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Ouvrir la science !

French Open Science Policy

Arianna Caporali (Deputy of the French Coordinator for Open Science, Ministère chargé de l'Enseignement supérieur et de la Recherche / French Ministry of Higher Education and Research (MESR)

CLOSER "Metadata management in the real world" webinar series

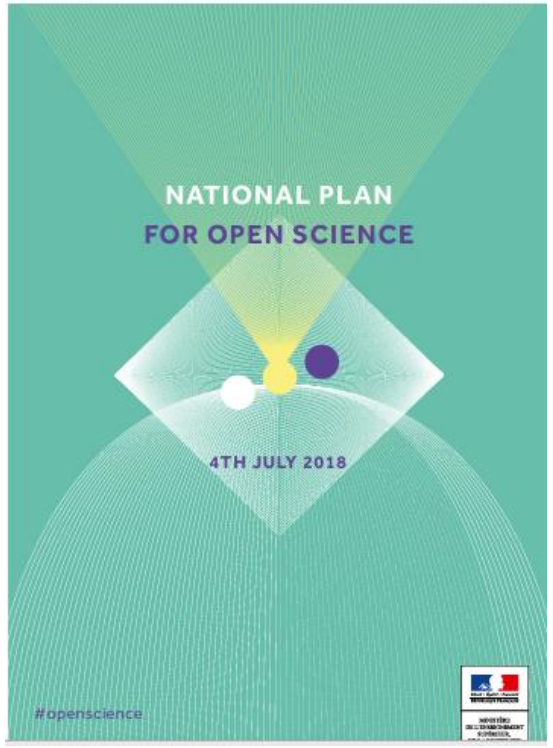
19 March 2025

Outline

- French Plan for Open Science and its main measures
- Assessment of the measures put in place
  - ➢ Results of a survey on open science policies adopted by Higher education and research institutes
- OSMI – *Open Science Monitoring Initiative*
- GRIOS – *Global Research Initiative on Open Science*

French Plans for Open Science

First Plan
July 2018



Second plan
July 2021

4 Paths
12 Flagship measures

Path 1.
Generalising open access to publications
1 2 3

Path 2.
Structuring, sharing and opening up research data
4 5 6

Path 3.
Opening up and promoting source code produced by research
7 8 9

Path 4.
Transforming practices to make open science the default principle
10 11 12

In total, 102 mesures

The Committee for Open Science

Steering Committee for Open Science Ministry of Higher Education and Research (MESR), research institutes, Universities, National Research Agency (ANR), Couperin consortium, High Council for the Evaluation of Research and Higher Education (Hcéres)	Makes decisions, arbitrates the use of funds from the National Open Science Fund
Open Science Office at the MESR National coordinator and his team, the National Chief Data and Software Officer, and the Head of the Scientific and Technical Information and Documentation Network Department	Prepares and implements the Plan, coordinates the Open Science Committee bodies, intra-ministerial, interministerial, and intergovernmental actions
Permanent secretariat for Open Science MESR, research institutes Universities, ANR, associations dedicated to scientific information and university and research libraries, Hcéres, the Open Science Committee' s Colleges and Groups	Prepares decisions, proposes guidelines, monitors work
Colleges and Expert groups Publications College, Research Data College, Software and Sources Codes College, Open Scientific Publishing Expert Group, Legal Affairs Expert Group	Investigate issues, propose guidelines, initiate and manage projects

Path One :
Generalising open access to publications

1

Generalise the obligation to publish in open access all articles and books resulting from publicly funded calls for proposals

2

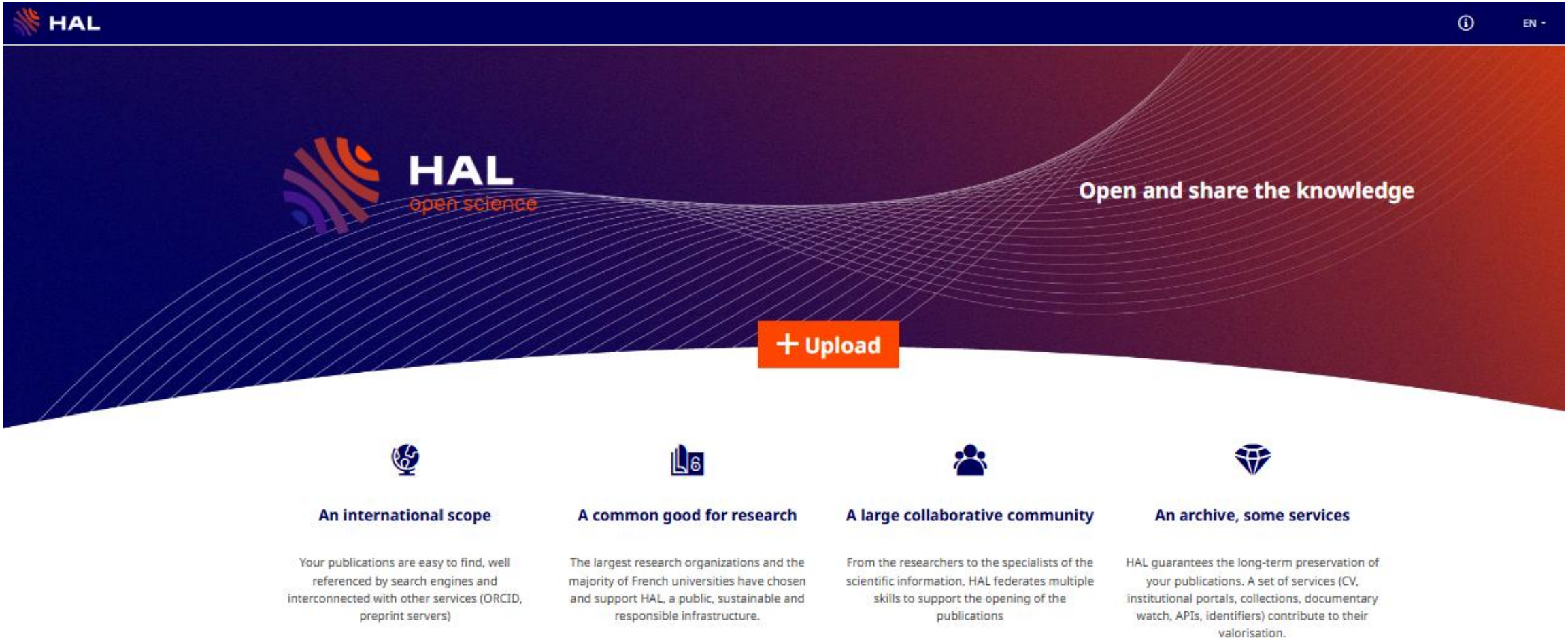
Support open access economic publishing models that do not require the payment of articles or books processing charges (“diamond” model)

3

Encourage multilingualism and the circulation of scientific knowledge by translating publications by French researchers

“Our goal is to reach **100% of open access publications.**”

Example of a measure: continue developing the HAL national open archive



https://hal.science/

Path Two :
Structuring, sharing and opening up research data

4

Implement the obligation to disseminate publicly funded research data (2016 Digital Republic Law)

5

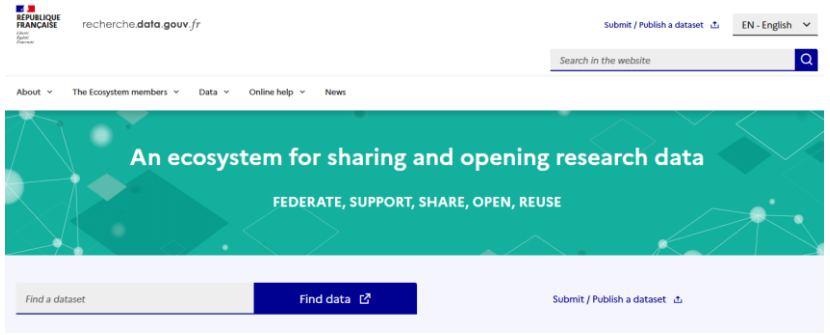
Create Recherche Data Gouv, the federated national platform for research data

6

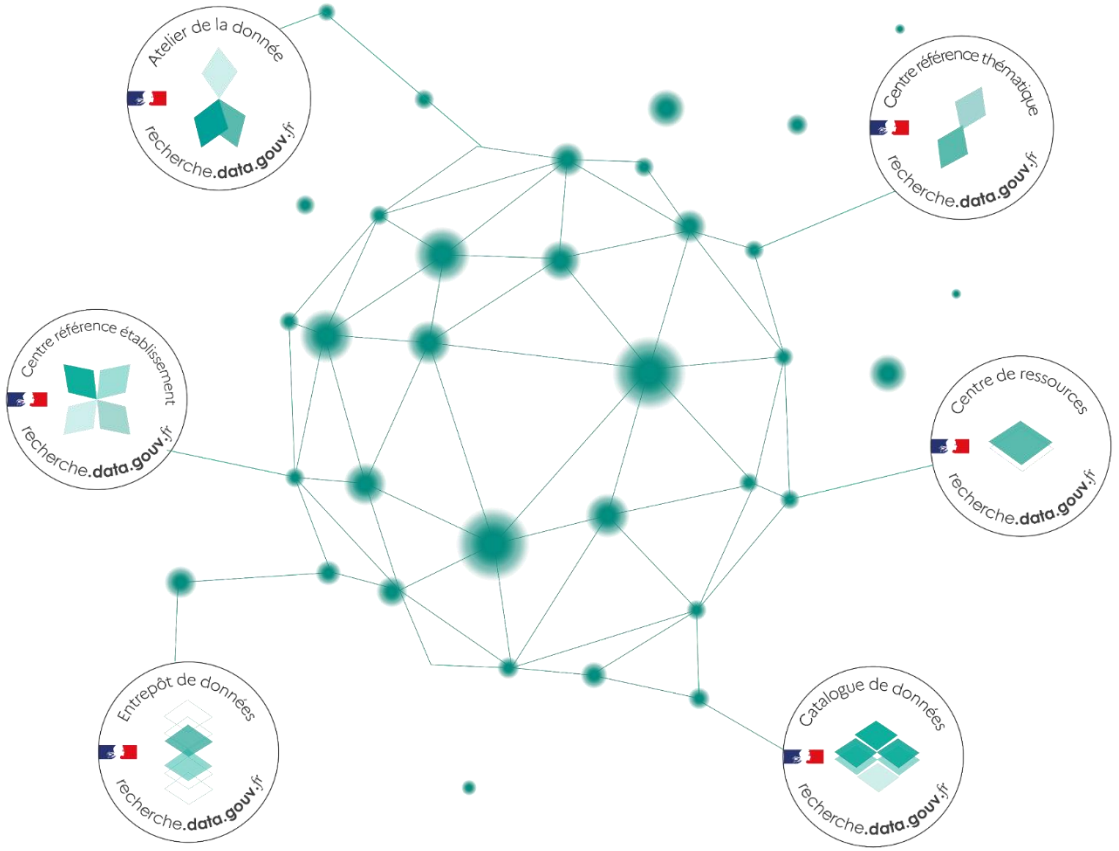
Promote widespread adoption of data policies, to ensure that they are Findable, Accessible, Interoperable and Reusable (**FAIR**)

