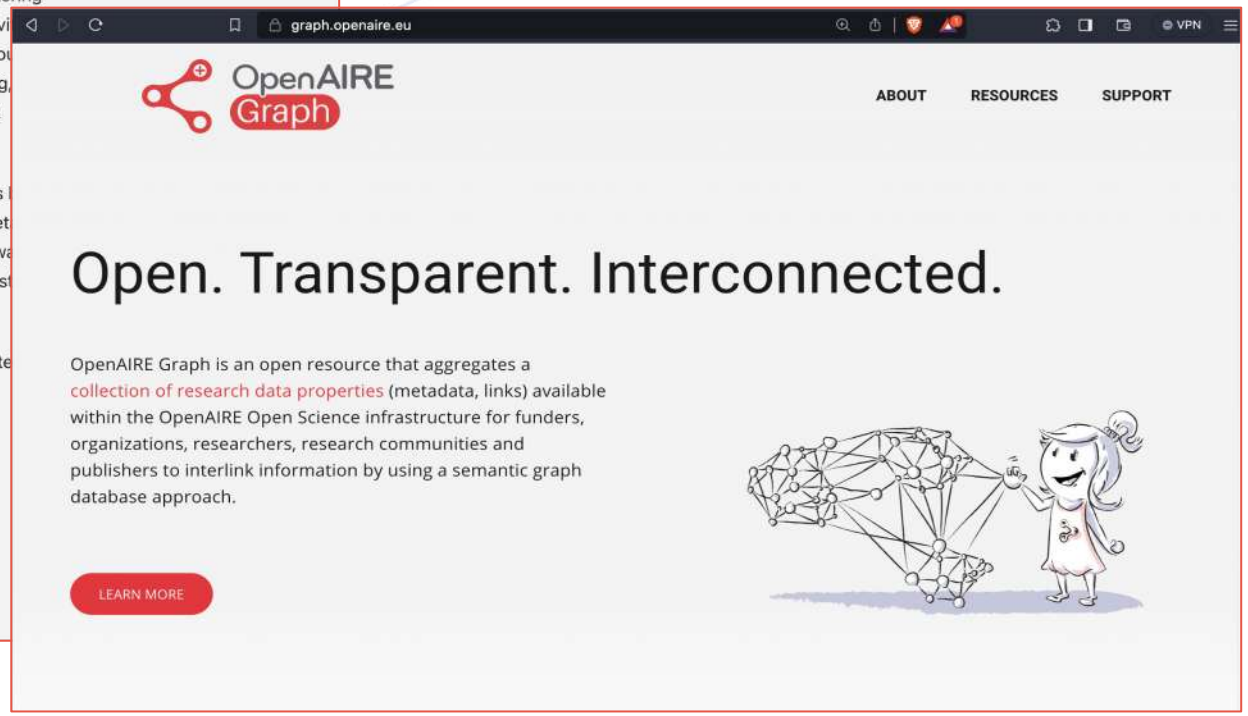


"A collection of metadata describing **objects** in the research lifecycle and **relationships** among them"

