

# THE ANALYSIS OF THE AVAILABLE SOFTWARE INFRASTRUCTURES FOR SUPPORTING RESEARCH ASSESSMENT REFORM

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# The GraspOS project

Next Generation Research Assessment to Promote Open Science

Research assessment reforms

- Open Science aware Responsible Research Assessment
- introducing innovative metrics and indicators, fostering a culture of quality, transparency, and trust in research

Infrastructure project

- Creating an open, trusted federated dataspace for next-gen research metrics, offering data and tools to support research assessment reforms at various levels

Led by the Athena Research Center in Greece and a diverse consortium of partners

# OS-aware RRA approaches landscape report

Supports the development of the Open Science Assessment Framework (OSAF) in the GraspOS project

- initiatives
- research assessment framework and policies
- quantitative and qualitative data priorities
- **software infrastructures**

Status D2.1, in review August 2023,

<https://zenodo.org/records/8301792>

# CoARA agreement

Coalition for Advancing Research Assessment

The Agreement on Reforming Research Assessment

- July 2022
- > 600 signatories at the moment

Questions in the surveys and desk research organized in accordance with the CoARA agreement

- Can available global and local infrastructures support recommendations from the agreement?

# Methodology

- Desk research
  - Previous knowledge of the project participants; searching of publications/citation databases using keywords of the project; relevant resources chaining (citation analysis to/from other resources, searching of relevant project/network websites)
- Pilot organizations survey (9)
- Global survey (54)

# SURVEY

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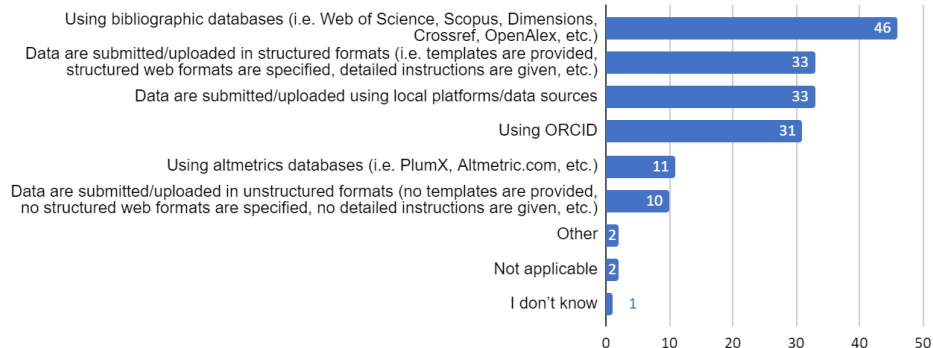
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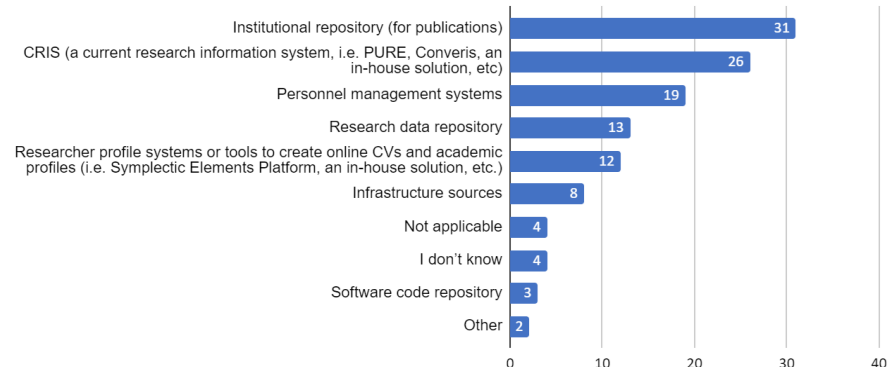
# Supporting infrastructure - survey

- Data used in the research assessment might come from global data sources or from local data sources

20a. How are data for research assessments captured at your institution?

