

University of Groningen

**Barcelona Declaration on Open Research Information
Implementation Plan**

January 2026

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Background

Many universities work with platforms such as Web of Science, Scopus and various university ranking systems. These tools provide data and indicators that are used in research assessment and strategic decision-making. Universities, departments, research managers and individual scholars engage with these systems to varying degrees. Some rely on them extensively, while others use them more cautiously, but nearly everyone in academia interacts with them in some form.

However, the majority of research information¹ that these are based on is currently locked inside proprietary infrastructures. This raises a concern central to the Barcelona Declaration on Open Research Information: many widely used research indicators lack **transparency, reproducibility, local relevance and institutional control**. As emphasized in the Declaration's [preamble](#), the methods used to generate these indicators are often opaque because the underlying algorithms are proprietary and not openly disclosed. Because they rely on closed, proprietary metadata with restrictions on reuse, their results generally cannot be independently reproduced, limiting verification or critical evaluation. Moreover, indicators frequently only partially reflect the missions, contexts and strategic goals of individual institutions, limiting their usefulness for locally grounded decision-making. When key academic decisions depend on data and systems that institutions neither own nor manage, this can pose constraints to their autonomy in shaping research and academic strategies.

In short, the Barcelona Declaration identifies a fundamental issue: much of the research information that supports decision-making in academia is locked inside closed systems. This reliance creates barriers to **open science** and compels us to use **black-box indicators** in evaluating research, careers and funding. The issue, therefore, is not the use of indicators per se, but the reliance on indicators that are neither transparent nor reproducible.

To align research assessment with the principles of openness, transparency and accountability, the **Barcelona Declaration** calls for a global shift toward open research information. It invites all organizations that conduct, fund, or evaluate research to actively support this transition and to uphold the four core commitments of the Declaration, which are as follows:

1. *We will make openness the default for the research information we use and produce*
2. *We will work with services and systems that support and enable open research information*
3. *We will support the sustainability of infrastructures for open research information*
4. *We will support collective action to accelerate the transition to openness of research information*

Key Terms and Frequently Asked Questions

For further information and definitions of key terms such as metadata, research information and open infrastructures, see [Glossary and FAQs](#).

¹ Research information (sometimes referred to as metadata) is information relating to the conduct and communication of research. This includes, but is not limited to, (1) bibliographic metadata such as titles, abstracts, references, author data, affiliation data, and data on publication venues, (2) metadata on research software, research data, samples, and instruments, (3) information on funding and grants, and (4) information on organizations and research contributors. Research information is located in systems such as bibliographic databases, software archives, data repositories, and current research information systems (Source: [Barcelona Declaration](#)).

Starting point for implementation at the University of Groningen (UG)

The Barcelona Declaration on Open Research Information was drafted in December 2023 by an international group of research information specialists, including Ludo Waltman (CWTS) and Bianca Kramer (Sesame Open Science, formerly Utrecht University). The UG signed the Declaration in April 2024, joining what has since grown, by December 2025, to more than 120 signatory organizations worldwide.

The UG is committed to promoting responsible research evaluation and advancing open science. We share with other signatories the goal of supporting high-quality, transparent decision-making and recognize the urgent need to make research information openly available. Openness of research information, whether housed in community-governed or commercial databases, must become the new norm.

In the **UG Implementation Plan** that follows (hereafter, the Plan), the initial focus is on the metadata of scientific publications and other research outputs produced by UG researchers (e.g. author information, affiliation, title, issue number, etc.).² In later stages, we will explore how to extend openness to other forms of research information (e.g. data on the conduct and use of research, such as citations), both in terms of tools and technical infrastructures, as well as in terms of evaluation methodologies.³

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The UG will implement the shift to open, transparent and interoperable research information and systems as part of its [Alliance for Digital Autonomy roadmap](#), the FAIR Research Information Dashboard (FRIDa) and the Open Science Programme, in close collaboration with [Research Intelligence Services](#) (RISe). The goals and criteria for this transition are defined - and will continue to be developed - through these initiatives, ensuring alignment with diverse stakeholders as well as with the broader institutional strategy.