"We will encourage practices that favor **research data reuse.**"

Example of a measure: develop *Recherche Data Gouv*



- A national research data platform
- A network of general and thematic support centers



Path Three :
Opening up and promoting source code produced by research

7

Recognize and support the dissemination under an open source license of software produced by publicly funded research programmes

8

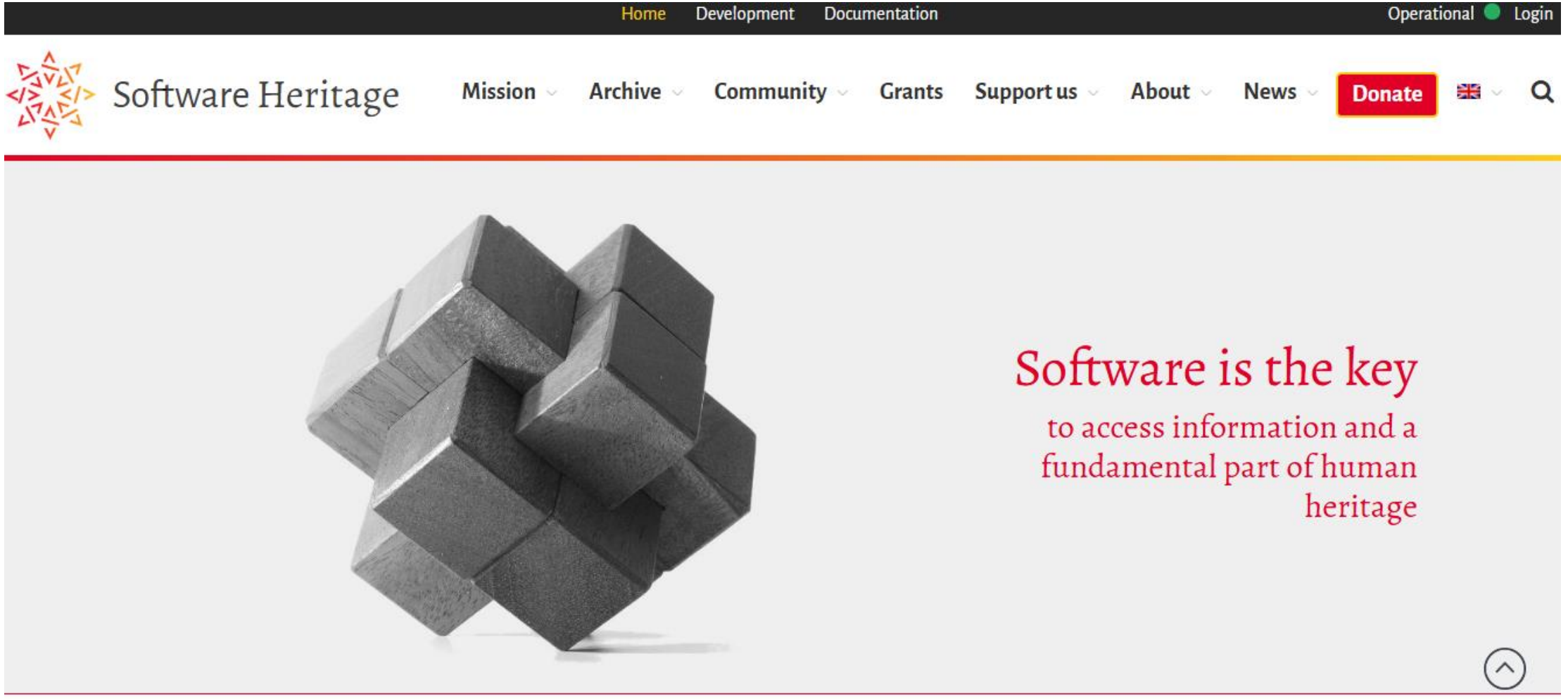
Highlight the production of source code from higher education and research

9

Define and promote an **open source software policy**

"The opening of software source code is a major challenge for the **reproductibility** of scientific results."

Example of a measure: support to Software Heritage



Path Four :
Transforming practices to make open science the default principle

10

Develop and value open science skills throughout the educational and career pathways of students and research staff

11

Value open science and the diversity of scientific productions in the assessment of researchers, of projects and of universities and research institutes

12

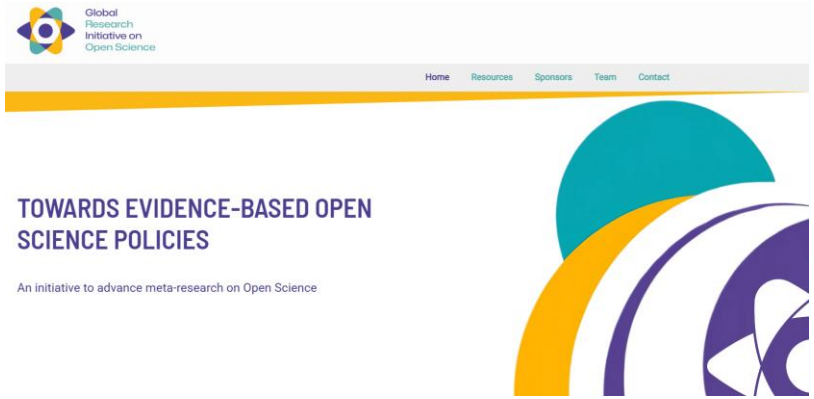
Triple the budget for open science through the National Fund for Open Science

"Transformation of the assessment system is required in order to **foster long-term open science practices.**"

Examples of measures

Open science « Passports »

CoARA
Coalition for Advancing Research Assessment



Assessment of the implemented policy

1. “Qualitative” assessment
2. Deliverables of the Committee for Open Science
3. Indicators of the French Open Science Monitor
4. Results of the survey on open science policies adopted by French Higher Education and Research Institutes

Assessment of the flagship measures

Path 1. Generalising open access to publications	Generalise the obligation to publish in open access	★★★★
	Support the "diamond" open access publishing models	★★★☆
	Encourage multilingualism and the circulation of scientific knowledge through translation	★★★★
Path 2. Structuring, sharing and opening up research data	Implement the obligation to disseminate publicly funded research data	★★☆☆
	Create Recherche Data Gouv, the federated national platform for research data	★★★★
	Promote data policies to ensure that research data are Findable, Accessible, Interoperable and Reusable (FAIR)	★★★★
Path 3. Opening up and promoting source code produced by research	Recognize and support the dissemination under an open source license of software	★★★☆
	Highlight the production of source code from higher education, research and innovation	★★☆☆
	Define and promote an open source software policy	★★★★
Path 4. Transforming practices to make open science the default principle	Develop and value open science skills	★★★☆
	Value open science and the diversity of scientific productions in the assessment	★☆☆☆
	Triple the budget for open science	★☆☆☆