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

graph.openaire.eu





Data sources

… and more **tools and software sources**

… and more **publishers**

… and more **European and international funders**

… and more **research graphs**

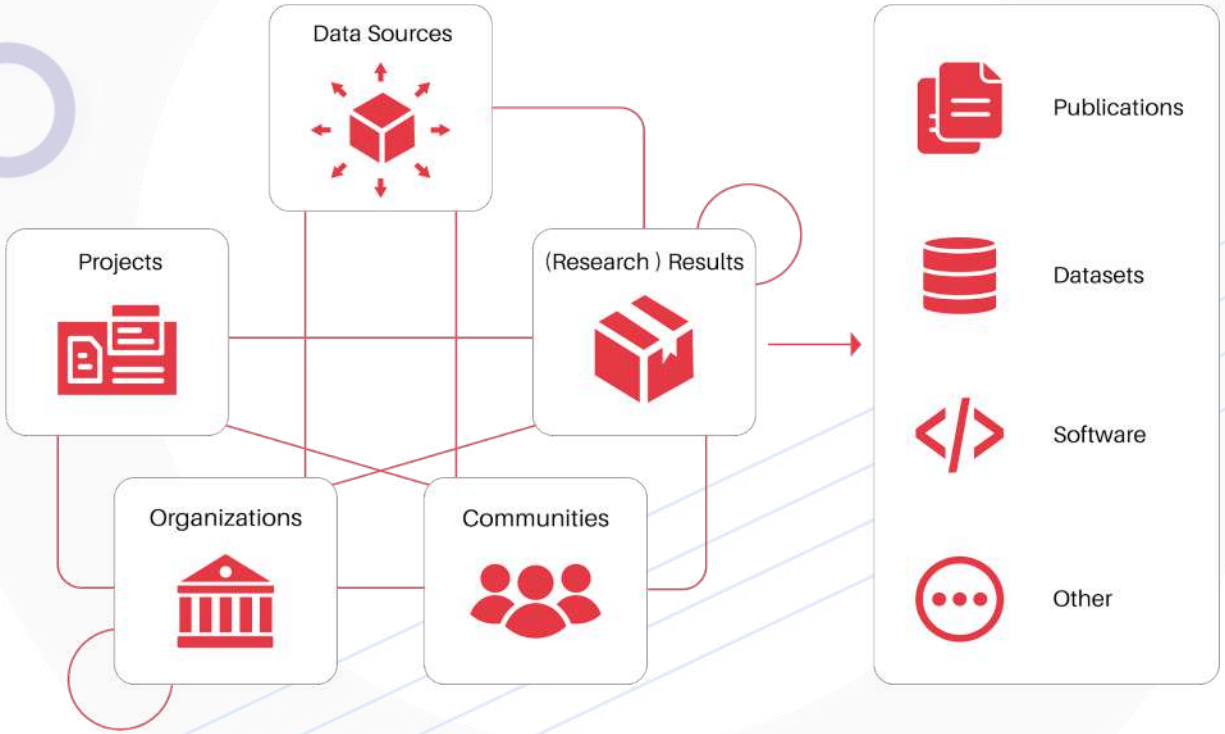
… and more **registries**

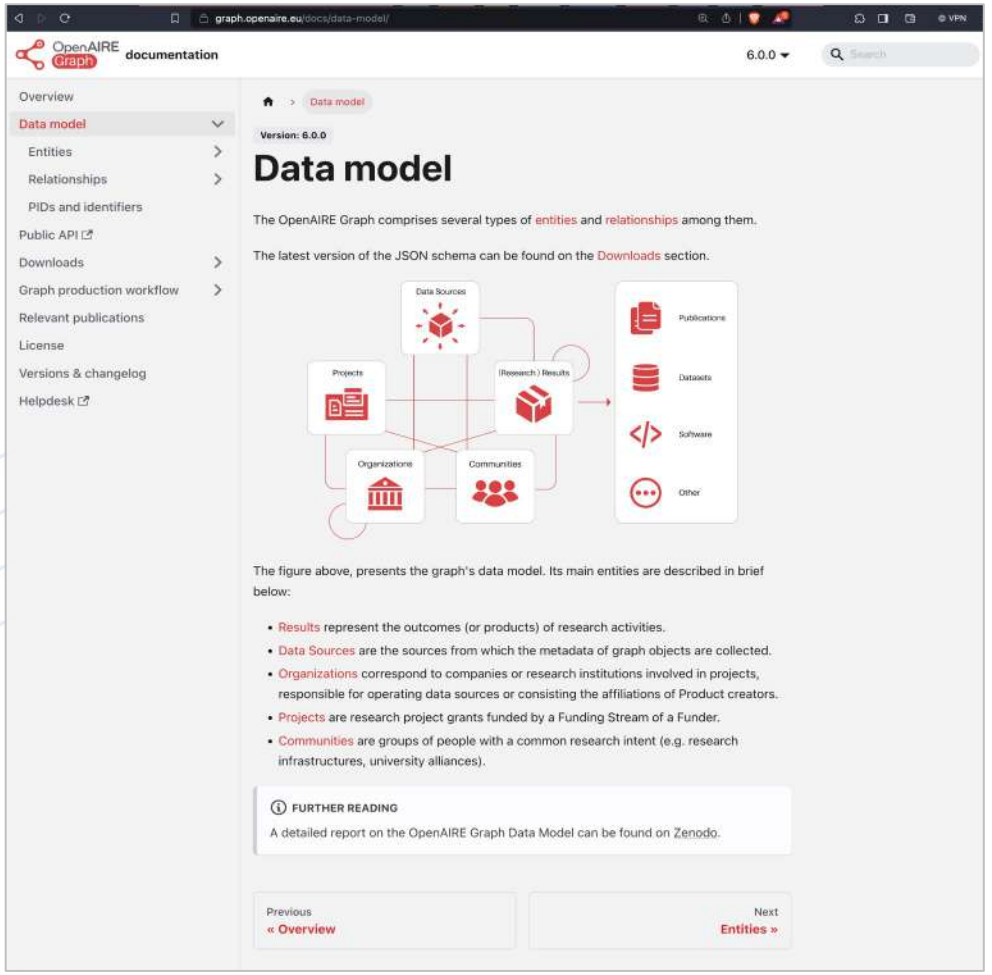
… and more **aggregators**

… and more **thematic and institutional repositories**

