

**PUBLIC CONSULTATION**  
**OPEN INFRASTRUCTURES FOR**  
**RESPONSIBLE RESEARCH ASSESSMENT:**  
**PRINCIPLES & FRAMEWORK**

18 & 27 Feb. 2025

**WEBINAR**

**NATALIA MANOLA, OPENAIRE**

# Housekeeping notes

01

The session will be recorded.

The Q&A will be recorded but not disseminated.

02

Please keep your **microphones** & **cameras** off during the presentations.

03

Make sure you add your **name** & **affiliation** and briefly introduce yourself via the chat option.

04

Feel free to unmute & turn your camera on to join the discussion during the Q&A!

## — Webinar – What it's about

- Presenting the case of Open Infrastructures in Responsible Research Assessment
- Presenting the framework
- Gathering public feedback

# — CoARA Vision

The assessment of research, researchers and research organisations **recognises the diverse outputs, practices and activities** that maximise the quality and impact of research.

This requires basing assessment primarily on **qualitative judgement**, for which **peer review is central**, supported by **responsible use of quantitative indicators**.

**724 organisations** have joined the Coalition  
*(as of February 2025)*

# 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.

80  
members

43  
organisations

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

# OI4RRA's outputs

1

**Principles and  
characteristics for  
OI fit for RRA**

2

**Case studies of  
institutions  
transitioning to  
OA**

3

**Interviews to  
find out the  
barriers &  
enablers**

4

**Conceptual reference  
architecture of  
infrastructure  
components and  
how they link to  
institutions**

5

**Specifications to  
allow the  
community to  
describe OI in a  
concrete &  
informative way**

## Two Subgroups

1

Unveil the **social motives** behind transitioning from closed infrastructures to OI.

**Target group:** Decision-makers, research executives in Research Performing and Funding Organisations, to advocate the use of open infrastructures.

---

Iryna Kuchma, IEFL

2

Champion the co-development and co-investment of OI for RRA.

**Target group:** Research executives to understand the critical components of the OI and how they can co-develop & co-invest from their institutional infrastructure.

---

Thanasis Vergoulis, Athena Research Center



**CoARA** | OI4RRA WG

# THE CASE FOR OPEN INFRASTRUCTURES

Why





## THE PARADOX

We **invest** in Open Infrastructures for Research,  
Yet we **rely** on Closed Systems for Research Assessment

Total amount of financial investments in  
EOSC and Open Science in 2022 (in  
millions of Euro)

**479.13 M**

# The Emerging Research Environment

## Facts



### Data-Driven Science

Harnessing the omnipresence of data for research



### Open Science

Empowering collaboration and fostering innovation



### Multi-disciplinarity

Addressing complex societal challenges through cross-disciplinary efforts



### AI at the Forefront

Leveraging cutting-edge research software, models, machine learning



### Interconnected everything

Bridging research, industry, public sector, and society

# The **Emerging** Research Infrastructure Ecosystem

## Open Infrastructures to the rescue

**Research Diversity:** Publications, data, software, models, methods, and other research outputs

**Community-Centered:** Embedding community knowledge and practices to ensure relevance

**Interoperability:** Designed to integrate seamlessly as part of institutional, national, or global research infrastructure ecosystems

