

Why open science ?



Achieving SDGs and overcoming the global challenges require an efficient, equitable, transparent, collaborative and inclusive science.



Need to better connect science to societal needs and to bridge the knowledge and technology gaps between and within countries.



Everyone has the right to freely share in scientific advancement and its benefits.

Article 27 of the Universal declaration on Human Rights

Role of open science



United Nations

SUMMIT OF THE FUTURE OUTCOME DOCUMENTS
September 2024

Pact for the Future, Global Digital Compact and Declaration on Future Generations

STATEMENT OF THE SCIENTIFIC ADVISORY BOARD ON OPEN SCIENCE
15 September 2025

Open science – the practices of widely sharing all forms of scientific knowledge – offers crucial benefits to the vitality of research, to connecting science to policy-makers and society, and to addressing global inequality. However, worldwide barriers to scientific collaboration are rising amidst fast changing geopolitical and economic contexts. We call upon the global community to actively advance open science for the benefit of all, leaving no one behind.

When deployed for the common good, science can help us address our most pressing global challenges, from biodiversity decline to pandemic responses to food insecurity to the impacts of rapid technological change. Science can be a vital linchpin for effective decision-making and action and has unique potential to foster international cooperation under even the harshest political conditions.

However, the ability of science to support urgently needed global solutions is under threat. Geopolitical tensions are constraining international scientific collaboration. Trust in public scientific institutions is eroding, while the risks of mis- and disinformation are on the rise. Short-term financial and political pressures are eclipsing anticipatory action for a sustainable future. To safeguard science and enable its societal benefits, **this Scientific Advisory Board calls for urgent cooperation to advance science as a global public good – and we stress that doing so requires accelerated transformation to open science.**

"Open science" is a global movement to make scientific knowledge available and accessible for all. It encompasses processes such as open research methods, open data, open access publications, and open-source software and hardware, improving our ability to produce, reproduce, and refine scientific knowledge. These are central components of thriving science systems.

The practices of open science produce better results and faster responses to emerging risks. They accelerate scientific breakthroughs, use resources more effectively, and have developed strong safeguards against misuse. All countries can advance their national interests by supporting open science. Open science is also one of the necessary steps to uphold the **globally agreed commitment** that all people have the right to share in scientific advancement and its benefits through inclusivity, engaging diverse stakeholder systems including indigenous and local which in turn strengthens science.

For example, open science is critical to education, innovation, and public health. It encourages critical thinking and stimulates evidence-based decision-making, at a time when misinformation and disinformation are central challenges. It can transform education, innovation, and public health. It is especially important in low- and middle-income countries, which may face barriers to research capacity and reaping the benefits of scientific progress.

As the Scientific Advisory Board to the General Assembly, we stress the importance of open science in the multilateral system. Open science is one of the pillars of the UN, including by:

- enabling the human right to participate in science, as stated in the Universal Declaration of Human Rights;
- facilitating peaceful international cooperation through science; and
- supporting much-needed progress towards the Sustainable Development Goals we are committed to achieving by 2030.

Sevilla Commitment
Fourth International Conference on Financing for Development
Sevilla, Spain
30 June – 3 July 2025

