OQI operational launch | 5 March 2024
Workshop A1: Acceleration of application for humanity - Summary

Key objective: Attendees will discuss OQI's achievements to date, brainstorm on applications for humanity by focusing on specific themes and conclude with concrete next steps as OQI is entering the pilot phase.

Worshop timespan: 13:15 – 17.00
Location: CERN, The Globe
Zoom:https://cern.zoom.us/j/68886171460?pwd=Z1hZNkd6Um5ZbmxHOXpWZHpqZC9xdz09 /
Passcode: 01845496
Session chairs: Catherine Lefebvre (GESDA) and Sofia Vallecorsa (CERN)
Rapporteurs: Vincenzo Savona (EPFL) + Massamba Thioye (UNFCCC)

Summary and Key Takeaways

- Our workshop was dedicated to the exploration of **how quantum computers can be applied to solve computational challenges related to the SDGs**

- We – **78** in person and **46** online who are **quantum experts, domain experts and UN Organizations** – have spent the afternoon brainstorming around 3 SDGs:

  - SDG 3: Health challenges
  - SDG 13: Climate change mitigation
  - SDG 2: Food security

- Together, we have identified 10 **potential themes** for use cases. We also agreed on a **clear methodology** for **new teams of volunteers to continue working** on the use cases and move them to further phases of development towards a future implementation on quantum computers.

- Drawing on the experience of the organizations represented at the workshop, including our own, and with a strong commitment from all of us to contribute to OQI's mission, we concluded, as OQI community, that **OQI should be able to support the exploration of all these use cases during its 3-year pilot phase.**

- Here are **examples** of projects that emerged from our brainstorming this afternoon:

  - Optimization of global food supply chain
  - Accurate measurement of small molecules related to antimicrobial resistance
  - Water leak detection

- We **advised that OQI focuses** its resources on what makes it unique
  - **Translating** quantum computing "language" into SDG/Impact language
  - **Articulating the domain areas** to be addressed
  - **Inclusively involving geographies** and demographies that were historically not involved in the development of such breakthrough technology like quantum computing

- We recognize the growing enthusiasm and interest in making an impact and working with the OQI community. We also recognize **developing SDG use cases is not an easy task**, and we are up for this great challenge.

Photos of the workshop can be downloaded here: http://cds.cern.ch/record/2890914

Next Steps

There will be a call for submission announced in the second half of April 2024 to propose projects to be supported by OQI. Clear guidelines will be communicated.

XPRIZE Quantum Applications Contest, sponsored by Google Quantum AI and supported by GESDA, is a new opportunity to fund the most ambitious projects and it will contribute to feeding the OQI repository of use cases.