This Plan is in line with the UG's Institutional Plan 2026-2031 and relevant policy documents including our [Responsible Research Assessment Principles](#), [CoARA Implementation Plan](#), [DORA Statement](#) and [Open Science Vision](#). The document is a living document. It will be evaluated for progress and revised after 2 years, with expected completion by 2030.

Implementation Plan Drafting Process

This document was initiated with reference to the *Barcelona Declaration on Open Research Information – Plan voor implementatie door Universiteit Leiden* (Version: 19 July 2024, Leiden University). The first draft of the UG Plan was prepared by Ane van der Leij, Head of Research and Education Support at the University Library with input from the RISe team at the University Library (UB) and R&I/TFQ within University Services.

Subsequent consultations were coordinated by Ana Ranitovic, Chief of Open Science, who consolidated and incorporated the feedback into the final version presented here:

- In spring 2025, consultations were held with the Young Academy Groningen, the Open Science Community Groningen and the Open Science Ambassadors;
- In autumn/winter 2025, input was gathered from Nick Veenstra (Research Information Specialist, FRIDa), Doetsje Brouwer (Owner and Pure Support Manager), Jules van Rooij (Senior Research Policy Adviser and Research Assessment Coordinator), Miguel Santin (Research Intelligence Policy Advisor), Margreet Nieborg (Head of the University Groningen Press) and the Alliance for Digital Autonomy.

² It is important to note that open access to research outputs falls under the domains of open access publishing and the FAIR (and, where possible, open) management of research data. These matters are related but lie outside the scope of the Barcelona Declaration.

³ At present, we rely on proprietary data sources such as Scopus to populate Pure with this type of information, but we have already begun the transition to open infrastructures such as Crossref and OpenAlex within the UG's FAIR Research Information Dashboard (FRIDa) and data warehouse, as further detailed in the Plan. In the future it may be possible, without compromising quality, to fully transition to open metadata sources. To achieve parity in quality, however, investments in open alternatives will be necessary.

Implementation Plan of the University of Groningen (January 2026)

In line with the [UG's Digital Autonomy](#) roadmap, this Implementation plan is guided by the principle that the shift to openness does not only mean replicating existing closed systems in an open format. Rather, it entails openness in process, participation and purpose, and benefits from the involvement of researchers and research managers in shaping new tools and indicators that best reflect the evolving research assessment landscape and the quality, impact and integrity of their work. Our research intelligence and quality assurance processes have always been developed in collaboration with researchers and research managers, therefore, in the implementation of this Plan we will continue to actively maintain close collaborations with stakeholders to ensure that the transition to open research information is both practical and beneficial for the diverse needs of the academic community.

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What follows is an overview of the steps that the UG will take to implement each of the four commitments (and the corresponding sub-commitments) of the [Barcelona Declaration on Open Research Information](#).

1. We will make openness the default for the research information we use and produce

1.1. Openness will be the norm for the research information we use, for instance to assess researchers and institutions, to support strategic decision making, and to find relevant research outputs.

Bibliometric indicators often play a role in research assessments and evaluations, e.g., in the context of Strategy Evaluation Protocol⁴ assessments of research institutes, of recognizing and valuing researchers (incl. PhDs), funding applications, but also in *ad hoc* reports for collaborative programs. To this end, the UG mainly relies on Elsevier's Scopus and SciVal and Clarivate's Web of Science (WoS) and InCites, i.e., proprietary data from global databases needed for these purposes.

In line with the ongoing [Recognition and Rewards \(R&R\) Program](#) and our [Responsible Research Assessment Principles](#), the UG ensures that the use of such indicators is responsible, fit for purpose and balanced. Rather than relying on metrics as standalone measures, we apply them thoughtfully and when appropriate alongside qualitative analysis. The transition toward open research information strengthens this commitment, offering an opportunity to further support the shift to more inclusive, fair and accountable assessment. To achieve this goal, we commit to examining our use of closed systems and to actively explore open alternatives, as outlined below.

