Open Science Monitoring Initiative

Monitoring Open Science : it takes a village!

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Laetitia Bracco

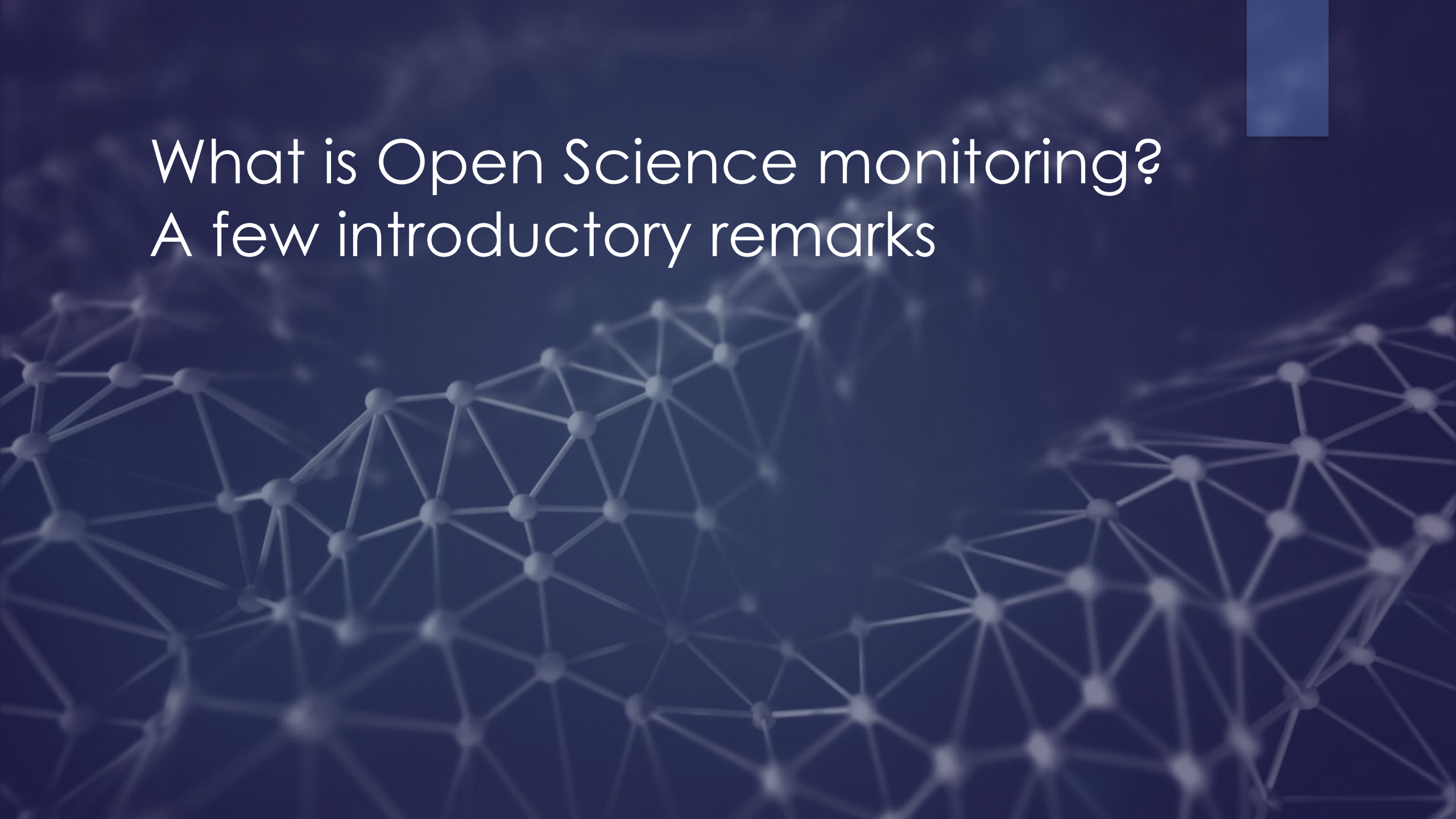
Deputy Head of the Library Research Support Services, Université de Lorraine

Chair of the OSMI Coordination Committee

French Open Science Monitor on research data and software project manager

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What is Open Science monitoring? A few introductory remarks



Open Science monitoring is about…

- Measuring the level of adoption of open science practices…
- And doing something about it
- But actually, we mostly measure the openness of scientific publications
- Thereby undermining the very essence of open science by making other open outputs and practices invisible
- And, once measured, are we really doing something about it?

Who is defining indicators and for what?

- Everyone! From libraries to research performing institutions, publishers, funders, research projects, portals…
- And no one, in the absence of a unified international approach
- Comparisons remain very difficult