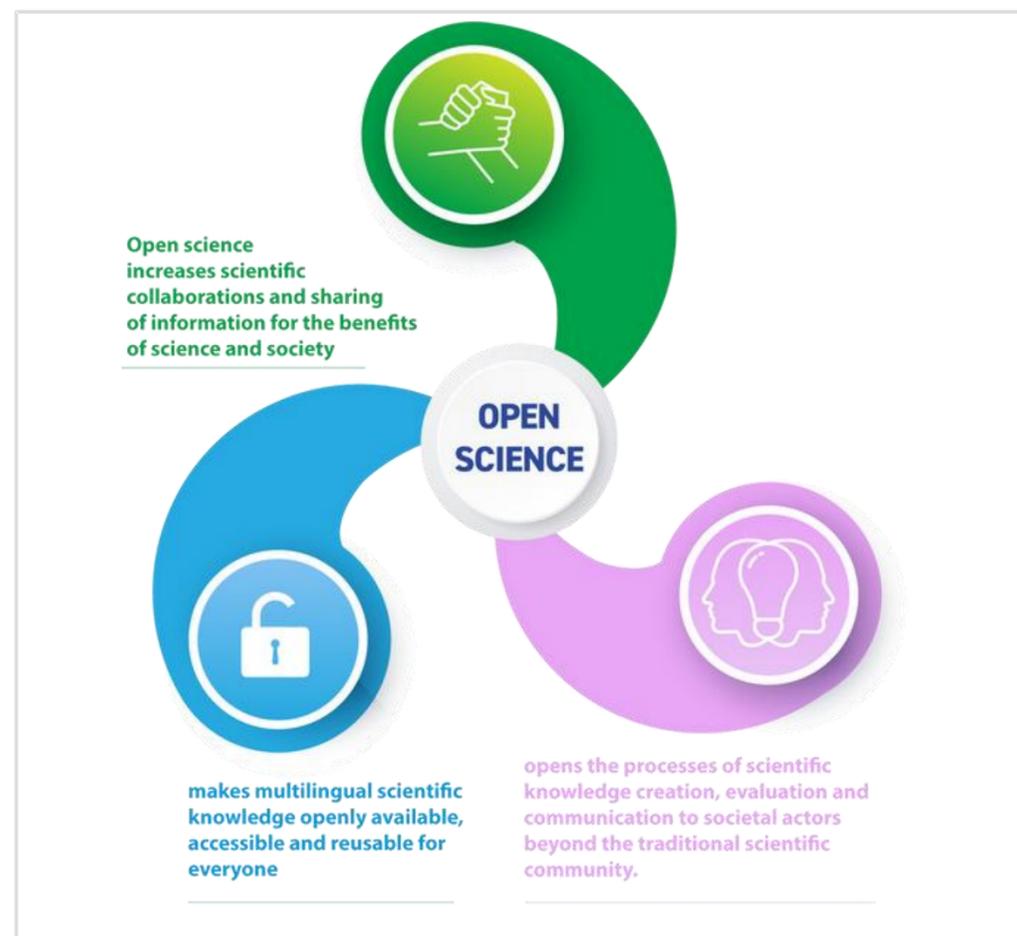
Benefits of open science



2021 UNESCO Recommendation on Open Science

→ In 2021, at the UNESCO 41st General Conference, 193 Members States adopted the first international standard-setting instrument on Open Science in the form of a UNESCO Recommendation on Open Science.

Shared definition, values and principles:



Key achievements

Recognition of the Recommendation by the open science community with a **more holistic vision** of open science, with over

350 ”

CITATIONS IN ACADEMIC LITERATURE*

40K

DOWNLOADS in 9 languages



3

REGIONAL & GLOBAL ASSESSMENTS



3

GLOBAL CONSULTATIONS

DEVELOPMENT OF STANDARDS AND GUIDANCE FOR THE IMPLEMENTATION OF THE RECOMMENDATION

- UNESCO Open Science Toolkit
- UNESCO Open Science Outlook
- UNESCO Open Science MOOC
- Catalogue of OS practices and capacity building resources
- Global monitoring principles



Over

20

REGIONAL CAPACITY BUILDING INITIATIVES



Covering over

50

COUNTRIES



*Citation data as of January 2026, retrieved from [Open Alex](#).

Key achievements

IMPACTS ON AND SUPPORT FOR
**POLICY DEVELOPMENT, WITH UNESCO
ASISSTING**

20



COUNTRIES in the development of their policies

Supported

3

regional **strategies**
development in Africa



43

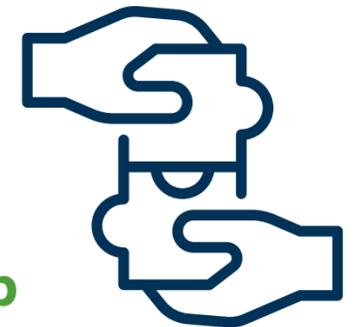
**PRACTICES IN THE OPEN
AND INCLUSIVE HUB**

