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UNESCO Recommendation on Open Science

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'S' in UNESCO

Laboratory of ideas

Standard setter

Clearing house

Advocacy

Capacity building

International collaboration

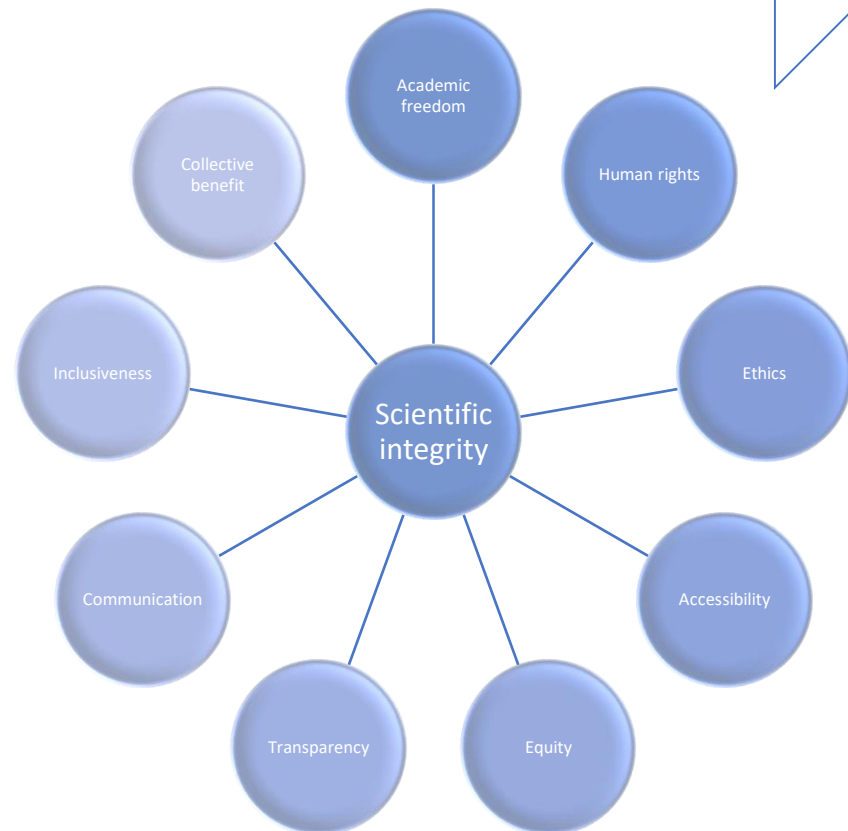
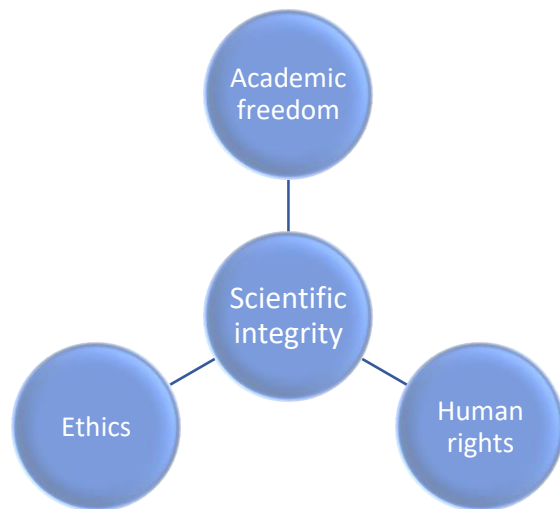


Ethics and integrity

Ethical Research in UNESCO

Science

Open Science



2017 Recommendation on Science and Scientific Researchers



- ❖ Adopted in 2017, the Recommendation replaces the 1974 Recommendation on the Status of Scientific Researchers.
- ❖ The update ensures the Recommendation will continue to be relevant to research communities around the world in light of emerging ethical and regulatory challenges related to how science and the science-society relationship are governed.