Level of implementation

Initial ★☆☆☆

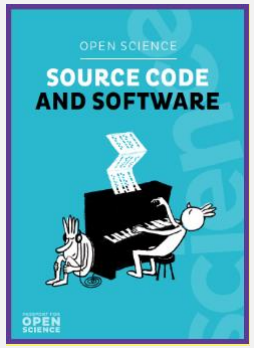
Partial ★★☆☆

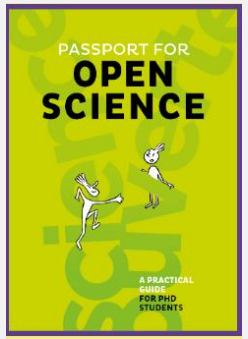
Advanced ★★★☆

Achieved ★★★★

82 productions of the Committee for Open Science

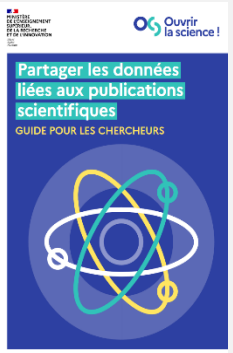
4 Open Science Passports





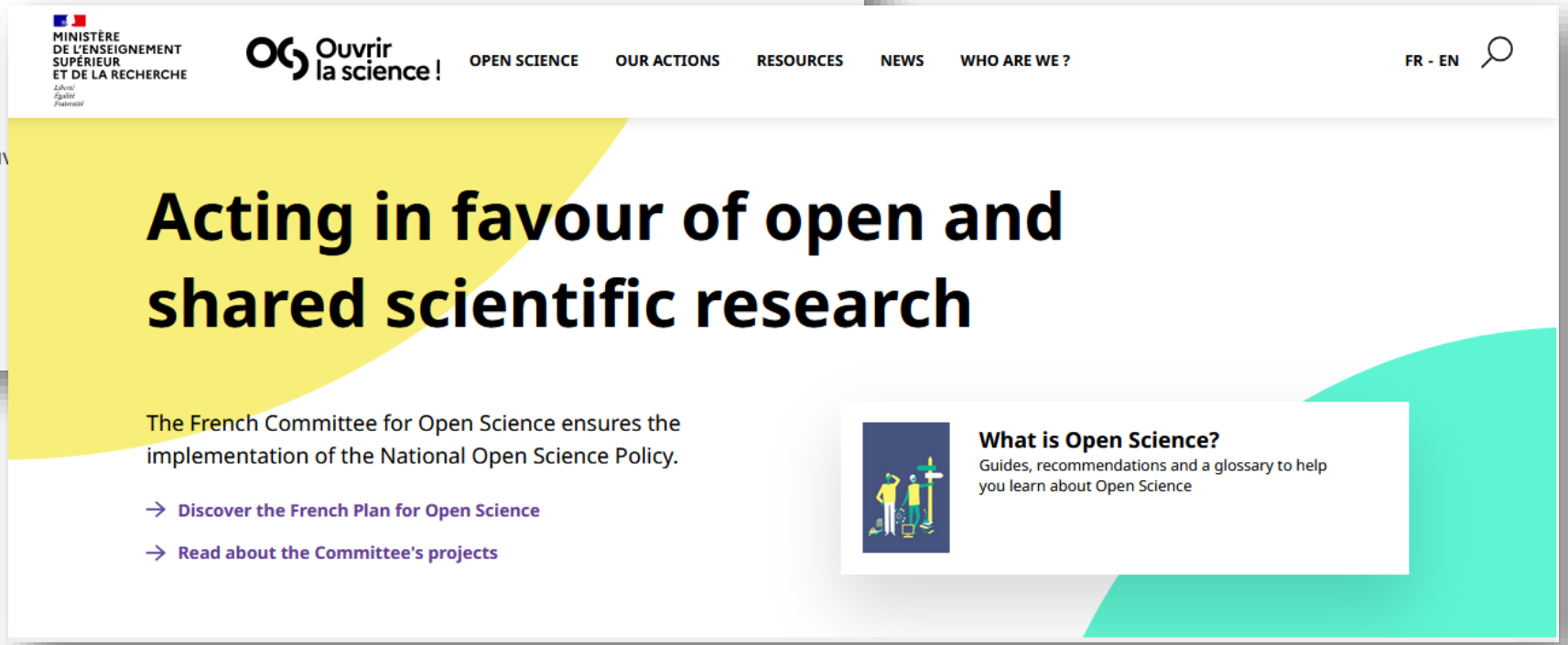
5 introductory videos on open science

5 guides



68 studies, reports, and tools

Ouvrirlascience.fr



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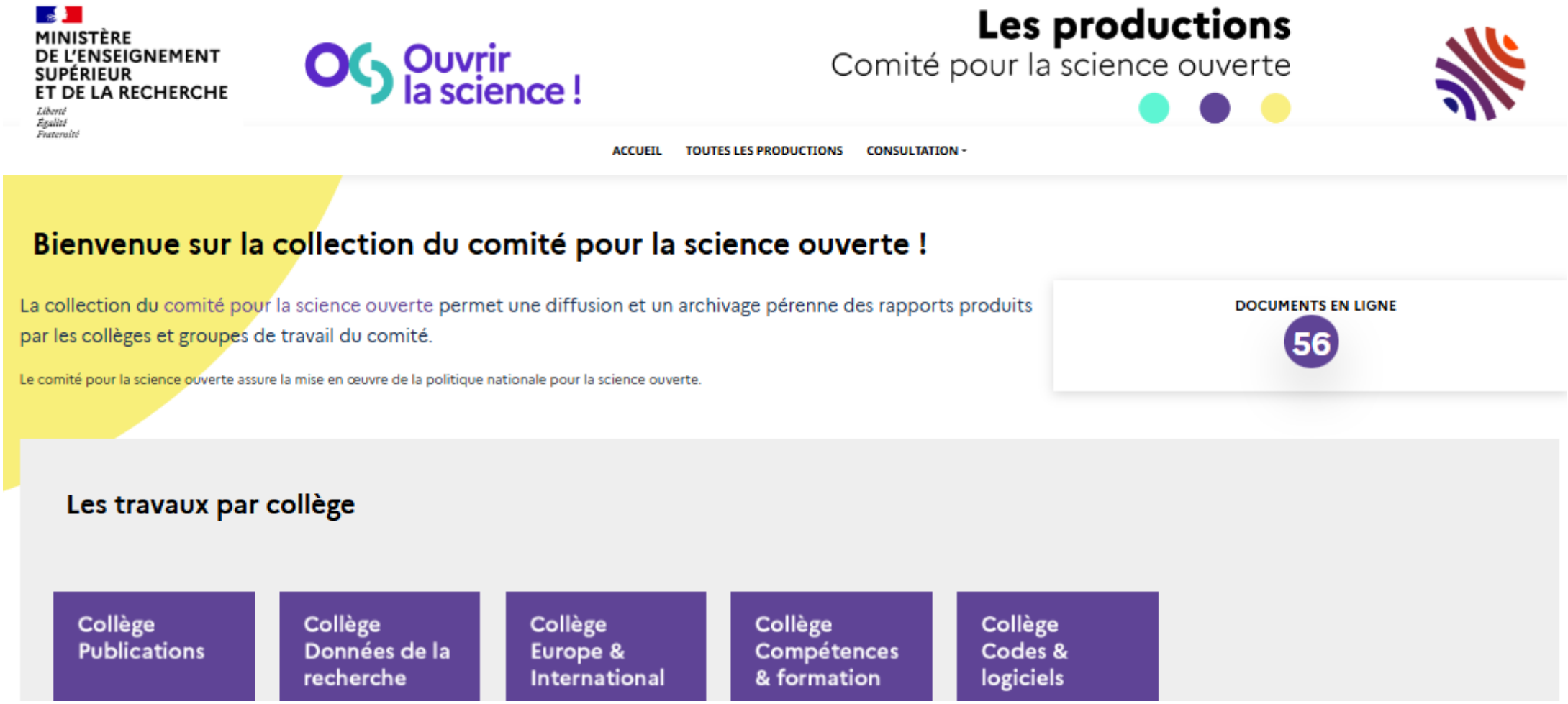
Les productions
Comité pour la science ouverte



https://hal-lara.archives-ouvertes.fr/OUVRIR-LA-SCIENCE

HAL

- 56 online reports
- 34 911 downloads

Ouvrirlascience.fr

- 364 blog posts
- 42 newsletters, 1 500 subscribers
- 90 500 visits per year on average

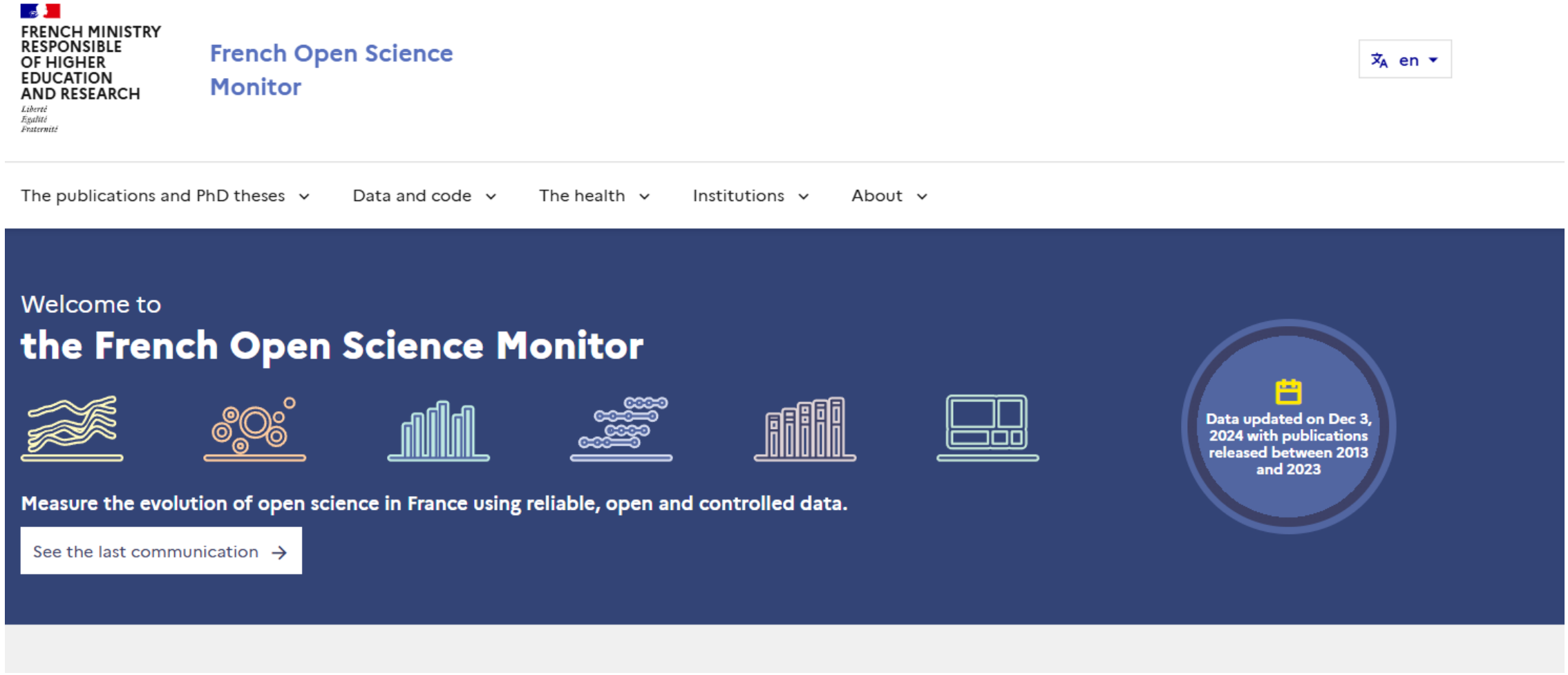
MESR official website

https://www.enseignementsup-recherche.gouv.fr/fr/science-ouverte-50360

- 50 news on open science

Social networks

About 4 000 followers



https://frenchopensciencemonitor.esr.gouv.fr/

The French Open Science Monitor (data published in January 2025)

67% of publications are open access

An increase of +29 points in all disciplines

72% of doctoral theses are open access

An year after the defence

44% clinical trial results shared within 3 years

8 Points reduction in one year.

Academic lead sponsors : 21%.

