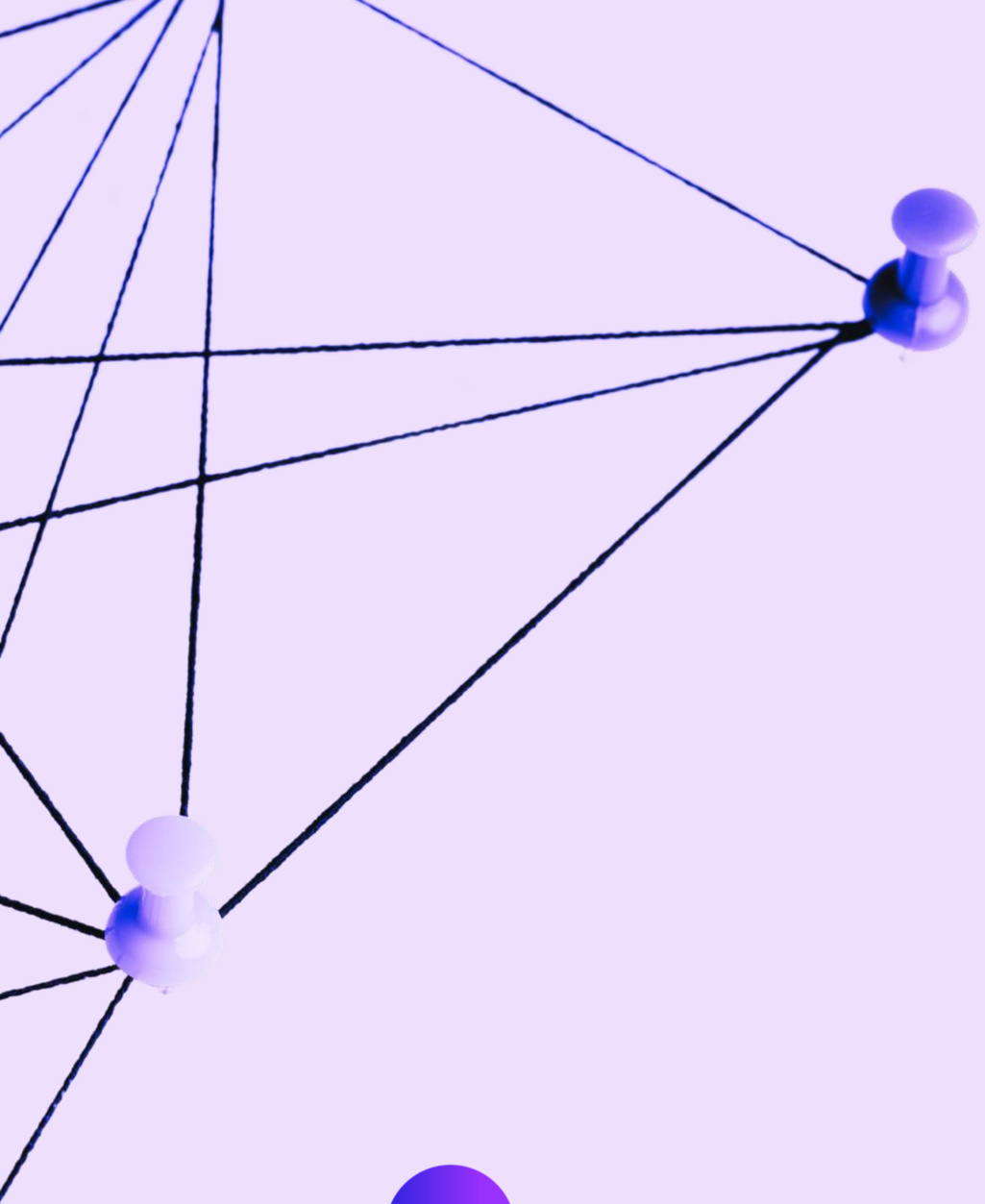


OpenCitations as a community-based open scholarly infrastructure and its recent steps towards sustainability

