

Open Science Monitoring Initiative

Fiesole Retreat 2025

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Context



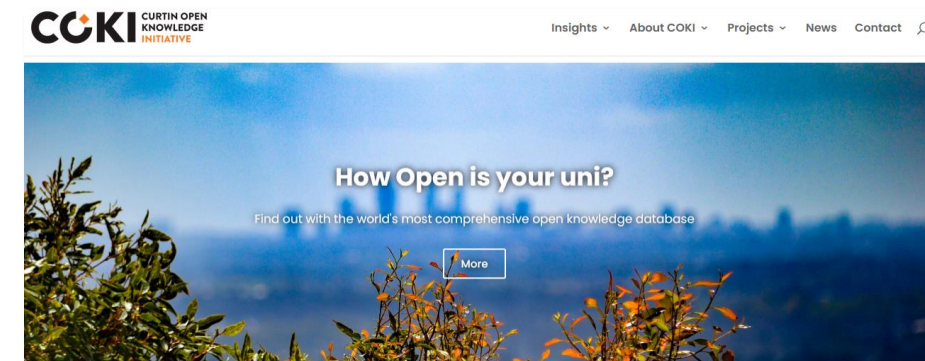
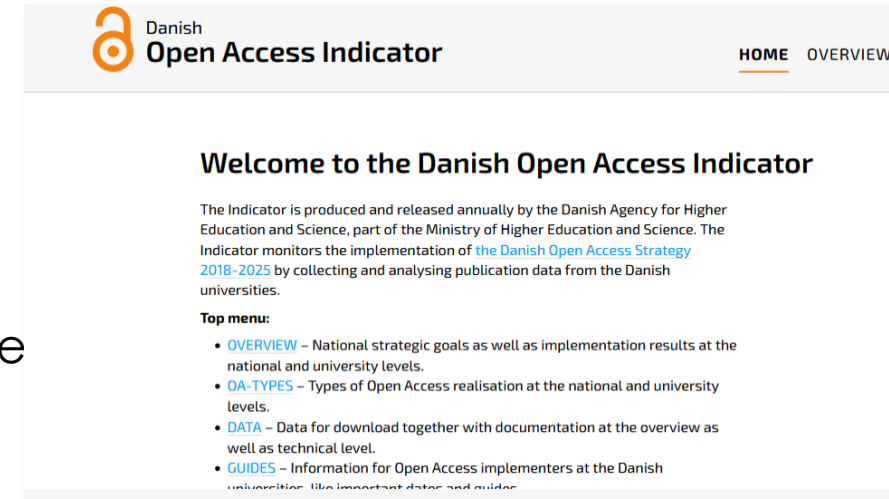
May 2023 G7 Communique (excerpt)

G7 cooperation on open science is set to continue, in particular to encourage a framework for monitoring the progress and obstacles of open science.



A development of initiatives

- **Some national or institutional monitors:**
 - Danish Open Access Indicator <https://oaindikator.dk/en/>
 - French Open Science Monitor <https://frenchopensciencemonitor.esr.gouv.fr/>
 - Charité Universitaetsmedizin Berlin Dashboard on Responsible Research <https://quest-dashboard.charite.de/>
- **International initiatives:**
 - Unesco Open Science Monitoring Working Group
 - Curtin University's Open Knowledge Initiative (COKI) <https://openknowledge.community/>
- And many more...



Some guidelines and frameworks

- 2020: Principles of Open Scholarly Infrastructure
<https://doi.org/10.24343/C34W2H>
- 2021: UNESCO Recommendation on Open Science
<https://www.unesco.org/en/open-science/about>
- 2023: UNESCO Open Science Outlook
<https://unesdoc.unesco.org/ark:/48223/pf0000387324>
- 2024: PathOS Open Science Indicator Handbook
<https://handbook.pathos-project.eu/>
- 2024: Declaration on Open Research Information (related but ≠ from Open Science Monitoring)
<https://barcelona-declaration.org/>



Yet no common understanding on Open Science Monitoring

- We need a global approach to monitor open science progress
- In all domains, not only open access to **publications**
- But **also**:
 - research data
 - open source software
 - clinical trials
 - open science impacts
 - open science costs
 - open science infrastructures
 - citizen science, and engagement with societal actors
 - dialogue with other knowledge systems
 - etc.

