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# Towards common principles for monitoring Open Science

LAUNCH OF RESEARCH PORTAL DENMARK, 2024/03/21

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Why do we need principles to monitor Open Science?

# May 2023 G7 Communique (excerpt)

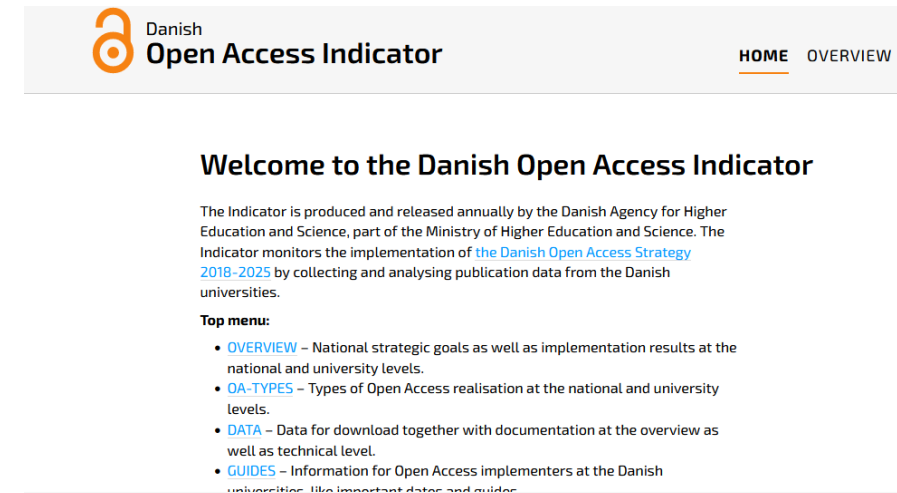
G7 cooperation on open science is set to continue, in particular to “*use research on research to inspire a framework for open science monitoring*”

▶ [source](#)

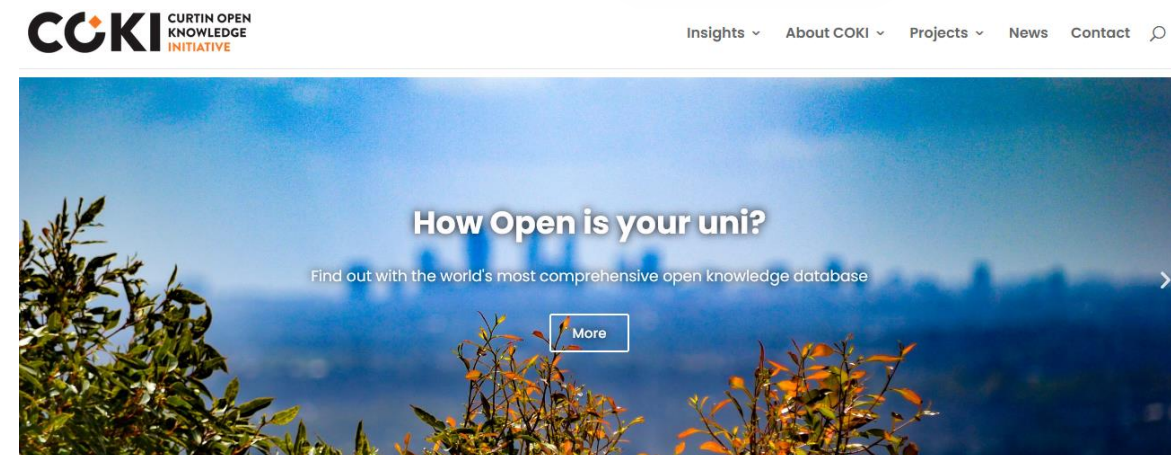


# Existing initiatives: a few examples among many

- Some national initiatives:
  - **Danish** Open Access Indicator  
<https://oaindikator.dk/en/>
  - **French** Open Science Monitor  
<https://frenchopensciencemonitor.esr.gouv.fr/>
  - Helmholtz Association's Open Access Monitor for **Germany**  
<https://os.helmholtz.de/en/open-access/>
- International initiative:
  - **Curtin University's** Open Knowledge Initiative (COKI)  
<https://openknowledge.community/>
- And much more...