2017 Recommendation on Science and Scientific Researchers

10 key areas to focus on in implementation and monitoring:

1. The responsibility of science towards the United Nations' ideals of human dignity, progress, justice, peace, welfare of humankind and respect for the environment.
2. The need for science to meaningfully interact with society and vice versa.
3. The role of science in national policy and decision making, international cooperation and development.
4. Promoting science as a common good.
5. Inclusive and non-discriminatory work conditions and access to education and employment in science.
6. Any scientific conduct is subject to universal human rights standards.
7. Balancing the freedoms, rights and responsibilities of researchers.
8. **Scientific integrity and ethical codes of conduct for science and research and their technical applications.**
9. The vital importance of human capital for a sound and responsible science system.
10. The role of Member States in creating an enabling environment for science and research.

Why Open Science at UNESCO

Open Science embodies the movement to transform and **democratize the entire scientific process, increase the access to scientific information and fulfill the human right to science.**



Open Science allows scientific information, data and outputs to be more widely accessible and more reliably harnessed with the active engagement of all the stakeholders.

Open Science can be a true game changer in **bridging the science, technology and innovation gaps** between and within countries and fulfilling the **human right to science.**

Open Science is increasingly recognized as a critical **SDGs accelerator.**

UNESCO Recommendation on Open Science

Need for an international policy and action framework

Need for a common definition of open science, shared set of values and principles

In 2019, at the UNESCO 40th General Conference, 193 Members States tasked UNESCO with the development of an international standard-setting instrument on Open Science in the form of a UNESCO Recommendation on Open Science.



UNESCO Recommendation on Open Science

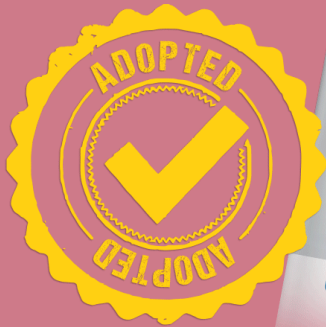
Text of the Recommendation developed through a broad consultative, inclusive, transparent multistakeholder two-year process



**Adopted by 193 countries at the UNESCO
General Conference on 23 November 2021**

Highlights

Setting
**global
standards**
for **Open Science**
for all



- ❖ It is the first **international normative instrument** on Open Science;
- ❖ it contains the first **internationally agreed definition** of Open Science;
- ❖ it spells out the consensus **core values and guiding principles** of Open Science;
- ❖ it addresses **multiple actors and stakeholders** of Open Science;
- ❖ It recommends **actions on different levels** to operationalize the principles of Open Science;
- ❖ it proposes **innovative approaches for Open Science at different stages** of the scientific cycle;
- ❖ it calls for development of a **comprehensive Open Science monitoring framework**.



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Definition of Open Science

Building on essential principles of academic freedom, research integrity and scientific excellence...

Open science increases scientific collaborations and sharing of information for the benefits of science and society