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RESEARCH CENTRE
FOR OPEN SCHOLARLY METADATA

OpenCitations

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DEPARTMENT OF CLASSICAL PHILOLOGY
AND ITALIAN STUDIES

PUBMET2026

CC BY

What is an open citation

A **bibliographic citation** is a conceptual directional link from a citing entity to a cited entity, for the purpose of acknowledging or ascribing credit for the contribution made by the author(s) of the cited entity - which is defined by including a bibliographic reference in the citing article reference list and by denoting it using an in-text reference pointer (e.g. “[3]” or “(Doe et al., 2021)”)

The **citation data** related to a particular citation must include:
- the *representation* of such a conceptual directional link
- the *basic metadata* of the citing entity and the cited entity, i.e. sufficient information to create or retrieve textual bibliographic references for each of the entities

A bibliographic citation is an open citation when the data needed to define the citation are **structured**, **separated**, **open**, **identifiable** and **available**.

The open availability of bibliographic citation data is a crucial requirement for the bibliometrics and scientometrics domain for the creation of reproducible metrics for research assessment exercises.

Why OpenCitations exists

OpenCitations is a community-guided open science infrastructure established in 2010 with the mission to harvest and openly publish accurate and comprehensive metadata describing the world's academic publications and the scholarly citations that link them and to preserve ongoing access to this information.

OpenCitations' mission is defined in a public document as follows:

"The mission of OpenCitations is **to harvest and openly publish accurate and comprehensive metadata describing the world's academic publications and the scholarly citations that link them**, and to preserve ongoing access to this information by secure archiving. We provide this information, both in human-readable form and in interoperable machine-readable Linked Open Data formats, **under open licenses at zero cost and without restriction for third-party analysis and re-use.**"

Peroni, Silvio, & Shotton, David. (2022). OpenCitations Mission Statement. Zenodo. https://doi.org/10.5281/zenodo.6976670

Our services

OpenCitations Meta is a database that stores and delivers bibliographic **metadata** for all publications involved in the OpenCitations Index – every entity in OpenCitations Meta is assigned a persistent internal identifier called OpenCitations Meta Identifier (OMID).

OpenCitations Index is a collection recording citations between bibliographic resources – **citations** are treated as first-class data entities and are identified by an Open Citation Identifier (OCI).