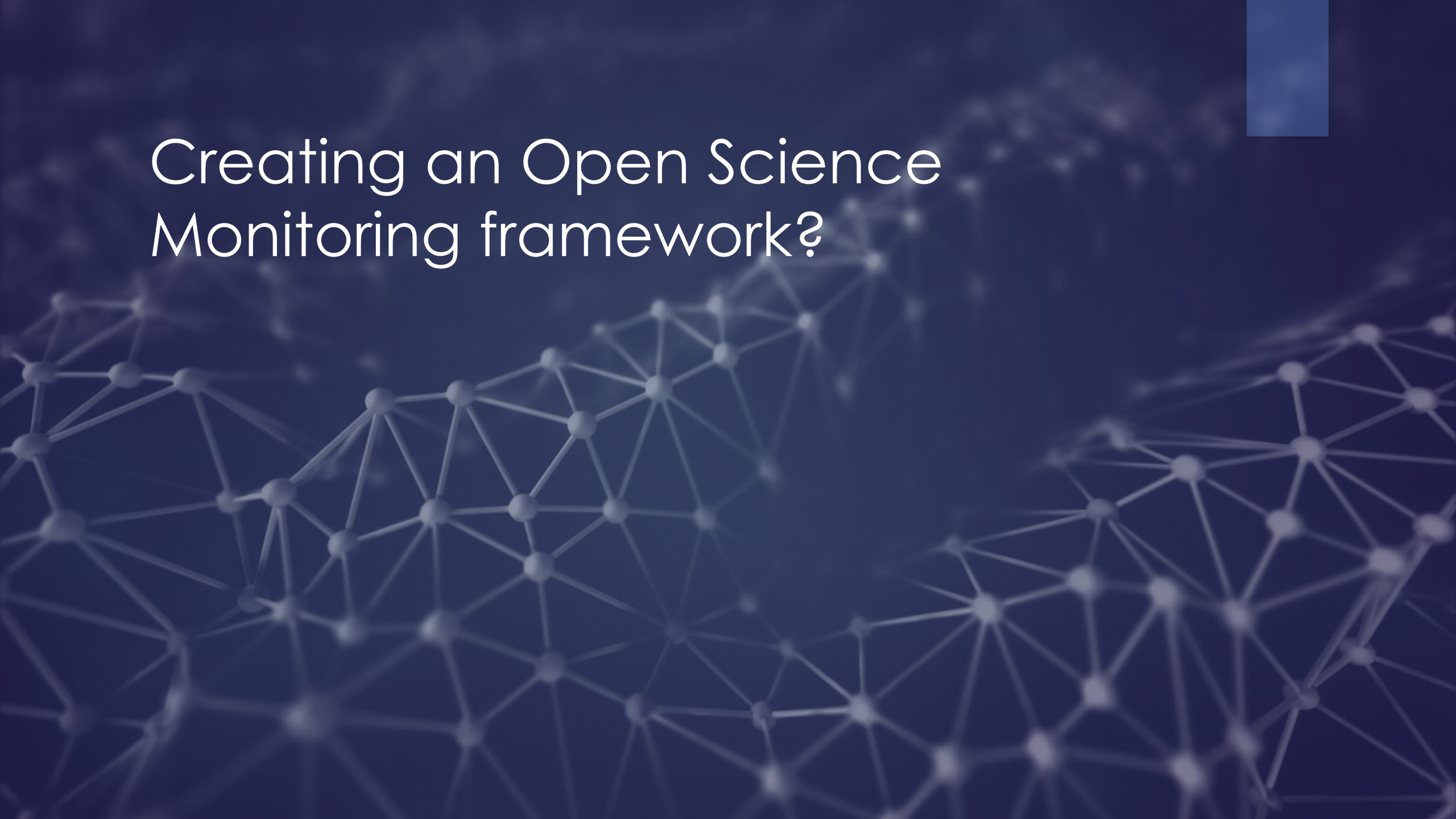
Who should we believe?

- An example:
  - In the **OpenAIRE Open Science Observatory**, ~**140 000** French publications in 2024, **63,4%** in open access
  - In the **French Open Science Monitor**, ~**155 000** French publications in 2024, **61,4%** in open access
  - In the **COKI Open Access dashboard**, ~**145 000** French publications in 2024, **60%** in open access

This is not the only problem

- Creating indicators means taking the risk of seeing them misused
- Indicators should not reproduce historical inequities, whether they are disciplinary (HSS often seen as "lagging behind") or regional
- Indicators should be transparent, and not be black boxes managed by private companies, as is the case with commercial rankings
- Comparisons should be constructive; let's not create an "OS-index" to replace the h-index

Creating an Open Science Monitoring framework?



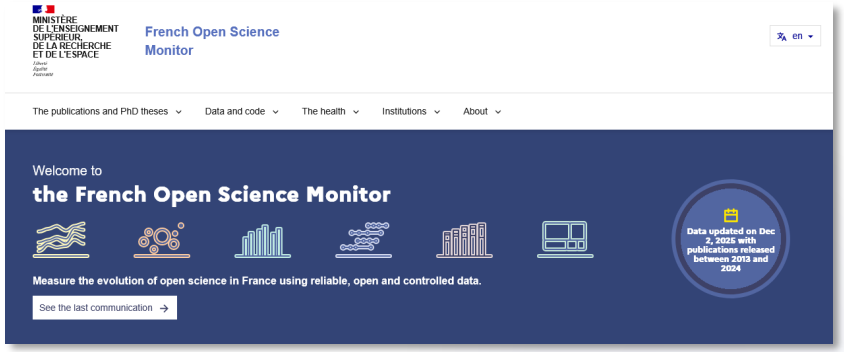
In May 2023, a strong statement by the G7

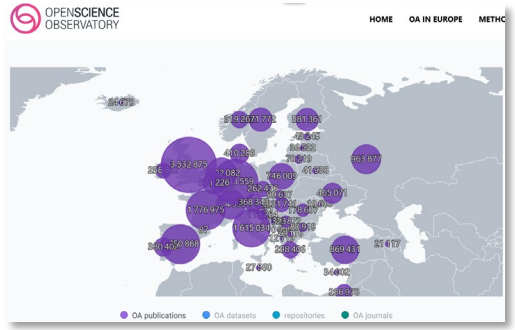
« G7 cooperation on open science is set to continue, in particular to encourage a framework for monitoring the progress and obstacles of open science. »

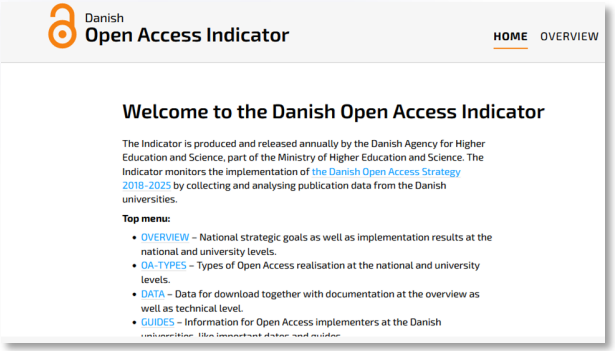


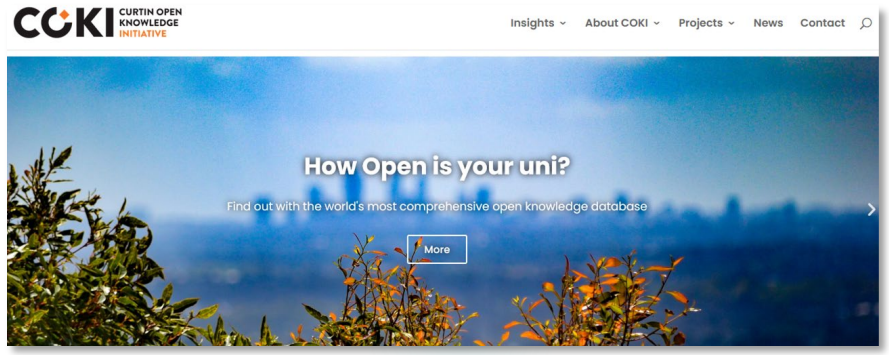
Many existing monitoring initiatives

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









Many guidelines and frameworks but none addressing global recommandations on OS monitoring

- 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/C
- 2024: Declaration on Open Research Information https://barcelona-declaration.org/



Creating the spark for international collaboration on OS monitoring

- 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/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, OpenAIRE…
- **First draft of the Principles of Open Science Monitoring** presented
- A **starting point for the Open Science Monitoring Initiative, OSMI**



Slides available online

Open Science Monitoring Initiative

OSMI's high-level goals

1. To promote the worldwide adoption of the Principles of Open Science Monitoring;
2. To provide recommendations for technical specifications for their implementation;
3. To support stakeholders on various levels in monitoring Open Science practices.