**STRENGTHENED AND EXPANDED
PARTNERSHIPS AND NETWORKING**

with over

70

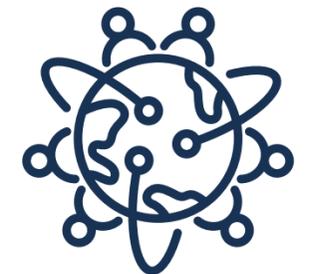
members in **the UNESCO
Open Science Partnership**



Over

1000

EXPERTS in **FIVE** open science working groups



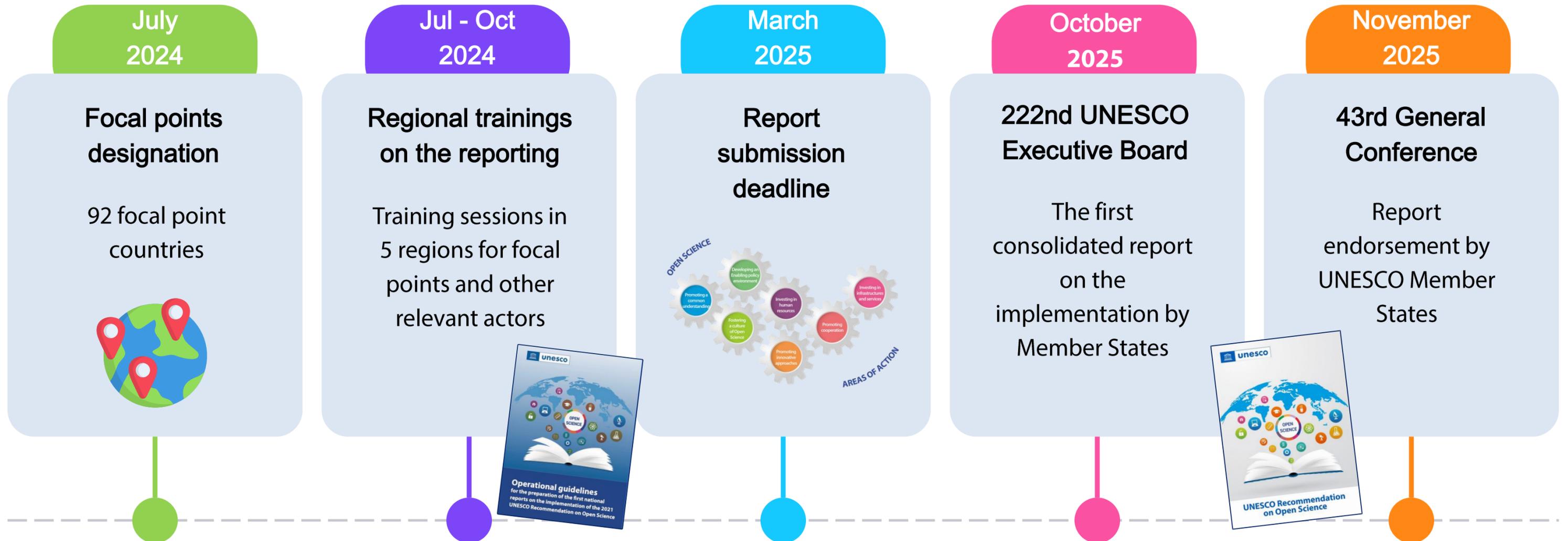
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Regional & global
collaboration mechanisms



