



Dear Quantum Flagship member,

In this month's newsletter, we tell you about the grand opening ceremony of the International Year of Quantum Science and Technology, as well as interesting upcoming events: the QuantERA Quantum Horizons Conference and two inspiring workshops from Quantum Flagship projects.

Read about exciting news from the ONCHIPS, PASQuanS2.1, NeQST, ASPECT and IGNITE projects. And there is still an opportunity to apply for testing facilities provided by the Qu-Test project.

You can read about a technical report for benchmarking quantum computers being developed, and the start-up Alice & Bob securing \$100 million in Series B funding.

If you would like to inform the community on quantum technology (QT) activities or events within your national or regional community, or provide feedback to the Quantum Flagship newsletter, please get in touch at newsletter@qt.eu.

Best regards,
The Quantum Flagship Coordination Team

- **[Paris inaugurates the International Year of Quantum Science and Technology](#)**
- **[Register now: Quantum Horizons Conference](#)**
- **[Open call for testing services closing soon](#)**
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IYQ2025

Paris inaugurates the International Year of Quantum Science and Technology



INTERNATIONAL YEAR OF Quantum Science and Technology

Marking 100 years of quantum mechanics, global scientific societies united to support the U.N.-declared **International Year of Quantum Science and Technology** (IYQ).

On 4-5 February 2025, UNESCO's Paris headquarters hosted the IYQ launch, bringing together Nobel laureates, policymakers, scientists, and industry leaders. Discussions explored quantum's role in tackling global challenges, from secure communication to sustainability and ethical innovation.

Europe's key role in quantum research was highlighted, underscoring the need for international collaboration and education. The event set the stage for a year of global initiatives advancing quantum science, innovation, and its impact on society.

[VIEW CEREMONY](#)

Quantum Flagship event news

Register now: QuantERA Quantum Horizons conference

Quantum Horizons

Science
Policy
Society

7 May,
2025
Gdańsk

European
Solidarity
Center

The **Quantum Horizons Conference: Science – Policy – Society**, organised by the QuantERA Consortium and the Polish Ministry of Science and Higher Education, in collaboration with the Quantum Flagship, will be held in Gdańsk, Poland, on 7 May 2025, under the Polish Presidency of the EU.

This event will bring together distinguished guests from academia, industry, as well as national and European institutions – including officials from the European Commission – alongside representatives of research funding organisations and the Quantum Flagship.

The conference agenda will facilitate discussions on the latest advancements in QT, encourage knowledge exchange, and foster collaborations within the field.

Conference registration is required and will remain open until **15 March**.

[REGISTER NOW](#)

Funding for QT

Open call for testing services closing soon

The Quantum Flagship project **Qu-Test** develops, upgrades, and provides infrastructure for testing and validation of quantum technologies in Europe. Qu-Test is now calling for applications for the second cut-off of its open call.

What? The call is open to all EU companies seeking support services that incorporate cutting-edge technologies in quantum computing, communication, and sensing.

Who? The call is open to companies of all sizes. Applicant companies must be established in a member state of the European Union, Iceland, Norway, or Israel, with majority ownership and control therein.

When? The call is open until **31 March 2025**. Applicants can apply at any time before the deadline.

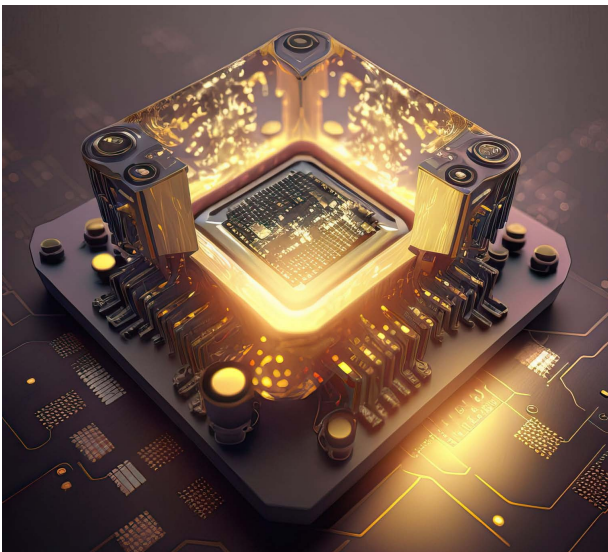
Don't miss the chance to submit your application. A full list of services offered is available via

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News from the QT Projects

ONCHIPS project news

New quantum chip overcomes computing challenges



© Jason Jung / Midjourney

The European Commission is investing €3 million in a groundbreaking quantum chip that combines electronics and light using Germanium-Silicon (GeSi) technology – a material whose ability to efficiently emit light was only discovered in 2020.