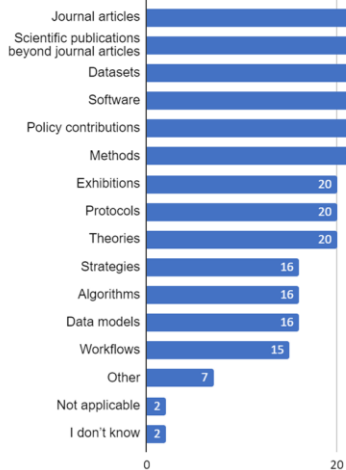
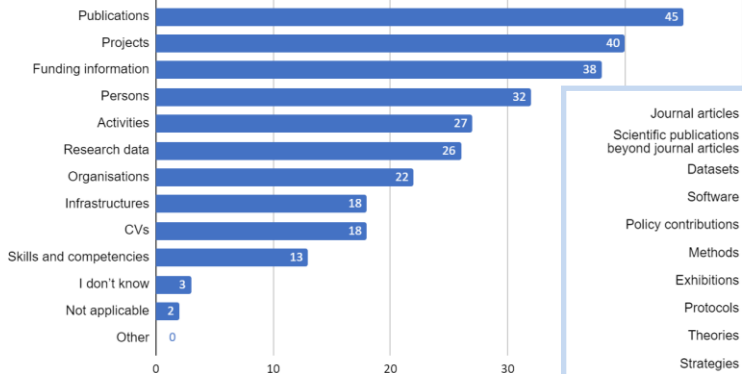


23a. Which of the following local data sources are used for research assessment at your institution?



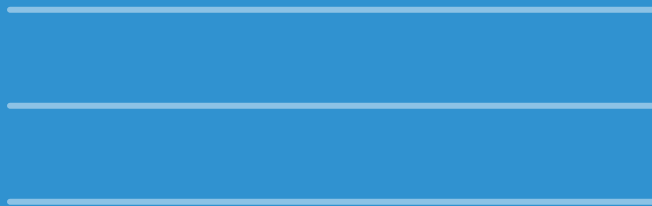
# Assessment objects

25a. Which type of research entities are preserved in local data sources used for research assessment?





# DATA ASSETS SOURCES



# Selection of sources

Data source	Size	API	Ownership	Payment model
OpenAlex	> 240 millions of works ( > 40 millions of open access works)	<a href="https://docs.openalex.org/">https://docs.openalex.org/</a>	non for profit organisation	Freemium
OpenAIRE	> 160 millions of publications > 55 millions of datasets	<a href="https://graph.openaire.eu/develop/api.html">https://graph.openaire.eu/develop/api.html</a>	project result (OpenAIRE)	Free
Crossref	> 100 millions of works ( > 20 millions of open access works)	<a href="https://www.crossref.org/documentation/retrieve-metadata/rest-api/">https://www.crossref.org/documentation/retrieve-metadata/rest-api/</a>	non for profit organisation	Free
ORCID profiles / record registry	15 millions of ORCID profiles	<a href="https://info.orcid.org/documentation/features/public-api/">https://info.orcid.org/documentation/features/public-api/</a>	non for profit organisation	Free
BIP! Services	> 130 millions of works > 1.3 billions of citations	<a href="https://bip.imsi.athenarc.gr/site/data">https://bip.imsi.athenarc.gr/site/data</a>	project result (ATHENARC)	Free
OpenCitations Meta	Almost 90 millions of works	<a href="https://opencitations.net/meta/api/v1">https://opencitations.net/meta/api/v1</a>	non for profit organisation	Free
DataCite Commons	> 30 millions of works	<a href="https://support.datacite.org/reference/introduction">https://support.datacite.org/reference/introduction</a>	non for profit organisation	Free

+ Interchange models CERIF and VIVO

# Research entities

Entity type	OpenAlex	OpenAIRE	ORCID profiles	Crossref	BIP! Services	CERIF	VIVO
Publications	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Projects	No	Yes	No	No	No	Yes	Yes
Funding information	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Persons	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Activities	No	Yes	Yes	No	No	Yes	Yes
Research data	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Organisations	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Infrastructures	No	Yes	Yes	No	No	Yes	Yes
CVs	No	No	Yes	No	Yes	Yes	Yes
Skills and competences	No	No	Yes	No	No	Yes	Yes