First consolidated global monitoring effort

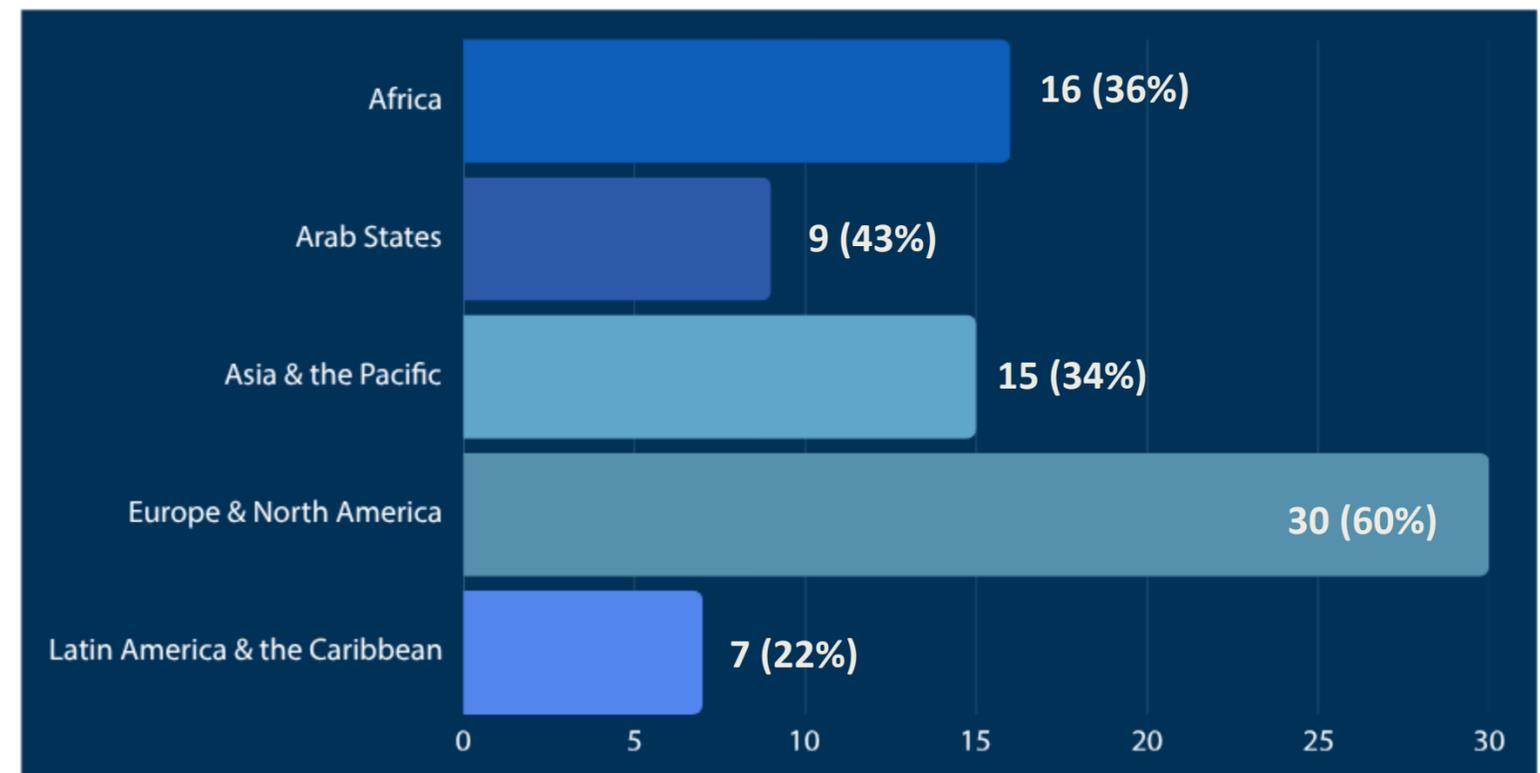
→ In 2025, the first official reporting on the implementation of the 2021 UNESCO Recommendation on Open Science.



Who participated?