Industrial lead sponsors : 69%

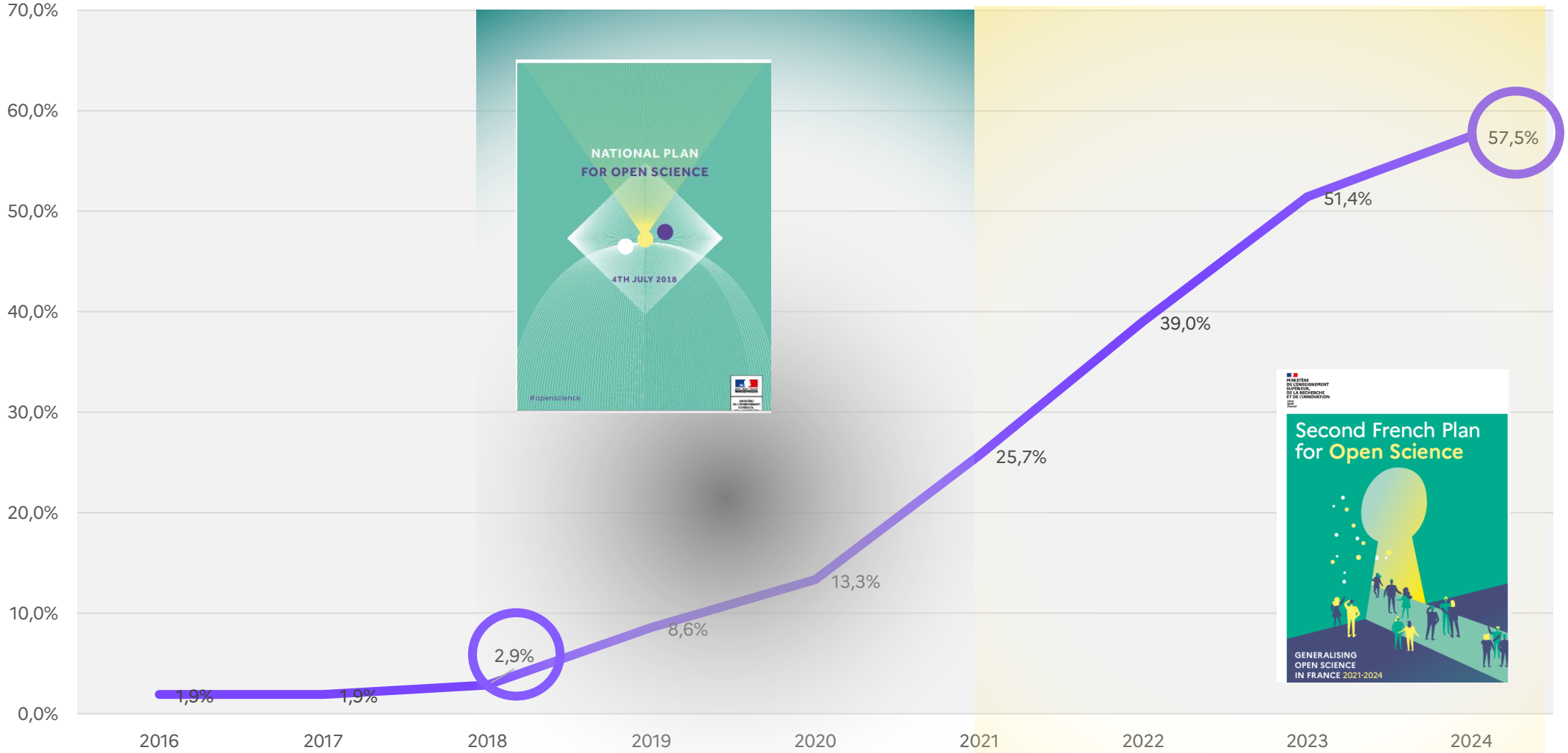
25% of publications shared their data

19% shared their codes or software

Source: https://barometredelascienceouverte.esr.gouv.fr/

70 institutes have set up their open science monitors

Number of Higher education and research institutes with an open science policy



Source: 10.52949/80

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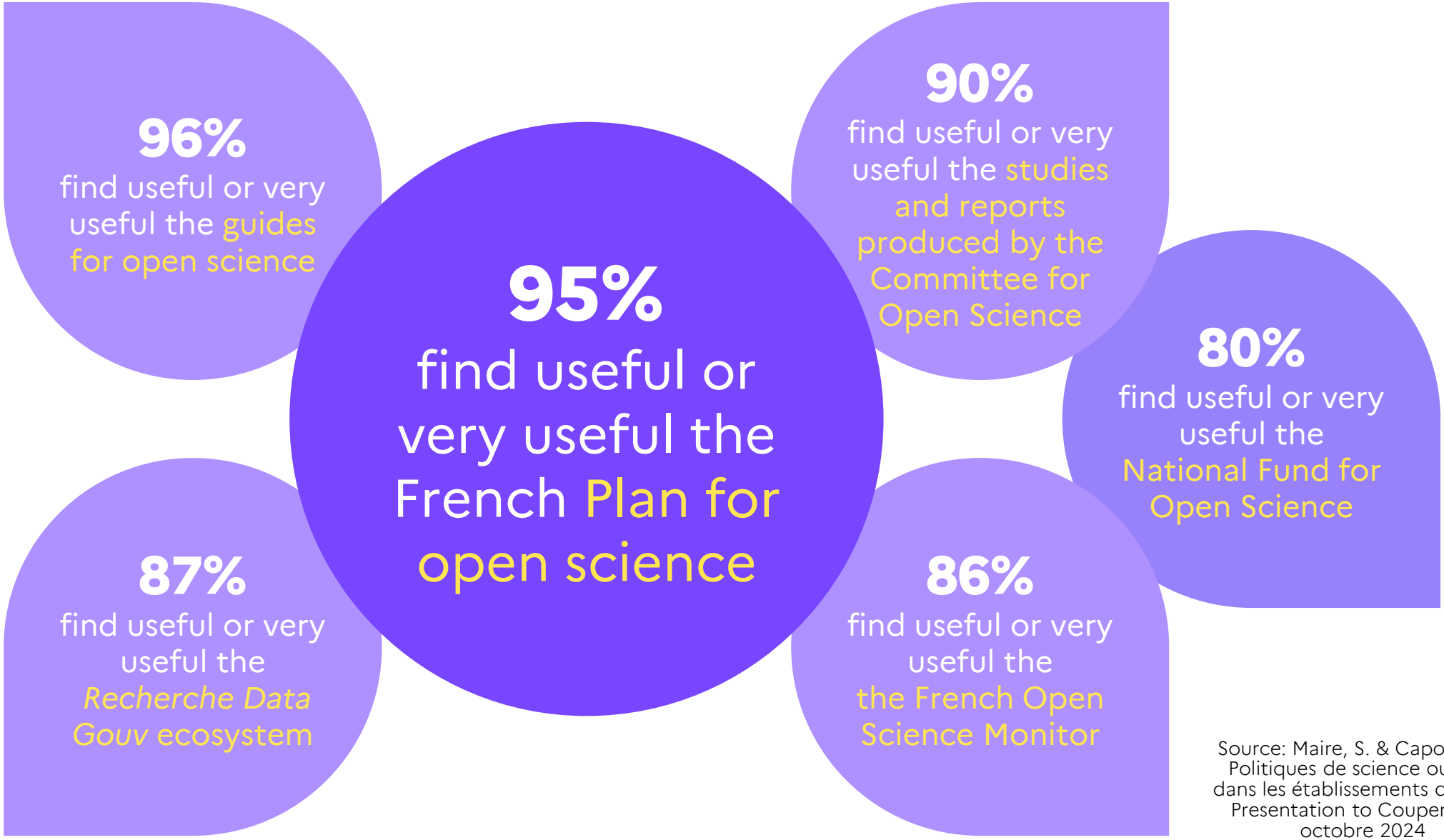
How far have we got in implementing our open science policy? Results of the survey among higher education and research institutes

- Respondents : 105 Higher education and research institutes
- Report (in French), DOI : 10.52949/80
- Dataset : https://doi.org/10.57745/PH7EIX