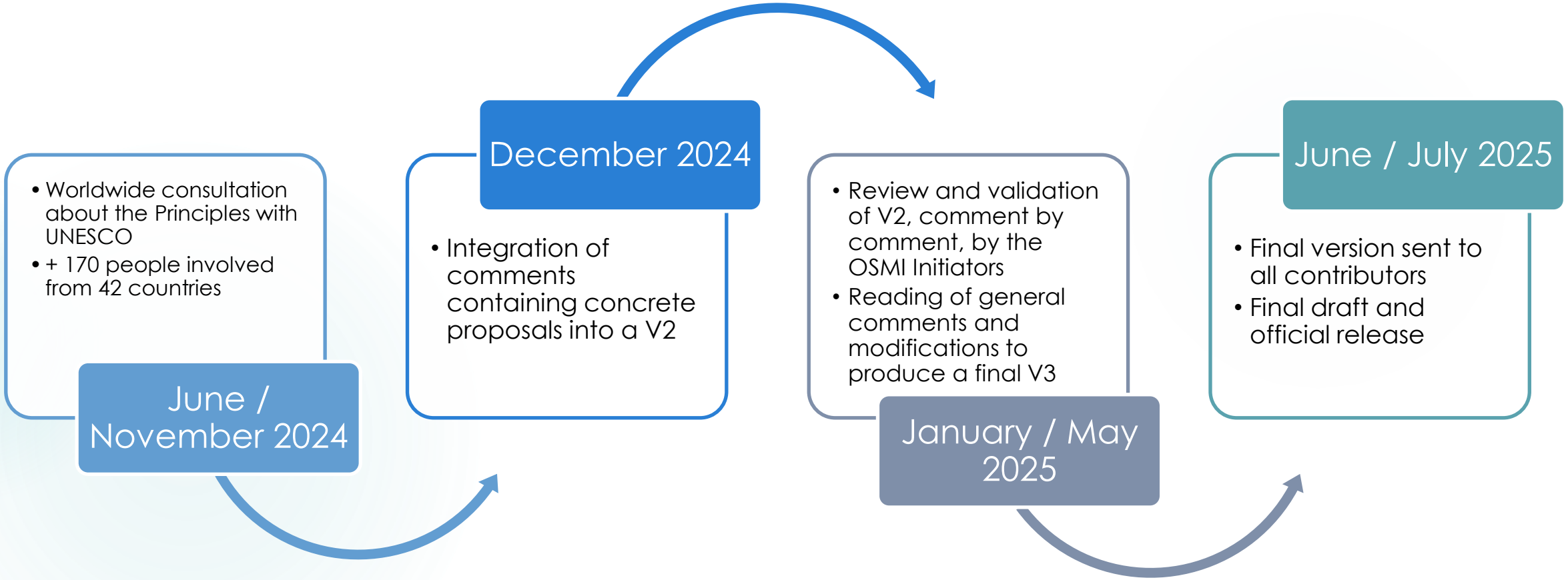


→ OSMI does not aim to create monitoring dashboards itself

The Principles of Open Science Monitoring



Building international Principles: a journey



What we learned from the consultation

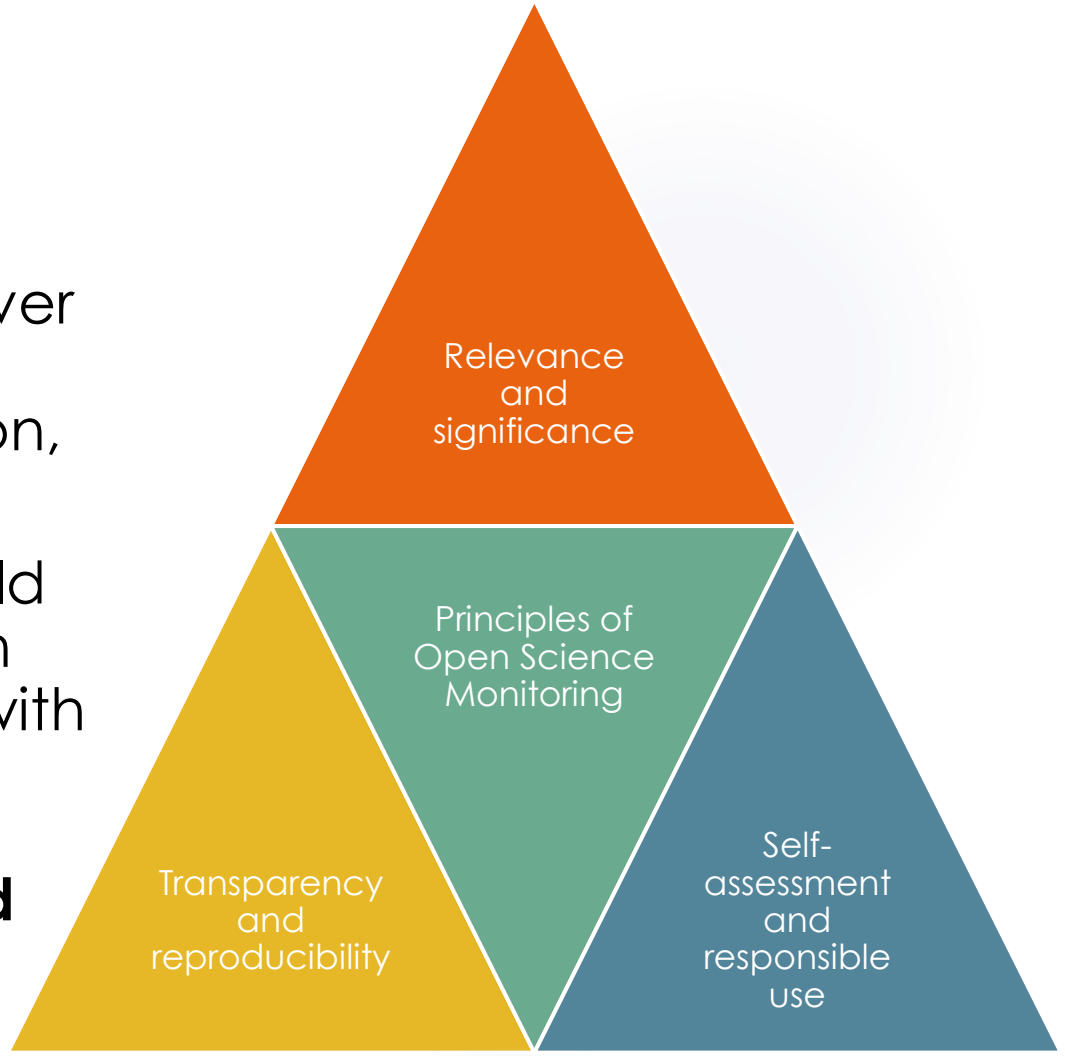
Supportive aspects	
Alignment with core principles	• Agreement with the **need for transparency, inclusivity, and adaptability** in monitoring Open Science practices • Value of the **FAIR** and **CARE principles** and their incorporation into the original paper
Recognition of the paper's relevance	• Proposal timely and necessary to **standardise Open Science monitoring**, especially as more countries and institutions adopt Open Science policies • Importance of establishing **global frameworks**
Positive reception of « Co-creation »	• **Stakeholder participation** in developing indicators is widely supported, with many contributors praising this as a critical factor for **successful implementation**
Practical implementation	• Avoiding using indicators for punitive purposes (e.g., rankings) resonates strongly