Exploration of Open Alternatives

The exploration and use of open alternatives, such as OpenAlex or Crossref, is underway through the UG's **FAIR Research Information Dashboard (FRIDa)** - one of the university's main initiatives to realize the shift to open, transparent and interoperable research information. FRIDa aims to create a comprehensive and reusable overview of the university's research outputs and activities by integrating and enriching data from multiple sources in accordance with the FAIR (Findable, Accessible, Interoperable, Reusable) principles. Within this framework, specific attention is given to coverage, curation and improving (vendor supplied) data quality, ensuring that the resulting information can support both responsible research assessment and broader open science ambitions.⁵

The evaluation is conducted in close collaboration with our **Research Intelligence Services (RISe)** team. While current open systems do not yet match the methodological sophistication of proprietary

⁴ The goal of the Strategy Evaluation Protocol (SEP) evaluation is to evaluate a research unit every six years in light of its own aims and strategy. The new [SEP 2027-2033](#) recommends that units use open research information when possible in their reporting.

⁵ This work complements broader national efforts such as SURF's [Open Research Information](#) (ORI) program, which aims to interconnect local Current Research Information Systems (CRIS) and repositories to build a shared, open infrastructure for research information.

bibliometric tools like Scopus/SciVal or WoS/InCites, they present a unique opportunity to co-develop new forms of research evaluation with the academic community, informed also by open and community-driven principles. In addition, our RISE and Quality Assurance (R&I/TFQ at University Services) team will assess OpenAlex and whether it can be integrated into existing workflows by drawing on their involvement in national quality assurance processes. For example, in the upcoming national SEP assessment of sociology, the UG and UvA research intelligence teams will compare SciVal and OpenAlex data.

Evaluation of Closed Systems

The UG is actively evaluating its current use of closed research information databases, including Elsevier's Scopus/SciVal, Clarivate's WoS/InCites and the Digital Science-owned Altmetric Explorer, in alignment with our evolving needs and the suitability of alternatives.

In 2025, we have:

- Discontinued our InCites license.
- Extended our WoS license for one additional year, primarily to meet critical needs in conducting literature reviews in STEM.
- Discontinued our UG Altmetric Explorer license.

The continued use of WoS during this period is necessary to support research and to ensure that ongoing projects can proceed without disruption. However, this extension serves as an important window for evaluating the suitability of this database for our long-term goals.

When it comes to research information systems providing societal impact data, open alternatives are not available at present. The UG license for the Digital Science-owned Altmetric Explorer has been discontinued as of January 2026, however, as a replacement, a license for SciVal's Impact module has been acquired. The UMCG will continue to maintain an Altmetric license, at least throughout 2026.

By January 2027, we will:

- Discontinue our WoS license.⁶
- Undertake a thorough assessment of our use of Scopus, Scival and other tools, as well as the usability of open alternatives, and update this Implementation Plan accordingly.

1.2. Openness will be the norm for the research information we produce, for instance information about our activities and outputs, with an exception for information for which openness would be inappropriate, particularly because of privacy reasons.

Pure, which is both our **Current Research Information System (CRIS)**, and also serves as a repository of full-text research publications, is a proprietary product from Elsevier. However, from Pure, we are able to provide open access to our research output and research activity through a research portal. The metadata displayed belongs to the UG, as per the contract with Elsevier, and the ability to facilitate open access to the full-text of the research output is in line with our university's OA policy. Pure also provides the possibility to generate reports based on the data stored in it. However, the current technical specifications of the Pure portal impose limitations on accessibility and reusability that are not aligned with the principles of the Barcelona Declaration. For clarity, the details of our contract with Elsevier are to be reviewed in depth by the Legal Department, in coordination with the Pure team, as part of the implementation of this Plan.⁷

- In the short term, a non-proprietary, open-source alternative to Pure is not yet available. However, through the FRIDA data warehouse, steps are being taken to achieve independence from Pure for the storage of metadata and its integration with personnel data (see point 1.1 of this Plan). To this end, the FRIDA data warehouse gathers information from multiple sources, with a preference for

⁶ The FRIDA and RISE teams will download all available research information from WoS for reuse before the license is discontinued, if the contract allows it.

⁷ For information on whether our Pure portal can be considered open, please see the [FAQ on openness criteria](#) and the [FAQ on Pure](#).

open sources whenever possible. While Pure currently serves as one of the primary data sources for the UG's data warehouse, the goal is that, in the near future, the data warehouse itself will become the main source for Pure - or for an alternative open solution.⁸

- In the medium term, an assessment of Pure and open alternatives, and the development of a possible transition plan will be conducted as part of the UG's Digital Autonomy roadmap.