As of September 2026, OpenCitations' data sources are

Crossref

DataCite
FIND, ACCESS, AND REUSE DATA

NIH
National Institutes of Health

OpenAIRE

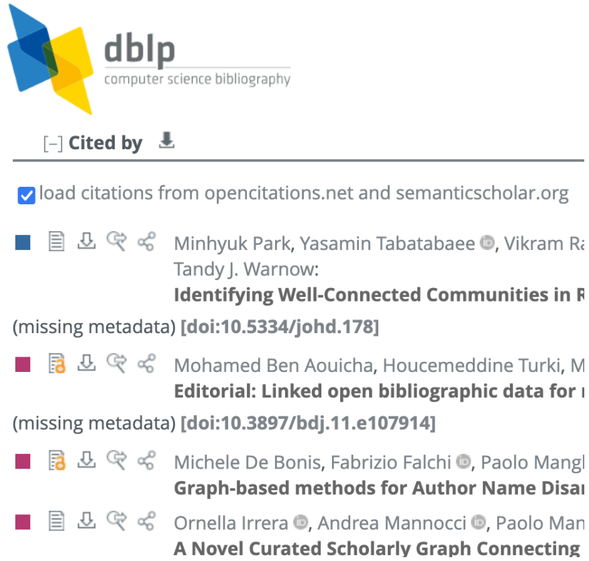
Japan Link Center

MATILDA

OUTCITE

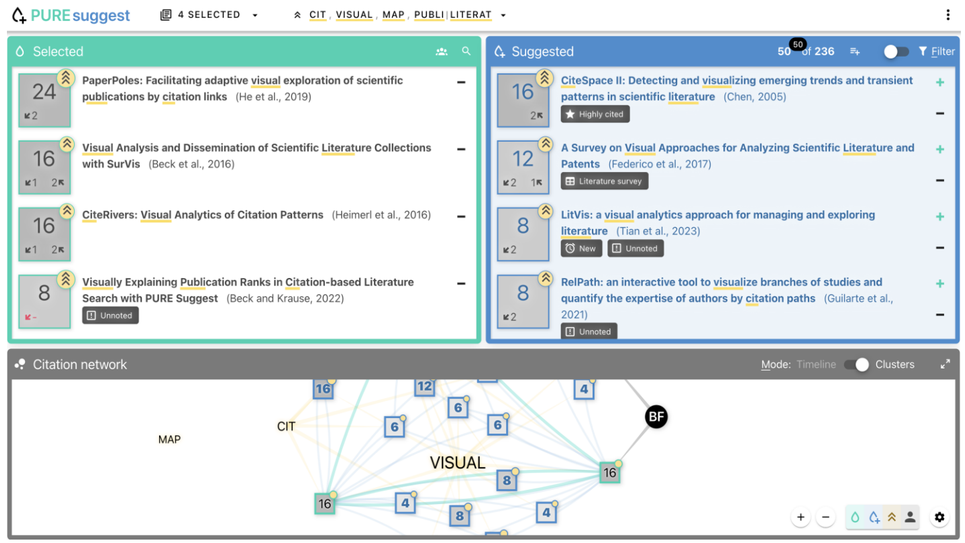
The last dump of OpenCitations Index (July 2026) contains more than 2.5 BILLION citations

Some of our users



https://cherry.chem.bg.ac.rs/handle/123456789/2135





https://fabian-beck.github.io/pure-suggest/

OpenAIRE GoTriple

OPENCITATIONS

Two (not-questionable) pillars

OPENNESS

OpenCitations' main priority is to keep its services, software and data always without charge under open licenses (CC0 for data ISC for software) for fostering maximum reuse.

COMMUNITY

OpenCitations will be always free for the global community. Indeed, OpenCitations works for the community and with the community as a community-based and community-guided open science infrastructure.

A brief history of our sustainability path



2010

OpenCitations starts in **2010** as a one-year grant-funded project at the University of Oxford.

2015

OpenCitations "enters" in the **University of Bologna** with the first implementation of the OpenCitations Data Model, hosted by Department of Computer Science and Engineering.

2019

OpenCitations is selected by the **Global Sustainability Coalition for Open Science Services (SCOSS)** for its second funding round.

2020-2025

OpenCitations is hosted by the Research Centre for Open Scholarly Metadata at the University of Bologna and relies on the **community support** from its members and donors.

2026

OpenCitations, in collaboration with the International Advisory Board and the University of Bologna Legal Offices, develops its **Governance Evolution and a new Membership Program**.

With the first steps comes the first assessment

In the context of the SCOSS selection for its second funding round (2019-2023), we developed

- a first sustainability model based on **three different levels of membership**, complemented by unrestricted donations from institutions, project-based grants, and in-kind support from the University of Bologna;
- a **community-based governance model**, with two Directors and a Council composed of OpenCitations members. The Council elects an International Advisory Board, which provides strategic guidance and support to the technical and administrative teams.

In 2021, we submitted OpenCitations to its **first POSI assessment**. The Principles of Open Scholarly Infrastructure (POSI) provide a set of guidelines for running and sustaining open scholarly infrastructure organizations and initiatives that support the research community, with a particular focus on three key areas: **Governance, Sustainability, and Insurance.**



Insurance

Infrastructure must be fully replicable through open-source software, accessible data, and patent non-assertion policies.

Governance

Governance must be stakeholder-driven, transparent, non-discriminatory, and mission-focused.