What we learned from the consultation

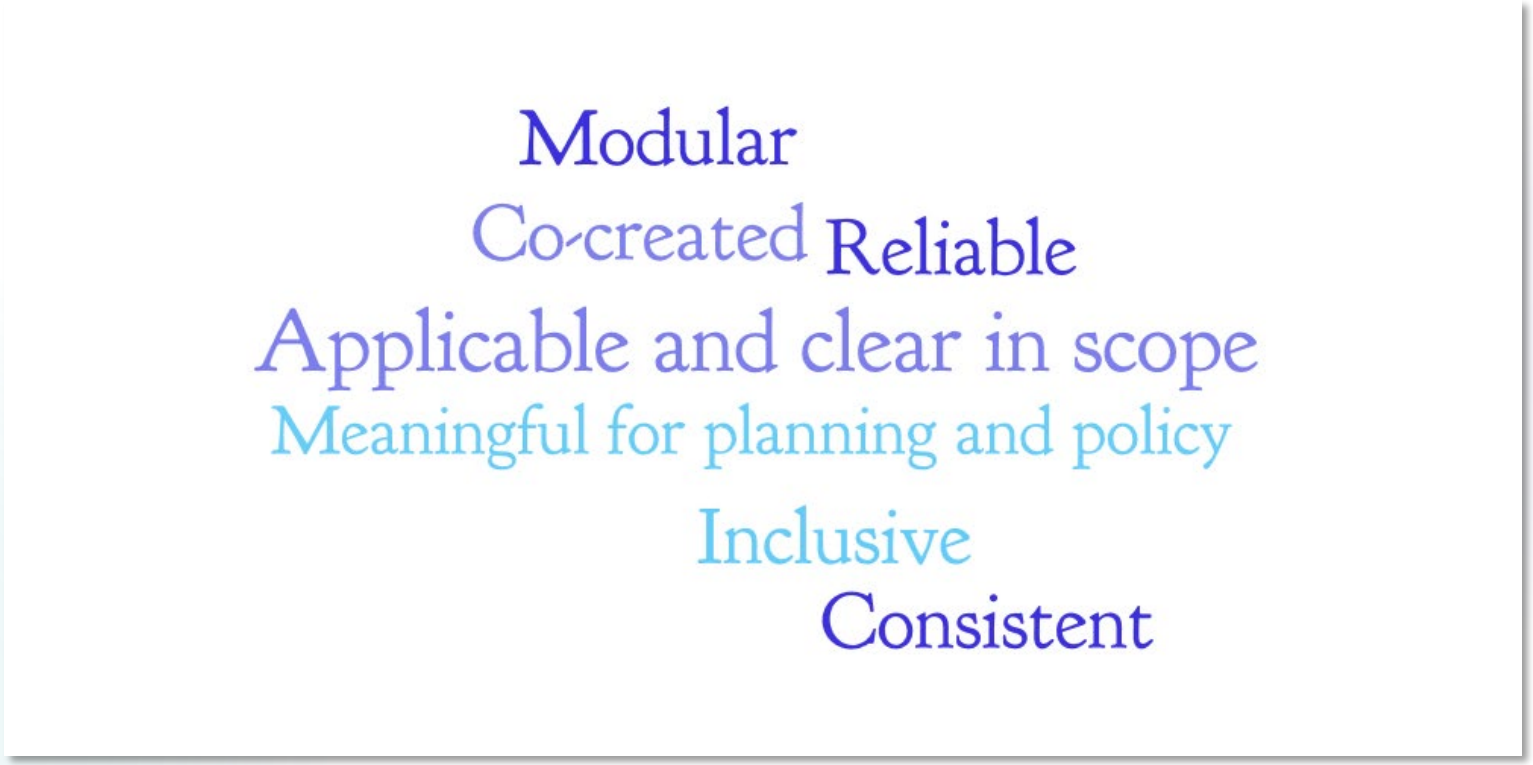
Challenges	
Ambiguity in implementation	• Proposal **too high-level**, lacks actionable steps for operationalizing its principles • Including **more examples of successful Open Science monitoring frameworks** and specific metrics
Overgeneralisation concerns	• Difficulty to apply universally due to the **diversity of academic disciplines and regional contexts** • Concern that the current framework might **overemphasize comparability** at the expense of local relevance
Challenges of standardization	• Caution against **rigidity**, warning that **overly prescriptive metrics could stifle innovation**
Gaps in coverage	• Expanding the scope to include **societal impacts**, **citizen science**, and **broader dimensions of Open Science** beyond publications and data sharing

The result: high-level principles

- All open science monitoring initiatives should be **well-defined**, **relevant**, and **adaptable** to diverse research contexts
- Open science monitoring should, wherever possible, prioritize the use of **open**, **transparent**, and **reproducible** information, including **metadata**
- Open science monitoring initiatives should aim for **continuous improvement** through regular self-assessments and alignment with these Principles of Open Science Monitoring. Importantly, open science monitoring should be used to **understand and incentivise open science practices**



Relevance and significance



→ *Focus on 1.5.* ***Modular****: Indicator frameworks should be modular, enabling different communities to assemble indicator sets that best suit their specific needs. To support diversity and inclusion while ensuring both global comparability and local adaptability, these frameworks should incorporate a mix of quantitative and qualitative approaches, including case studies.*

Transparency and reproducibility



→ *Focus on 2.1.* ***Openness****: Monitoring initiatives should rely on open scholarly infrastructures with open input and output data as defined in the 2021 UNESCO Recommendation on Open Science. All software used throughout the monitoring process should be open source, versioned, and published openly with clear, comprehensive documentation on platforms that facilitate collaboration, contribution, and reuse. Output data, when not protected for copyright, privacy, contractual terms, or other legal or ethical reasons, should be open by default and distributed under an open licence.*

Self-assessment and responsible use



→ *Focus on 3.1.* ***Self-evaluation against the Principles of Open Science Monitoring****: Monitoring initiatives should ideally regularly assess and publicly disclose their compliance with these Principles. Where full compliance has not yet been achieved, initiatives should clearly outline a path towards future compliance, demonstrating a commitment to continuous improvement.*

How to self-assess?