81 as of September 2025

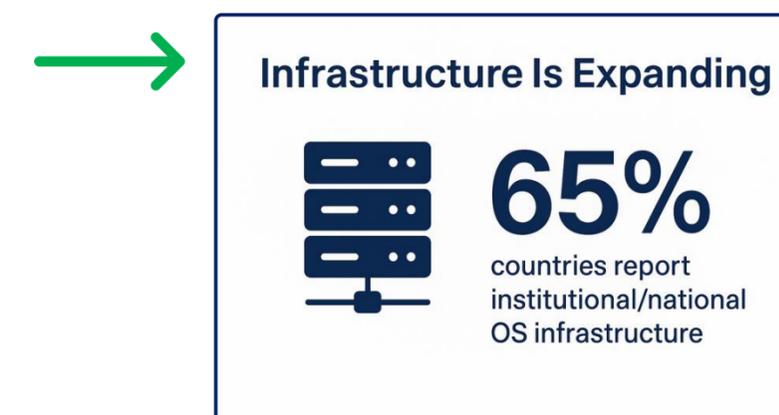
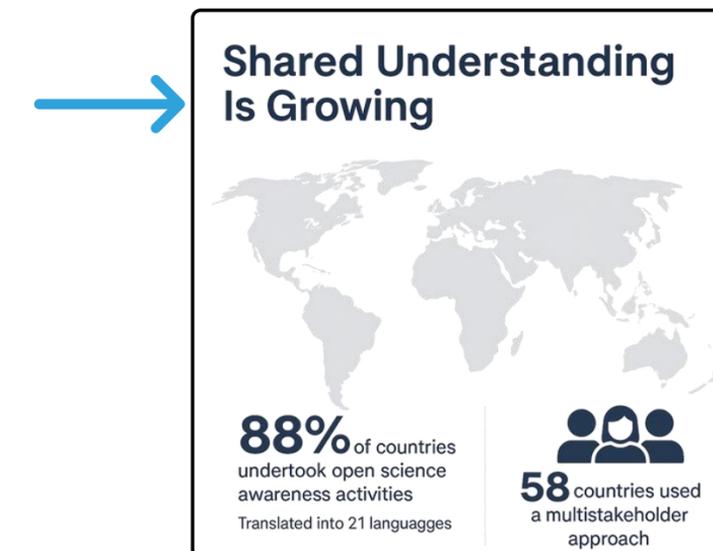
Response rates varied by region.



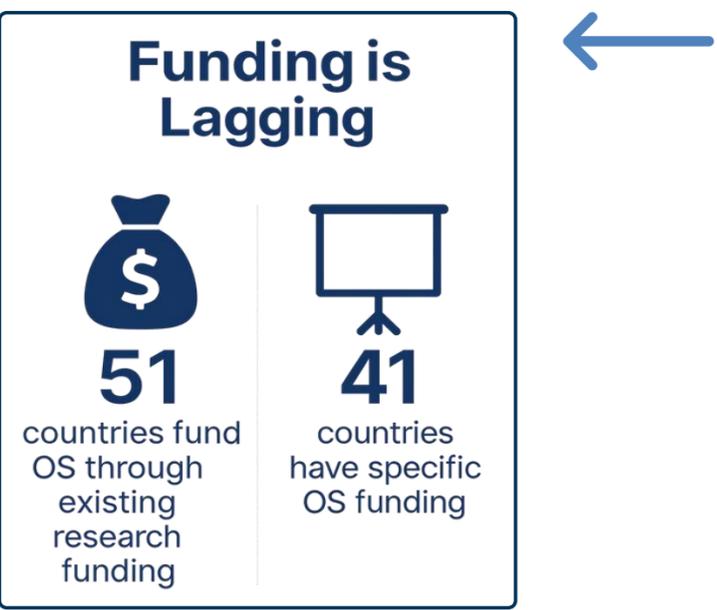
* Regions are defined according to UNESCO classification.

Key findings

- Shared understanding is growing
- Policy foundations are strengthening
- Infrastructure is expanding
- Capacity building is advancing
- Incentives are beginning to align
- Innovation in open practices is emerging
- Global cooperation is deepening



Key findings



50% lack cross-border collaboration strategies

Equity is an Issue
15%
of Member States do not have national open science infrastructures

BUT open science is far from being the norm.

BUT progress remains uneven across pillars, with greater emphasis on open access than on inclusivity and engagement.

BUT regional and international access remains uneven.

BUT systematic training for early-career researchers and policymakers still limited.

BUT institutional rewards and career incentives linked to openness remain limited.

Adoption is growing **BUT** still lacks consistent institutional support.

BUT few countries have yet formalized strategies or joint funding mechanisms for cross-border collaboration.

Key challenges

Persisting inequalities in access to science, technology and innovation further exacerbated by language barriers and digital divides.