Sustainability

Sustainability requires stable revenue sources, financial reserves, and mission-consistent income based on services rather than data monetization.

Bilder G, Lin J, Neylon C (2020), The Principles of Open Scholarly Infrastructure, https://doi.org/10.24343/C34W2H

Outcomes from the 2021 POSI Assessment

Governance

●	Coverage across the research enterprise	We gather citations from global scholarship
●	Stakeholder governed	Advisory board currently lacks executive power and is not elected
●	Non-discriminatory membership	Membership open to all those espousing open science
●	Transparent operations	Everything is open
●	Cannot lobby	OpenCitations lobbies to achieve open scholarly citations and bibliographic metadata; it does not engage in political or financial lobbying
●	Living will	Since all our data open, others can recreate our service
●	Formal incentives to fulfill mission & wind-down	No formal plan for wind-down has yet been drawn up

Sustainability

●	Time-limited funds used only for time-limited activities	Grant income should be used solely for grant projects
●	Goal to generate surplus	Goal not yet realized – income so far too limited
●	Goal to create contingency fund to support operations for 12 months	Goal not yet realized – income so far too limited
●	Mission-consistent revenue generation	Membership fees and solicited donations
●	Revenue based on services, not data	All data and services freely given to community, and thus do not generate income

Insurance

●	Open source	All software under open source licenses
●	Open data	All data available under CC0 waiver
●	Available data	All data available via REST APIs, SPARQL endpoints, query interfaces and data dumps
●	Patent non-assertion	We will not patent anything: OpenCitations' infrastructure is free to replicate

Three critical aspects emerged:

1. Stakeholder integration into governance

Ensuring that key stakeholders are meaningfully represented and involved in decision-making processes.

2. Continuity of operations and wind-down

Ensuring operational continuity while preparing a clear and responsible wind-down strategy if the infrastructure can no longer be sustained.

3. Long-term sustainability plan

Strengthening the financial and organizational foundations needed to sustain OpenCitations over the long term.

[..]the principles by which assets, data, resources, services, and staff would be responsibly transferred to a successor or the organization or service wound down.