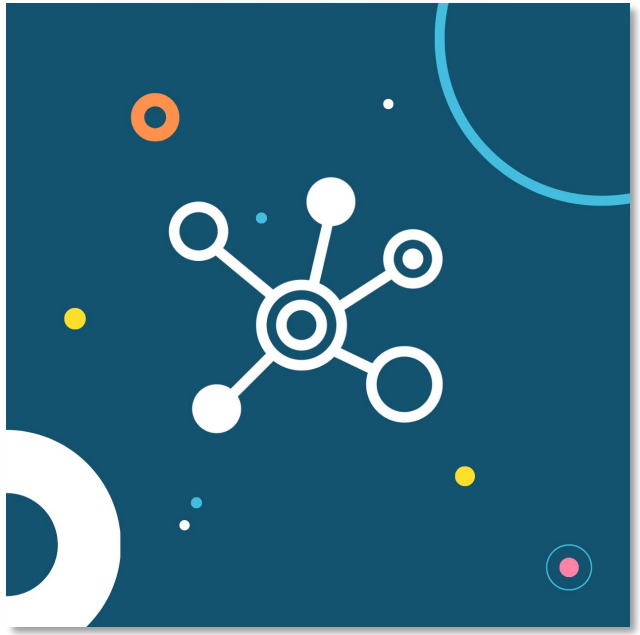
- Let's not recreate rankings!
  - "*Indicators should not be used to create rankings or make uncontextualized comparisons of research organizations, researchers, or other individuals or groups. Monitoring mechanisms should ideally emphasize equity-oriented comparisons that reflect contextual nuances and avoid reinforcing structural inequalities*". That is why monitoring open science should not be carried out by research evaluators
- A self-assessment grid is under development and will be presented during the next OSMI Plenary meeting

How stakeholders can use these Principles?

- For existing initiatives, the Principles can help to improve them
- For future initiatives, following the Principles ensures that they are built on solid foundations
- Self-assessment is key, in order to improve over time
- Open science monitoring is essential for increasing the visibility of open science practices
- The Principles allow to address the needs set out in UNESCO's recommendations on open science

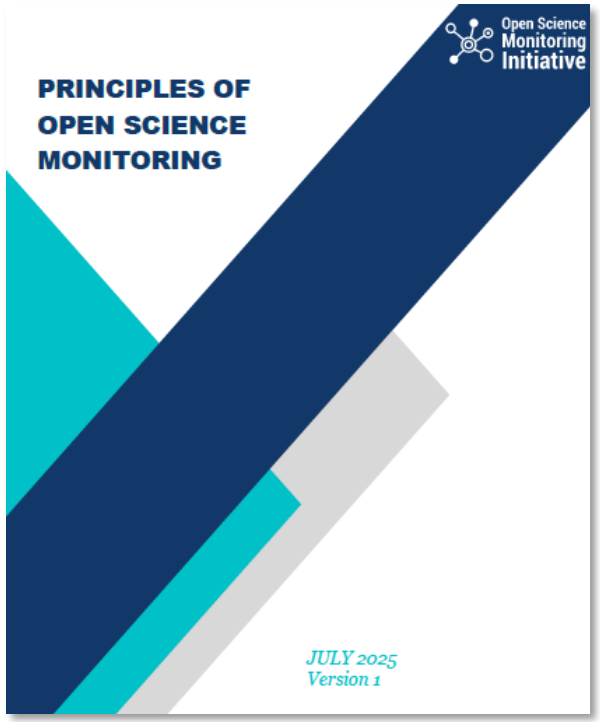
Some implementation examples

- **PLOS**: « The OSMI Principles were a useful set of general points for a qualitative assessment, guiding our attention to the full life-cycle of a monitoring system. They helped to ensure that our self assessment covered all the relevant aspects and in this sense they were very helpful »
- **Irish Research eLibrary** (IReL), « The OSMI Principles of Open Science Self-Assessment was used to evaluate how the National Open Access Monitor and confirmed alignment with international best practice, demonstrating strong compliance with Open Science principles. The process also identified areas for further improvement (…) Planned enhancements include providing clearer guidance to support interpretation of dashboards and introducing case studies to offer complementary qualitative insights »
- The **testimonials** section of the Principles website welcomes contributions! https://open-science-monitoring.org/principles/testimonials/



Read the Principles of Open Science Monitoring in multiple languages now!

Open Science Monitoring Initiative, Principles of Open Science Monitoring, Paris, 2025. DOI: 10.52949/4