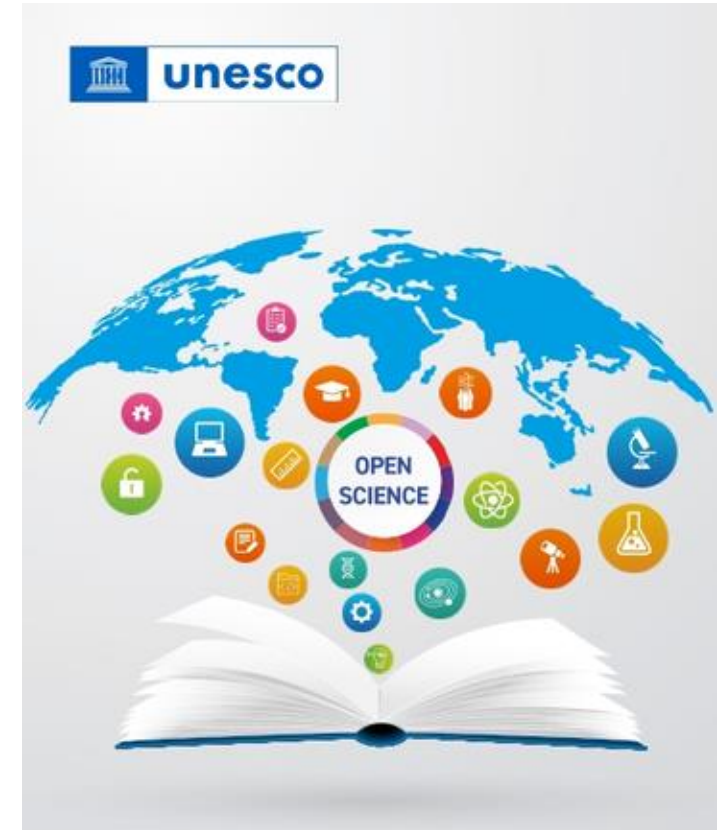
The image shows the top section of the Danish Open Access Indicator website. It features a header with the logo (an orange stylized 'a') and the text 'Danish Open Access Indicator'. To the right are navigation links for 'HOME' and 'OVERVIEW'. Below the header is a main heading 'Welcome to the Danish Open Access Indicator' followed by a paragraph explaining that the indicator is produced annually by the Danish Agency for Higher Education and Science. A 'Top menu' section lists four items: OVERVIEW, OA-TYPES, DATA, and GUIDES, each with a brief description of its content.



The image shows the top section of the Curtin Open Knowledge Initiative (COKI) website. It features a header with the logo 'COKI CURTIN OPEN KNOWLEDGE INITIATIVE' and navigation links for 'Insights', 'About COKI', 'Projects', 'News', and 'Contact'. Below the header is a large banner with a blue sky and green foliage background. The banner contains the text 'How Open is your uni?' and 'Find out with the world's most comprehensive open knowledge database', along with a 'More' button and a right-pointing arrow.