… and more **einfra and RI sources**

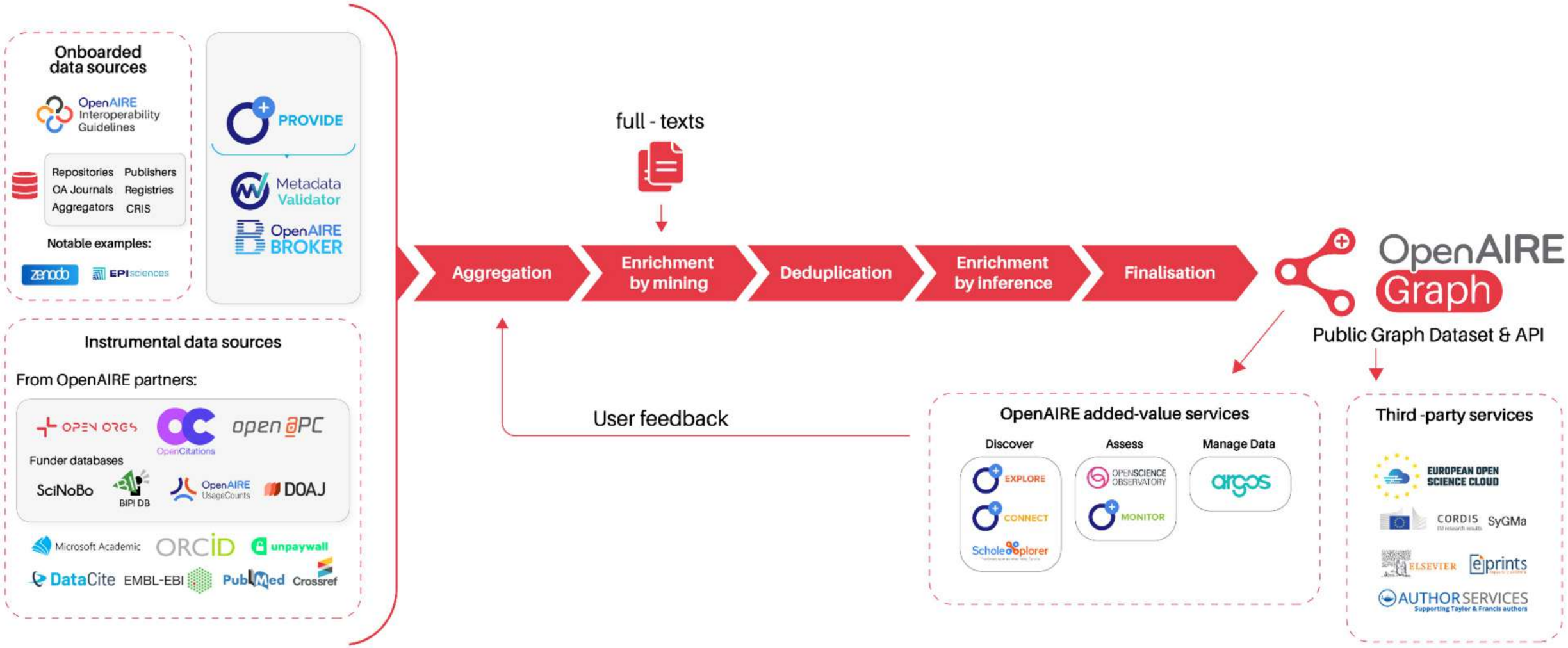
OpenAIRE Graph data model



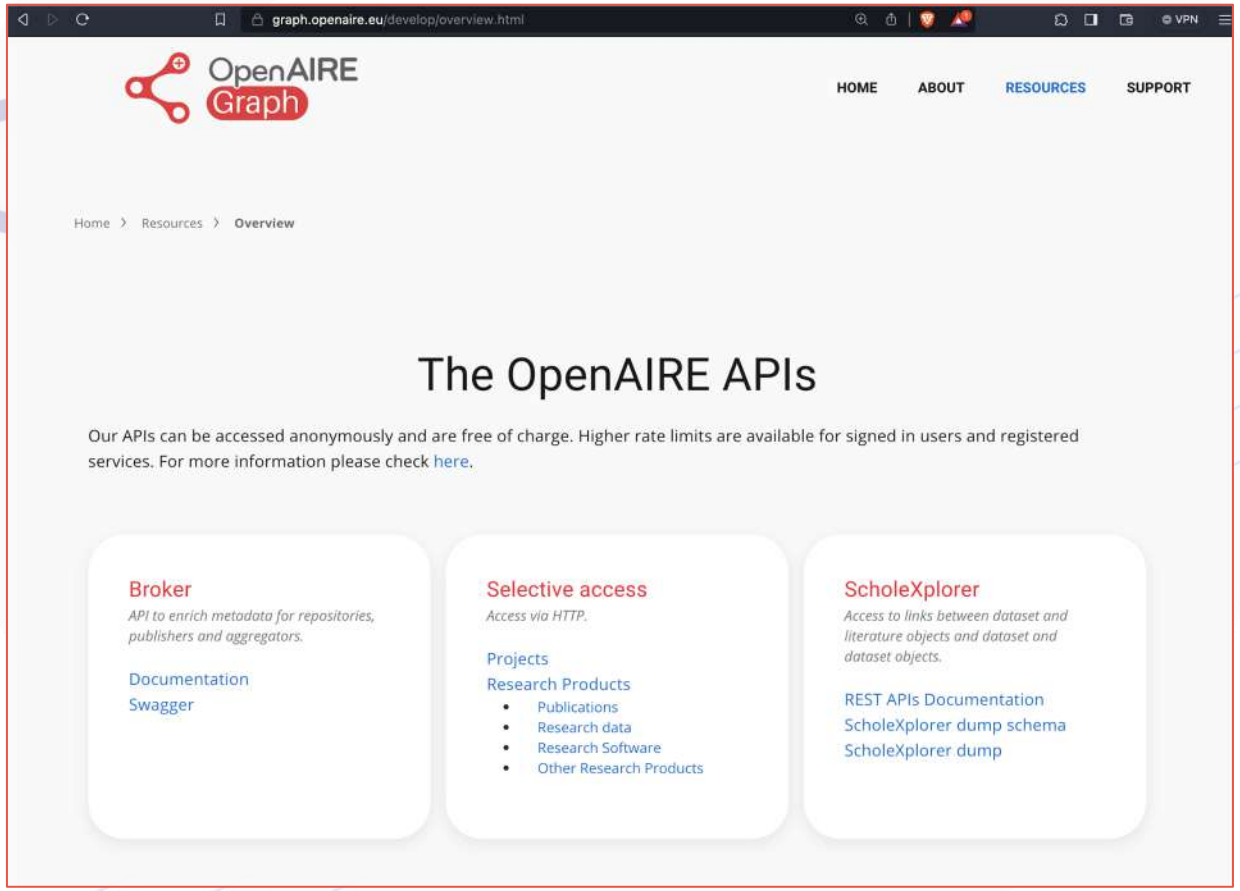


more @ graph.openaire.eu/docs/data-model

OpenAIRE Graph: the supply chain



Access to the OpenAIRE Graph



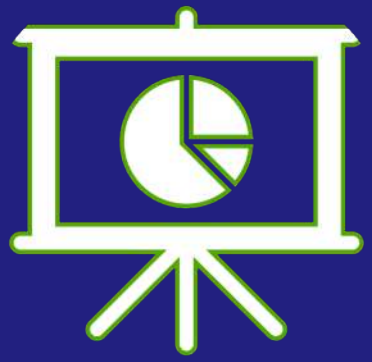
Datasets @
graph.openaire.eu/docs/category/downloads

- OpenAIRE Graph
- OpenAIRE Funded products
- OpenAIRE COVID-19
- OpenAIRE communities
- DOIBoost
- OpenAIRE ScholeXplorer

zenodo.org/communities/openaire-research-graph

OpenAIRE MONITOR

WHY MONITOR?



Know Thyself

Resources

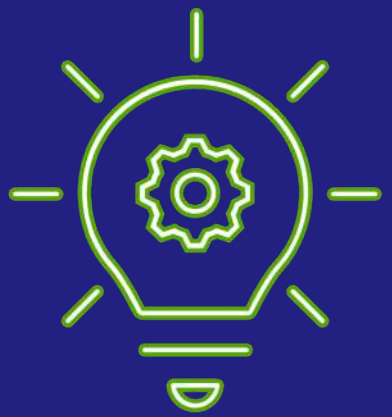
Research Output

Open Science Uptake

Collaborations

Visibility

Impact



Understand Thyself

Pathways

Insights

Opportunities

Position Thyself

Decision making

Reporting

Story telling

Why OpenAIRE MONITOR?