**OPEN
SCIENCE**

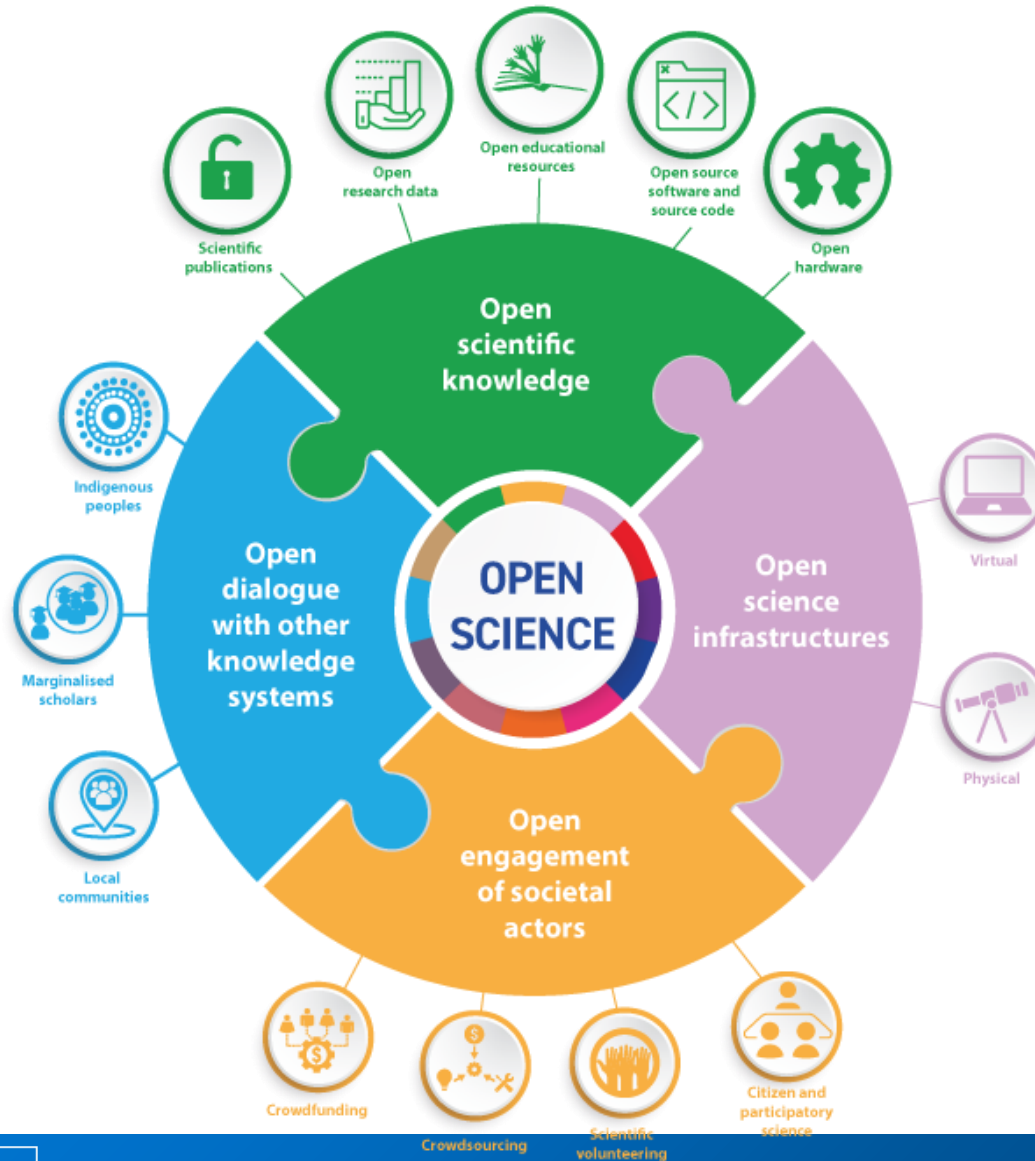


makes multilingual scientific knowledge openly available, accessible and reusable for everyone