# Some guidelines already available...

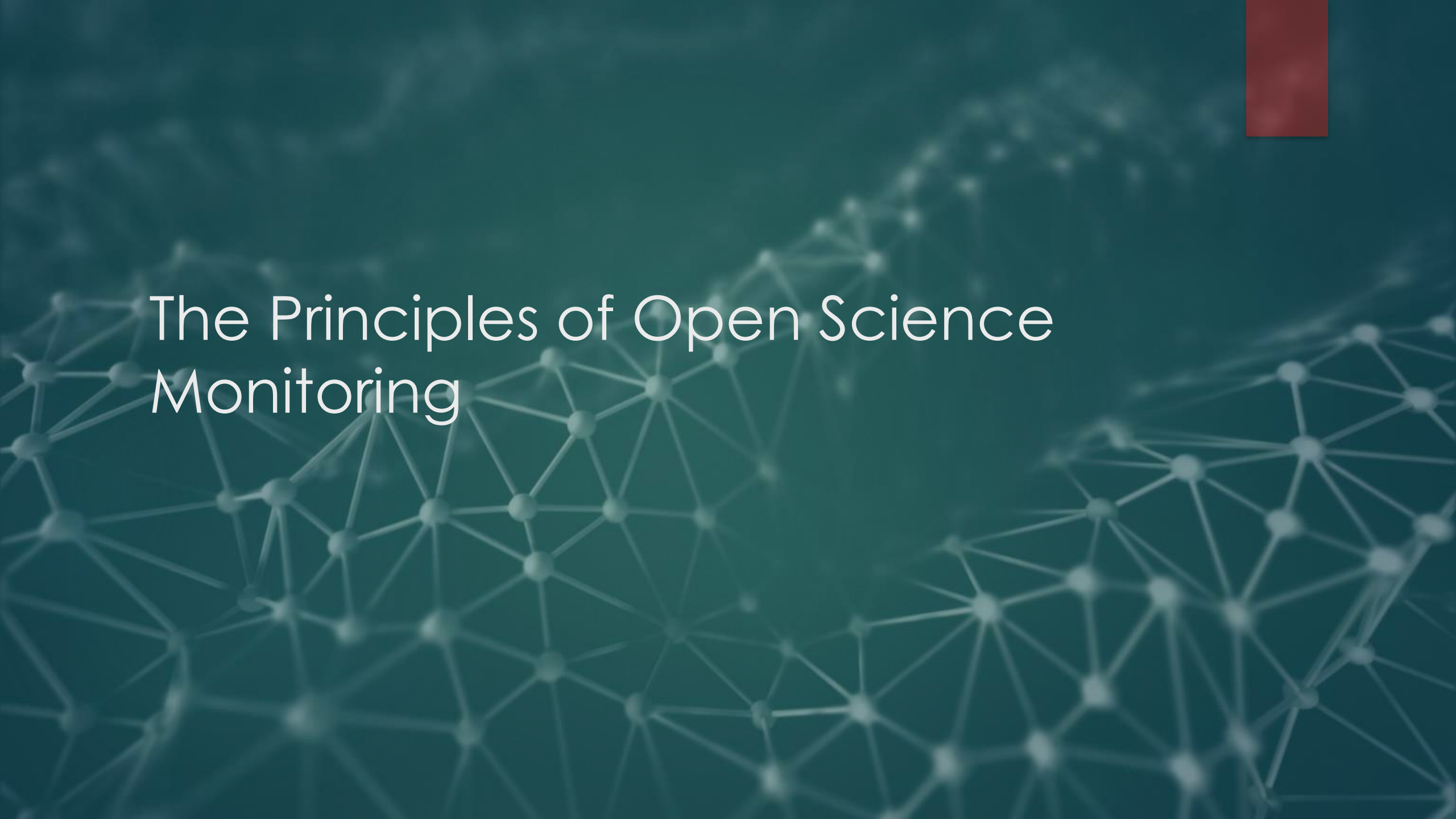
- 2020 : Principles of Open Scholarly Infrastructure  
<https://doi.org/10.24343/C34W2H>
- 2023 : UNESCO Recommendation on Open Science  
<https://www.unesco.org/en/open-science/about>
- 2024 : PathOS Open Science Indicator Handbook  
<https://handbook.pathos-project.eu/>
- Declaration on Open Research Information (to be published)