Main results

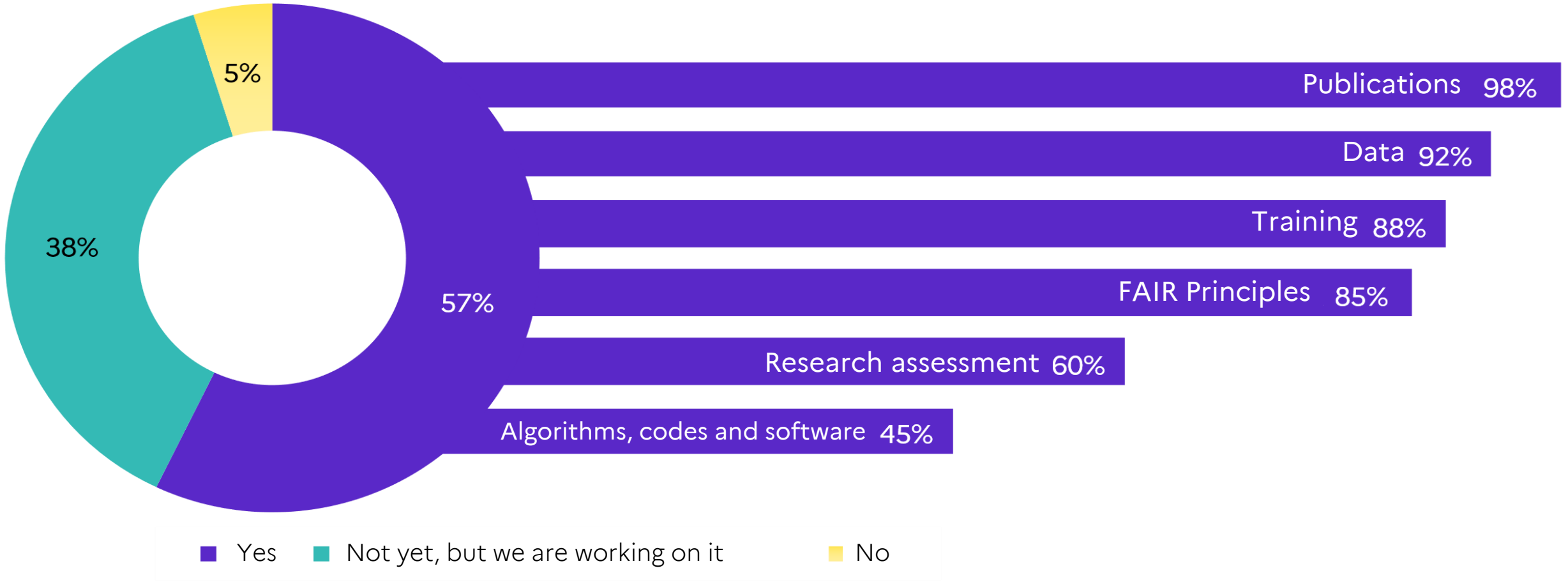
- National initiatives are very well received
- Open science policies adopted by French institutes are increasingly structured and aligned with the national policy
- More and more people are involved in open science
- Implementation of strategies in all aspects of open science (especially publications, data, and training, but also source code, software, and research assessment)
- Still challenges to overcome, such as differences between disciplinary practices

National initiatives



Source: Maire, S. & Caporali, A., Politiques de science ouverte dans les établissements de l'ESR. Presentation to Couperin, 15 octobre 2024

Adoption of a framework document and topics addressed in this document



Source: 10.52949/80

People involved

84% have appointed a person in charge of open science

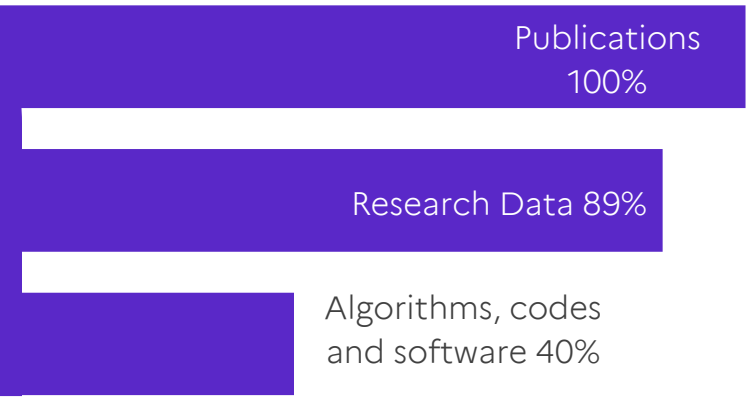
55% of the designed persons are directors

31% of designated persons are part of the ADAC network*

43% have appointed a person in charge of the data management

87% have a network of people who support research units

Topics covered



Source: Maire, S. & Caporali, A., Politiques de science ouverte dans les établissements de l'ESR. Presentation to Couperin, 15 octobre 2024

** network of administrators of data, algorithms and research source codes (ADAC) led by the MESR*

Publications

76% have implemented specific measures

- Declaration in OpenAPC of publication fees 73%
- "Read an publish" agreement 61%
- Rights Retention Strategy 35%
- Centralization of publication fees at the institution level 16%

Research data

40% have an institutional data repository

- An institutional portal in Recherche Data Gouv 74%
- Other 26%

81% have an open access publishing strategy

- Green open access 95%
- Diamond open access 76%
- Gold open access 32%

Source: Maire, S. & Caporali, A., Politiques de science ouverte dans les établissements de l'ESR. Presentation to Couperin, 15 octobre 2024

Algorithms, codes and software

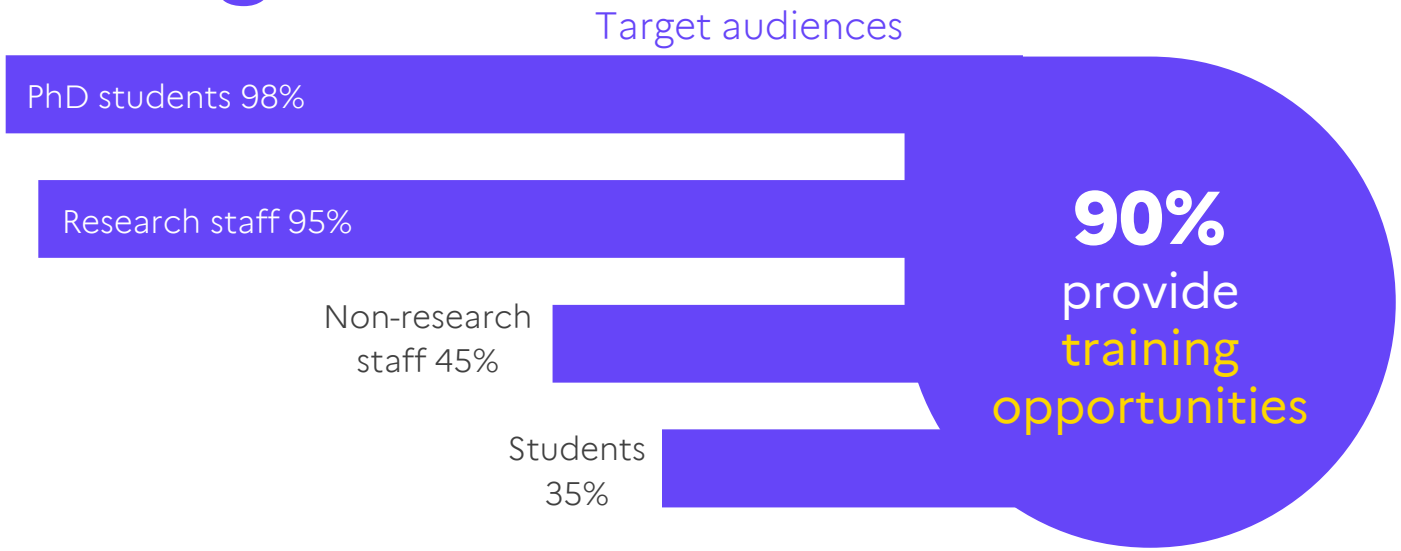
39%
have a software development environment

42%
carries out a mapping via a catalogue and/or in HAL and Software Heritage

35%
involves the valorisation service in their software policy

Source: Maire, S. & Caporali, A., Politiques de science ouverte dans les établissements de l'ESR. Presentation to Couperin, 15 octobre 2024

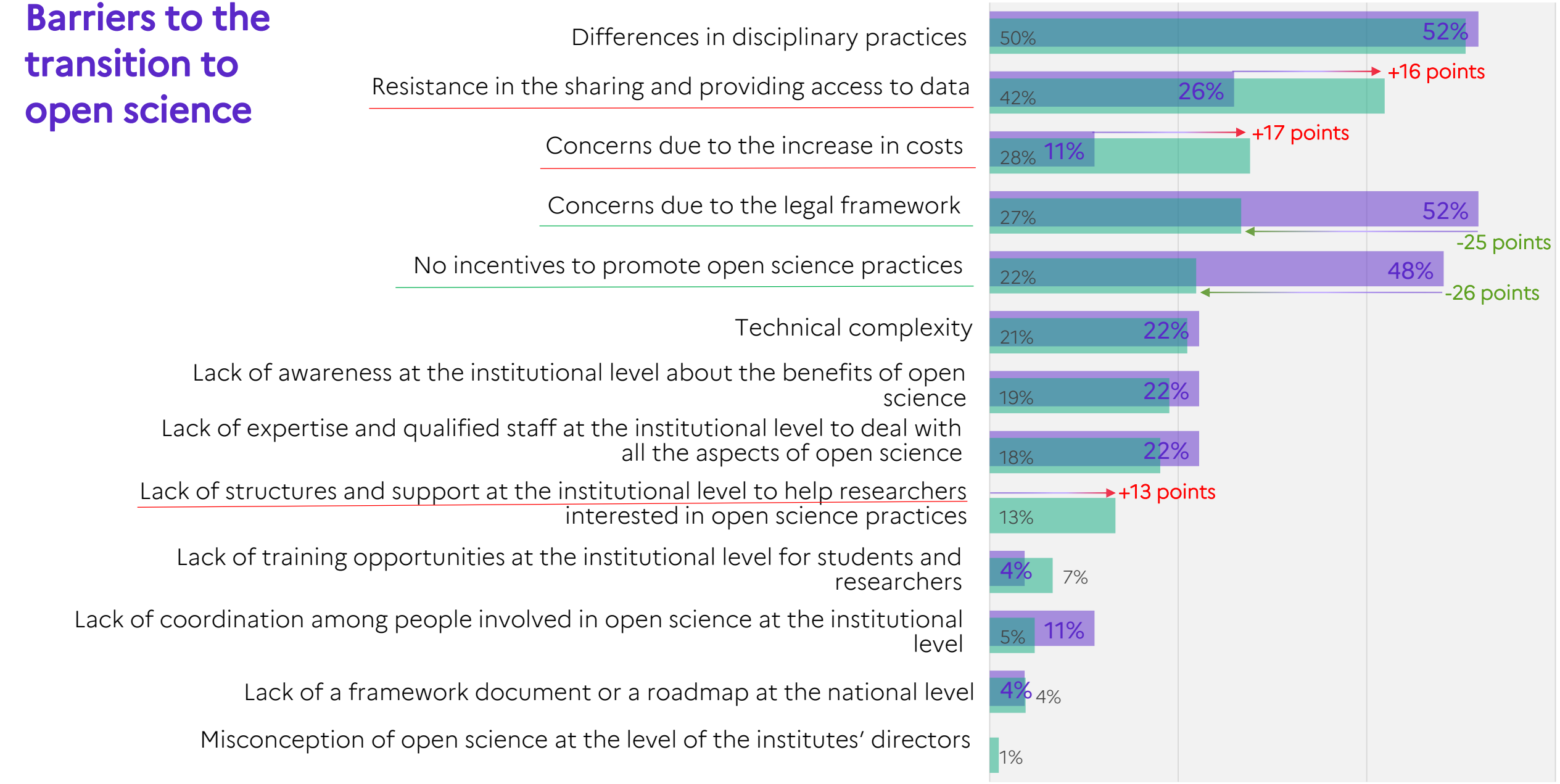
Training offer



Research assessment

Source: Maire, S. & Caporali, A., Politiques de science ouverte dans les établissements de l'ESR. Presentation to Couperin, 15 octobre 2024