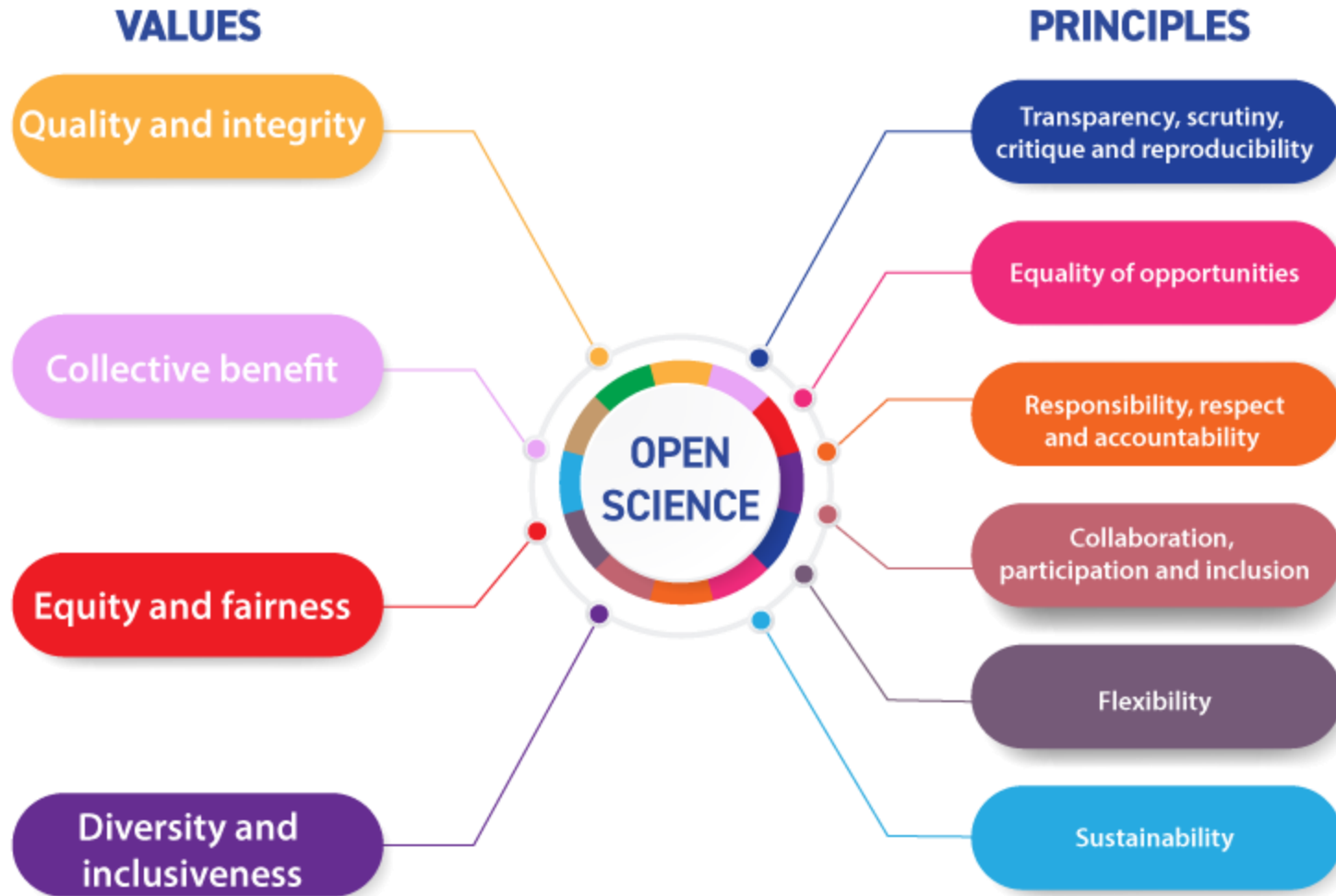


opens the processes of scientific knowledge creation, evaluation and communication to societal actors beyond the traditional scientific community.

Key Pillars of Open Science



Values and Principles



Open science for the SDGs

Research and training in life sciences, climate change, natural disasters and water quality.



Science, technology, engineering and mathematics education (STEM); and education for sustainable development (ESD) as part of quality education.

Use STI to improve food and water security.



Support inclusive Science, Technology and Innovation (STI) systems and strengthen the capacity of Member States to monitor and critically assess STI for sustainable development.

Improve water security through water research, water resources management, education, capacity building and monitoring.



GLOBAL PRIORITY

Increase the participation of women in STI, including through STEM and Gender Advancement (SAGA).

Harness STI to address poverty-related challenges, such as access to clean energy, agriculture, health and water services.



Improve access to clean energy through inclusive STI systems.

Foster access to STI, provide targeted capacity building, strengthen multi-stakeholder partnerships and support data monitoring and reporting.

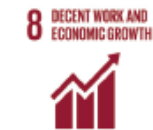


Build sustainable cities that are water secure, protect ecosystems and are resilient to climate change and natural disasters.



Increase resilience to climate change and natural disasters, by providing scientific data and climate information services

UNESCO-designated Biosphere Reserves and UNESCO Global Geoparks as learning sites for biodiversity and sustainable management of natural resources.



Strengthen institutional and human capacities in science, technology and innovation to foster decent work and economic growth.

Promote international scientific cooperation and peacebuilding, including through the management of transboundary water resources and transboundary Biosphere Reserves and UNESCO Global Geoparks.



Narrow the STI gap between developed and developing countries to ensure that all countries fully benefit from scientific and technological progress and innovation.

Enable conservation and sustainable use of the ocean through the Biosphere Reserves in Marine, Island and Coastal Areas.



UNESCO-designated Biosphere Reserves and UNESCO Global Geoparks are observatories of responsible consumption and production.



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Thank you



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Educational, Scientific
and Cultural Organization