A French initiative within the Open Science Monitor project

- Project led by the French Ministry of Higher Education and Research, the Université de Lorraine and Inria
- Since 2021, discussions have been taking place on how to include new objects in the monitoring of open science in France
- Numerous international exchanges on the issue, notably with Denmark, Portugal and Germany
- Draft of a first version of what these principles could be



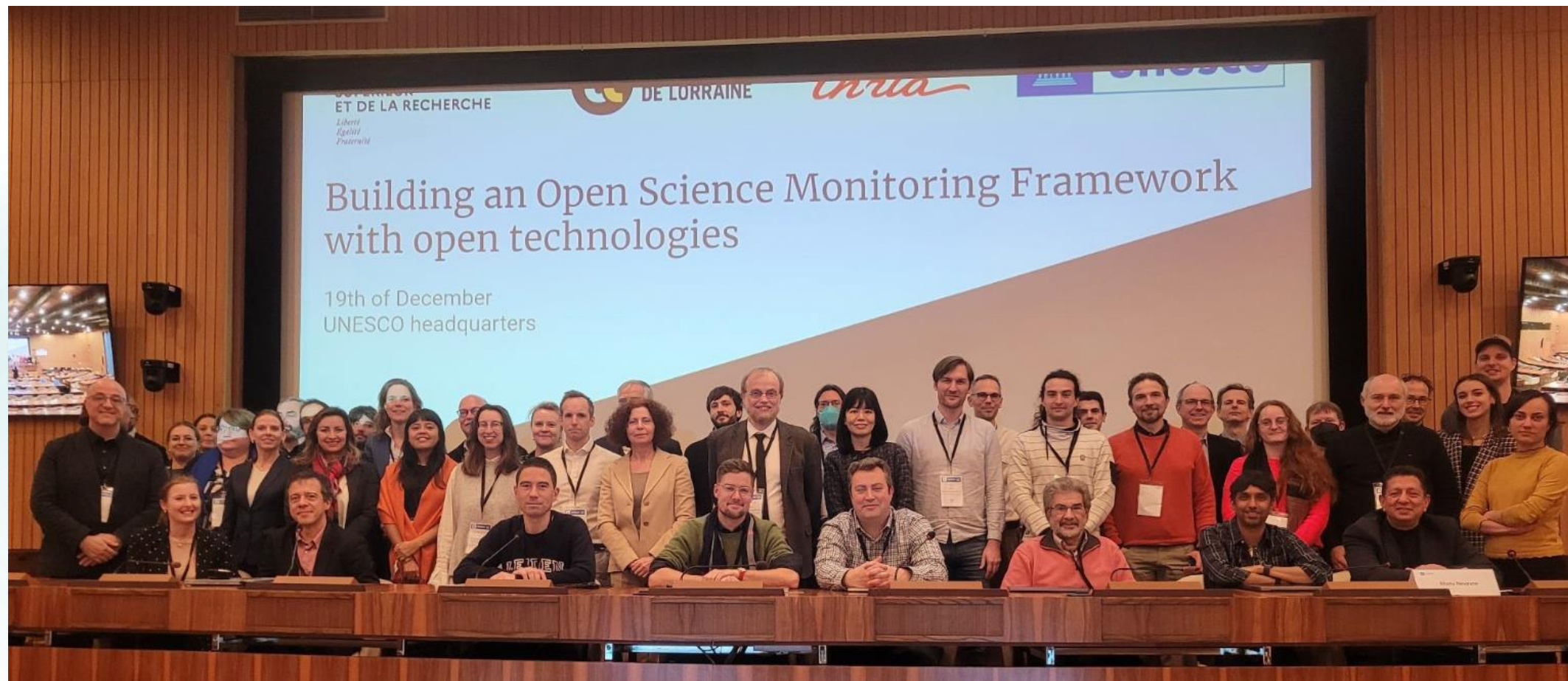
Creating the spark for international collaboration

- **Workshop** organised by the partners of the French Open Science Monitor at the Unesco headquarters on December 19th, 2023
- Objective: **gathering international open science monitoring stakeholders and experts** and **impulsing the creation of an international community on the topic**
- Fifty international experts from various institutions: CERN, NASA, CWTS, OurResearch, Crossref, DataCite, SPARC Europe, Redalyc, the OECD, COKI, the Max Plank Digital Library, PLOS, the Technical University of Denmark



[Slides available online](#)