We are open to establishing additional collaborations with other universities that can advance our progress toward greater data autonomy or contribute to the integration of our data into a national Current Research Information System. In SURF's Open Research Information program and through NWO OSNL's [Open Science Infrastructure calls](#), we participate in such collaborations. Appropriate agreements regarding the architecture, e.g., in setting up data warehouses, will then become a precondition. In terms of a national repository, we will seek more clarity on the business case and update this Plan.

Finally, our diamond open access **University of Groningen Press (UGP)** is committed to generating open metadata for its books through collaborations with organizations such as OAPEN, Crossref and Thoth, and ensures discoverability via WorldCat. UGP journals and journal articles are likewise included in WorldCat, registered with Crossref for DOIs, and indexed in DOAJ as well as relevant subject indexes. By actively participating in the Netherlands University Presses network, the UGP contributes to enhancing the discoverability and visibility of publications through coordinated strategies for open metadata and indexing. Progress towards these goals is supported by the [UG's Open Science Programme](#), as well as by two national [OSNL-funded projects](#) in which UGP participates: *Scaling Small in NL*, which focuses on implementing a joint metadata management system, and *Infrastructures for Diamond Open Access in the Netherlands*, which aims to establish a high-quality, flexible national publishing infrastructure available to all university presses, research institutes and other academic organisations wishing to develop and publish their own articles, journals and (text)books.

2. We will work with services and systems that support and enable open research information

2.1. For publishing services and platforms, we will require that research information generated in the process of publication (e.g., metadata of research articles and other outputs) be made openly available through open scholarly infrastructures, using standard protocols and identifiers where available.

New Read & Publish deals, through which Dutch universities arrange access to content and pre-paid Open Access publishing for their affiliated researchers, are being negotiated with publishers in the UKB/UNL⁹ context. These negotiations also include the openness of the metadata of publications. Through the UKB working groups *Licenties* and *Open Access*, we contribute to these negotiations. We are committed to open persistent identifiers (ORCID, DOIs, ROR-IDs). We are using Crossref as a source for openly available metadata of publications.

2.2. For systems and platforms regarding the internal management of research information (e.g., current research information systems), we will require that all relevant research information can be exported and made open, using standard protocols and identifiers where available.

See the remarks about Pure in point 1.2, and footnote 8 for more information.

⁸ Progress on this front has already been made: although Elsevier does not facilitate loading OpenAlex data into Pure, OpenAlex data has been successfully integrated into FRIDA and is actively used for business intelligence and data quality improvements both within the warehouse and in Pure. This underscores the pivotal role of FRIDA in enabling the University to move beyond vendor-imposed constraints that do not fully meet our requirements.

⁹ UKB is the Dutch consortium of university libraries and the National Library (Koninklijke Bibliotheek). UNL (Universiteiten van Nederland), previously VSNU, is a trade group of research universities in the Netherlands.

3. We will support the sustainability of infrastructures for open research information

3.1. We take responsibility for supporting infrastructures for open research information, for instance by participating in community building and community governance and by providing fair and equitable contributions to the financial stability and development of these infrastructures.

In the future, OpenAlex may serve as an alternative to Scopus. As noted in point 1.1, further investigation will be undertaken to determine whether OpenAlex and other open solutions can provide a viable replacement for the tools currently in use, both in terms of validated and curated content,¹⁰ and regarding established and emerging bibliometrics and methodologies. This assessment will require close collaboration among research managers, the faculties, and UG's RISE team. Efforts may also be directed toward supporting OpenAlex to facilitate its development. We will explore this option and provide an update to this Implementation Plan by January 2027, as indicated in point 1.1. In doing so, we will take care to avoid replacing dependence on one provider with dependence on another.

The University of Groningen Library actively utilizes and supports open research infrastructures, either through financial contributions or active memberships. These include ORCID, ISNI, Crossref, OpenAIRE, euroCRIS, ROR, unpaywall, and several preprint servers, such as arXiv.org. Metadata for UG and UMCG research outputs is exported to the Netherlands Research Portal in OpenAIRE to ensure it is findable and accessible to all. Additionally, metadata for our publications will be made openly available through Crossref.

3.2. We expect the infrastructures that we support to implement best practices for community governance and sustainability (e.g., Principles of Open Scholarly Infrastructure).