**UNESCO Recommendation  
on Open Science**

# But no common understanding of Open Science Monitoring

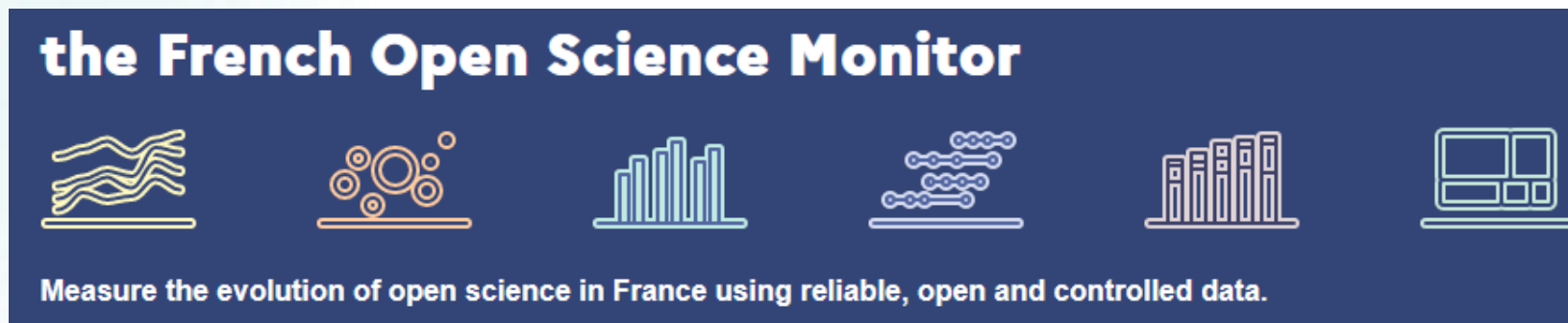
- We need a global approach to monitor open science progress
- In all domains, not only open access to **publications**
- But **also**:
  - research data,
  - open source software,
  - clinical trials,
  - open science impacts,
  - open science costs,
  - citizen science,
  - etc.