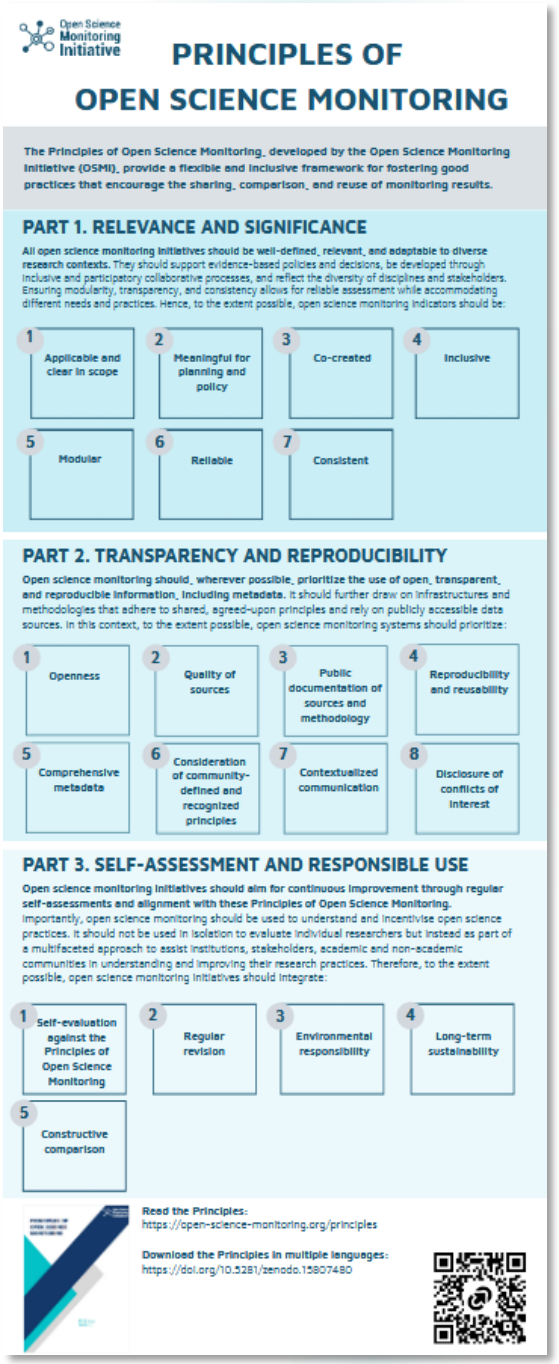
https://open-science-monitoring.org/principles/

Already available in English, Arabic, Finnish, French, German, Indonesian, Italian, Portuguese, Slovenian and Spanish

Need to convince your management?

→ *The dedicated infographic, also in multiple languages, emphasises key aspects such as relevance, transparency, reproducibility, and responsible use of open science monitoring systems.*