When we choose to support infrastructures for open research information, we do so based on clear criteria for community governance and sustainability, as well as for interoperability. We align on this as much as possible at the national level.

4. We will support collective action to accelerate the transition to openness of research information

4.1. We recognize the importance of sharing experiences and coordinating action to promote a system-wide transition from closed to open research information.

We will actively share our experiences with open research information initiatives and seek to align our actions wherever possible with those of other institutions.

At the national level, we participate in SURF's Open Research Information program (see footnote 5) and in the ORI-PID to Portal Project.¹¹ In addition, we aim to coordinate as much as possible with the other signatories of the Barcelona Declaration in the Netherlands.¹² The UG Chief of Open Science co-chairs the

¹⁰ A preliminary analysis by the FRIDA team indicates that over the past five years (2021–2025), 93% of Scopus-indexed publications also appear in OpenAlex when matched by DOI. This suggests that discontinuing Scopus as an import source for Pure may have a limited impact on publication coverage. We will continue to investigate the possibilities, as outlined in this Plan.

¹¹ SURF's ORI-PID to Portal Project aims to improve the monitoring of open research information by developing a framework, dashboards and tools for metadata quality, PID adoption and licensing, while strengthening the governance of the Netherlands Research Portal through enhanced technical workflows and a national consortium with OpenAIRE.

¹² At the moment of writing these are the University of Amsterdam, TU Delft, Leiden University, Utrecht University, Vrije Universiteit, Vereniging Hogescholen, Taskforce for Applied Research SIA, SURF, National library of the Netherlands (KB), the Dutch Research Council (NWO), the Universities of the Netherlands (UNL), ZonMw and the Netherlands Reproducibility Network (NLRN).

[National Barcelona Declaration Network](#) to ensure these productive collaborations. Colleagues from RISE (both TFQ/RI and UB) and FRIDa participate as members of the network.

As part of the FRIDa project, we share the steps taken in meetings of the Research Intelligence Network Netherlands (RINN). Together with the University Library of Wageningen, the FRIDa team is collaborating on implementing the goals of “Project BRIDGE: Building Research Information Data Gathering & Engineering.” The project aims to advance open standards and to strengthen automation in data integration and data quality within local research information infrastructures, enabling these systems to serve as foundational building blocks for open, national and federated infrastructures.

At European level, the exchange of ideas on open research information policies and implementation also takes place through networks such as the Guild, Coimbra Group and ENLIGHT¹³. The Coimbra Group has [publicly indicated its support](#) for developments in the field of open research information. In addition, our Chief of Open Science serves on the Open Science Steering Committee of the Guild, where the transition to open research information is a priority of its 2024–2026 Action Plan.

4.2. To facilitate this, we support establishing a Coalition for Open Research Information and strengthening collaboration with other related initiatives and organizations.

We support the implementation of a widely recognized international roadmap for open research information. The development of this roadmap was a key topic at the Paris Conference on Open Research Information, held on 23–24 September 2024, which was attended on behalf of the University of Groningen by our Chief of Open Science. To facilitate the roadmap’s implementation, we endorse the establishment of a Coalition for Open Research Information.

Following the conference, seven priority areas were identified for implementation, with international working groups established around each area. These include topics such as replacing closed systems with open alternatives and providing evidence of the benefits of open research practices. The UG is participating in the “Replacing Closed Systems” working group, led by a representative from Sorbonne University, and the “Evidence of Benefits” group, which involves the UG’s Open Science Community Manager. However, due to limited capacity, our active involvement in the working groups is currently constrained.

To ensure alignment with the roadmap's objectives, further clarification will be needed on how the UG can best contribute to the working groups, including identifying specific areas for involvement and key stakeholders within the UG community, also through the national Barcelona Declaration working group (as outlined in point 4.1). Ongoing monitoring of the working groups will be conducted to ensure support is provided where applicable.

For further details on the roadmap and the working groups, refer to the [Barcelona Declaration roadmap](#).

¹³ The Guild is an association of European research-intensive universities. Coimbra Group is an association of long-established European multidisciplinary universities. ENLIGHT is a European university alliance of ten comprehensive, research-intensive universities from ten European countries. The UG is a member of all three groups.

