



EuroCRIS SMM2025

Trust by Design: How Open Infrastructures Enable Responsible Research Assessment

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WHY CoARA ?



- There is broad agreement from the research community on the **urgent need to reform existing ways of assessing research.**
- Assessment processes relying predominantly on journal- and publication-based metrics **can be a hurdle to the recognition of diverse contributions and may negatively affect the quality and impact of research.** They also contribute to an unhealthy research culture and an unaffordable publication system.
- Building on progress made so far (DORA, Leiden Manifesto, Hong Kong Principles for assessing researchers), CoARA aims to **enable systemic reform of research assessment** on the basis of common principles and commitments within an agreed timeframe, as set in its Agreement on Reforming Research Assessment, **published on 20 July 2022.**

WG: Open Infrastructures for Responsible Research Assessment - OI4RRA

Mission

- Enable institutions to **move from proprietary infrastructure** and research information, to open interoperable alternatives.
- Take into consideration the **wide range of research outputs** and **open science** practices, addressing the **diversity** of the research community.

Chairs: Natalia Manola (OpenAIRE), Clifford Tatum (CWTS)

81

members

43

organisations



Completed core outputs and achievements

1

Principles and characteristics for OI fit for RRA

<https://doi.org/10.5281/zenodo.15487403>

2

OI4RRA Checklist for RPOs and RFOs

<https://doi.org/10.5281/zenodo.17699723>

3

Conceptual architecture of infrastructure components

<https://doi.org/10.5281/zenodo.15297694>

4

Policy Briefs for RFOs & RPOs

<https://10.5281/zenodo.15465110>

5

Barriers, enablers, and strategic recommendations

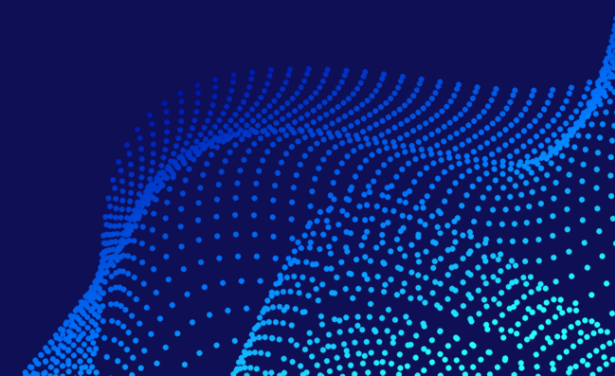
<https://doi.org/10.5281/zenodo.17399515>



CoARA

THE PRINCIPLES & CHARACTERISTICS

What



Open Infrastructures for Responsible Research Assessment: **Principles and Framework**

Sets the foundation for the principles behind OIs principles in RRA, specifically outlining:

- The **critical role of Open Infrastructures** in ensuring transparent, equitable, and responsible assessment.
- The **essential characteristics** that Open Infrastructures must possess to **surpass** the capabilities of proprietary systems.



<https://zenodo.org/records/15487403>

Core Principles: Embedding ‘Trust by Design’



Open Infrastructure Checklist for RRA

<https://zenodo.org/records/17699724>

zenodo

Open Infrastructure Checklist for Research Organisations (including RPOs and RFOs)

A practical guide for research managers, funding officers, library and IT personnel to evaluate and select Open Infrastructures and services that align with Responsible Research Assessment, Open Science practices, and organisational priorities.

1 Strong & Reliable Technology

- High-quality Data** - Regularly updated, verified, and inclusive across disciplines.
- Transparent & Open** - Assessment methods, indicators, and workflows are documented, auditable, and reproducible.
- Interoperable** - Supports PIDs (ORCID, DOI, ROR), open APIs, and metadata standards to integrate with research systems.
- Scalable & Adaptable** - Handles large datasets, integrates new policies and evolving research needs.
- No Black-box AI** - AI-driven assessments are explainable, auditable, and free from bias.
- Secure by Design** - Includes robust cybersecurity safeguards to protect institutional systems and research data.
- Decision Traceability** - Supports end-to-end, tamper-proof audit trails that document actions, evaluations, and decisions across research management, assessment, or funding workflows (*critical for RFOs; applicable for RPOs as needed*).