Creating the spark for international collaboration



Outputs of the December 2023 meeting - Unesco

- ▶ Five breakout sessions :
 - ▶ *Principles (in two breakout sessions)*: internationally reviewed and released during the summer 2025
 - ▶ *Community of practice*: to build the community
 - ▶ *Technical specifications on research data and software*: a need for technical specifications to support the Principles
- ▶ Discussions with international experts
- ▶ Around 50 people
- ▶ 16 countries
- ▶ Presentations and outputs available here:
<https://zenodo.org/records/10600864>
- ▶ A starting point for the OSMI working groups

OSMI goals

OSMI's high-level goals

1. Promote the worldwide adoption of Open Science Principles
2. Provide recommendations for technical specifications for their implementation
3. Support stakeholders on various levels in monitoring Open Science practices



Immediate goals

- ▶ Finalising and launching the Principles
- ▶ Supporting the four working groups
 - ▶ Scoping the needs of open science monitoring
 - ▶ Understanding the open science monitoring landscape
 - ▶ Open science monitoring with scholarly content providers
 - ▶ Shared resources and infrastructure to analyze scholarly outputs

OSMI organisation

Initiators

- ▶ **Members:** the founding members of the initiative:
UNESCO, the French Ministry of Higher Education and Research,
Université de Lorraine, Inria, SPARC Europe, Charité and PLOS
- ▶ **Responsibilities:**
 - ▶ Ensure inclusion and diversity
 - ▶ Monitor progress
 - ▶ Resolve issues and manage risks
 - ▶ Approve the initiation of working groups
 - ▶ Follow the consultation on the Principles of Open Science Monitoring
 - ▶ Keep up to date with the work of the Coordination Committee

Governance to be discussed in the coming months, diverse and inclusive governance structure is paramount

Coordination Committee

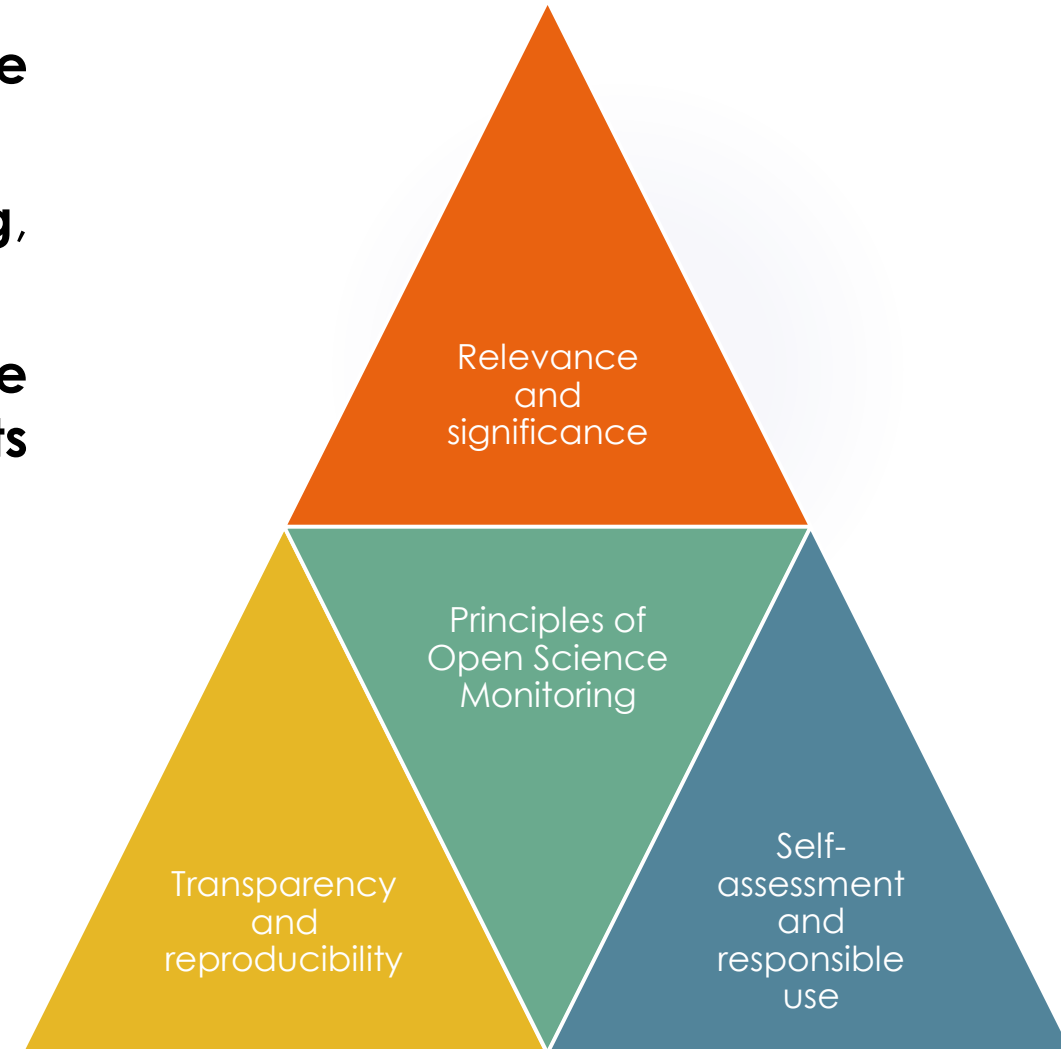
- ▶ **Members:** Arianna Becerril García (REDALYC/AmeliCA), Laetitia Bracco (Université de Lorraine), Andrea Davidson & Vanessa Proudman (SPARC Europe), Ana Persic & Rania Sabo (UNESCO)
- ▶ **Responsibilities:**
 - ▶ Oversees overall day-to-day OSMI operations.
 - ▶ Raises issues to the Initiators and set the Initiators Meeting agendas.
 - ▶ Acts as the public interface of OSMI and provides core information on the initiative and updates on developments to the wider OS community through email and the OSMI website.
 - ▶ Develops and maintains OSMI mailing lists and manages its social media presence
- ▶ **Reports to the OSMI initiators**