- **Insufficient infrastructure**
- **Capacity gaps**
- **Geopolitical constraints**
- **Concerns around intellectual property & research security**
- **Inadequate funding**
- **High costs associated with open access publishing models that rely on article processing charges (APCs)**

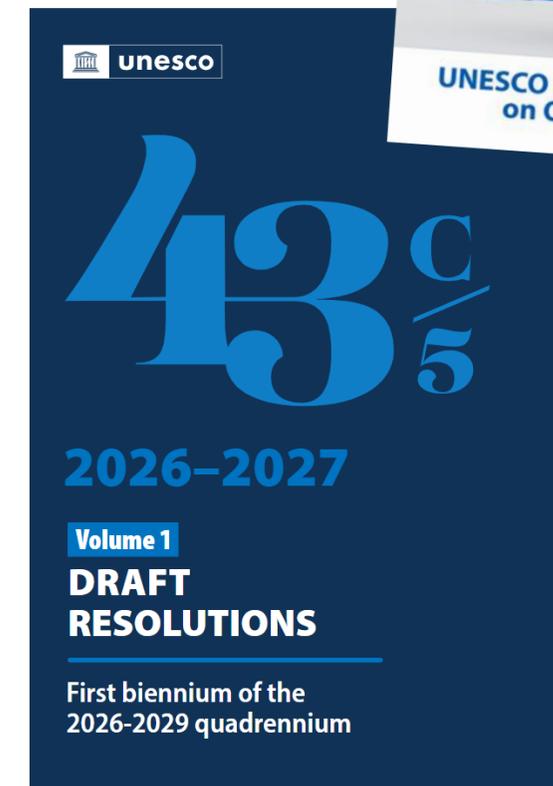
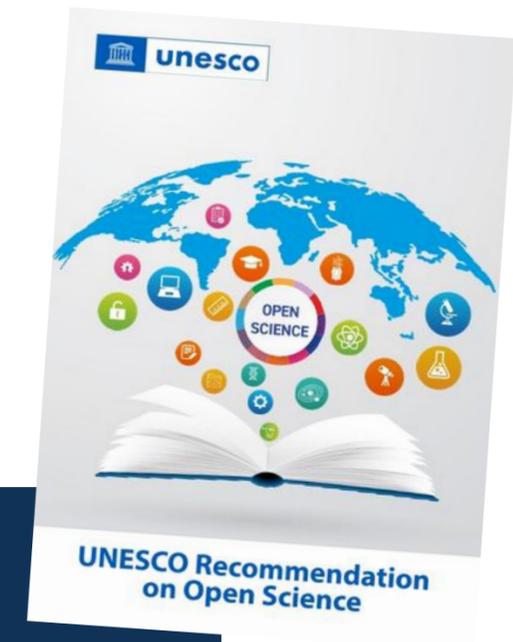
European Commission and UNESCO open science priorities

→ Common focus areas



ERA Policy Agenda 2025-2027

3-year aspiration and mission



European Commission and UNESCO open science priorities

→ Common focus areas

Equity in Open Science

ERA Policy Agenda (2025-2027)	UNESCO 43/c5 (2026-2029)
<p>ERA Action 12. Applying equity in Open Science:</p> <ul style="list-style-type: none">• policy and funding support to operate high-quality not-for-profit open access scholarly publishing services across the ERA;• development and dissemination of shared tools, training methods and services to boost capacity in terms of open science skills;• recommendations for developing an EU policy approach to equity in open science	<p>Output 3.1.SC / 02057 Advancing Open Science:</p> <ul style="list-style-type: none">• promoting equitable access to scientific publications, open data and infrastructure through programmes like the Remote Access to Laboratory Equipment Initiative, Global Diamond Open Access Alliance and the Open Science Monitoring Initiative

European Commission and UNESCO open science priorities

→ Common focus areas

Open Science monitoring

ERA Policy Agenda (2025-2027)	UNESCO 43/c5 (2026-2029)
<p>ERA Structural Policy 1. Enabling open science via sharing and re-use of data, including through the European Open Science Cloud (EOSC):</p> <ul style="list-style-type: none"> • assessing the impact of open science policies and practices based on an open science policy intelligence platform, using the EOSC monitoring framework with state-of-the-art methodologies 	<p>Output 3.1.SC / 02057 Advancing Open Science:</p> <ul style="list-style-type: none"> • promoting equitable access to scientific publications, open data and infrastructure through programmes like ... the Open Science Monitoring Initiative <p>Output 3.1.SC / 02056 the Global Observatory of STI Policy Instruments (GO-SPIN):</p> <ul style="list-style-type: none"> • delivering tools to monitor policy landscapes [including those that integrate open science principles] ...