- **Relevance for the community**
  - Co-develop indicators that make sense to all
- **It's all about open science and open data**
  - Inclusiveness, transparency and replicability
- **Full coverage of Open Science**
  - Beyond publications: Research Data, Software, Other Research Products
  - Linked science
- **Fully embedded in EOSC infrastructure**
  - Starting from content providers to included metrics

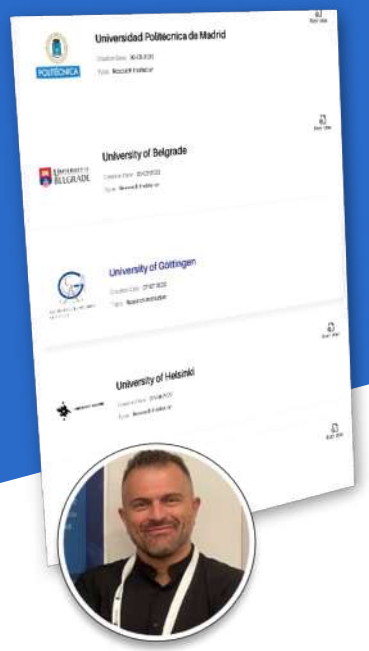
How? Methodological Principles

- **Openness & transparency:** Assumptions are openly and clearly presented
- **Coverage & accuracy:** Based on data from multiple authoritative data sources with proven AI-driven mechanisms
- **Clarity & replicability:** Indicators documented, verified and used by the scholarly communication community
- **Readiness & timeliness:** Big data infrastructure operational workflows to warrant timely results