https://open-science-monitoring.org/principles/



OSMI Organisation

OSMI Initiators







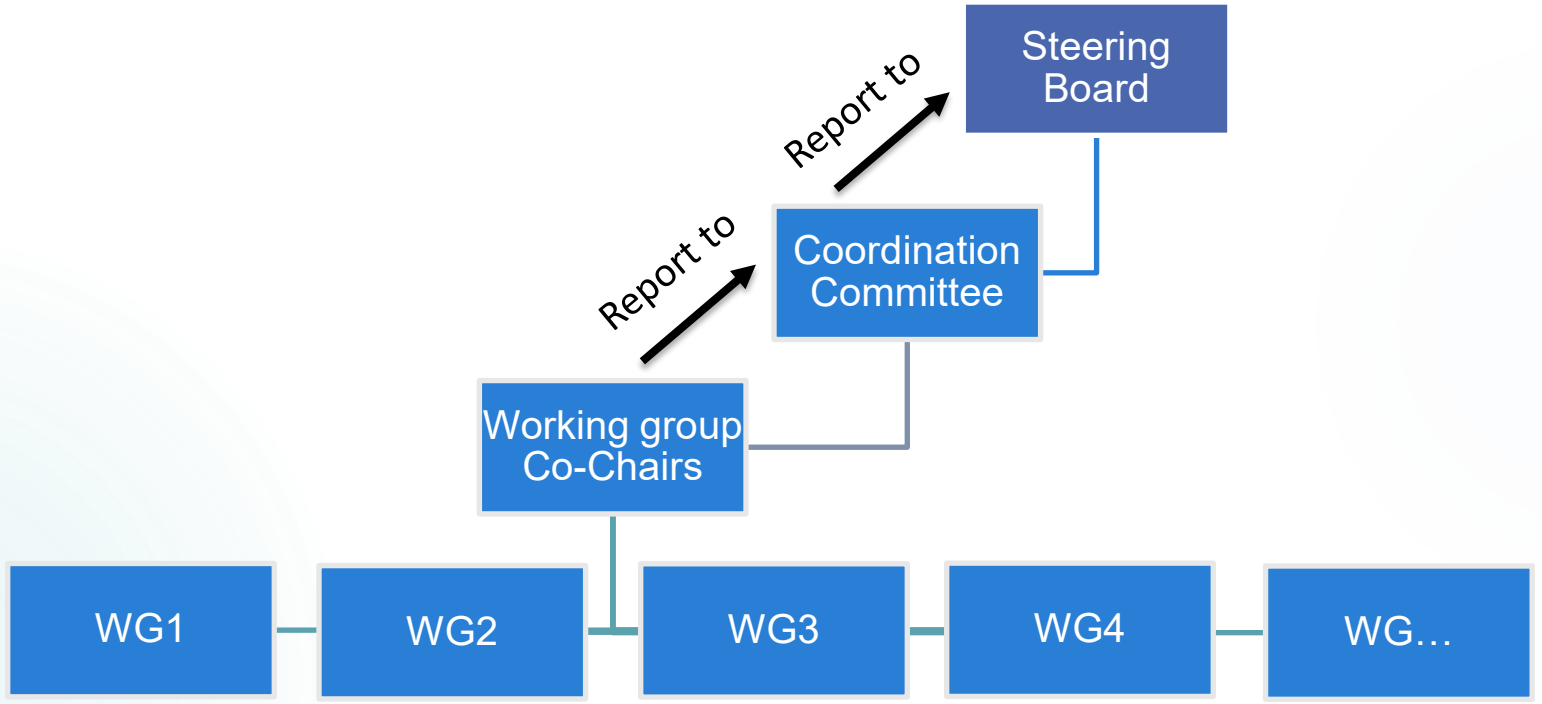








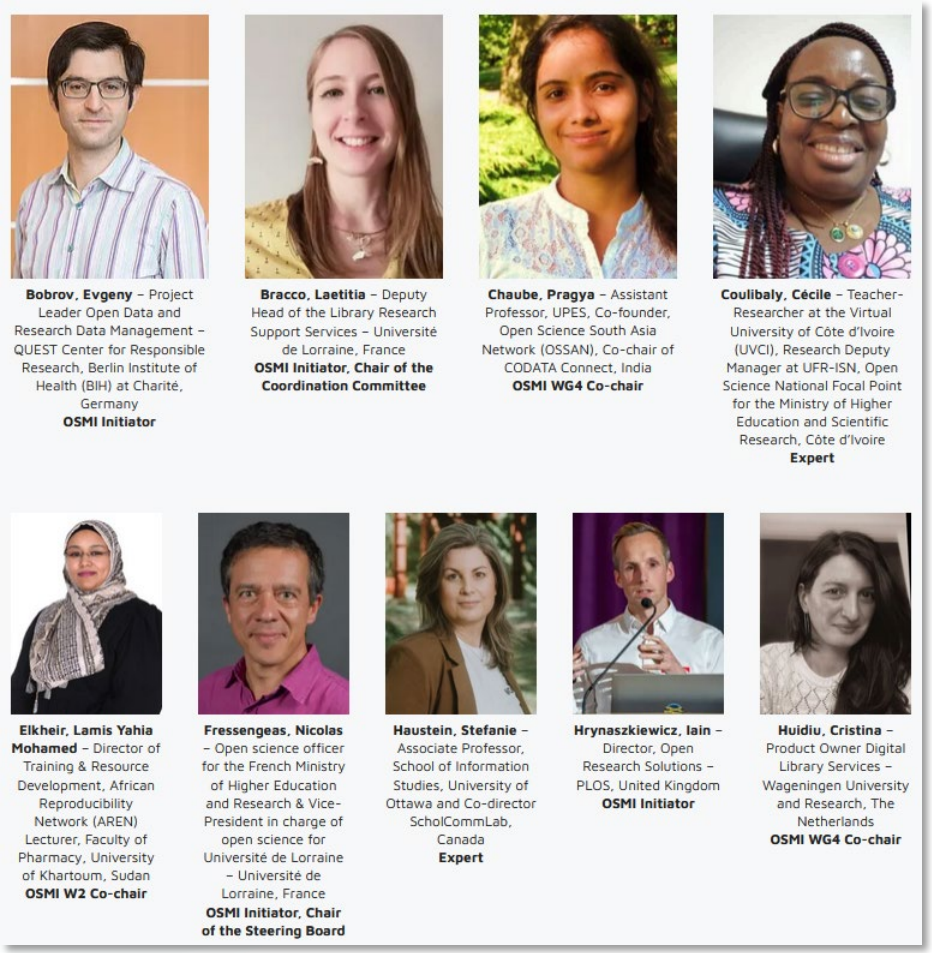
Organisation chart



An international Steering Board

The **Steering Board** sets the main guidelines and strategy for the initiative, oversees the work of the Coordination Committee, and decides on the creation or closure of working groups. All **working group co-chairs** are also Board members.

Chair : Nicolas Fressengeas



Bobrov, Evgeny – Project Leader Open Data and Research Data Management – QUEST Center for Responsible Research, Berlin Institute of Health (BIH) at Charité, Germany
OSMI Initiator

Bracco, Laetitia – Deputy Head of the Library Research Support Services – Université de Lorraine, France
OSMI Initiator, Chair of the Coordination Committee

Chaube, Pragya – Assistant Professor, UPES, Co-founder, Open Science South Asia Network (OSSAN), Co-chair of CODATA Connect, India
OSMI WG4 Co-chair

Coulibaly, Cécile – Teacher-Researcher at the Virtual University of Côte d'Ivoire (UVCI), Research Deputy Manager at UFR-ISN, Open Science National Focal Point for the Ministry of Higher Education and Scientific Research, Côte d'Ivoire
Expert

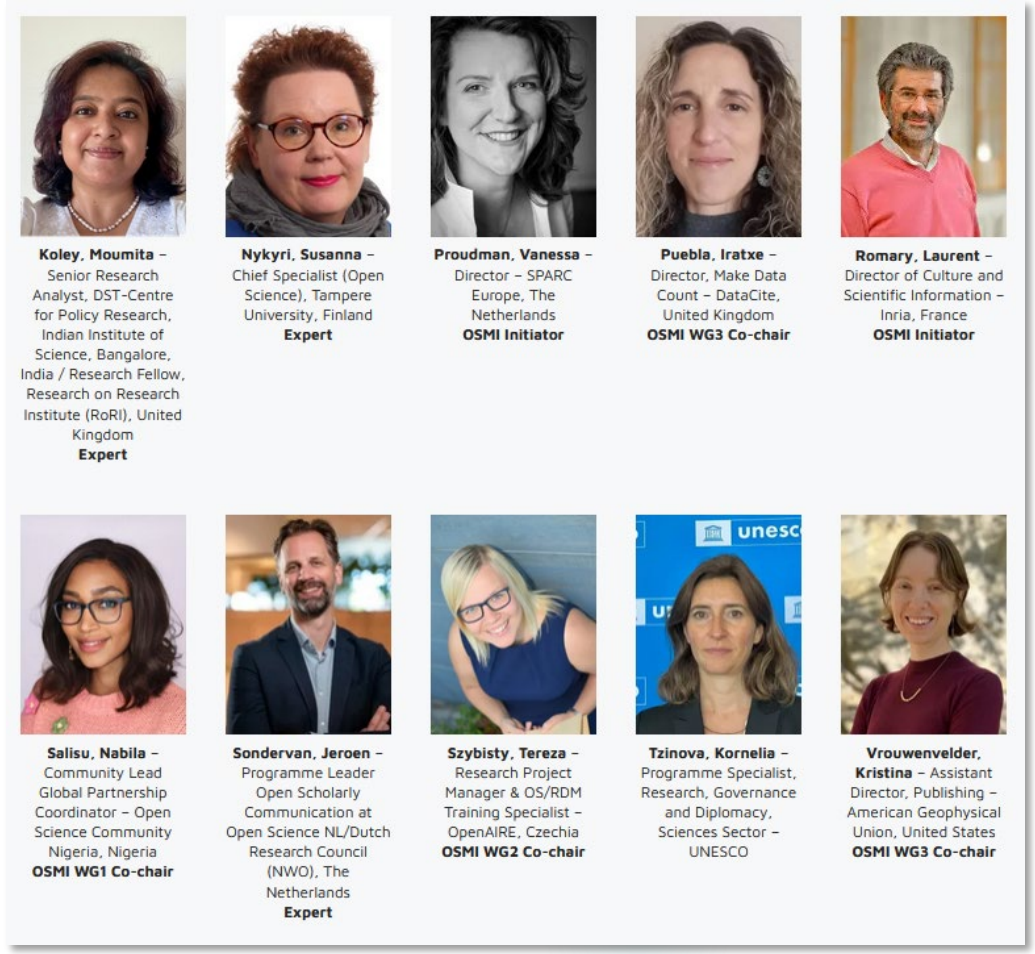
Elkheir, Lamis Yahia Mohamed – Director of Training & Resource Development, African Reproducibility Network (AREN) Lecturer, Faculty of Pharmacy, University of Khartoum, Sudan
OSMI W2 Co-chair

Fressengeas, Nicolas – Open science officer for the French Ministry of Higher Education and Research & Vice-President in charge of open science for Université de Lorraine – Université de Lorraine, France
OSMI Initiator, Chair of the Steering Board