European Commission and UNESCO open science priorities

→ Common focus areas

Synergy between Open Science and IP management for enhanced valorisation of scientific knowledge

ERA Policy Agenda (2025-2027)	UNESCO 43/c5 (2026-2029)
<p>Structural Policy 6. Upscaling knowledge valorisation:</p> <ul style="list-style-type: none">• responsible licensing principles and shared data-governance approach in order to improve access to and safeguarding of intellectual assets derived from research and innovation, as well as to facilitate greater cross-sectoral collaboration and benefit for both businesses and society, taking research security considerations into account	<p>Output 3.1.SC / 02055, 02056 Strengthening STI ecosystems:</p> <ul style="list-style-type: none">• supporting Member States in strengthening their STI ecosystems by providing advisory services and capacity-building initiatives; expanding opportunities in STI, ensuring broader participation and maximising the benefits of scientific and technological advancements; working with governments to develop policies that enhance access to research and innovation

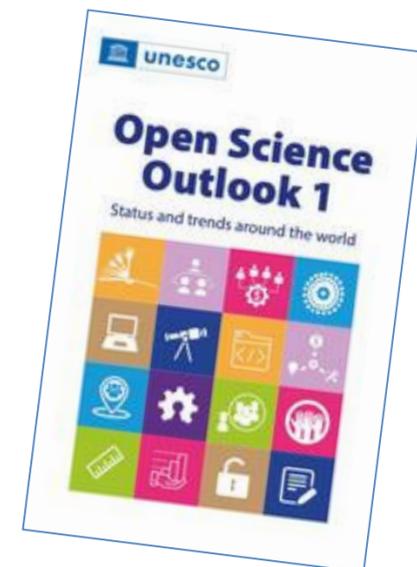
Next steps

From 2026

01

Open Science Outlook 2

→ a more comprehensive analysis of the findings, trends, and developments from this reporting process



02

UNESCO Open Science Platform

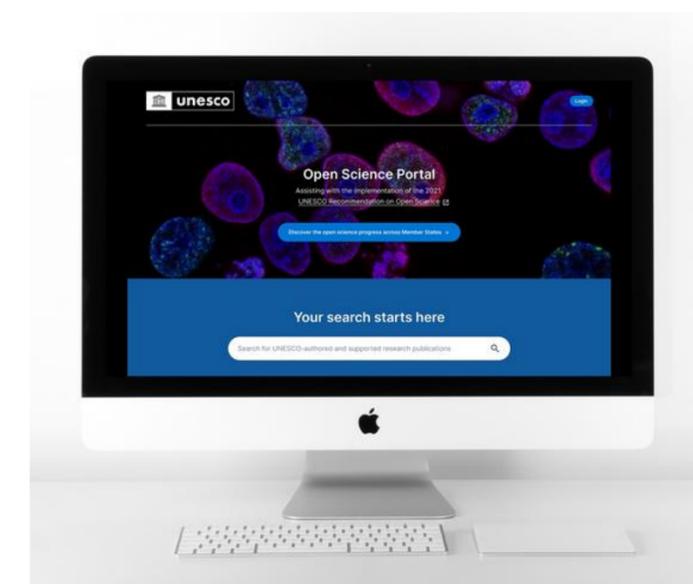
→ A single search interface for research publications produced or supported by the UNESCO Natural Sciences

→ **Tracking the impact** of these publications through scholarly and patent citations

→ **Supporting engagement of non-expert users**

- Illustrated plain language summaries
- Evidence-based visual highlights

→ **Offering interactive dashboards to visualize global progress** in implementing the Recommendation



THANK YOU

UNESCO Open Science Team

openscience@unesco.org

UNESCO Open Science website: <https://www.unesco.org/open-science>