2 Aligned with Institutional Research Policies

- Clear & Open Workflows** - Structured, transparent, and easy to audit.
- Recognizes all Research Contributions** - Supports datasets, software, policy impact, community engagement, and mentoring.
- Customizable** - Aligns with institutional policies and research priorities. Reduces Workload - Uses automation to streamline data collection and reporting.
- Support & Training** - Provides helpdesks, documentation, and capacity building resources.

3 Governance & Institutional Control

- Community-owned & Non-profit** - Managed by universities, research institutions, or academic consortia, not private corporations.
- Stakeholder Involvement** - Institutions, researchers, and funders have a clear role in governance.
- Equitable & Inclusive** - Accessible across languages, disciplines, and underrepresented research communities.
- Sustainable Funding** - Funded through public or consortial sources, avoiding reliance on commercial interests.
- Transparent Decision-making** - Clear policies and governance structures with oversight mechanisms in place.

4 Ethical & Responsible Research Assessment

- Fair & Transparent Metrics** - Avoids journal impact factor as the sole indicator, aligns with responsible research assessment principles.
- Secure & Compliant** - Meets privacy laws (e.g., GDPR) and institutional data policies.
- No Bias** - Prevents disciplinary, institutional, geographic, or gender bias in evaluations.
- Accountability & Oversight** - Includes review processes, appeal mechanisms, and governance oversight.
- Conflict-of-Interest Integrity** - Provides structured COI disclosures, transparent documentation of COI handling, and safeguards to ensure fair reviewer, panel, or committee assignment across assessment or decision-making processes (*critical for RFOs; applicable for RPOs as needed*).

Risks to consider: When to Reconsider an Open Infrastructure

- Opaque decision-making** - No clear governance structure or transparency.
- Unexplainable AI-driven assessments** - No clarity on how AI influences rankings or funding.
- Corporate dependence** - Heavy reliance on commercial funding without sustainability plans.
- Lack of interoperability** - No PIDs, open APIs, or standard research tracking.

▶ If any of these apply, reconsider using the infrastructure.

Quick Decision Guide

- If all criteria are met:** The infrastructure is transparent, responsible, and institution-ready.
- If any are missing:** Seek alternatives that align with institutional research priorities.

Why This Checklist Matters

This checklist ensures institutions select Open Infrastructures that are:

- Transparent & Responsible** - No hidden processes or black-box AI.
- Community-Governed** - Academic-led, not commercially controlled.
- Sustainable & Future-Proof** - Financially stable and adaptable.
- Interoperable** - Works with global research standards and systems.

Use this checklist to transform your institution with Open Science and Responsible Research Assessment!

