



Press Dossier



QUANTUM
FLAGSHIP

The Coordination and Support Action "QUCATS"



The future is Quantum

ABOUT

The Quantum Flagship was launched in 2018 as one of the largest and most ambitious research initiatives of the European Union. With a budget of **€1 billion** and a duration of **10 years**, the flagship brings together research institutions, academia, industry, enterprises, and policy makers, in a joint and collaborative initiative on an unprecedented scale.

The main objective of the Flagship is to consolidate and expand European scientific leadership and excellence in this research

area as well as to transfer quantum physics research from the lab to the market by means of commercial applications and disruptive technologies. With over **2000 researchers** from academia and industry involved in this initiative so far, it aims to create the next generation of disruptive technologies that will impact Europe's society, placing the region as a worldwide knowledge-based industry and technological leader in this field.

GOALS

1

Boost and drive a competitive European quantum industry to position Europe as a leader in the future global industrial landscape

2

Expand European scientific leadership and excellence in quantum research

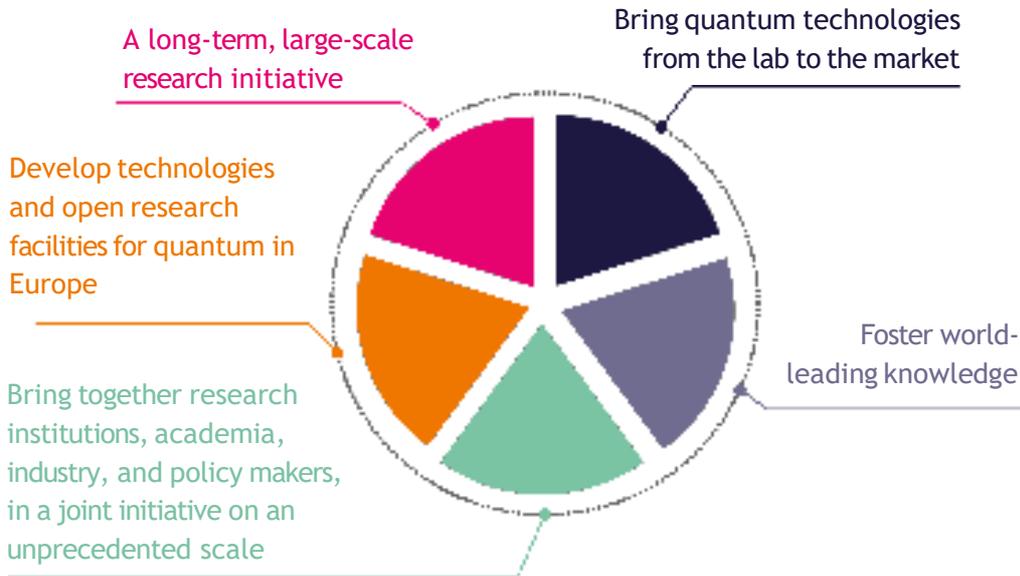
3

Make Europe a dynamic and attractive region for innovative business and investments in quantum technologies

4

Benefit from advances in quantum technologies to provide better solutions to grand challenges in such fields as energy, health, security and the environment

DRIVE

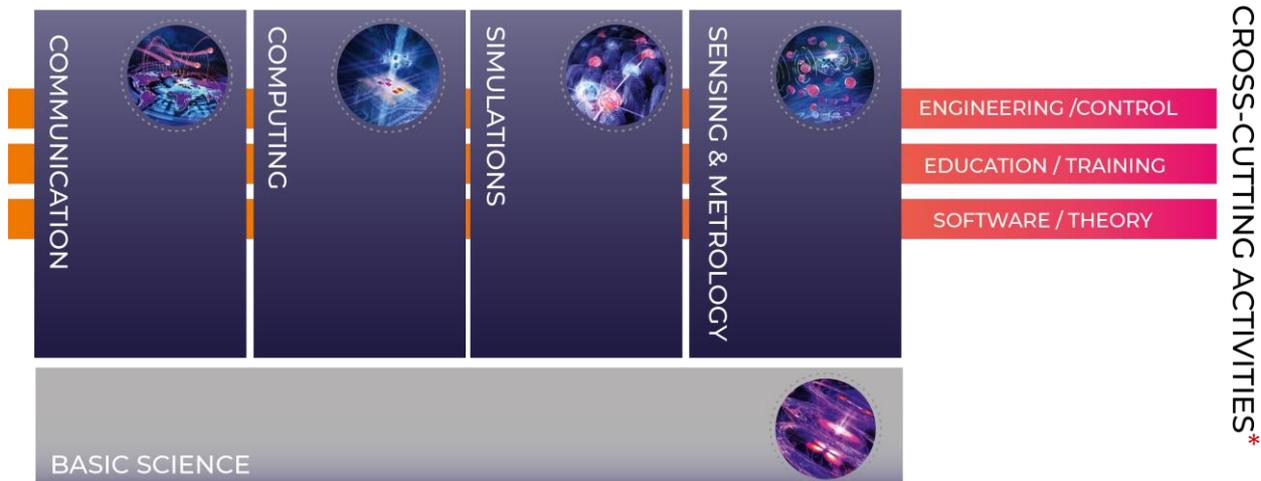


IN NUMBERS

October 2018	2000+	10 years	€1 billion	24 EU-funded projects	€150 million

THE PILLARS

TECHNICAL PILLARS



*to be updated by the end of 2023 (SRIA)

