



G20 RESEARCH AND INNOVATION WORKING GROUP

DELIVERABLE 3.3

G20 RECOMMENDATIONS ON SCIENCE ENGAGEMENT

23 SEPTEMBER 2025

Context

Science, Technology and Innovation (STI), have significantly shaped every aspect of our shared world, accelerating technological progress, while responding to complex global challenges. Simultaneously, the advancement of STI has highlighted growing differences in access to scientific knowledge, technologies, and infrastructure, influencing the dynamics of public engagement with all fields of science, and how these sciences engage various publics. These challenges necessitate the development and implementation of science policies that promote diverse and broad participation in science activities, advocating and promoting the responsible and long-term development of science engagement opportunities for all.

In the context of these Recommendations, “Science Engagement” refers to activities that involve the awareness and participation of diverse elements of the public, as well as the vital contribution of science in addressing shared global challenges. Science engagement includes an assortment of activities in all fields of science, that builds public trust and support for science, foregrounding the relevance of science in society, and access to meaningful, bi-directional interactions between the publics and the sciences, giving researchers a deeper understanding of the aspirations and concerns citizens may have about their work. Broadening participation in the sciences remains a key factor to enable more open, transparent, collaborative and inclusive global science systems. Developing opportunities in education, training, societal benefit, and employment serves to amplify the value of inclusive science systems to leverage STI’s potential to address global challenges.

Recommendations

We, the Ministers and equivalents of the G20 members and invited countries, responsible for research and innovation present in Tshwane, in the Republic of South Africa on 23 September 2025 met under the theme of “Science, Technology and Innovation for Solidarity, Equality and Sustainability”. We acknowledge the efforts of the 2025 South African G20 Presidency for its leadership in prioritizing the role of science in society through its commitment to science engagement.

We reaffirm our commitments to the evolving role of STI in society as set out in the Tshwane Declaration of the 2025 G20 Research and Innovation Ministerial Meeting, through which we endorsed these G20 Recommendations on Science Engagement. Within this context, we accordingly intend to implement, the *G20 Recommendations on Science Engagement* by promoting open science principles, enhancing scientific literacy, and building public trust to address the



contemporary challenges of science in society. In this regard, consistent with the principle of our engagement in the G20, as also highlighted in the Manaus Declaration of the 2024 Research and Innovation Ministerial Meeting, we share a commitment to promoting the responsible and ethical use of science, technology, and innovation, and recognize that our cooperation should be underpinned by the shared values, referenced therein such as research integrity and academic freedom.

Recommendation 1: Adapting policies and infrastructures to promote open science, enabling diverse and broader participation, transparency, and access to scientific knowledge, by:

- a) Promoting transparency and trust in science by ensuring policy cooperation at all levels, encouraging understanding and open access, creating mechanisms such as a global registry of research projects enabling cross-country dialogues on best practices in science engagement activities.
- b) Encouraging the development of multilingual open science infrastructures, by promoting global open platforms for voluntary data sharing, methods and knowledge exchange, including Indigenous knowledge, on mutually agreed terms.
- c) Encouraging alignment of national and institutional incentive systems with the principles of open science to promote, where possible, a commitment to ongoing science engagement activities.
- d) Enabling and promoting multilingual scientific knowledge access to ensure participation for all, preserving cultural heritage and diversity in all sciences.

Recommendation 2: Investing in education, skills, and science, to promote a scientifically literate society capable of contributing to and benefiting from science, by:

- a) Enhancing capacity building, science literacy and digital access among citizens from an early age onwards, through strategic partnerships with other sectors to develop a strong basis for open science-based engagement opportunities.
- b) Ensuring equitable access to holistic, comprehensive and evidence-based science education for all, as a foundation for lifelong science engagement.
- c) Strengthening capacities of all stakeholders and responsible parties to implement effective science engagement by securing dedicated economic and human resources.
- d) Promoting the development of community-based spaces for science education, participation, and community engagement with science tailored for different needs and contexts.
- e) Promoting transdisciplinary co-creation and voluntary knowledge sharing to better respond to different and changing social, environmental and technological contexts.

Recommendation 3: Building trust, advancing communication, mutual understanding and collaboration to encourage diverse and broad public participation in science engagement by:

- a) Cultivating a culture of science engagement accessible to all by addressing barriers to access
- b) providing resources, and opportunities for all citizens to contribute to and participate in science initiatives in their own languages, promoting broader participation which enhances inclusivity and critical thinking, as well as maintaining an environment conducive to information integrity.
- c) Establishing clear mechanisms and incentives, where possible to encourage accessible, participatory, and contextually appropriate science engagement approaches and tools.
- d) Establishing Indigenous-led science initiatives that contribute to promoting the value of Indigenous knowledge systems alongside scientific knowledge.
- e) Enabling wider linguistic diversity in science, where possible, through multilingual publishing, mentorship networks and digital infrastructure transcending language barriers in accordance with our countries' specific circumstances.

- f) Coordinating, sharing and leveraging resources across jurisdictions to improve the accessibility, dissemination and practical application of scientific knowledge.
- g) Fostering a culture of open and inclusive science engagement by providing resources and opportunities for citizens to develop and lead science initiatives in their own languages, promoting a sense of ownership and participation in the scientific process.

Recommendation 4: Enhancing global leadership for science engagement to promote international collaboration, best practices, and address global challenges, by:

- a) Encouraging the development of digital platforms to promote international cooperation in science engagement.
- b) Supporting efforts to celebrate science globally, by promoting its visibility and value in society including through initiatives such as international cooperation and science diplomacy, in areas of joint interest and by fostering partnerships between science institutions and cultural organisations, enhancing understanding, trust and global knowledge sharing.
- c) Advancing science literacy through international cooperation in comprehensive and evidence-based science education and messaging, and the promotion of public participation and opportunities for all relevant stakeholders.
- d) Facilitating the sharing of best practices for enabling effective mechanisms to support sustainable opportunities for people in vulnerable situations to shape, participate in and benefit from scientific research.