# The Principles of Open Science Monitoring

# A French initiative within the Open Science Monitor project

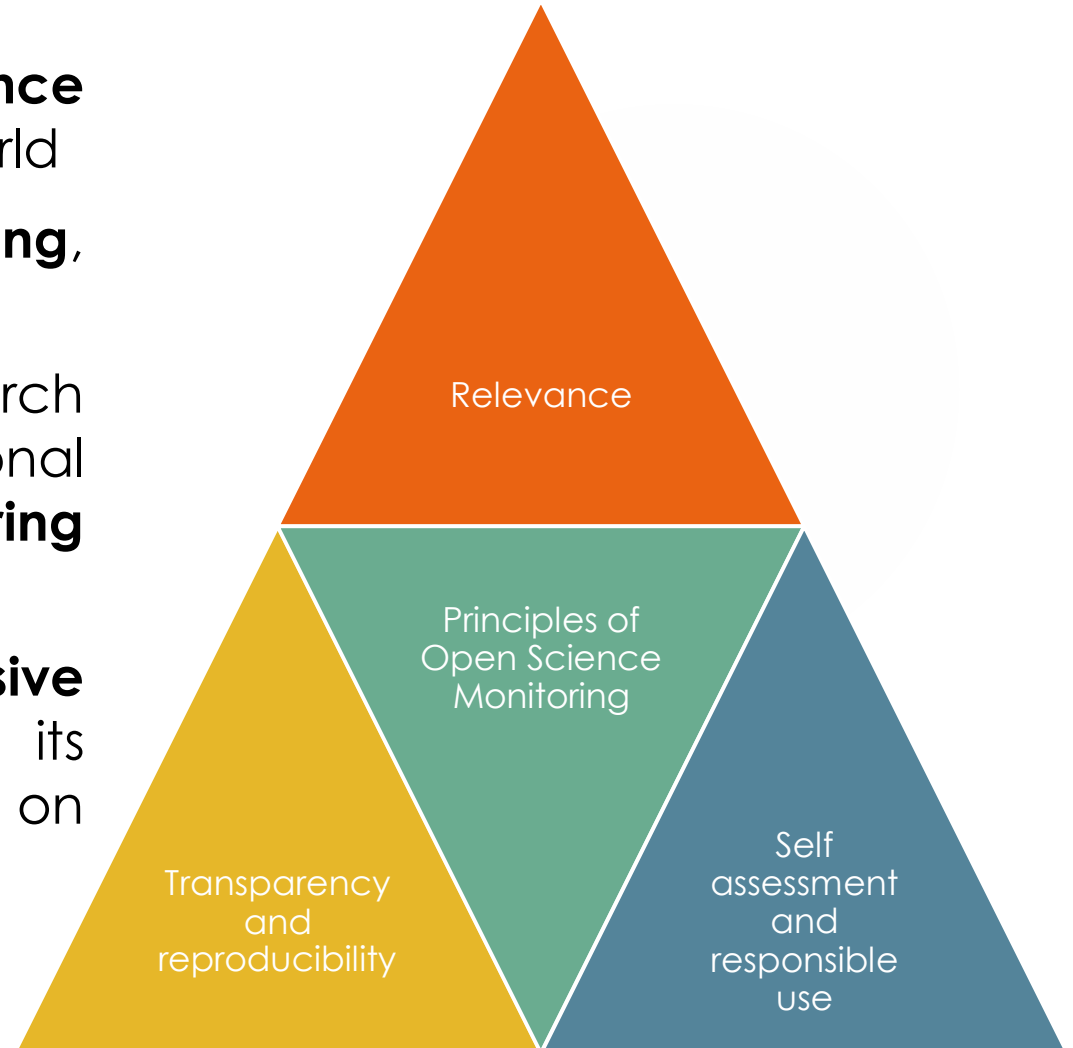
- Project led by the the French Ministry of Higher Education and Research, the Université de Lorraine and Inria
- Since 2021, discussions have been taking place on how to include new objects in the monitoring of open science in France
- Numerous international exchanges on the issue, notably with Denmark,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





# High-level principles

- Acknowledging the **diversity of Open Science monitoring approaches** throughout the world
- Providing guidelines to encourage **pooling, comparisons** and **reuse** when possible
- Helping stakeholders like countries, research performing organisations and international organisations to **set up their own monitoring tools**
- Global aim: monitor a **comprehensive transformation to open science** and its **impacts** on the research ecosystem and on society



# Creating the spark for international collaboration

- **Workshop** organised by the partners of the French Open Science Monitor at the Unesco headquarters the 19th of December 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...
- Two breakout-sessions to work on the principles