Haustein, Stefanie – Associate Professor, School of Information Studies, University of Ottawa and Co-director ScholCommLab, Canada
Expert

Hrynaszkiewicz, Iain – Director, Open Research Solutions – PLOS, United Kingdom
OSMI Initiator

Huidiu, Cristina – Product Owner Digital Library Services – Wageningen University and Research, The Netherlands
OSMI WG4 Co-chair



Koley, Moumita – Senior Research Analyst, DST-Centre for Policy Research, Indian Institute of Science, Bangalore, India / Research Fellow, Research on Research Institute (RoRI), United Kingdom
Expert

Nykyri, Susanna – Chief Specialist (Open Science), Tampere University, Finland
Expert

Proudman, Vanessa – Director – SPARC Europe, The Netherlands
OSMI Initiator

Puebla, Iratxe – Director, Make Data Count – DataCite, United Kingdom
OSMI WG3 Co-chair

Romary, Laurent – Director of Culture and Scientific Information – Inria, France
OSMI Initiator

Salisu, Nabila – Community Lead Global Partnership Coordinator – Open Science Community Nigeria, Nigeria
OSMI WG1 Co-chair

Sondervan, Jeroen – Programme Leader Open Scholarly Communication at Open Science NL/Dutch Research Council (NWO), The Netherlands
Expert

Szybisty, Tereza – Research Project Manager & OS/RDM Training Specialist – OpenAIRE, Czechia
OSMI WG2 Co-chair

Tzinova, Kornelia – Programme Specialist, Research, Governance and Diplomacy, Sciences Sector – UNESCO

Vrouwenvelder, Kristina – Assistant Director, Publishing – American Geophysical Union, United States
OSMI WG3 Co-chair

Coordination Committee

The OSMI Coordination Committee

- Oversees the overall day-to-day OSMI operations, including communicating with OSMI Board, partners and members
- Raises issues to the OSMI Board and proposes the Board Meeting agendas to the Board Chair
- Follows the progress of the working groups
- Is the public interface of OSMI and provides core information on the initiative
- Provides updates on developments to the broader OS community through email, social networks and the OSMI website


Laetitia Bracco, Chair

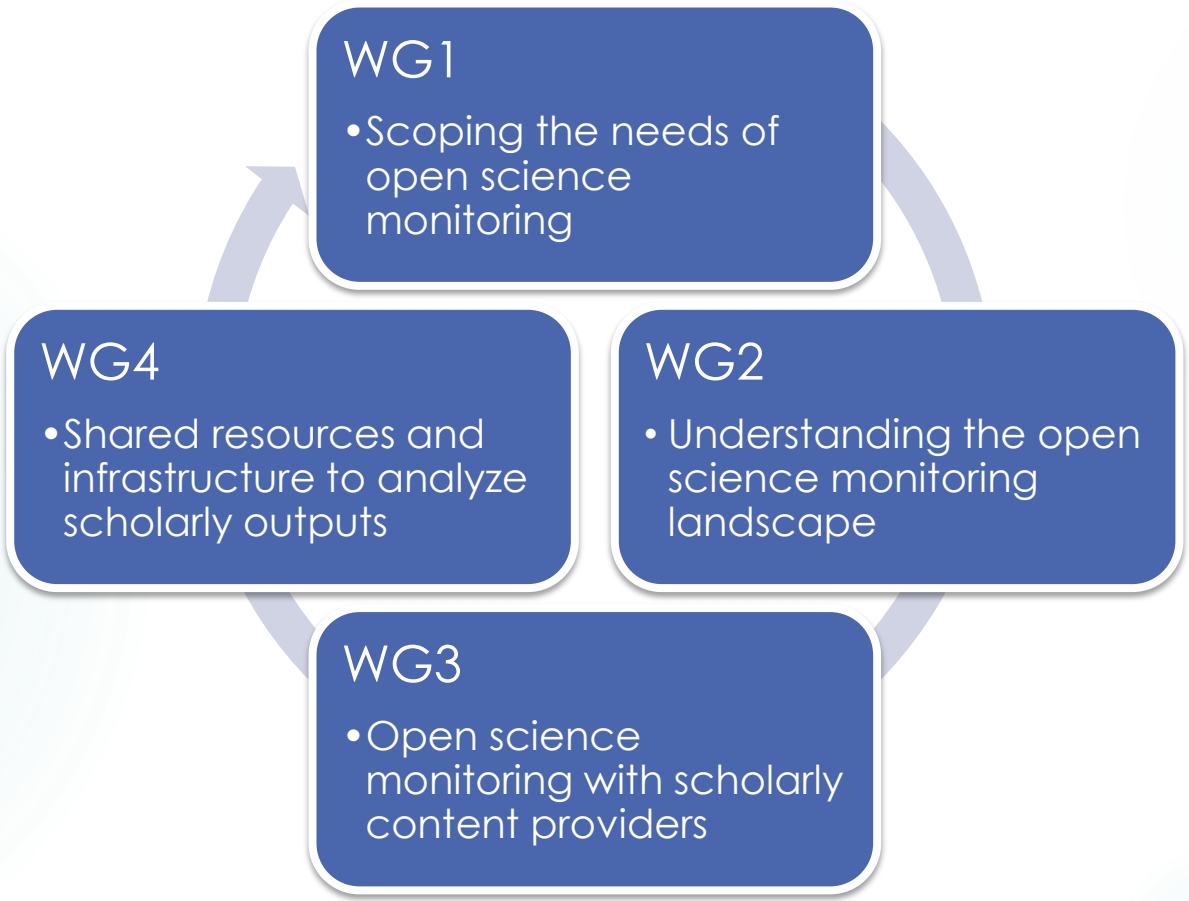

Martina Dvořáková


Vanessa Proudman


Rania Sabo

Working groups

The OSMI working groups are turning OSMI goals into action:



Working group outputs: https://open-science-monitoring.org/working-groups/

OSMI publications: https://zenodo.org/communities/osmi/records

Follow OSMI's work!

- Join the mailing list https://groupes.renater.fr/sympa/subscribe/osmi-newsletter



- Follow us on social media

LinkedIn https://www.linkedin.com/company/open-science-monitoring-initiative

Mastodon https://mastodon.social/@osmi

Next steps for OSMI

- Launch of new areas of focus
- Promotion of the Principles of Open Science Monitoring worldwide
- Follow-up on the work of existing groups
- Stay tuned! **OSMI next plenary meeting will take place on 30 September at 4 pm CEST**. Registration: https://us02web.zoom.us/meeting/register/hCsmzQMrSE28w3O2POcgBg#/registration

Thank you for your attention!

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