10 June 2025

QuantERA Call 2025 Pre-Announcement

We are pleased to inform that the QuantERA network pre-announce a new Call for international research projects in Quantum Technologies[1].

The official Call Announcement is expected to be published on 4 September 2025.

The deadline for submitting proposals in this 'one-step' Call is planned for 5 December 2025.

Researchers are encouraged to start discussing possible projects with prospective partners. A Partner Search Tool (see below) is available.

About QuantERA

QuantERA is a network of Research Funding Organisations across Europe and beyond dedicated to advancing high-quality research and innovation in the field of Quantum Technologies (QT).

The funding organisations of QuantERA jointly finance multilateral projects with the potential to initiate or foster new lines of QT. The support is intended to advance multidisciplinary science and drive cutting-edge engineering.

Information about the Call

The QuantERA Call 2025 is a joint transnational Call for research proposals in QT cofunded by organisations gathered under the QuantERA III Research & Innovation Action, with additional EC contribution.

Through this Call, the QuantERA III consortium aims at stimulating and intensifying research and innovation in the field of QT, contributing to the Strategic Research and Industry Agenda of the European Quantum Technology community[2].

Call topics and targeted research

The proposals are expected to be aligned with one of the two QuantERA Call 2025 topics:

- **Quantum Phenomena and Resources (QPR)**, aimed at establishing the foundational principles for QT of the future
- **Applied Quantum Science (AQS),** where the goal is to take known quantum effects and established concepts from quantum science, translate them into technological applications, and develop new products.

Funded projects in both topics are expected to address one or more of the following areas:

- Quantum communication
- Quantum computing
- Quantum simulation
- Quantum sensing and metrology
- General quantum science

[1] Please note that this Pre-Announcement is for information purposes only. It does not create any obligation for the QuantERA III consortium nor for any of the participating organisations

[2] See: https://qt.eu/media/pdf/Strategic-Reseach-and-Industry-Agenda-2030.pdf

Co-funded by
the European Union

Projects are expected to start at 1-4 Technology Readiness Level[3] (TRL) and achieve an end TRL in the range of 1-6 commensurate with the Call topic. The Targeted research is fully described in **Annex 1** to this Pre-Announcement.

International Project consortium

The project consortia must be composed of at least 3 partners eligible to receive funding from three or more different countries participating in the Call. The standard consortium comprises 3 to 6 partners.

When building research consortia, applicants are strongly encouraged to consider the following aspects:

- Gender balance
- Geographical diversity – inclusion of Widening countries and territories participating in the Call
- Academic age balance
- Involving industry actors (mostly for the AQS topic), eg. ambitious high-tech SMEs

Partner search tool

In order to facilitate the process of forming research consortia, we offer applicants a Partner Search Tool available here: https://www2.ncn.gov.pl/partners/quantera2025/. This tool can be used by projects looking for partners and partners looking for projects.

Project duration

Projects may be funded for a 24-month or 36-month period.

Evaluation

Evaluation criteria based on Horizon Europe: excellence, impact, quality and efficiency of the implementation.

Eligibility for funding

The project consortium as a whole must be eligible with respect to transnational rules. Each applicant must fulfil the conditions of the Research Funding Organisation from their respective country (to be described in the Call Announcement).

Indicative timeline

Official Call Announcement: **4 September 2025**
Deadline for proposals submission: **5 December 2025, 17.00 CET**
Call results: **May 2026**
Funded project start: **June-September 2026**

[3] For definition of TRL check: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-13-general-annexes_horizon-2023-2024_en.pdf

Inquiries

For general questions please contact:

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For questions related to national eligibility requirements please contact relevant organisation participating in the Call:

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*Widening country

Annex 1: Targeted research

Projects funded in QuantERA III should contribute to the development of European research and innovation in QT. The transformative research funded within QuantERA III should explore collaborative advanced interdisciplinary science and/or cutting-edge engineering with the potential to initiate or foster new lines of QT and help Europe grasp leadership early on in promising future technology areas.