What? Dashboard on Demand

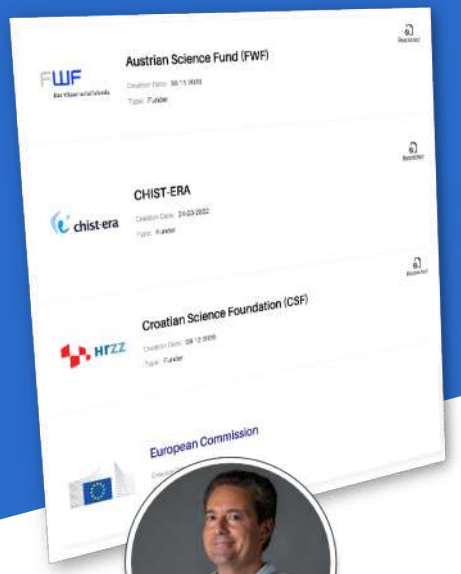
MONITOR

Institutions



Your OpenAIRE expert
Leonidas Pispiringas

Funders



Your OpenAIRE expert
Harry Dimitropoulos

Research Initiatives

Your OpenAIRE expert
Alessia Bardi

https://monitor.openaire.eu

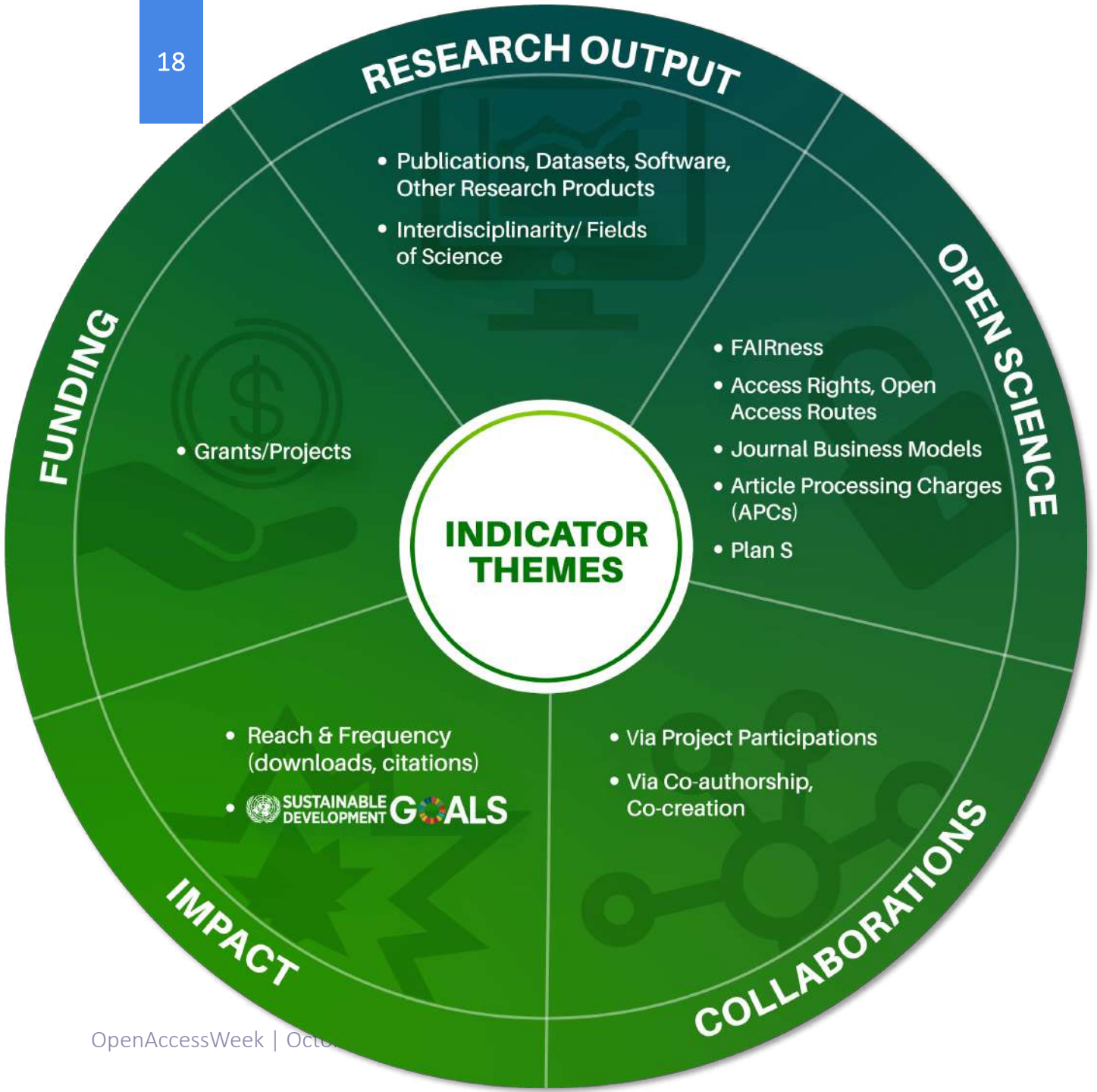
OPENSCIENCE OBSERVATORY

Countries

Your OpenAIRE expert
Ioanna Grypari

https://osobservatory.openaire.eu

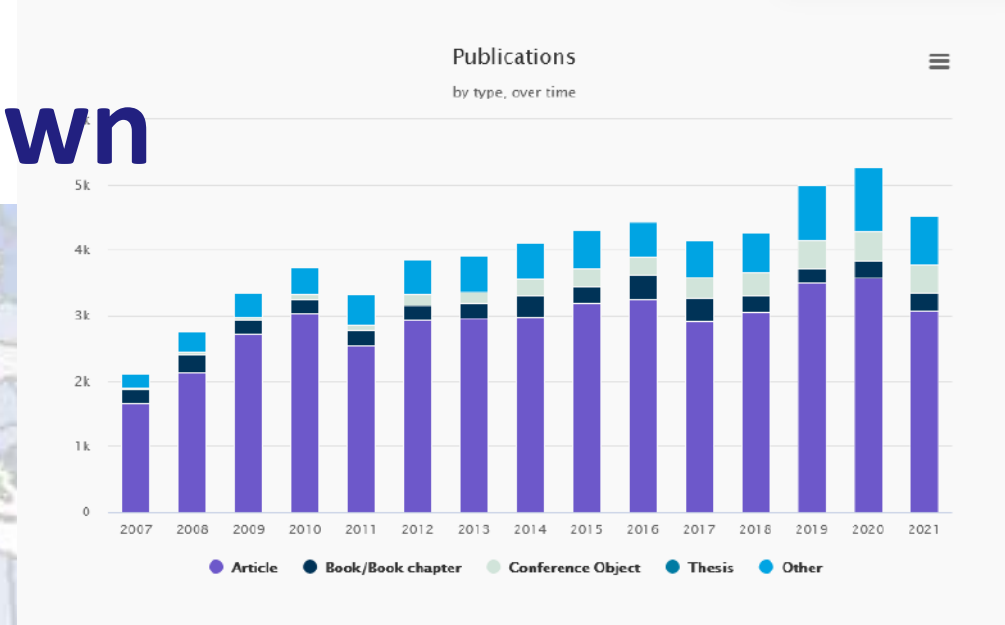
What?
Indicator themes