Barriers to the transition to open science



Source: 10.52949/80

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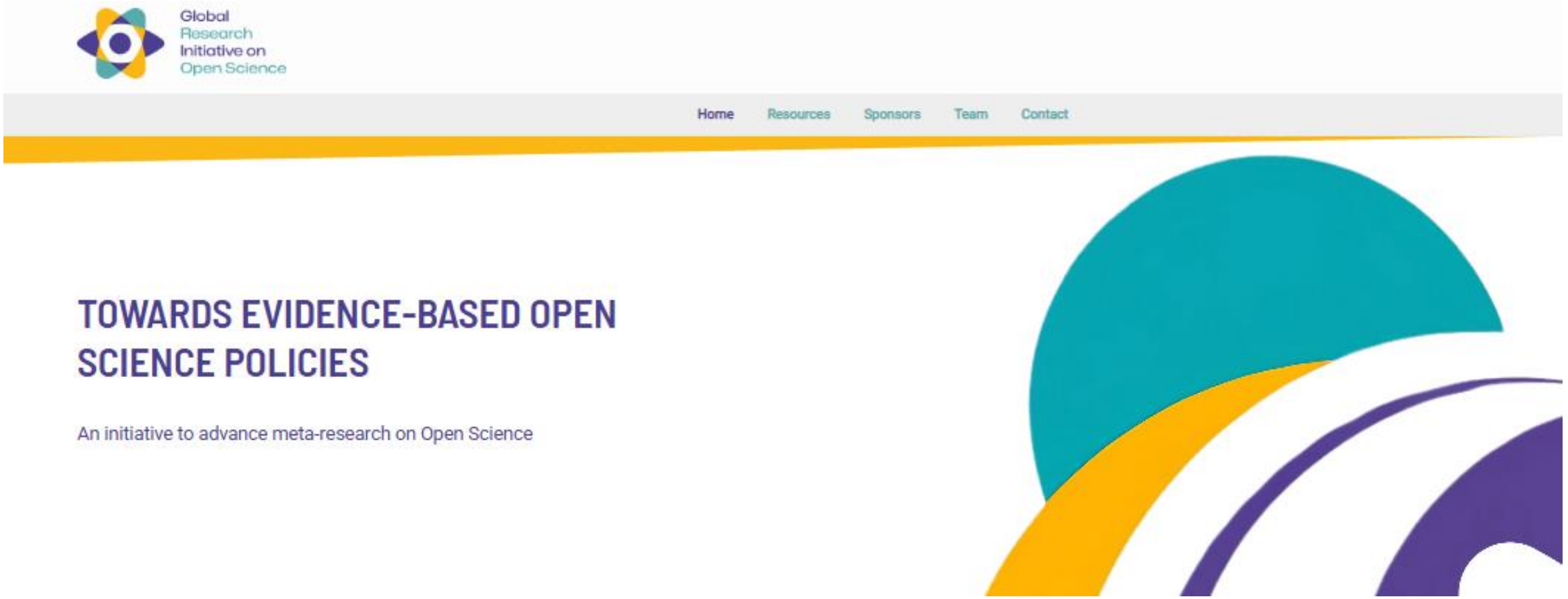
GRIOS – Global Research Initiative on Open Science



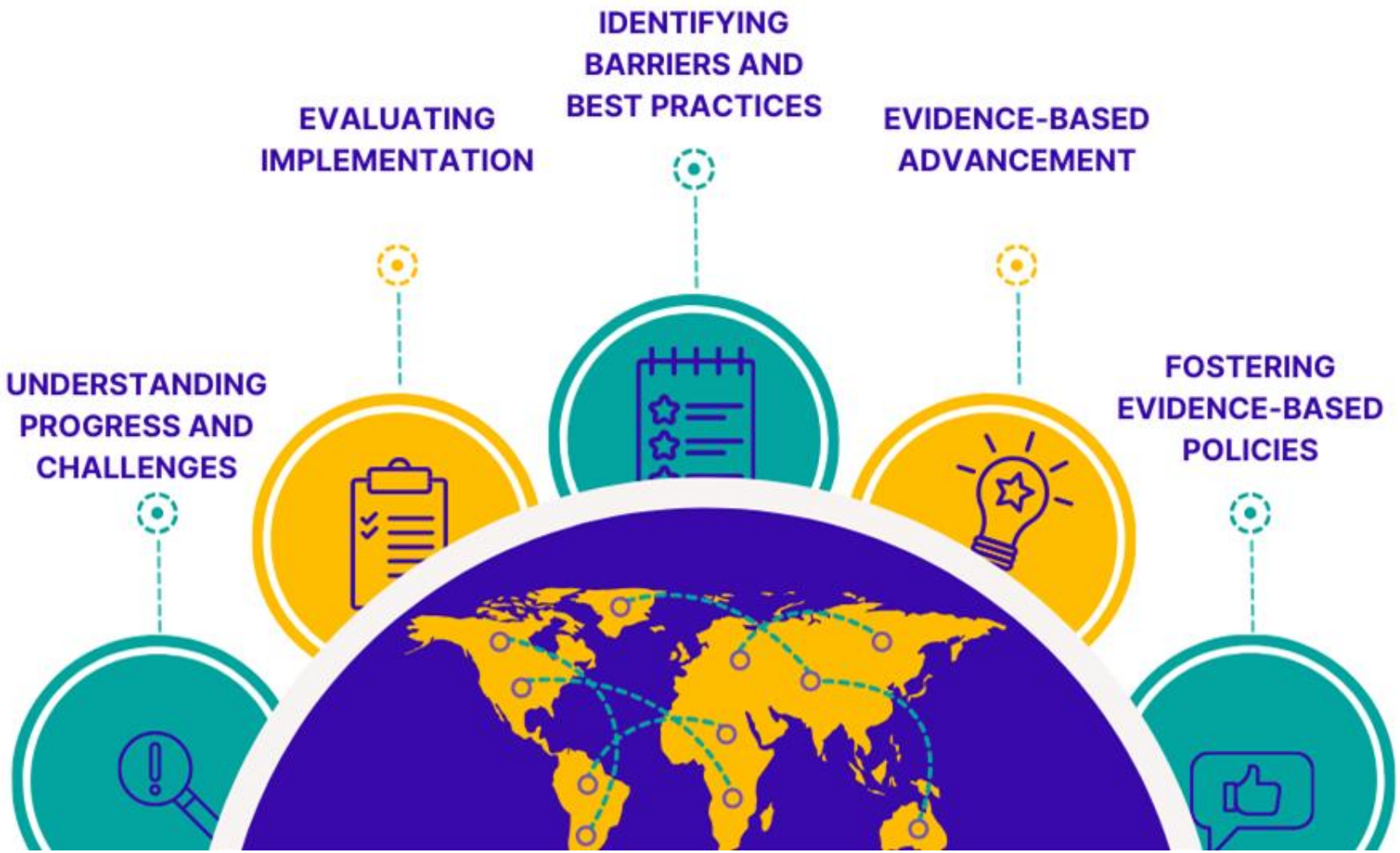
https://grios.org/

Origines

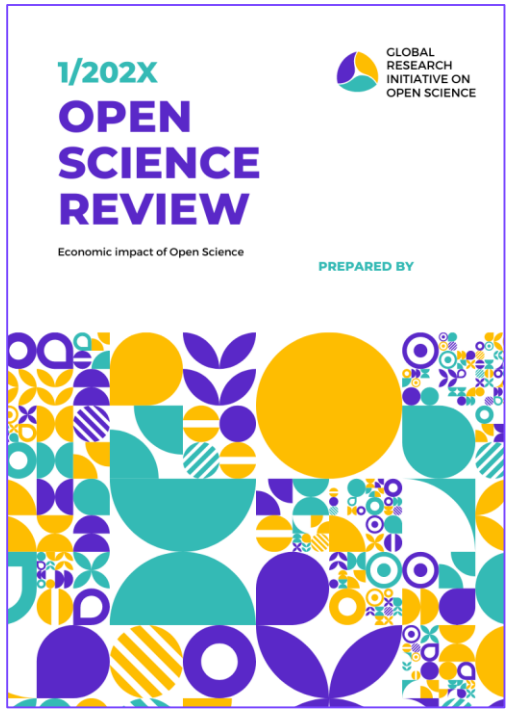
- Responding to G7 Communique (May 2023) which encourages research-on-research to promote effective open science policy making (Annex 1)

"v) mobilise research-on-research to promote effective open science policy making; vi) promote inclusivity and equity in practicing open science, among countries and communities; and vii) encourage a framework for monitoring the progress and obstacles of open science."