**Cost Efficiency:** Complementing institutional investments while minimizing redundancy

**Equity and Inclusion:** Ensuring fair and inclusive access for all stakeholders

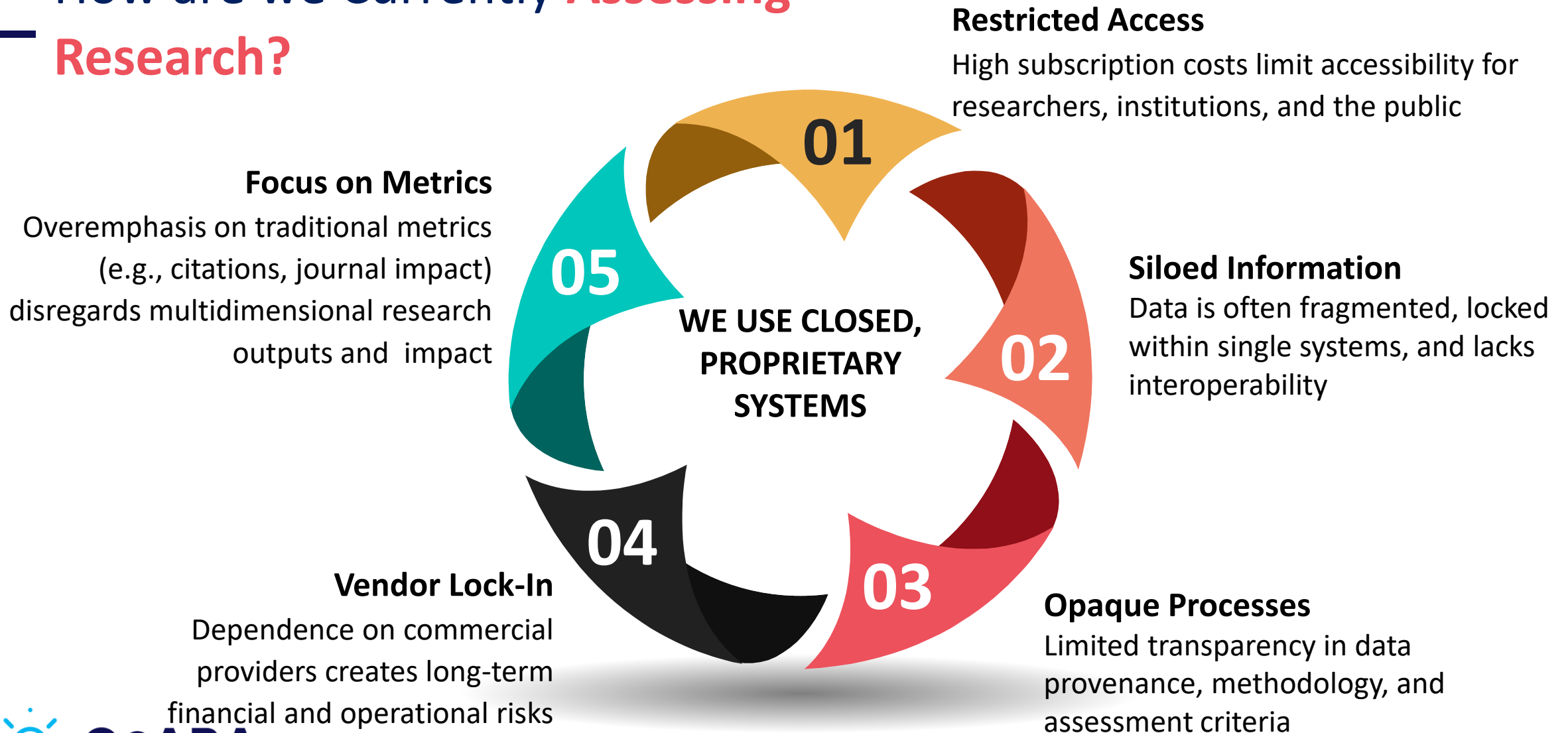
**Sustainability:** Built with open standards to ensure long-term usability

**Global Collaboration:** Facilitating interconnected research efforts

Total amount of financial investments in EOSC and Open Science in 2022 (in millions of Euro)

**479.13 M**

# How are we Currently **Assessing Research?**



# Navigating the Roadblocks: Challenges in **Sustaining, Scaling & Adopting** Open Infrastructures for Research Assessment

## Technical Complexity

Managing sophisticated technological frameworks and large-scale data ecosystems

## Sustainable Funding

Securing continuous funding for development, maintenance, operation and evolution

## Quality & Trust

Maintaining high-quality data, tools, and services while meeting the rigorous demands