# Output types

Output type	OpenAlex	OpenAIRE	ORCID profiles	Crossref	BIP! Services	CERIF	VIVO
Journal articles	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scientific publications beyond journal articles	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Datasets	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Software	No	Yes	Yes	No	No	Yes	Yes
Policy contributions	No	Yes	Yes	No	No	Yes	Partially
Methods	No	No	Yes	No	No	Yes	Yes
Protocols	No	No	No	No	No	Yes	Yes
Exhibitions	No	No	Yes	No	No	Yes	Yes
Theories	No	No	No	No	No	No	No
Strategies	No	No	Yes	No	No	No	No
Algorithms	No	No	Yes	No	No	No	No
Data models	Yes	Yes	No	No	No	Yes	No
Workflows	No	No	No	No	No	No	No

# Activities and roles

Activities and roles	OpenAlex	OpenAIRE	ORCID profiles	Crossref	BIP! Services	CERIF	VIVO
Industry cooperation	No	No	Yes	No	No	Yes	Yes
Training, mentoring and supervision of PhD candidates	No	Yes	Yes	No	Yes	Yes	Yes
Teaching	No	Partially	Partially	No	No	Partially	Yes
Peer review	No	No	Yes	Yes	Yes	Yes	Yes
Leadership roles	Partially	Yes	Yes	No	No	Yes	Yes
Entrepreneurship	No	No	Yes	No	No	Yes	Yes
Science communication and interaction with society	No	No	No	Yes	No	Partially	Partially
Team science and collaboration	No	No	No	No	No	No	No
Skills, competence and merits	No	No	Yes	No	No	Yes	Yes
Citizens science	No	No	No	No	No	No	No

# Open Science

Element	OpenAlex	OpenAIRE	ORCID profiles	Crossref	BIP! Services	CERIF	VIVO
Open access publications	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Open research data	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Open source software	No	Yes	Yes	No	No	Yes	Yes
Other open science elements (open-science related events, courses, projects)	No	No	No	Partially	No	Yes	Yes

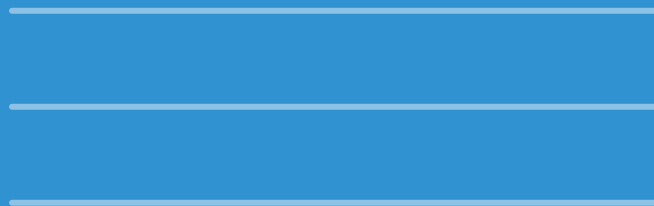
# PIDs

PID	OpenAlex	OpenAIRE	ORCID profiles	Crossref	BIP! Services	CERIF	VIVO
DOI	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ORCID	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ROR ID	Yes	Yes	Yes	Yes	No	Yes	No
RAiD	No	No	No	No	No	Yes	No

DOI, ORCID, and ROR ID are widely adopted. There are some signals that RAiD might be better adopted in the near future

- This PID is included in the CERIF data model, and
- It is going to be integrated into the EOSC platform through the FAIRCORD4EOSC project (<https://faircore4eosc.eu/eosc-core-components/research-activity-identifier-raid>).

# CONCLUSION



The project is funded by the European Commission, under Grant Agreement No. 101095129



# Discrepancy

Discrepancy between elements needed for the purpose of research assessment and available information in research domain infrastructures

Federated system



# Federated system - challenges

## Interoperability

- standardisation of cataloguing formats and practices,
- wide adoption of persistent identifiers (DOI, ORCID, ROR ID, RAiD), and
- definition of protocols and application interfaces for exchanging information

## Sustainability of the components

- funding

## Openness of data

- data should be the academic-community property

Let's make it happen! Together.

THANK YOU

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