Benefits

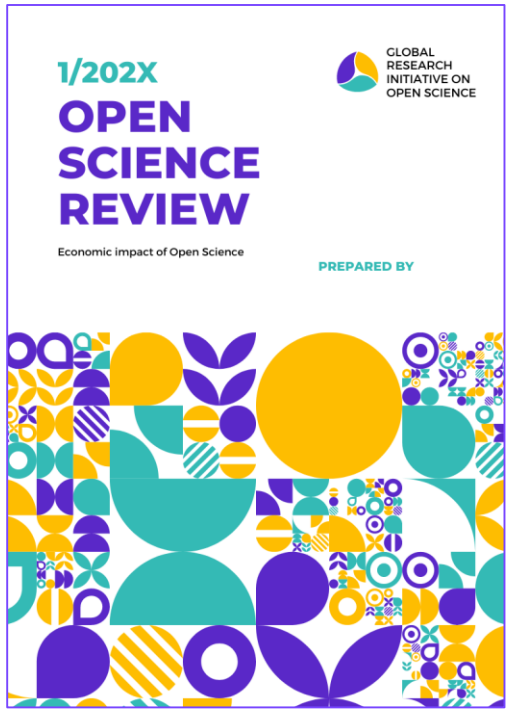

IDENTIFYING BARRIERS AND BEST PRACTICES
EVALUATING IMPLEMENTATION
EVIDENCE-BASED ADVANCEMENT
UNDERSTANDING PROGRESS AND CHALLENGES
FOSTERING EVIDENCE-BASED POLICIES

Objectives



1. Produce in-depth reviews of existing research on open science

Objectives



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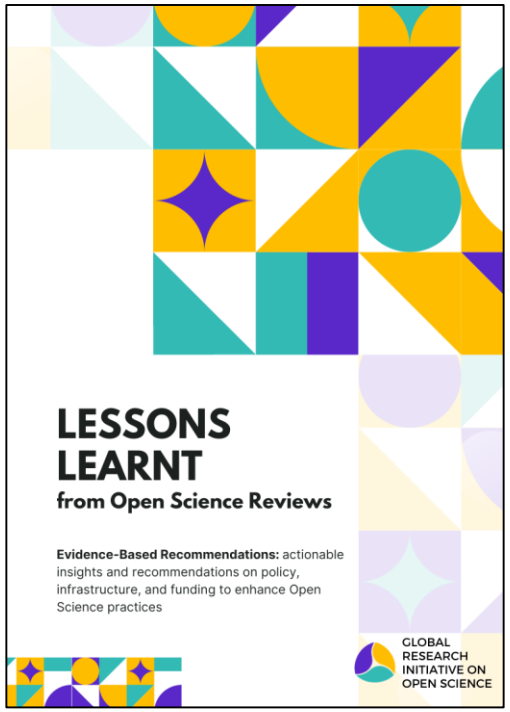
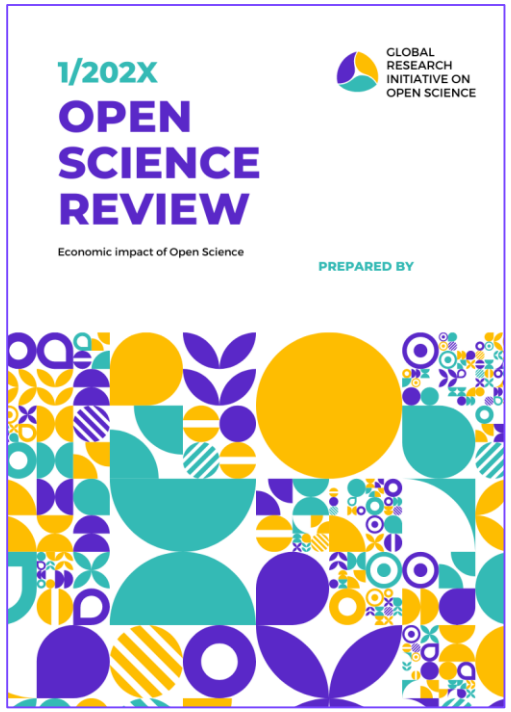


2. Formulate recommendations based on the results highlighted by the reviews

Objectives



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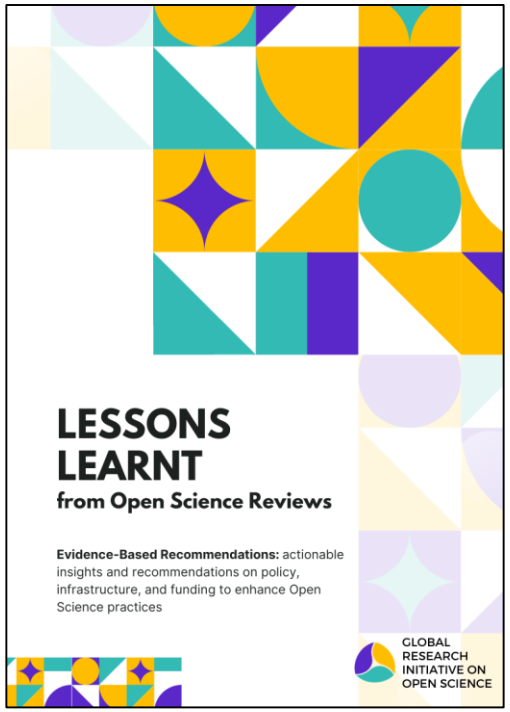

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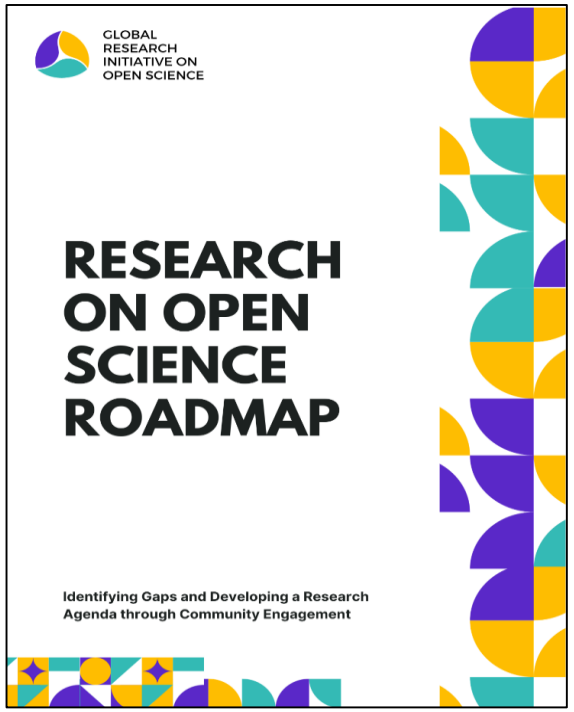
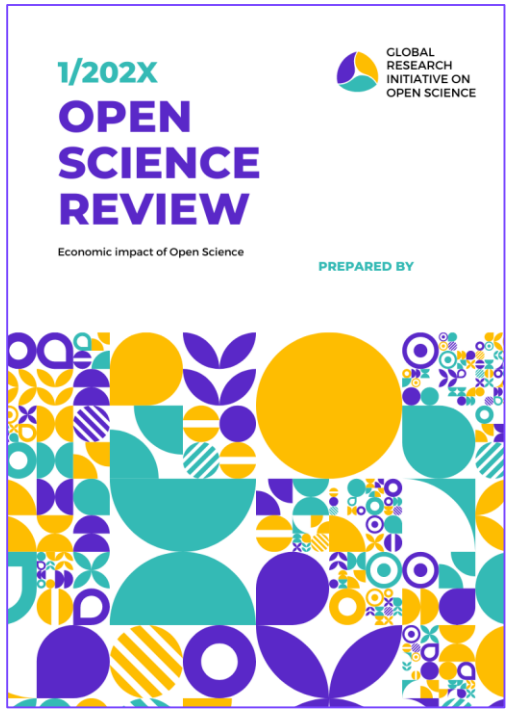


3. Propose a research agenda to fill the gaps in current knowledge on open science

Objectives



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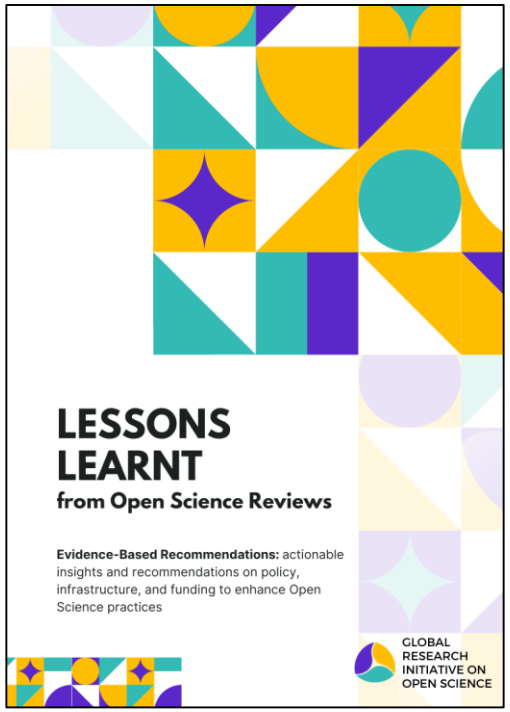