Appendix 1: Glossary¹⁴

Research Information: Information (sometimes referred to as metadata) relating to the conduct and communication of research. This includes, but is not limited to, (1) bibliographic metadata such as titles, abstracts, references, author data, affiliation data, and data on publication venues, (2) metadata on research software, research data, samples, and instruments, (3) information on funding and grants, and (4) information on organizations and research contributors. Research information is located in systems such as bibliographic databases, software archives, data repositories, and current research information systems.

Open Research Information: By *open research information* we mean research information that is free to access and free of restrictions on reuse. Openness of research information is a spectrum, not an absolute. Research information that cannot be ethically shared, including information that has privacy implications, should not be made open.

Scholarly Infrastructures: By *scholarly infrastructures* we mean infrastructures through which research information is shared.

Open scholarly infrastructures: Scholarly infrastructures that provide trustworthy assurances of openness, community accountability, stability, transparency, and reliability. A commitment to adhere to the Principles of Open Scholarly Infrastructure (POSI), with regular updates on performance and improvements, provides a means by which a scholarly infrastructure can provide assurances to the community that it qualifies for the level of trust accorded to an open scholarly infrastructure.

Interoperability: by interoperability we mean the inclusion of interfaces on applications or databases that facilitate machine processing of the information included in the system. This should preferably be in the form of API (Application Programming Interfaces) or MCP (Model Context Protocol) layers.¹⁵

¹⁴ All definitions in the Glossary, except for the one on interoperability, were taken from the [Barcelona Declaration Definitions webpage](#) (accessed on October 20, 2025).

¹⁵ An application programming interface (API) is a piece of software that lets one program access or control another program (Source: [gov.uk](#), accessed on Dec 12, 2025). A Model Context Protocol is a universal, open-source standard for building secure, two-way connections between AI systems and data sources (Source: [anthropic.com](#), accessed on Dec 12, 2025).

Appendix 2: Frequently Asked Questions¹⁶

General Questions

- [How many organizations have signed the Barcelona Declaration so far?](#)
- [What is the difference between DORA, CoARA and the Barcelona Declaration?](#)

Open vs closed infrastructures

- [What are the criteria for a system to be classified as ‘open’? Could you provide examples of open vs. closed research information systems and data?](#)
- [Do you consider the Pure portal to be an open research information system?](#)
- [Beyond OpenAlex, are there other open infrastructures or databases under consideration?](#)
- [Does the international Barcelona Declaration roadmap include engagement with commercial infrastructure providers to open their metadata?](#)

Institutional commitments and participation

- [Are there specific commitments expected from signatory institutions?](#)
- [Does the Declaration envisage mechanisms to encourage national governments to align research assessment systems with open information principles?](#)

Broader vision

- [How do you see the role of artificial intelligence in open research information?](#)
- [What is the expected systemic, long-term impact of the Barcelona Declaration?](#)

General Questions

How many organizations have signed the Barcelona Declaration so far?

The Declaration was published in April 2024. By November 2025, more than 120 organizations from 28 countries have signed. In the Netherlands, it has been signed by 15 organizations so far:

- **Universities and RPOs:** UNL, Vereniging Hogescholen, Leiden University, TU Delft, University of Amsterdam, University of Groningen, Utrecht University, VU
- **Funders and Governments:** NWO, ZonMw, Taskforce for Applied Research SIA
- **Other organizations:** SURF, KB (National library of the Netherlands), NLRN (Dutch Reproducibility Network), Digital Competence Center for Practice-Oriented Research - DCC-PO

For an up to date list of signatories, please consult the [Barcelona Declaration web page](#).

What is the difference between DORA, CoARA and the Barcelona Declaration?

- **DORA** is a declaration calling for *responsible research assessment*.
- **CoARA** is an international coalition working on *developing responsible research assessment approaches, indicators and methods*.
- **The Barcelona Declaration** requests that these new indicators, methods and approaches must be based on *open and reproducible metadata* - free to use, and free from restrictions on reuse.
- See more on the links with CoARA and DORA in the [FAQ on research assessment reform](#).

¹⁶ All answers, except for those in the General category, were provided in October 2025 by Bianca Kramer, Director of the Barcelona Declaration, in response to questions posed by the Guild's Open Science Working Group. Bianca Kramer has granted permission to reuse these answers in the UG's Implementation Plan.