Open Systems. Shared Success. Collective Impact.  **CoARA**



CoARA

DECENTRALISED & INTERCONNECTED OIs – CONCEPTUAL ARCHITECTURE

Putting the pieces together



<https://zenodo.org/records/15487415>

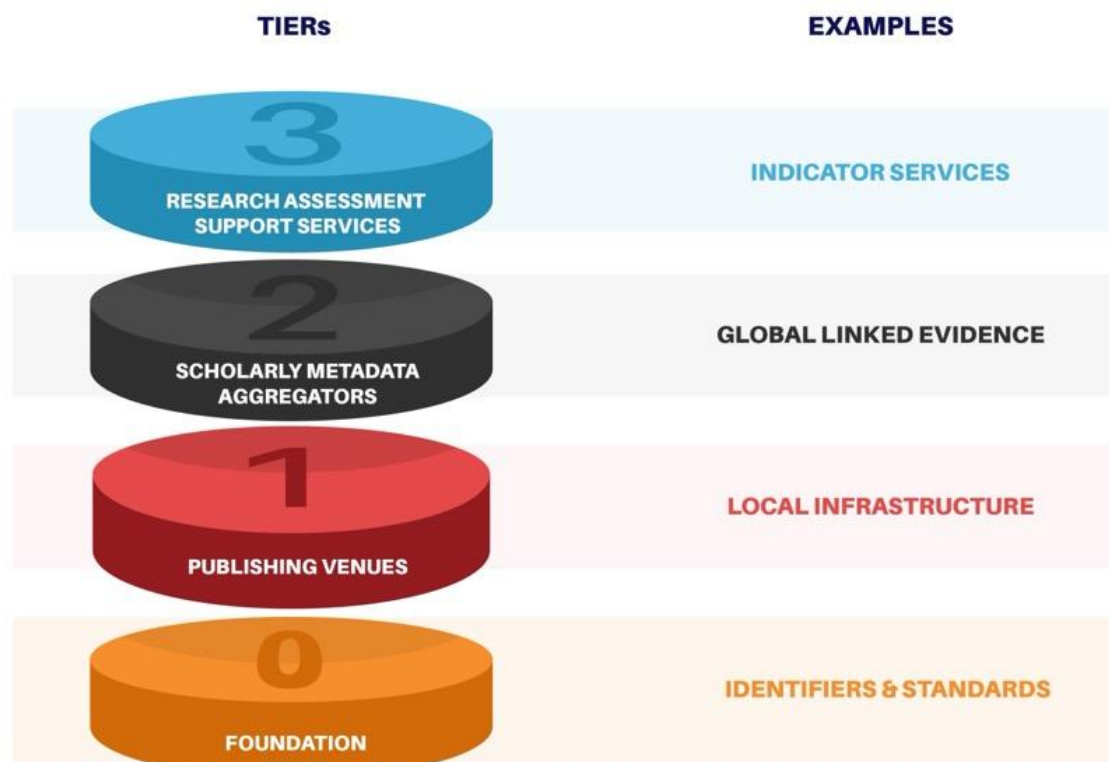
Conceptual Architecture for the Implementation of an OI fit for RRA



Decentralised & Interconnected OIs



<https://zenodo.org/records/15487415>



RPO Action Plan – Institutions Leading the Change

- Institutions are key in **capturing and curating the full range of research activities**; from software to mentoring.
- A set of actions for universities and research institutions to **align local systems with the global open ecosystem**.

 <https://zenodo.org/records/15490704>

Recommendations for RPOs



Integrate systems
with Open
Infrastructures



Improve
Metadata Quality
and Data Sharing



Broaden the
Range of
Research Outputs
You Collect



Build Capacity
and Ensure Long-
Term Support



Adopt Open
Research
Indicators



Embed Open
Infrastructure
Practices in Your
Policies

Recommendations for RFOs



Promote Open Funding Data



Integrate and Monitor Funding Outcomes



Adopt Research Indicators Responsibly



Embed OI Requirements in Funding Policies



Support Local Infrastructure Development



Foster Capacity Building and Collaboration

Why Trust Breaks: Barriers in Today's CRIS Landscape

- **Siloed Systems:** CRIS, repositories, and metrics tools don't talk, creating duplication and data gaps.
- **Over-reliance on Prestige Metrics:** Rankings and impact factors still dominate evaluation practices.
- **Incomplete Records:** Most CRIS overlook vital contributions; mentoring, peer review, data, software.
- **Lack of Capacity:** Institutions lack trained staff for metadata stewardship and open workflows.
- **Researcher Anxiety:** Fear that moving away from traditional metrics will harm careers.

“Disjointed CRIS, repository, and metrics systems continue to impede progress towards open infrastructures for responsible research assessment.”