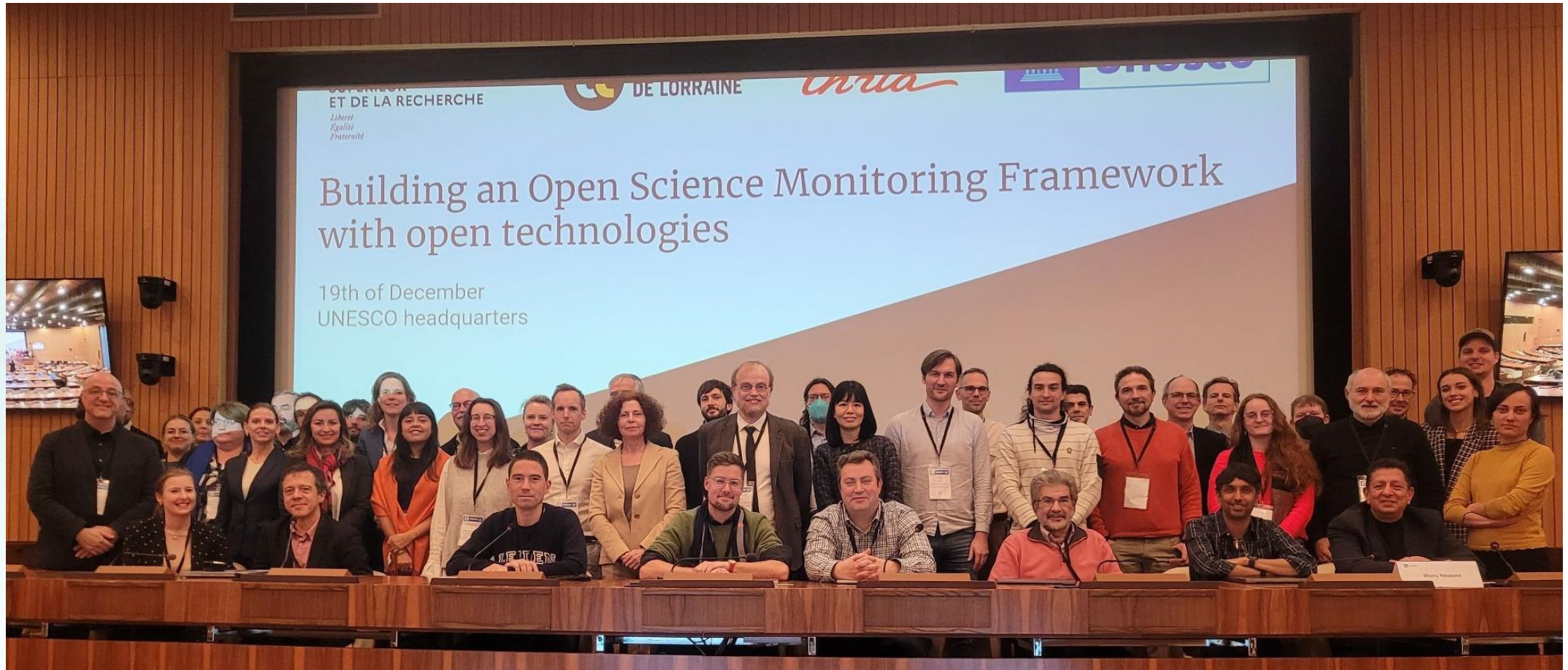


Building an Open Science Monitoring Framework  
with open technologies

19th of December  
UNESCO headquarters

[Slides available online](#)

# Creating the spark for international collaboration



# Relevant indicators: they should be...

- Applicable and clear in scope
- Meaningful for public policy
- Consensual
- Inclusive
- Comprehensive
- Mature
- Comparable
- Up to date

A common set of indicators should be defined for different contexts.