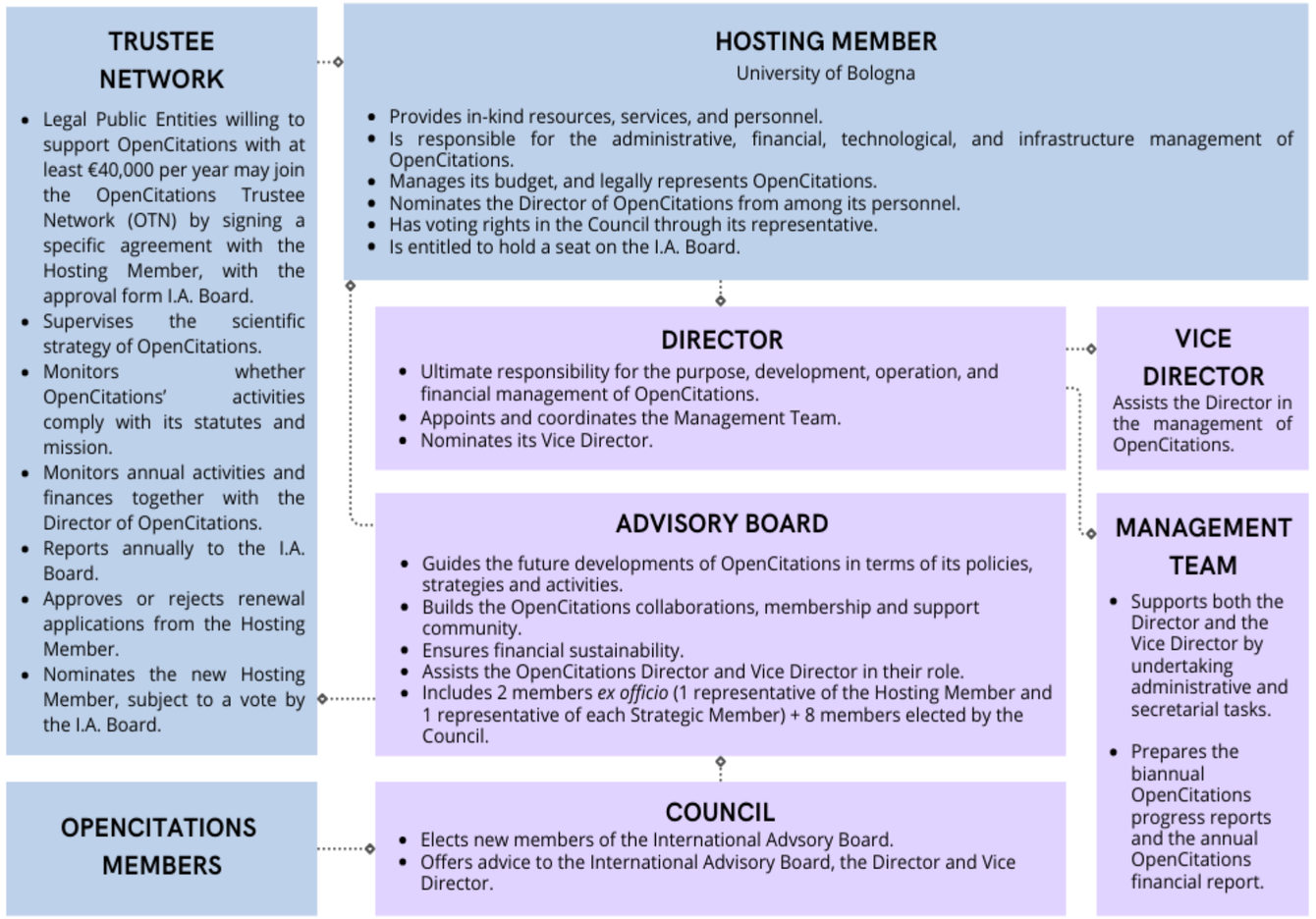
\+ Intention to further implement the **Living Will**, in parallel with the development of a strategy to fulfil the mission in the event of a wind-down

Working on the critical aspects: Governance Evolution

Over the past few years, the OpenCitations management team, together with a dedicated International Advisory Board working group and the University of Bologna Legal Office, has worked to address key gaps in the existing sustainability model. This process resulted in the new governance framework shared in 2026. Two of the major innovations introduced by the new governance model are:

- **Formal recognition of the University of Bologna:** the University is formally integrated as a Hosting Member, recognising its institutional and infrastructural support for OpenCitations and strengthening the stability of its organisational framework.

- **Establishment of a Trustee Network:** open to public bodies and non-profit organisations committed to Open Science, the Network helps safeguard OpenCitations' independence and reducing its reliance on individual bodies. It also supports continuity by providing a transparent framework for the potential transfer of the infrastructure if the University of Bologna were to discontinue its support, through the proposal of a new Hosting Member.



Chiara Di Giambattista (February 16, 2026). Growing in complexity: why OpenCitations needed a new Governance Model. *OpenCitations blog*. Retrieved August 23, 2026 from https://doi.org/10.58079/15p8z

1. Stakeholder integration into governance ✓
2. Continuity of operations and wind-down ✓
3. Long-term sustainability plan

A new membership plan for improving sustainability

As part of the revised governance framework, the **membership plan** was also restructured as follows:

- **Two yearly membership levels:**
  *- **Strategic Members** for stronger contributions to the long-term sustainability and strategic direction of OpenCitations;*
  *- **Supporting Members** for financial contributions aligned with members' capacity and interest.*
- **Two-year commitment (minimum) for the members of the Trustee Network**.
- **University of Bologna as in-kind hosting member:** formal recognition of its contribution through institutional hosting.
- Unrestricted **donations are no longer included** as a mechanism for supporting OpenCitations.