The **ONCHIPS** project aims to provide a silicon-based integrated architecture that combines static (electronic) and flying (photonic) qubits on the same chip. The combination of spin qubits realised in a new optically active semiconductor (hexagonal GeSi) will open routes for silicon quantum photonics with monolithically integrated spin-photon interfaces.

Running until 2026, the ONCHIPS consortium brings together experts from Twente, Eindhoven, Munich, Paris, Delft, Konstanz and Budapest.

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PASQuanS2.1 project news

First signatures of stripe formation observed in a cold-atom quantum simulator

In a recent study published in *Nature*, researchers from the Quantum Flagship project **PASQuanS2.1** found evidence of stripe formation - extended structures of holes - in a cold atom Fermi-Hubbard system. Using a quantum gas microscope and a specially designed mixed-

dimensional geometry, the group from Munich, led by Timon Hilker, observed unique higher-order correlations in spin and charge densities, similar to those found in some high-temperature superconductors.

These findings contribute to the broader effort of linking cold-atom experiments with condensed matter physics, where stripe order and mixed dimensionality are closely related to superconductivity. By studying how these patterns emerge in a simplified atomic system, researchers can refine theoretical models and potentially guide the development of future materials.

[READ MORE](#)

Quantum Flagship project news

ASPECT, IGNITE, NeQST, and PASQuanS publish exciting results

Along with PASQuanS2.1 (see above), quite a few Quantum Flagship projects have celebrated prestigious publications this year already. You can read about their fascinating results in the journals *Nature Physics* and *Nature Materials* here:

- ASPECT – [Thermally driven quantum refrigerator autonomously resets a superconducting qubit](#)
- IGNITE – [A quantum dot in germanium proximitized by a superconductor](#)
- NeQST – [Confinement in a Z2 lattice gauge theory on a quantum computer](#)
- PASQuanS – [Emergent interaction-driven elliptic flow of few fermionic atoms](#)

Quantum Flagship project events

Register now: PASQuanS2.1 and OpenSuperQplus workshops

Join the upcoming workshops of the Quantum Flagship projects [PASQuanS2.1](#) and [OpenSuperQplus](#).

PASQuanS2.1 will explore advanced applications of quantum simulation, offering insights into current breakthroughs and future potentials. The annual end-user workshop *Applications of Quantum Simulation* will take place at the Max Planck Institute of Quantum Optics, **Garching**, Germany, on **11-12 March 2025**.

OpenSuperQplus will host the satellite workshop *Optical Integration of Cryogenic Quantum Technologies* focused on the practicalities of scaling up quantum systems, addressing key challenges and innovations in **Helsinki**, Finland, on **21-22 May 2025**.

Both events provide excellent opportunities to engage with experts and expand your knowledge in the fast-evolving field of QT. Read more by clicking on the buttons below.

PASQUANS2.1

OPENSUPERQPLUS

News from the Community

Standardisation and benchmarking

JTC22-WG3 develops technical report for benchmarking of quantum computers

A technical report on quantum computing performance metrics is being developed by CEN-CENELEC JTC22-WG3, led by Quandela, and supported by TNO, Pasqal, NPL, Univ. Parma, and CEA. Its goal is to develop performance metrics on specific tasks. Low-level metrics are for components individually. Medium-level metrics indicate how components cooperate at running certain algorithms. High-level metrics indicate how devices perform at solving actual problems.

The document will be finalised in the next few months, to be published Autumn 2025, and to be coordinated with a proposed benchmarking activity by IEC/ISO JTC3. The draft JTC22-WG3 Benchmarking document is available [here](#) (Create your personal login using the "Read More" button below to access the document.)

More details via [Jean Senellart](#) (Quandela).

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News from Alice & Bob

Alice & Bob secures \$100 million in Series B funding

[Alice & Bob](#), a leading European start-up focused on fault-tolerant quantum computing, has successfully raised \$100 million in its Series B funding round. This investment will accelerate the development of their advanced quantum processors. The funding round was led by prominent venture capital firms such as AVP and Bpifrance, underscoring strong confidence in Alice & Bob's innovative approach to quantum computing.

Alice & Bob said they will use the funding “to build our fourth and largest location to date, a 4,000m² research and production facility in Paris. An ambitious plan for our ambitious roadmap: bring to life the first useful quantum computer, Graphene.”

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