## Resistance to Change

Convincing users to transition from proprietary systems to open alternatives



# 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/14844582>

# OI4RRA – Principles and characteristics

Starting from existing, international Initiatives

**POSI**  
The Principles of  
Open Scholarly  
Infrastructure



**FOREST Framework**  
for Values-Driven Scholarly  
Communication

Sarah Lippincott and Katherine Skinner



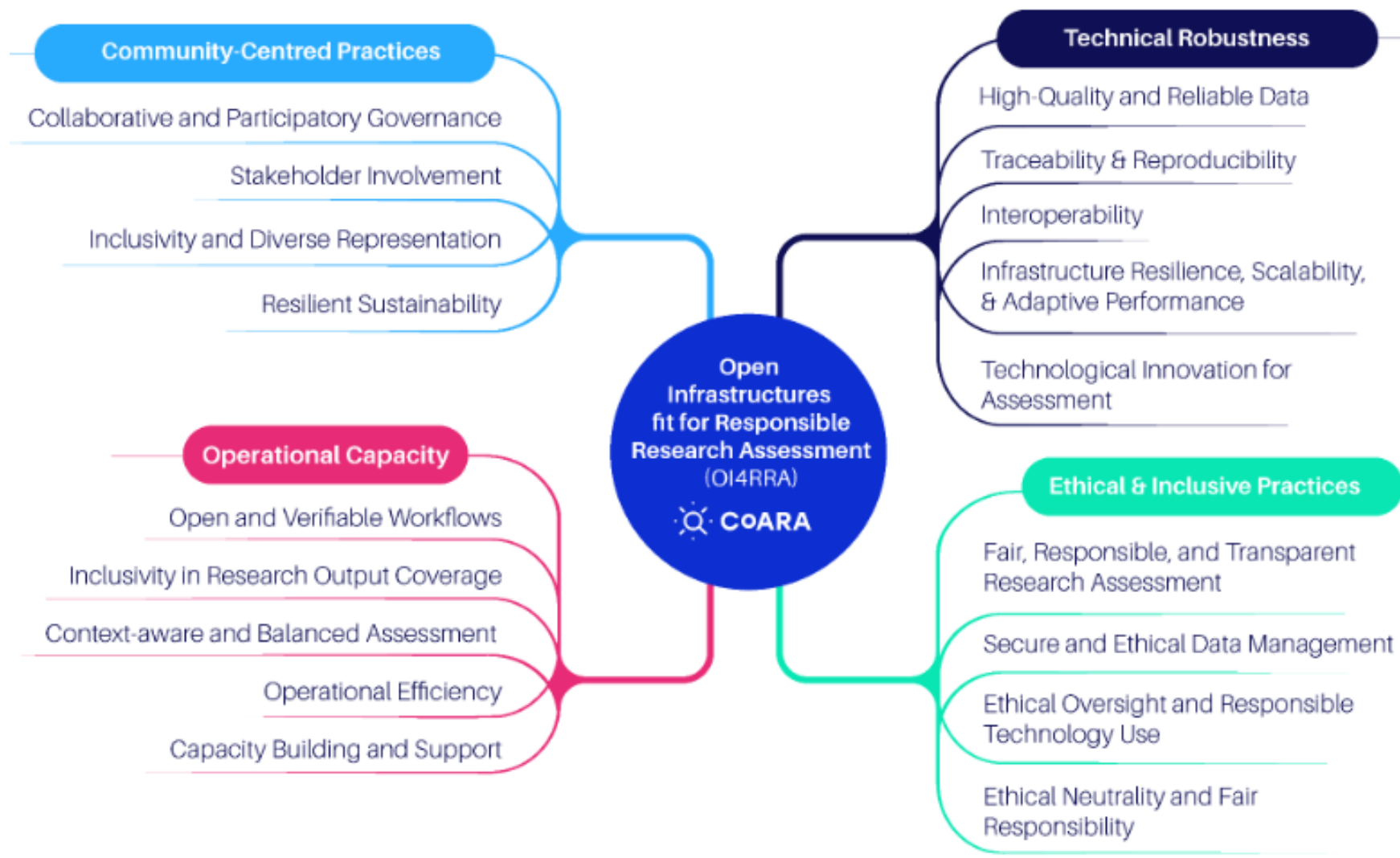
**BARCELONA  
DECLARATION ON  
OPEN RESEARCH  
INFORMATION**

	TRUST	FOREST	CARE	POSI	EU OS Infra landscape	Barcelona DORI	UNESCO Principles	ROSIE	SRIA EOSC
Community Governance	x	x	x	x	x	x		x	x
Transparency	x	x			x	x	x	x	x
Openness		x		x	x	x		x	x
Sustainability	x	x		x		x			x
Inclusion			x			x	x	x	x
FAIR Data			x		x		x	x	x
Equity		x	x					x	x
Responsibility	x		x				x	x	x
Diversity						x		x	x
Innovation			x						x
Adaptability							x		