→ **Sustainability impact:** a more predictable and diversified support base, reducing reliance on time-limited grants and strengthening OpenCitations' capacity to sustain its infrastructure and mission over time.

1. Stakeholder integration into governance ✓
2. Continuity of operations and wind-down ✓
3. Long-term sustainability plan ✓

Further implementing the Living Will

A distinctive feature since OpenCitations' foundation has always been that its data are openly licensed under **CC0**, and its software is **open source**, making the infrastructure replicable by others.
In recent years, we have further strengthened this principle at two levels:

- **Governance, facilitating handover:** the **Trustee Network** provides a mechanism for continuity, with the ability to appoint new Hosting Members to physically and administratively host the infrastructure if needed.

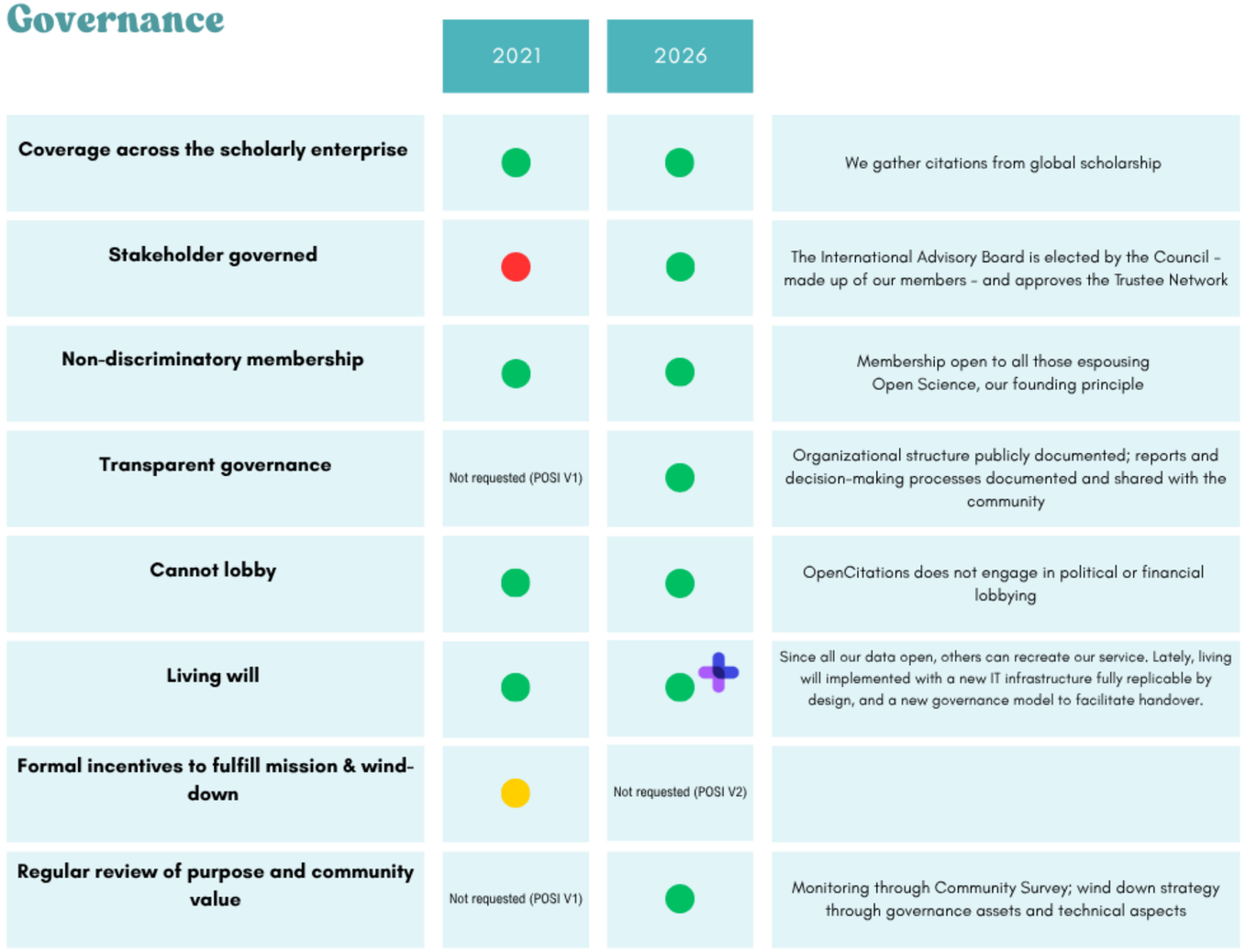
- **Technical, enabling replication:** our **Kubernetes-based infrastructure** provides reliability, scalability, and simplified operations, making the technical infrastructure easier to replicate and deploy by other potential hosts.

