Quantum Technologies Flagship

The Quantum Technologies Flagship is a long-term research and innovation initiative that aims to put Europe at the forefront of the second quantum revolution.

The Quantum Technologies Flagship is due to support the work of hundreds of quantum researchers over 10 years, with an expected budget of €1 billion from the EU. Launched in 2018, the flagship brings together research institutions, and industry and public funders, consolidating and expanding European scientific leadership and excellence in quantum technologies. Its aim is to support the transformation of European research into commercial applications that make full use of the disruptive potential of quantum.

In the flagship’s ramp-up phase (October 2018-September 2021), its total budget is €152 million, for a total of 24 projects. It is funding projects in four core application areas:

- quantum computing
- quantum simulation
- quantum communication
- quantum metrology and sensing

It also funds research into the basic science behind quantum technologies, as well as education and international cooperation activities in quantum technologies.

To mark the mid-point of the flagship’s ramp-up phase, a report (.pdf) was published with details of its
achievements in its first eighteen months of activities.

The flagship’s research goals are shaped by its Strategic Research Agenda, to which over 2,000 European quantum experts contributed. Its long-term vision is to develop in Europe a so-called quantum Internet, where quantum computers, simulators and sensors are interconnected via quantum communication networks.

Funding for the flagship is expected to continue in Horizon Europe, the EU’s new research framework programme.

Quantum Technologies Flagship website

Quantum Technologies Flagship launch: press release (29/10/2018)
Quantum Technologies Flagship launch: questions and answers
PRESS RELEASE | 16 December 2021
Commission to invest more than €1 billion under the Connecting Europe Facility for innovative and secure connectivity

The Commission adopted the first Work Programme for the digital part of the Connecting
Europe Facility (CEF Digital), which defines the scope and objectives of the EU-supported actions needed to improve Europe’s digital connectivity infrastructures for 3 years.

PRESS RELEASE | 17 November 2021
First calls for proposals under the Digital Europe Programme are launched in digital tech and European Digital Innovation Hubs

The Commission announced this week the first set of calls for proposals under the Digital Europe Programme. This follows the adoption of the work programmes allocating nearly €2 billion for investments aimed to advance on the digital transition.

PRESS RELEASE | 10 November 2021
Commission to invest nearly €2 billion in delivering digital advances to business, citizens, and public administrations

The Commission has adopted three work programmes for the Digital Europe Programme, outlining the objectives and specific topic areas that will receive a total of €1.98 billion in funding. This first set of work programmes includes strategic investments that will be instrumental in realising the Commission's goals in making this Europe's Digital Decade.

NEWS ARTICLE | 18 October 2021
EU innovation moves one step closer to the world's first compact quantum computer

As part of the EU Flagship Quantum Technologies, researchers at the Institute for Experimental Physics of the University of Innsbruck, Austria, have built a prototype for a compact quantum computer.

Browse Quantum
To unlock the transformative power of quantum, the EU should develop a solid industrial base that builds on its tradition of excellence in quantum research.

See Also

The European Quantum Communication Infrastructure (EuroQCI) Initiative
The EuroQCI initiative aims to build a secure quantum communication infrastructure that will span the whole EU, including its overseas territories.

Source URL: https://digital-strategy.ec.europa.eu/policies/quantum-technologies-flagship