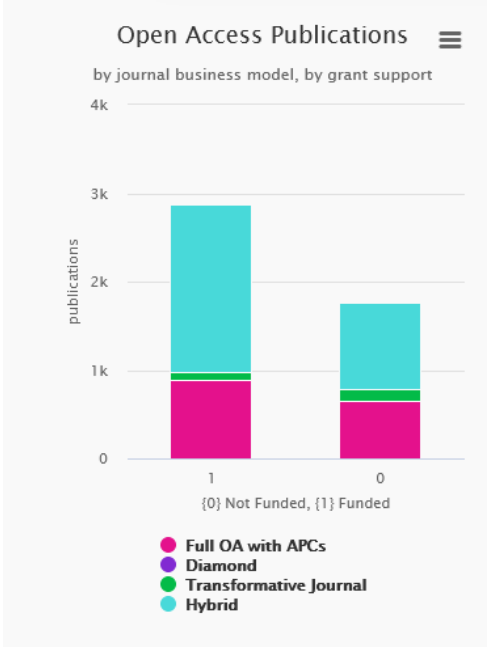


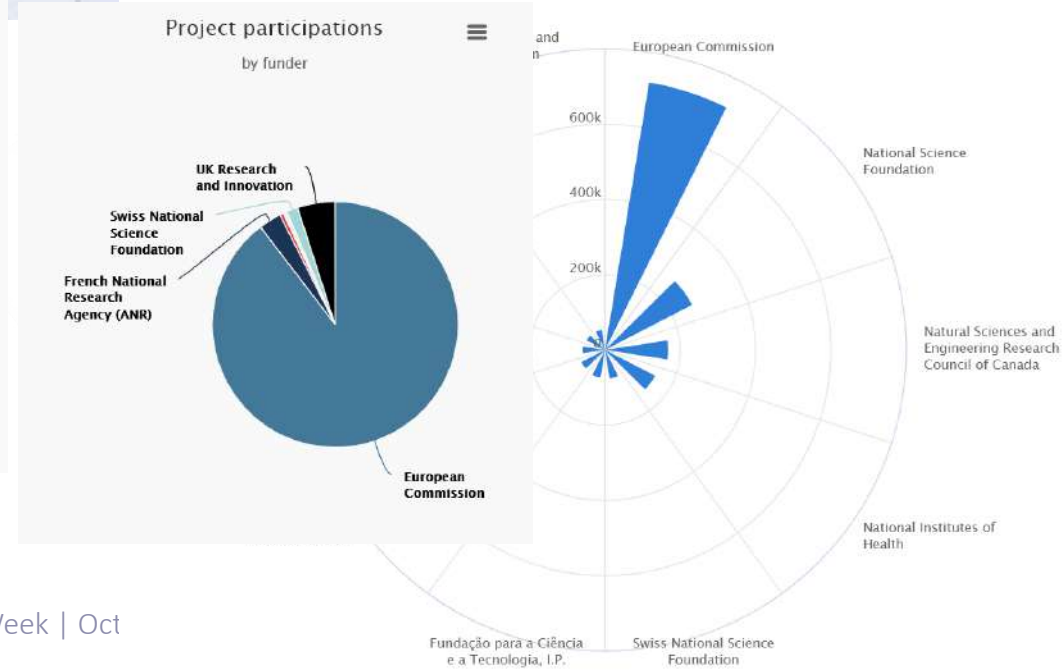
What? Indicators Breakdown

By fields of interest

- research product type
- domains (FoS)
- time
- countries
- data sources
- funders
- …







What? Features

- **User-friendly** dashboards
  - interactive visualizations
  - exporting capabilities (download data & visualizations in different formats)
  - filtering
  - browsing via direct links to EXPLORE
  - editing of visualizations