For more details about OpenCitations' Kubernetes-based approach



The 2026 POSI Assessment: what changed?

Following the release of **POSI v2 in November 2025**, and considering the governance, sustainability, and technical developments achieved by OpenCitations in recent years, we conducted a new **POSI assessment in April 2026**, following the updated guidelines. The assessment highlights significant progress, particularly in the areas discussed above, while also identifying a few aspects requiring further clarification within the new governance framework. **Work is already underway to address these points, with the remaining areas of concern expected to be resolved soon.**



Governance	2021	2026	
Coverage across the scholarly enterprise	●	●	We gather citations from global scholarship
Stakeholder governed	●	●	The International Advisory Board is elected by the Council - made up of our members - and approves the Trustee Network
Non-discriminatory membership	●	●	Membership open to all those espousing Open Science, our founding principle
Transparent governance	Not requested (POSI V1)	●	Organizational structure publicly documented; reports and decision-making processes documented and shared with the community
Cannot lobby	●	●	OpenCitations does not engage in political or financial lobbying
Living will	●	●	Since all our data open, others can recreate our service. Lately, living will implemented with a new IT infrastructure fully replicable by design, and a new governance model to facilitate handover.
Formal incentives to fulfill mission & wind-down	●	Not requested (POSI V2)	
Regular review of purpose and community value	Not requested (POSI V1)	●	Monitoring through Community Survey; wind down strategy through governance assets and technical aspects

Continues in the next slide…

Sustainability

	2021	2026	
Transparent operations	🟢	🟢	Financial reports, roadmap, mission statement, sustainability model and fees, operational policies openly available.
Time-limited funds used only for time-limited activities	🟢	🟢	Grant income is used solely for grant projects
Goal to generate surplus	🟡	🟢	Capability beyond the immediate operating costs
Goal to create contingency fund to support operations for 12 months	🟡	Not requested (POSI V2)	
Establish and maintain financial reserves guided by policy	Not requested (POSI V1)	🔴	No formal Financial Reserves Policy is in place; however, currently under development.
Mission-consistent revenue generation	🟢	🟢	Membership fees
Revenue based on services, not data	🟢	🟢	All data and services are freely given to community, and thus do not generate income
Volunteer labour	Not requested (POSI V1)	🟡	Membership of the I.A. Board is honorary and carries no remuneration. To be formalized in a Financial Policy document.
Transition planning	Not requested (POSI V1)	🟡	Partially available: governance structure ready, lack of operational documentation for individual roles

Insurance

	2021	2026	
Open source	🟢	🟢	All software under open source licenses
Open data	🟢	🟢	All data available under CC0 waiver
Available data	🟢	🟢	All data available via REST APIs, SPARQL endpoints, query interfaces and data dumps
Patent non-assertion	🟢	🟢	We will not patent anything: OpenCitations' infrastructure is free to replicate
Prioritise interoperability and open standards to ensure continuity and resilience	Not requested (POSI V1)	🟢	Infrastructure redesign as a container-based solution

Chiara Di Giambattista (April 24, 2026). OpenCitations' renewed compliance with the Principles of Open Scholarly Infrastructure (April 2026). *OpenCitations blog*. Retrieved August 25, 2026 from https://doi.org/10.58079/164qi

A community-based and community-guided infrastructure

OpenCitations exists thanks to the community and for the community. Part of our mission, and the reason we exist, is to serve the needs of the research ecosystem: this is why we are continuing to strengthen our governance, enhance our sustainability, and improve our services.