Call topics

The submitted proposals are expected to be aligned with one of the two QuantERA Call 2025 topics:

Quantum Phenomena and Resources (QPR)

where the goal is to lay the foundations for the QT of the future. The focus is on basic quantum science and fundamental physics, and the projects should explore novel quantum phenomena, concepts, resources, protocols, algorithms, and/or address major challenges that prevent broad applications of some quantum technologies;

Applied Quantum Science (AQS)

where the goal is to take known quantum effects and established concepts from quantum science, translate them into technological applications and develop new products. These could be novel devices that are based on known quantum effects and that will serve a novel application in QT, or devices and systems that translate known quantum applications into products and industrial applications.

Each funding organisation participating in the Call decides to allocate its budget to the QPR topic, or the AQS topic, or both. This information will be shown in the Call Announcement.

Research areas

Funded projects in both topics are expected to address one or more of the following areas:

Quantum communication
Methods/tools/materials/strategies to deal with the issues of distance, reliability, efficiency, robustness and security in quantum communication; novel protocols for multipartite quantum communication and quantum cryptography; quantum memory and quantum repeater concepts.
Novel photonic sources for quantum information and quantum communication, coherent transduction of quantum states between different physical systems; integrated quantum photonics; quantum communication embedded in optical telecommunications systems; other communication protocols with functionality enhanced by quantum effects. Methods for quantum communications in space, between satellites and Earth.

Quantum simulation
Platforms and materials for quantum simulation; development of new measurement and control techniques and of strategies for the verification of quantum simulations.
Application of quantum simulations to condensed matter, chemistry, thermodynamics, biology, high-energy physics, quantum field theories, quantum gravity, cosmology and other fields.

Quantum computation
Development of noisy intermediate-scale quantum platforms; devices to realise multiqubit algorithms; demonstration and optimisation of error correction codes; progress towards fault-tolerance; interfaces between quantum computers and communication systems.
Development of novel quantum algorithms and software stacks; demonstration of quantum speed-up; new architectures and programming paradigms for quantum computation, including hybrid approaches.

Quantum sensing and metrology
Use of quantum properties for time and frequency standards (including precise frequency distribution), light-based calibration and measurement, gravimetry, magnetometry, accelerometry, and other applications. Development of detection schemes that are optimised with respect to extracting relevant information from physical systems; novel solutions for quantum imaging and ranging. Implementation of micro- and nano- quantum sensors, for instance for quantum limited sensitivity in the measurement of magnetic fields at the nanoscale. Extension of the reach of quantum sensing and metrology to other fields of science including e.g. the prospects of offering new medical diagnostic tools.

General quantum science
Novel sources of non-classical states and methods to engineer such states. Development of device-independent quantum information processing. Methods for the reconstruction and estimation of complex quantum states or channels and certification of their properties. Development of resource theory for quantum information. Study of topological systems for quantum information purposes. Understanding and control of open quantum systems and quantum measurement processes; development of methods to confine dynamics in controllable decoherence-free subspaces. Study of quantum energetics and thermodynamic processes at the quantum scale.
Novel ideas and applications in quantum science and technologies, based on e.g. superposition, interference, and entanglement, as means to achieve new or radically enhanced functionalities.

Expected impacts

Funded projects are expected to significantly advance the state-of-the-art of quantum sciences and technologies[5] by achieving one or more of the following targets:

- Develop a deeper fundamental and practical understanding of systems and protocols/algorithms for manipulating and exploiting quantum information;
- Enhance the robustness and scalability of quantum information technologies in the presence of environmental decoherence, hence facilitating their real-world deployment;
- Develop reliable technologies for the different components of quantum architectures;
- Identify new opportunities and applications fostered through quantum technologies, and the possible ways to transfer these technologies from laboratories to industries;
- Enhance interdisciplinarity in crossing traditional boundaries between disciplines in order to enlarge the community involved in tackling these new challenges;
- Move towards a gender diverse and inclusive quantum community, in particular targeting PhD students and early-career researchers;
- Spread excellence throughout Europe by involving partners from the widening Countries;
- Build leading innovation capacity across Europe by involvement of key actors that can make a difference in the future, for example excellent young researchers, ambitious high-tech SMEs or first-time participants.

[5] QuantERA projects shall not duplicate research funded as part of the projects of the previous QuantERA Calls (see funded projects: Call 2017, Call 2019, Call 2021, Call 2023) and the projects of the EC Quantum Technologies Flagship Call (see here)