The Global Quantum Initiative

An introduction for the IUPAP community

Global Quantum Initiative for Sustainable Development (GQI)

A UNESCO-led partnership connecting governments, research institutions, educators, industry and civil society to widen access to quantum knowledge and resources.

Launched in Accra, Ghana, in February 2026, following the International Year of Quantum Science and Technology 2025 (IYQ 2025). Initial programme: 2026–2028.

Presenter: Jaewook Ahn, Chair of IUPAP C15



Sources: UNESCO GQI; IUPAP IYQ2025 overview. Photo: Sandro Scandolo / IUPAP.

Why GQI: closing the quantum divide

43%

of survey respondents identified a shortage of skilled researchers as the main barrier.

Nearly 1 in 3

surveyed institutions reported no access to quantum research facilities.

What the quantum divide means

Unequal access to skills and facilities limits who can conduct research, develop applications and help shape quantum policy. GQI seeks to address these barriers through education, resource sharing and international cooperation.

Survey scope: institutional responses across 72 countries; these are respondent statistics.

UNESCO Global Survey on Quantum Research and Infrastructure, 2026 report

GQI’s five strategic objectives

01 **Education and capacity**

Develop curricula and training so researchers, educators and institutions can participate.

02 **Sustainable infrastructure**

Expand access to facilities, software and computing through resource-sharing partnerships.

03 **Public awareness and engagement**

Help students and the public understand quantum science and its implications for society.

04 **Science diplomacy and cooperation**

Connect countries and institutions, with particular attention to participation from the Global South.

05 **Responsible innovation**

Consider benefits, risks and ethical questions early, while technologies and policies are developing.

Sources: UNESCO GQI objectives; IUPAP GQI update, 2 October 2026.

GQI governance and current programme

UNESCO coordination and shared governance

UNESCO hosts the Secretariat and serves as standing Co-Chair. The Steering Committee sets strategy and oversees the work plan through consensus.
A partner Co-Chair rotates every four months. GESDA/OQI serves Sep–Dec 2026.

Working groups turn objectives into activities

The Steering Committee agreed a “5+1” working-group structure. Groups develop work plans and measurable targets for 2027–2028, then report progress to the Steering Committee through the Secretariat.

Implementation status as of October 2026

WG2 has prepared its work plan and is contacting potential contributors.
Its general kick-off is planned for November, with targets still in preparation.
GQI runs through 2028. Any future Global Quantum Agenda remains open.

Source: GQI Master WG Tracker, 28 October 2026. Programme status as of October 2026.

IUPAP’s participation and contribution

Founding partner and Steering Committee representation

Silvina Ponce Dawson, IUPAP President
Gloria Platero Coello, Chair of C8 (Semiconductors)

WG2: Quantum Infrastructure and Resource Sharing

Co-leads: Amal Kasry (UNESCO) and Jaewook Ahn (IUPAP C15 Chair).
C15 represents atomic, molecular and optical physics.

The WG2 strategy proposes three linked activities

1. Remote quantum access through UNESCO’s laboratory-access initiative, UNESRALE.
2. An infrastructure registry and map, developed jointly by UNESCO and IUPAP.
3. An IUPAP-led evidence report on barriers to equitable infrastructure access.

IUPAP members can help identify shareable facilities and contribute expertise to the registry and evidence report. Contact: iyq2025@unesco.org

Sources: IUPAP, 2 October 2026. UNESCO WG2 Engagement Strategy and Master WG Tracker.