We will exist as long as the community we serve will need us.

WE ASKED THE COMMUNITY, AND THE COMMUNITY ANSWERED

Between October and December 2025, we conducted a Community Survey to help guide the future direction of OpenCitations by gathering feedback from (current and potential) users.
An internal evaluation followed to define priorities for the coming months:

- Prioritize data expansion→ increase citation coverage
- Strengthen the backend infrastructure role → optimize for reuse by other infrastructures

Scan the QR code and read the results' report

OPENCITATIONS

A worldwide community

PARTER PROJECTS

OpenCitations collaborates with a wide network of **Open Science Infrastructures and organizations** and is involved in communities focusing on the creation of a more equal and open research environment. It is also included in several **catalogues**, including the EOSC Italian Node, Infra Finder, JISC License subscription manager and OpenAIRE service catalogue.

A GLOBAL SUPPORT

In the past 5 years, more than 80 institutions* from 14 countries have supported OpenCitations through our membership and donation program.



*includes the individual institutions involved in consortia

OPENCITATIONS

Advocating the Open

The University of Bologna's personnel working at OpenCitations is part of the CoARA Working Group Towards Open Infrastructures for Responsible Research Assessment (OI4RRA), which started its activities in 2024 with the mission **"to enable institutions to move from proprietary infrastructure and research information, to open alternatives–in support of the transition to responsible research assessment practices".**





OpenCitations supports the Barcelona Declaration on Open Research Information, an initiative launched in April 2024 as a response to the urgency **for a fundamental change in the research information landscape towards openness.**

Institutions from all over the world are signing the Declaration and committing to taking a lead in transforming the way research information is used and produced, to make the openness of information about the conduct and communication of research the new norm.

OpenCitations works for the community and with the community.















How to get involved?

- **Shared advocacy**
  Join and amplify our advocacy for open citations and open scholarly metadata, through initiatives such as the **Initiative for Open Citations (I4OC)** and the **Initiative for Open Abstracts (I4OA)**
- **Direct support**
  Support OpenCitations through **membership.**

Why to support OpenCitations?

OpenCitations relies on the day-by-day work of a team of young researchers and developers, and its would not be possible without the effort and dedication of people and institutions who have espoused the cause.

While the new governance and membership framework now provides the **structures and mechanisms to move towards financial sustainability in the medium term**, OpenCitations will never rely on selling data or services. Its sustainability therefore depends on **continued and long-term institutional support**, primarily through the membership programme.

There is a strong need from the community to help covering the costs of the technical management of the infrastructure and of the personnel working at OpenCitations.
More info about our membership programme at: https://opencitations.net/membership

OPENCITATIONS

Join us at the Workshop on Open Citations and Open Scholarly Metadata 2027

OpenCitations organizes the biannual **Workshop on Open Citations & Open Scholarly Metadata (WOOC)**. The next edition will be held **in Bologna on 27-28 May 2027**.

Since 2018, WOOC is a gathering for researchers, scholarly publishers, funders, policymakers, institutions, and open-citations advocates interested in the widespread adoption of practices for creating, sharing, reusing, and improving open scholarly metadata.



Visit the website and don't miss the upcoming call for participation and contributions

The theme for WOOC 2027, as well as the call for sponsors, participation and contributions will be announced soon on the WOOC website and OpenCitations social media channels.

Thank you!

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