Open vs Closed infrastructures

- **What are the criteria for a system to be classified as ‘open’? Could you provide examples of open vs. closed research information systems and data?**

In the Barcelona Declaration itself, the minimum criteria for open research information are defined as being free to access and free of restrictions on reuse - meaning that this is also the minimum expectation for providers of open research information. Ideally, open research information should also adhere to the FAIR principles (Findability, Accessibility, Interoperability and Reusability), including the use of standardized protocols and persistent identifiers and transparency of provenance and processing algorithms.

In addition, as stated in the Barcelona Declaration commitments, we expect open infrastructures to implement good practices for community governance and sustainability, for example through a commitment to adhere to the [Principles of Open Scholarly Infrastructure \(POSI\)](#).

In practice, openness (above the basic requirements of data being free to use and free of restrictions on reuse) is a spectrum, and signatories may attach more value to certain aspects of openness over others (esp. regarding community governance and business models). Thus, strategic decisions on usage, support and partnerships may vary accordingly. In particular, paying for services on top of open metadata is not at odds with the definition of openness as outlined in the Definition, but services that restrict access to (part of) the metadata for some users are.

Following this reasoning, proprietary databases like Scopus and Web of Science are clear examples of closed sources of research information.

- **Do you consider the Pure portal to be an open research information system?**
- **One of our members would be interested to know whether you would consider the following portal as open research information: <https://pure.au.dk/portal/da/>**

As the public-facing interface of Pure (the university’s current research information system or CRIS) the openness of the underlying data is a matter of negotiation between the university and the provider (Elsevier), as well as subsequent decisions by the university as to which content to make openly available and under which conditions. The current copyright statement is restricting all rights, making the metadata (even when publicly accessible) not open in the sense of the Barcelona Declaration. An additional consideration is the extent to which the content is made accessible (if not reusable). In the current implementation, there is no option to export content (single results or bulk results).

An additional consideration is the extent to which the content is made accessible (if not reusable). The Pure Portal of the [University of Groningen](#) does allow this possibility, but restricts the download to 50 results and crucially, does not include any persistent identifiers (like DOIs), limiting interoperability with other data. If access to the underlying data is made available through an API, similar considerations would apply.

It should be noted that openness in this case does not require that all internal information in the CRIS system is made openly available - e.g. certain personal and financial information will always need to be kept internal in accordance with GDPR and internal policies.¹⁷

¹⁷ It should also be noted that Pure is not a repository in the true meaning of the word and therefore is not to be considered a historic overview of RUG research. Pure is not aimed at archiving research output.

- **Beyond OpenAlex, are there other open infrastructures or databases under consideration? (e.g., Crossref, DataCite, ORCID, OpenCitations, OpenAIRE, PubMed, Europe PMC, La Referencia, SciELO, Redalyc)**

There are many infrastructures and databases that are based on and using open metadata - all the ones mentioned here, for example, are included in the background section of the Declaration itself. We believe that a diversity in systems (with regards to regional and disciplinary coverage, functionality and sustainability models) is beneficial for a healthy ecosystem. The open nature of these and similar infrastructures also enables them to work together—sharing and reusing metadata, improving discoverability, and building on each other's strengths. Support for and usage of any of these tools and services (depending on institutions' specific needs and requirements) reinforces a broader system aligned with the core values of openness, preservation and equitable access to knowledge.

- **Does the international Barcelona Declaration roadmap include engagement with commercial infrastructure providers to open their metadata?**

There are different ways in which commercial infrastructure providers can and do move into the direction of open metadata, and we support these initiatives where they contribute to the open availability of metadata. One example is a collaboration with publishers and providers of submission and production systems to improve the capture of metadata for journal articles and their subsequent deposit to Crossref. Another example is our taskforce (set up jointly with the OA2020 initiative) aimed at including open metadata in negotiations with publishers.

With regards to providers of bibliographic databases and systems built on top of these, we see various developments, aside from the proliferation in use of open systems like OpenAlex and OpenAIRE. One development is the inclusion of open metadata in existing closed systems, like Clarivate's [Research Commons](#) and Ebsco's [Scholarly Graph](#). While on one hand, this increases the visibility of open research information and reinforces its value, it also is mainly used to increase the value of the underlying closed systems, without contributing metadata back to the open systems that are being used.