THE COORDINATION AND SUPPORT ACTION CSA - QUCATS



Pr. Philippe Grangier

**QUCATS Project Coordinator
(CNRS)**

Pr. Philippe Grangier is a physicist and head of the quantum optic group at Institut d'Optique in Palaiseau, France. He conducted his thesis under the supervision of Alain Aspect and participated in the Aspect experiment, solving the "EPR paradox", earning Alain Aspect the Nobel Prize in Physics in 2022. Pr. Grangier has authored more than 180 publications including 40 letters. He has been the coordinator of several large European projects related to quantum optics and quantum information processing, including the Integrated Project SCALA, 'Scalable Quantum Computing with Light and Atoms'. His achievements have been recognized by national and international awards. In 2012, he received OSA's Charles Hard Townes Medal "for breakthroughs in fundamental quantum optics, based on invention and/or development of experimental methods and techniques, and leading to groundbreaking applications in quantum information."

The CSA team's aims to continue the coordination and support actions established by the previous QSA team and ensure the success of the initiative.

WP1 Strategy and growth

WP1 objectives are many. To prepare a community-based Strategic Research and Innovation Agenda and a first-ever European Strategic Industry Roadmap, setting out a clear route to industrial implementation of QT for Europe. To establish a competitive European Quantum ecosystem and strategic value chains by uniting world-leading academic research and industry behind common strategic goals. To network and promote national initiatives in member states, establish a competitive European funding landscape for QT by creating a suitable instrument to pool member state and EU Commission resources, and establish joint funding activities amongst member states.

Lead beneficiary: VDITZ

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WP2 Outreach and cooperation

The main objectives of WP2 are to define and implement a communication, dissemination and outreach strategy for the CSA raising awareness among the different audiences (research, industry, policy makers, education, society, etc.) about European Flagship initiative in order to position Europe as a leading region in the world. As well as to foster international cooperation outside Europe by providing support to the European Commission in understanding the evolution of the international scene in QT and to take adequate initiatives, provide information and analysis for the elaboration of a strategy agenda for international cooperation and foster the positioning of the European quantum industry including trade & export.

Lead beneficiary: CEA

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WP3 Standardisation and use cases

WP3 aims at strengthening and protecting Europe's scientific, technological and industrial capabilities on quantum technologies. Work is subdivided into three distinct tasks, each covering a critical instrument in safeguarding European quantum capabilities - Intellectual property on quantum technologies in Europe - Standardisation of quantum technologies in Europe - Impactful use cases and relevant benchmarks of quantum technologies.

Lead beneficiary: QUIC

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WP4 Workforce development

The objectives are to develop and evaluate QT-oriented workforce education and training. Drawing on the SRA and with input from the QT education community, WP4 will build a roadmap for QT education. It will refine and disseminate the QT competence framework across industry and education in QT. To foster the activities of the community such as pilots and education mapping, we will construct and implement a widespread community incentive structure and setup structured knowledge repositories. For directly contributing to the overall education objectives of QUCATS, generate model curricula for QT and facilitate their adoption and develop QT relevant soft skills across European universities. In order to facilitate collaboration between industrial and educational partners in understanding industry needs, we will analyze industry needs for professional training, and identify appropriate QT model curricula and teaching modules for QT workforce education and training.

Lead beneficiary: TUBS

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WP5 QT Flagship Governance & National QT Programme Cooperation & WP6 Management

The goal is to manage the overall project with respect to administrative, financial and technical issues and ensure the achievement of all milestones and the completion of all deliverables within the time frame and budget, monitor and report the status of the project and take corrective actions if necessary. Provide administrative support and possibly coordinate QT-related activities, including the Flagship governance bodies (SEB, SAB, QCN) and other structures; support EC policies in connection with all the QT-related EU activities, and if needed with other EU or National bodies and stakeholders. Connect outreach and educational activities to the general EU QT ecosystem, taking care of the great variety of audiences that range from policymakers (ST531) to under-represented communities (ST232), and include also connected scientific domains (HPC, Graphene, Microelectronics...)

Lead beneficiary: CNRS

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THE QUANTUM COMMUNITY NETWORK

Quantum Community Network

In order to be able to engage the large number of stakeholders in Europe appropriately, the Quantum Support Action (QSA) has established a network of multipliers, the Quantum Community Network (QCN).

The QCN is composed of distinguished members of the Quantum Technology (QT) community, who have agreed to commit to liaising with their national stakeholders and build the links to the QSA.

QCN members are encouraged to carry out the following actions:

- Collect and share information and/or best practices on QT-relevant activities in their
- Help coordinate the interaction between the Flagship and National Initiatives
- Assist in the promotion of gender equality in science
- Provide, upon request, additional information about activities, regulations etc. in their country

List of the current QCN members

Country	QCN member	QCN deputy
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