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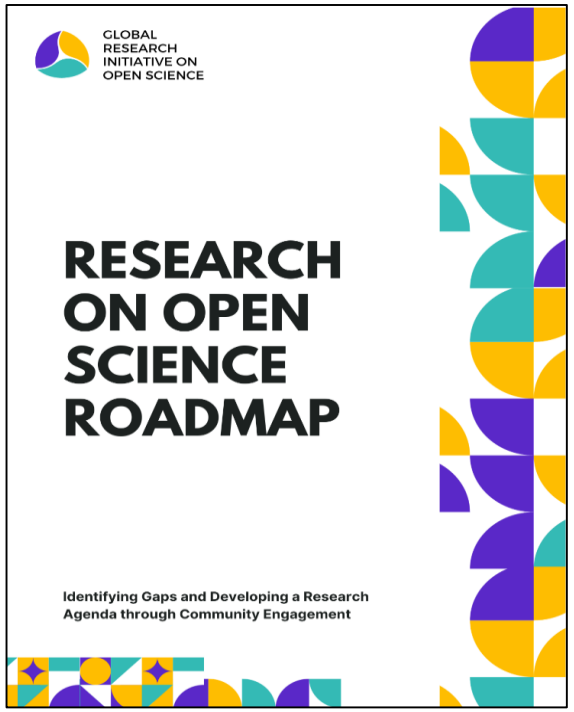
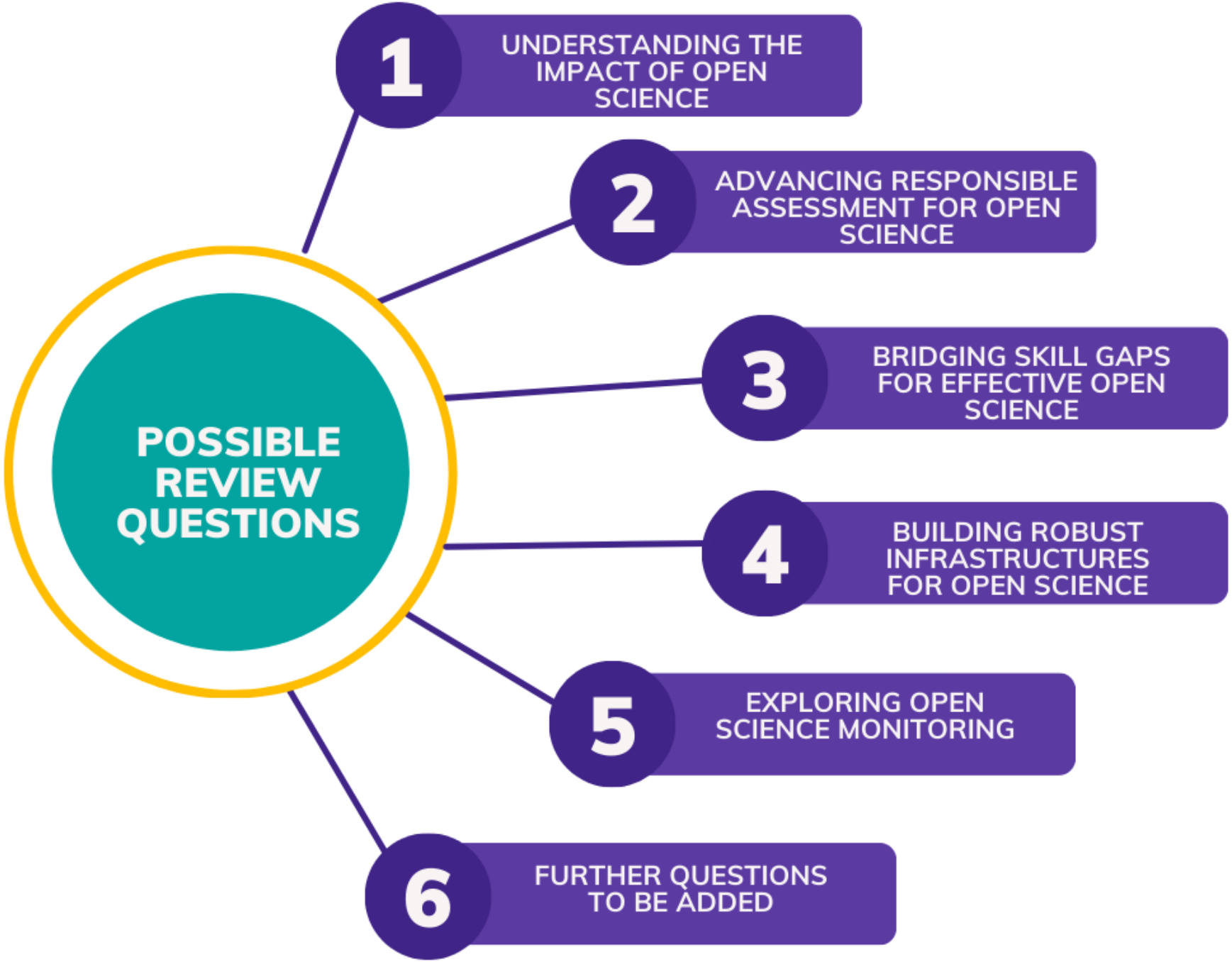


3. Propose a research agenda to fill the gaps in current knowledge on open science

4. Establish a global network of organisations and researchers committed to the development of open science


POSSIBLE REVIEW QUESTIONS
1
UNDERSTANDING THE IMPACT OF OPEN SCIENCE
2
ADVANCING RESPONSIBLE ASSESSMENT FOR OPEN SCIENCE
3
BRIDGING SKILL GAPS FOR EFFECTIVE OPEN SCIENCE
4
BUILDING ROBUST INFRASTRUCTURES FOR OPEN SCIENCE
5
EXPLORING OPEN SCIENCE MONITORING
6
FURTHER QUESTIONS TO BE ADDED

GRIOS welcomes partnerships with research organisations, funding bodies, and other stakeholders committed to advancing open science. Current partners include the French Ministry of Higher Education and Research, the French Committee for Open Science (Ouvrir la Science) and the French National Centre for Scientific Research (CNRS).

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OSMI – Open Science Monitoring Initiative

Origines

- Responding to G7 Communique (May 2023) which encourages a framework for monitoring the progress and obstacles of open science (Annex 1)

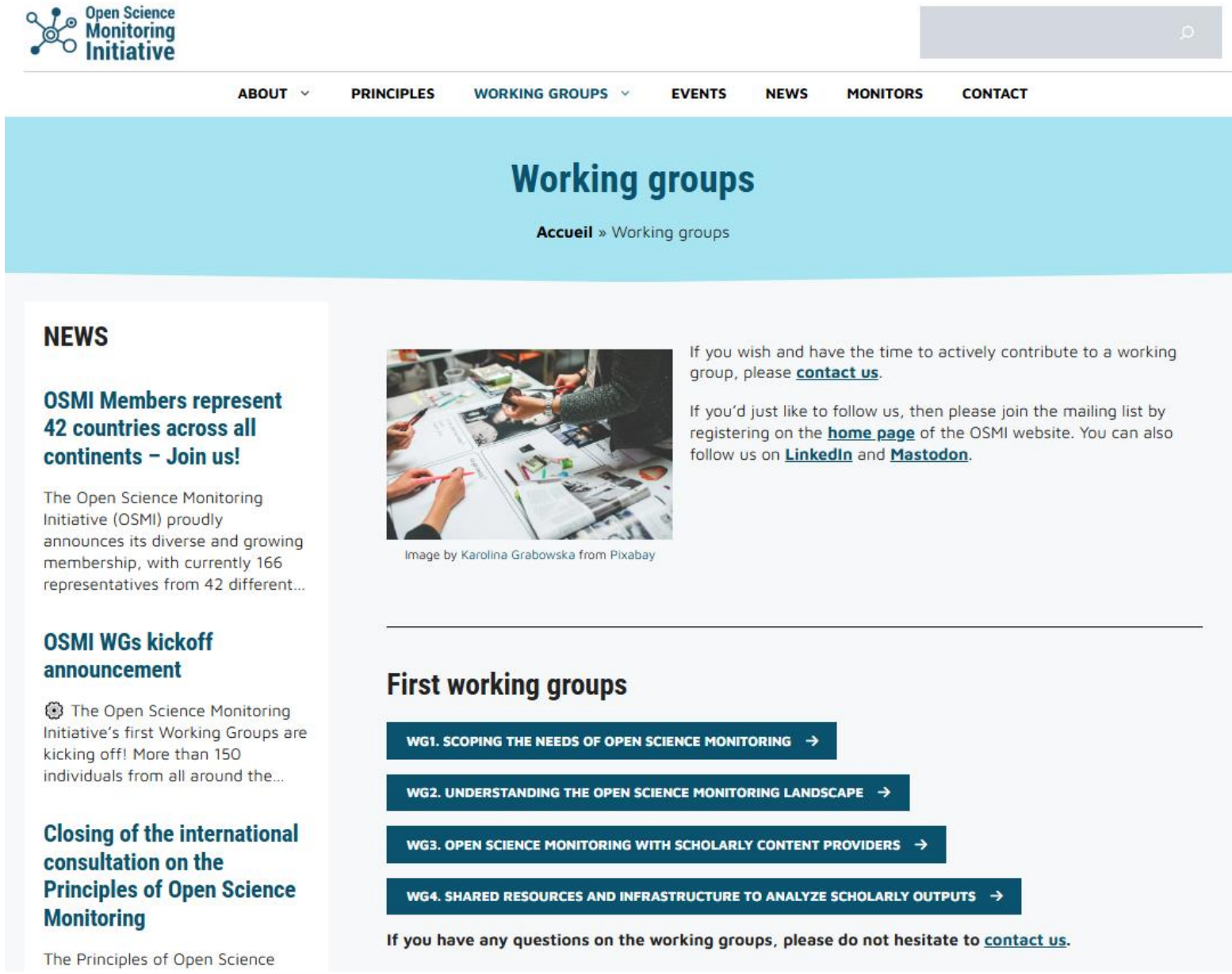
"v) mobilise research-on-research to promote effective open science policy making; vi) promote inclusivity and equity in practicing open science, among countries and communities; and vii) encourage a framework for monitoring the progress and obstacles of open science."

Open Science Monitoring Initiative

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

Aims :

1. Define common principles for monitoring open science and promote their adoption worldwide
2. Provide recommendations on the technical specifications for their implementation
3. Support stakeholders on various levels in monitoring Open Science practices



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Thank you!

arianna.caporali@recherche.gouv.fr

Except for the logos

The graphs on slides 24 to 30 were prepared by Séverine Maire