Status of the Principles and next steps



High-level principles

- Acknowledging the **diversity of Open Science monitoring approaches** throughout the world
- Providing guidelines to encourage **pooling, comparisons** and **reuse** when possible
- Global aim: monitor a **comprehensive transformation to open science** and its **impacts** on the research ecosystem and on society



Relevant indicators: they should
be...

Modular
Co-created
Consistent
Applicable and clear in scope
Meaningful for public policy
Inclusive
Transparently reliable

Transparency and reproducibility



Self-assessment and responsible use

Eco-responsible

Monitor for improvement

Self-evaluation of monitoring against the Principles

Avoiding rankings

Regular revision

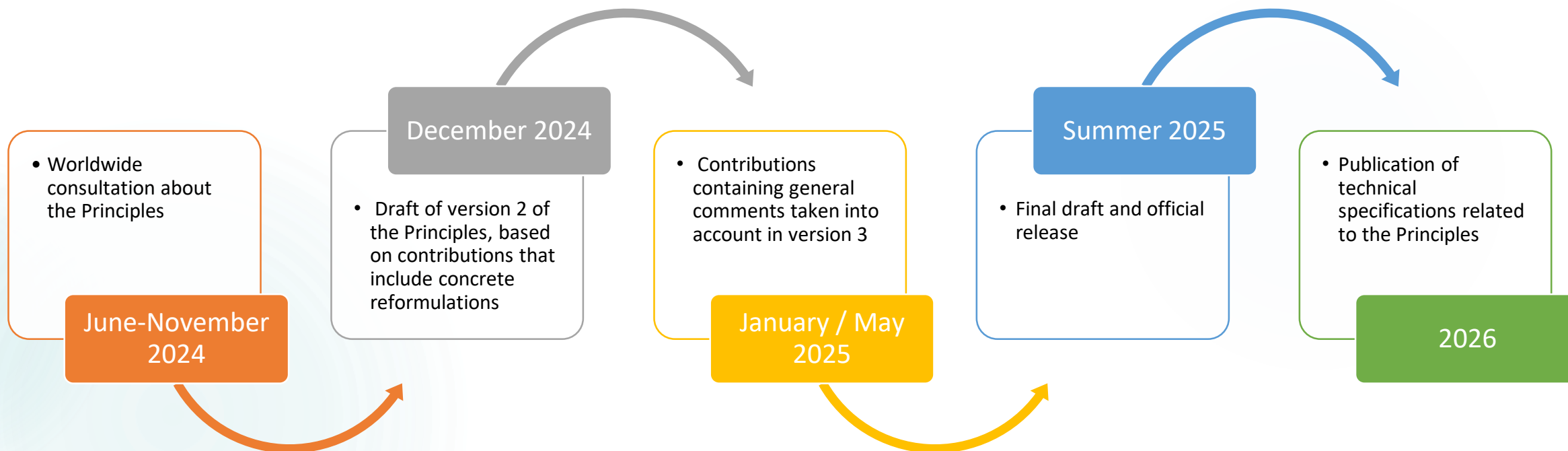
Sustainability

Current status of the Principles

- ▶ [Call for input](#) launched on the 6th of June
- ▶ Closed the 30th of November 2024
- ▶ 52 contributions from 150 people in 42 countries and 6 continents
- ▶ Very positive feedback / attention to qualitative indicators
- ▶ Breakdown of contribution types:

General	38
Introduction	1
Part 1	3
Part 2	7
Part 3	1
Irrelevant	2

Next steps



Working groups

Working groups 2024/2025

Scoping working groups

1. Scoping the needs of open science monitoring: Problems
2. Understanding the OS monitoring landscape: Existing solutions

Technical working groups

3. Open Science monitoring with scholarly content providers
4. Shared resources and infrastructure to analyse scholarly outputs

1. Scoping the needs of open science monitoring: Problems

Objectives:

- To understand the needs of open science (OS) monitoring and guide the OS monitoring community's future work.
- Identify key stakeholders and beneficiaries at international, national, and local levels to understand who is impacted by and benefits from OS.

Scope of Monitoring: Define what aspects of OS should be monitored and why, establishing a clear scope.

Methods for Monitoring: Pinpoint areas needing quantitative and/or qualitative methods to address OS monitoring needs effectively.

Collaboration: Work closely with the “Understanding the OS Monitoring Landscape” group to align efforts, achieving a nuanced understanding and enabling better decision-making and planning.

2. Understanding the OS monitoring landscape: Existing solutions

Goal: Align OSMI with other initiatives to promote synergies and prevent duplication of efforts.

Global Scan: Identify OS monitoring projects, services, methods, and tools worldwide.