- **Community Governance**
- **Openness & Transparency**
- **Sustainability**
- **Inclusion & Diversity**
- **FAIR & Reproducibility**
- **Equity**
- **Innovation & Adaptability**



# Core Principles of Open Infrastructures for Responsible Research Assessment



# Technical Robustness

1

## Data Integrity

Accuracy,  
Consistency, and  
Coverage

Validation  
Mechanisms

Data Reliability  
and Trustworthiness

2

## Traceability & Reproducibility

Data Lineage and  
Processing History

Version Control for  
Transparency

Audit Trails and  
Verifiable  
Workflows

3

## Interoperability

Open Standards  
Persistent Identifiers  
APIs and Protocols

4

## Infrastructure Resilience, Scalability, Performance

Fault Tolerance &  
Redundancy

Performance &  
Elastic scalability to  
Demand

Workflow  
adaptation

Future Needs  
anticipation &  
Flexibility

5

## Technological Innovation for Assessment

Open/Explainable  
Artificial  
Intelligence (XAI)

Open Natural  
Language  
Processing (NLP)

# Operational Capacity

1

## Open & Verifiable Workflows

- Documentation
- Explainability in Algorithmic Decisions
- Facilitation of Independent Audits

2

## Inclusivity in Research Output Coverage

- Inclusivity of Outputs
- Recognition of Non-Traditional Contributions
- Diverse Research Practices

3

## Context-aware and Balanced Assessment

- Customization and Local Adaptation
- Diverse Use Cases & Assessment Scenarios
- Qualitative / Quantitative Evidence
- Comprehensive & Flexible Frameworks

4

## Operational Efficiency

- Streamlined Workflows
- Automation
- User-Friendly Interfaces

5

## Capacity Building and Support

- Training Programs
- Support Networks
- Skill Development

# Community-Centered Practices

1

## Collaborative, Participatory Governance

- Inclusive Decision-Making
- Transparent Policies
- Community Oversight

2

## Stakeholder Involvement

- Co-Creation Processes
- Feedback Mechanisms
- Outreach and Awareness

3

## Equity, Accessibility, & Diverse Representation

- Diverse Participation
- Multilingual and Multicultural Support
- Contextual Adaptability

4

## Resilient Sustainability

- Robust & Diverse Funding Models
- Long-Term Planning
- Independent Operations

# Ethical and Inclusive Practices

1

## Fair, Responsible, & Transparent Research Assessment

- Transparency in Metrics
- Contextualized & Nuanced Evaluations
- Version Control for Traceability / Accountability
- Verification & Ethical Compliance Mechanisms

2

## Secure and Ethical Data Management

- Compliance with Regulations
- Identity protection through Anonymization and Aggregation
- Role-Based Access and Security Controls

3

## Ethical Oversight and Responsible Technology Use

- Transparent & Explainable Decision-Making
- Ethical Audits & Bias Mitigation Reviews
- Stakeholder Feedback and Redress Mechanisms
- Human Oversight in AI-Driven Decisions

4

## Ethical Neutrality and Fair Responsibility

- Impartiality in Operations
- Promotion of Fair Practices
- Accountability and Ethical Oversight



# THE PRINCIPLES & CHARACTERISTICS

## How

Toolkit for different stakeholders – coming

- Checklist for RPOs / RFOs
- Checklist for Infrastructure providers

## Call to Action: Your Input on the Policy Report

**Step 1:** Review the Document available on **Zenodo**

<https://zenodo.org/records/14844582>

**Step 2:** Fill out the evaluation form available here:

<https://forms.gle/Uk13mp7ESyB4AjFz7>

Really important for the future of OIs!

## Q&A Session