OI4RRA WG report on: Transitioning to Open Infrastructures for Responsible Research Assessment: Barriers, Enablers, and Strategic Recommendations

Building Trust by Design: Strengthening CRIS as Enablers of RRA

- **Interconnection:** CRIS to operate as part of an open, interoperable ecosystem
- **Representation:** CRIS to reflect the breadth of research contributions
- **Stewardship:** Trustworthy systems depend on skilled people
- **Alignment:** Institutional processes should apply CoARA principles and recognize diverse contributions.
- **Governance:** CRIS to be ethically governed, community-led, and transparent → **Infrastructure must serve public knowledge, not proprietary control.**

Getting to Know OpenAIRE AMKE

Getting to know OpenAIRE

55

members

36

countries

- Non-profit **European infrastructure** for Open Science
- Operates **services** that support sharing, discovery, monitoring, and reuse of research outputs
- Manages one of the largest **open scholarly graphs** in the world (400+ million records)
- Bridges **research, innovation, and policy** with trusted data services
- **Federated**. Bringing together **human capital** and advanced **ICT services**.
- A **network of experts** from major national organisations (National Open Access Desks)

Open Membership!
Join us

Global Collaborations: Latin America, Canada, Japan, Korea, China,...

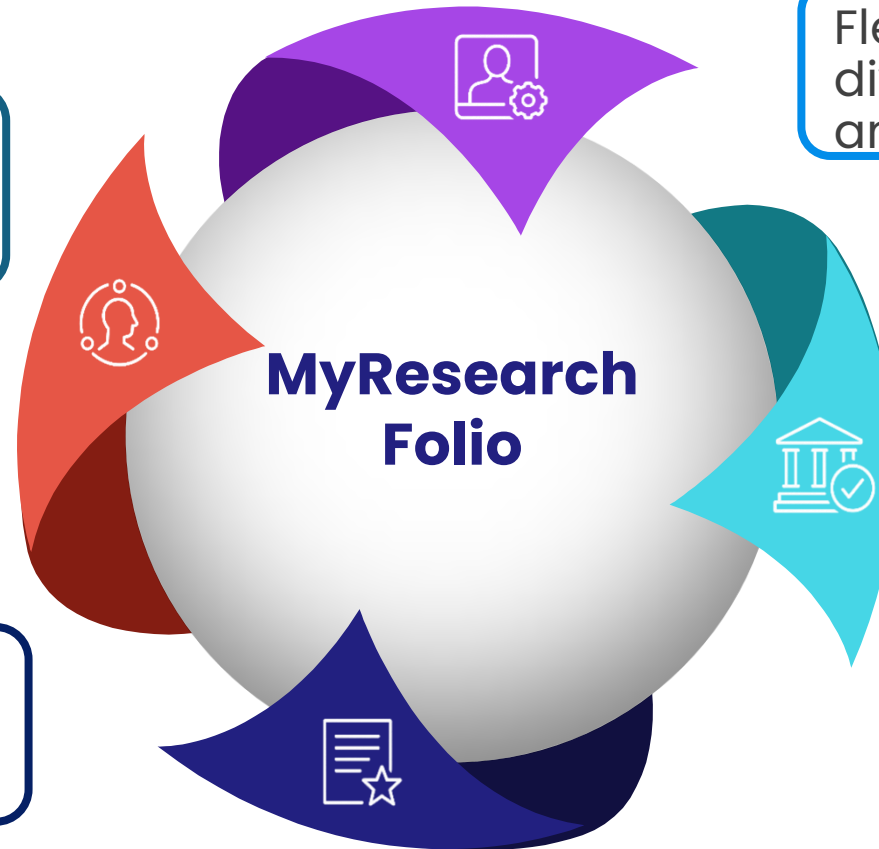
A Comprehensive Framework for building a **Researcher Profile**

HOLISTIC

Provide a comprehensive view of a researcher's capabilities, skills, impact

EXTENSIVE IN SCOPE

Capture a researcher's full range of contributions, not just traditional publication metrics



CUSTOMIZABLE

Flexible to accommodate diverse researcher needs and contexts

ALIGNED WITH REFORMS

Support the implementation of Open Science and responsible research assessment



THANK YOU!

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