Collaboration: Work closely with the “Scoping the needs of open science monitoring” group to coordinate efforts.

Comprehensive Understanding: Joint efforts aim to create a nuanced view of OS monitoring.

Outcome: Enable informed decision-making and better planning for the future of OS monitoring.

3. Open Science monitoring with scholarly content providers

Purpose: Support OSMI's goals by exploring how scholarly content can address diverse open science monitoring needs.

Focus: Leverage the definition of "scientific knowledge" from the 2021 UNESCO Recommendation on Open Science.

Stakeholders: Engage scholarly content providers such as publishers, open archives, repositories, and standard-setting organizations.

Key Contributors: Include research libraries, funders, meta-researchers, and citizen scientists in the effort.

Outcome: Facilitate the creation of tailored solutions to meet diverse OS monitoring requirements.

4. Shared resources and infrastructure to analyse scholarly outputs

Purpose: Create a collective framework for extracting and sharing key metadata from the full-text of scientific publications (e.g., author affiliation, data and software use, funding, etc.).

Open Source Tools: Promote the use of advanced NLP open-source tools for full-text information extraction.

Methodological consensus: Ensure a consensus on which metadata to extract

Resource Pooling: Address computing and storage demands through shared resource mechanisms.

Outcome: Build a shared vision on key metadata to extract, shared technologies to use and improve, collective way to share computing resources and extracted metadata



Next steps

Working groups

- ▶ To be an OSMI Member, it is necessary to be part of a working group
- ▶ Working groups 1 to 4 have started at the beginning of 2025
- ▶ Working groups 5 (Implementation of open science monitors and capacity building) and 6 (Technical specifications starting with publications, research data, software...) will start after the release of the Principles
- ▶ Chairs are elected amongst the working groups
- ▶ Currently more than [170 members](#) from around forty countries in all continents
- ▶ **Not interested in the working groups but in OSMI in general?**
Join the mailing list on the [OSMI website homepage](#) or follow us on social media ([LinkedIn](#) / [Mastodon](#))

Next steps

- ▶ Recruiting new members outside of Europe
- ▶ Monitoring the outputs of the working groups
- ▶ Releasing the Principles of Open Science Monitoring
- ▶ Building a strong governance structure



Thank you for your attention!

<https://open-science-monitoring.org/>