Institutional commitments and participation

- **Are there specific commitments expected from signatory institutions?**

The Barcelona Declaration is aspirational, and as such, there are no set expectations or requirements for organizations that want to sign, nor does signing constitute a legal or financial commitment. Organizations that sign the Declaration publicly signal their commitment to the transition to open research information, and are expected to follow this by concrete actions within the organization. We expect that organizations will set their own priorities and actions around the Declaration. This could, for instance, include moving from closed to more open data sources, negotiating open metadata in publisher contracts or working toward making research information in CRIS systems openly available. The idea behind the Declaration is to encourage and facilitate such actions, including through the various working groups where organizations can share their expertise and lower barriers to change through collective action.

- **Does the Declaration envisage mechanisms to encourage national governments to align research assessment systems with open information principles?**

National governments are a key stakeholder for the Barcelona Declaration, as potential signatories and enablers of change in research assessment systems (next to funders and research performing

organizations). On this topic, the Barcelona Declaration is closely linked to the Coalition for Advancing Research Assessment (CoARA), to jointly make the case that research assessment reform is linked to the need for and use of open research information.

In France and the Netherlands, we already see developments in research assessment reform translate into e.g. cancellations of Web of Science and universities pulling out of providing information to providers of closed university rankings. At the same time, CoARA is stressing the importance of open infrastructures for research information to their members, and we are closely collaborating with both CoARA and DORA in communicating how these initiatives align and mutually reinforce each other.

Broader vision

- **What is the expected systemic, long-term impact of the Barcelona Declaration?**

In the long term, the Barcelona Declaration hopes to help bring about a transition to open research information, shifting a dependency on closed infrastructures to contributions to an open ecosystem of research information. This will contribute to digital sovereignty of research organizations, who will be in control of their research information rather than outsourcing this control to external parties, while at the same time committing to making this information openly available for everyone to use and reuse (and for anyone to build services on top of it). Wide availability of open research information, across publication types, disciplines and geographical regions, will contribute to fair research assessment and inclusive decision making.

- **How do you see the role of artificial intelligence in open research information?**

There are various aspects to the role of artificial intelligence (including, but not limited to the role of LLMs and Generative AI) in open research information. First, there are opportunities for automated extraction and enrichment of metadata, which can improve the quality of metadata while lowering the burden on human resources involved in manual curation. A point of attention is the importance of transparency and provenance, required for metadata to remain trustworthy. Second, there is the use of metadata, for instance abstracts, in LLMs and generative AI applications, where increased availability and quality of open metadata can increase the trustworthiness of generated information - including the decrease of bias in LLMs trained on more limited data.¹⁸

We observe two additional developments related to the use of (open) metadata for training of LLMs: the first is an increased enclosure of metadata by commercial parties (such as commercial publishers) where they can profit from [selling metadata to AI companies](#). In this context, both Elsevier and Springer Nature have had abstracts for their non-open access content removed from OpenAlex, despite the negative implications for the discoverability of these articles. The second observation is that a massive [increase in automated harvesting of metadata from open systems](#), such as institutional and disciplinary repositories and metadata aggregators, is putting considerable strain on these systems, sometimes risking their functionality as providers of open metadata and forcing them to put technical barriers in place.

Finally, the use of open metadata, like open access content, in generative AI also gives rise to a renewed discussion on the intended use cases of openly licensed content - do researchers object to the use of their

¹⁸ We would also add that generative AI leverages institutions to implement their own classification schemes, breaking free of vendor supplied variants that come at a cost. Previously only these vendors had the capacity to classify large volumes of (meta)data. It should also be noted that Pure (or any open alternative) must be shielded from automated AI-driven data harvesting, which risks compromising its integrity.

output for generative AI, and if so, is this an objection in general or only where commercial AI companies are concerned? Or do researchers value the use of scholarly output (including metadata) to increase the quality of LLMs and the resulting generative AI applications? Here, the introduction of [‘preference signals’](#) by Creative Commons as a way to signal preferences regarding use for AI applications, without limiting the legal rights afforded by the Creative Commons licenses, is worthy of attention.