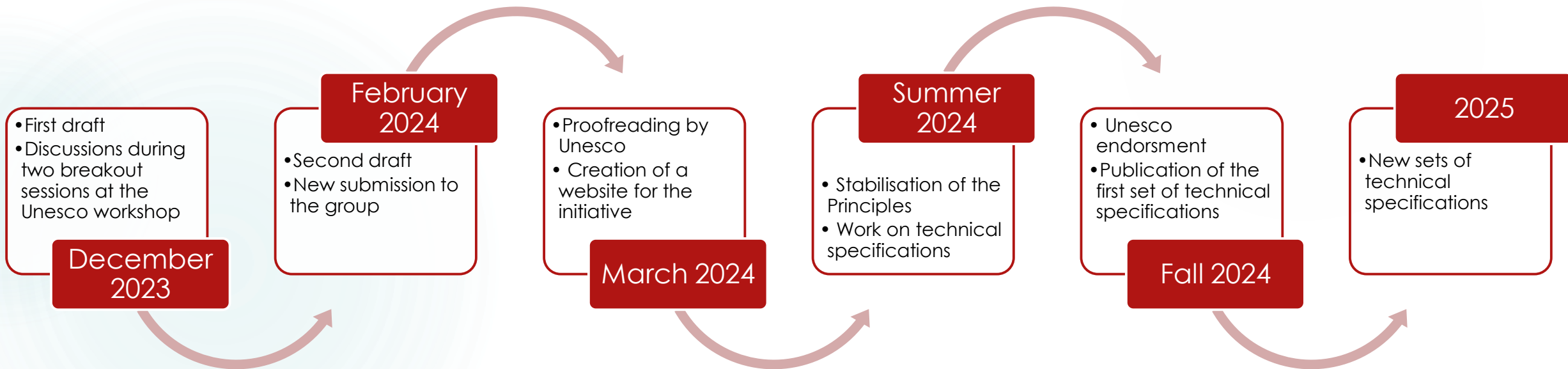
# Transparency and reproducibility

- Public documentation of processes and methodology
- Communication for the general public
- Explicit data provenance
- Input data should never prevent reuse
- Output data should be as open as possible
- FAIR and CARE principles should be taken into account
- Explanation of sampling and statistical techniques
- Open source software
- Transparency in the quality of indicators
- Accountability

# Self assessment and responsible use

- Reusable by design
- Self assessment
- Standardised indicators
- Monitor for improvement
- Continuous assessment
- Evolutive
- Avoid the use of these indicators to create rankings

# A work in progress



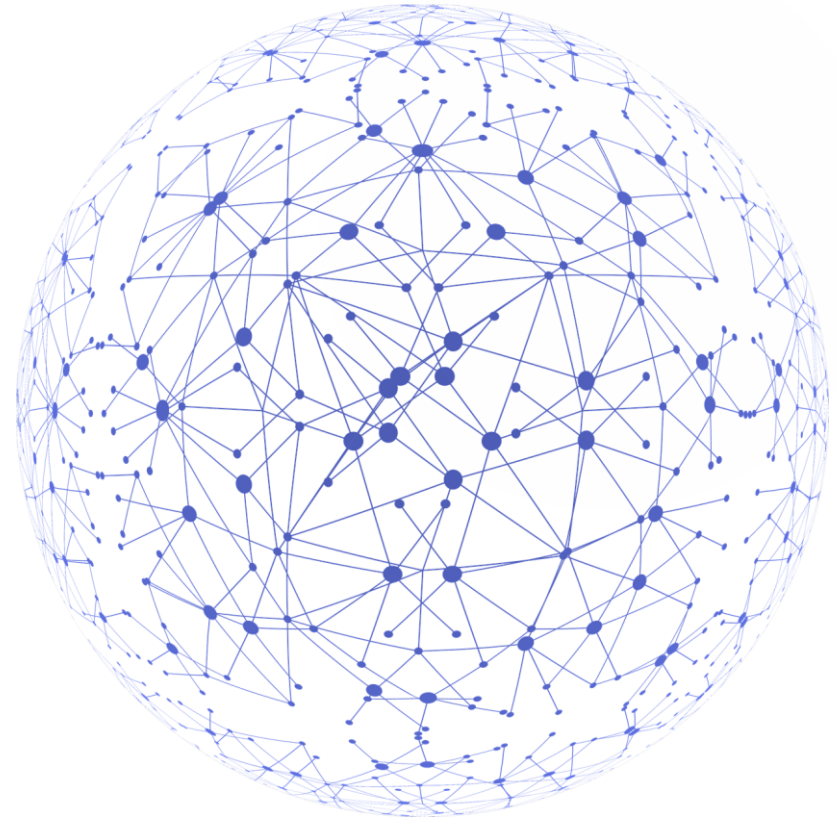


# Towards an international community of practices



# Creating and hosting an international community

- Promoting the principles
- Creation of technical specifications
- Mutual support between institutions
- Raising awareness among stakeholders
- An organisation yet to be defined!



[Source](#)

The background features a dark teal color with numerous light blue and white streaks that create a sense of motion, resembling light trails from a long-exposure photograph of a road or a city at night. In the top right corner, there is a solid red rectangular shape.

# Thank you!

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