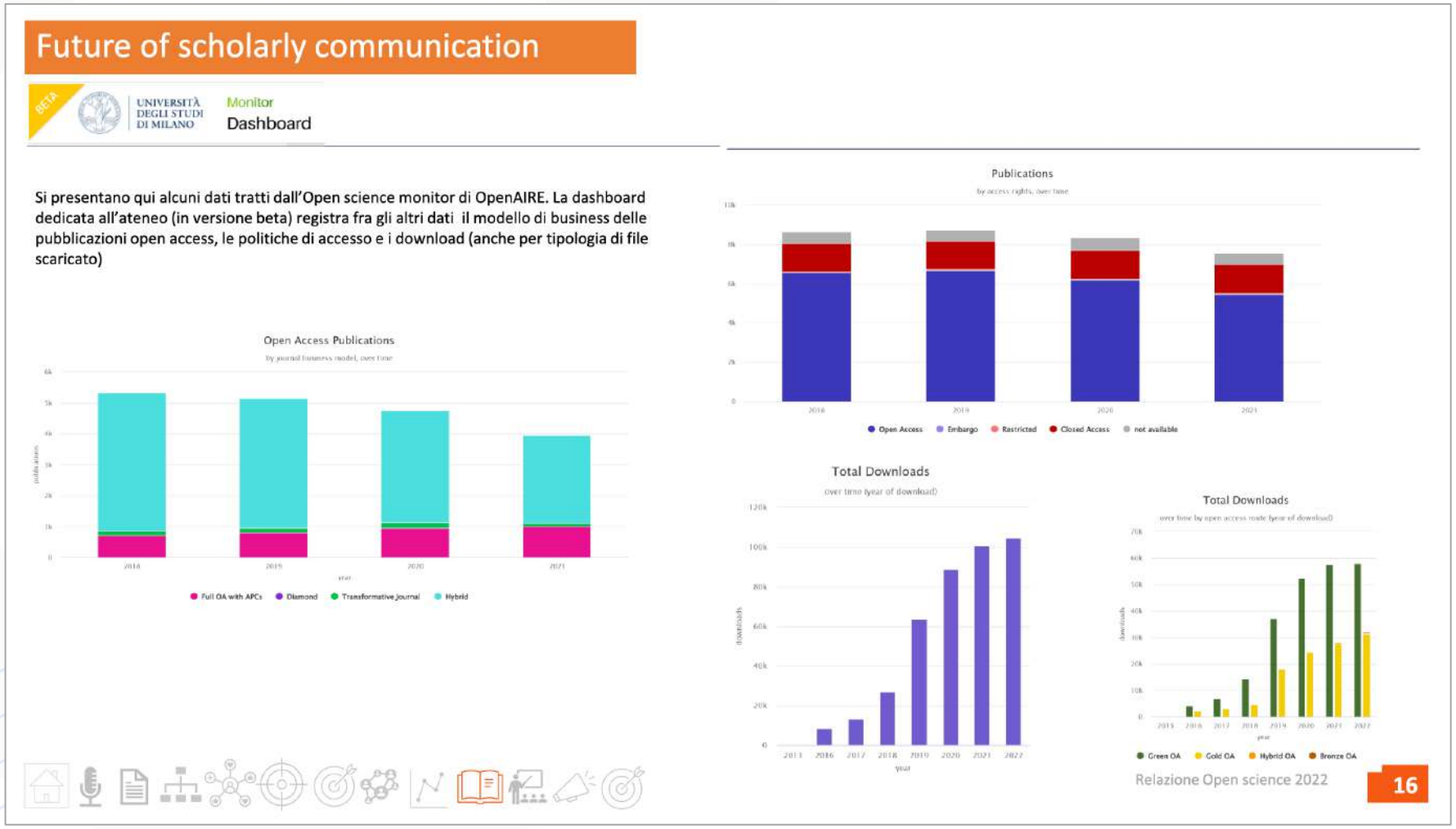
- **Control** how you share
  - **Public** indicators for external stakeholders – ***Showcasing***
  - **Restricted** indicators for **team-members** – ***Internal Monitoring***
  - **Private** indicators for “work in progress” - ***Reviewing***

- **Customize & validate** in one-on-one sessions with our experts

University of Milano

Official Open Science report for 2022

https://unimibox.unimi.it/index.php/s/9WsbKCCEzm7trri



Can I trust the indicators?

a.k.a can I trust the processes for their calculation?
a.k.a can I trust the underlying data?

"Not everything that counts can be counted, and not everything that can be counted counts."

Challenges

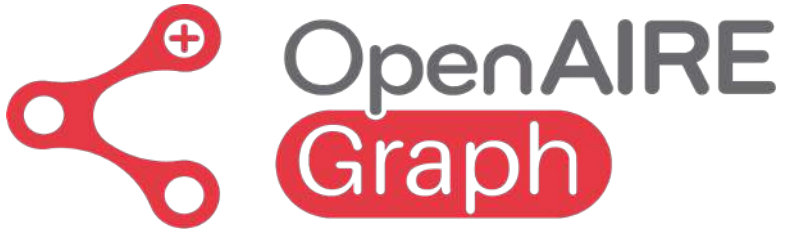
- Data access / availability
- Data incompleteness, format inconsistency, default values
- Duplicate data
- Old / stale data
- Inconsistent record identification
- Coverage

The Graph as a trustable resource

- Vocabulary based cleaning
- Automation of the aggregation processes
- Provenance information
- Transparency of the processes
  - Documentation
- Repeatability

Supporting projects

Several extensions in the context of ongoing & future projects



FAIRCORE4EOSC

- Intelligent NL and impact-based search, community recommendation profiles, support for and inference of RAIDs
- Adopting the RDA SKG common data representation for Scientific Knowledge Graphs

SciLake

- metadata enhancements & indicators derived from community specific use case pilots leveraging SKGs

GraspOS

- Innovate the research assessment process leveraging the OpenAIRE Graph contents

CraftOA

- Diamond institutional open access publishing & plugins for the OJS platform (broker and guidelines)

OSTrails

- Become part of a federation of cross-border and cross-discipline SKGs, interoperable with DMP and FAIR assessment platforms

Thank you

On behalf of the OpenAIRE Graph team

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