

# Quantum Initiatives Landscape in Europe

**Piotr RYDLICHOWSKI (PSNC)**

Spotlight on Quantum, GA, 6 Dec. 2021

Public

[www.geant.org](http://www.geant.org)

[quantum-discuss@lists.geant.org](mailto:quantum-discuss@lists.geant.org)

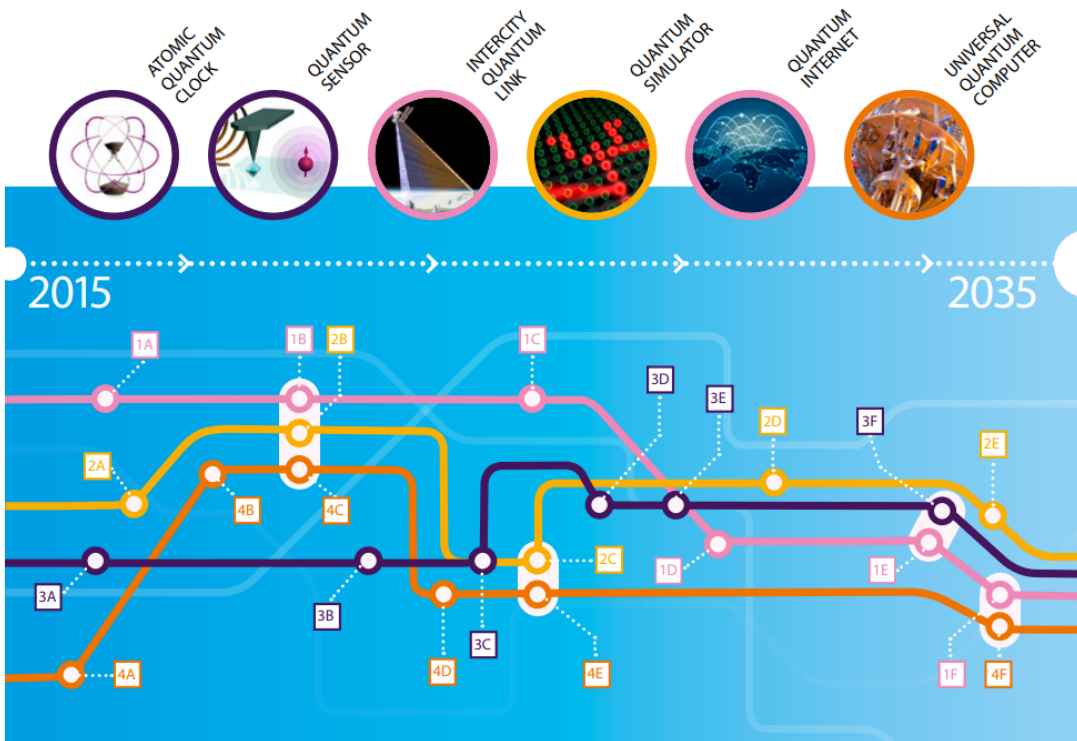
# Quantum Manifesto



- Second Quantum Revolution
- Activities started by Quantum Manifesto resulted in Quantum Flagship program
- Roadmap for Quantum Technologies Development

# Quantum Manifesto

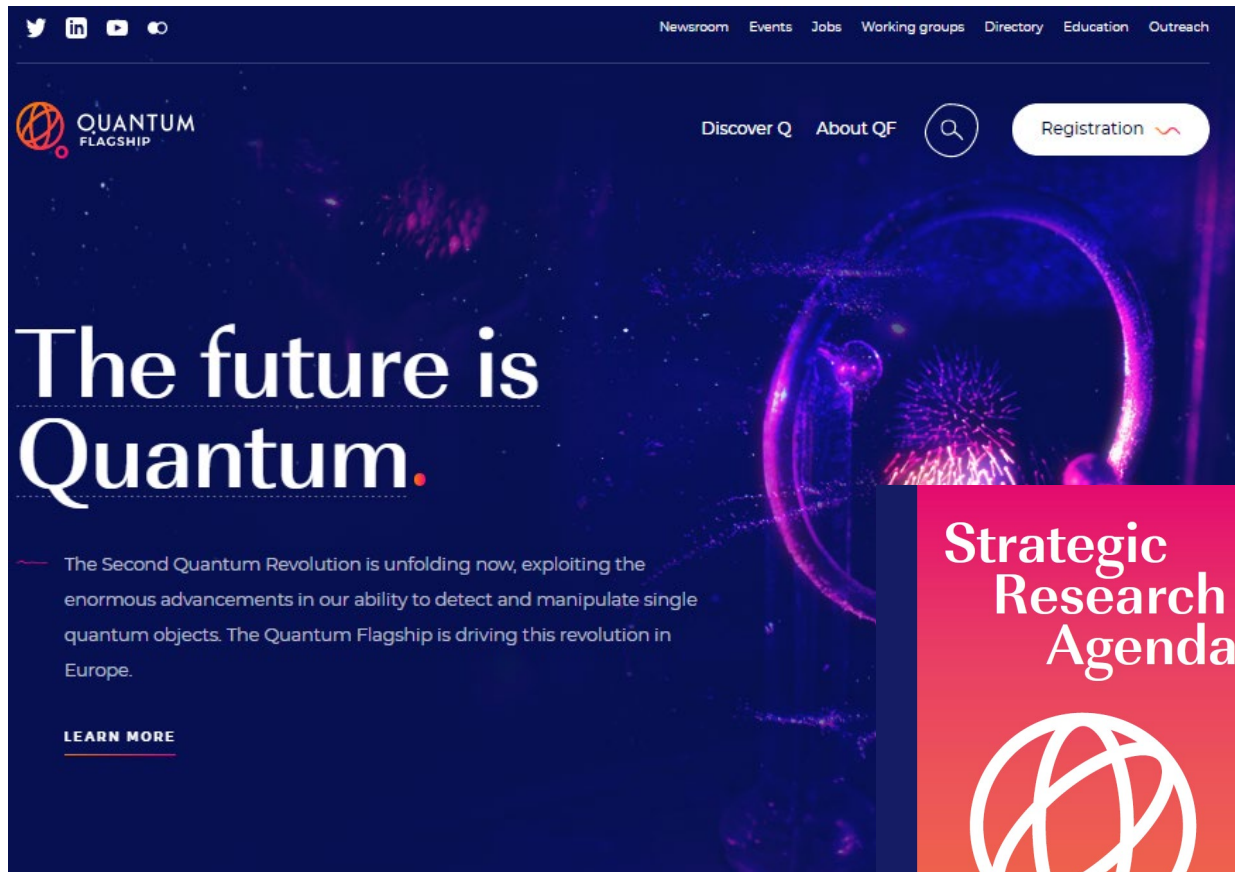
## Quantum Technologies Timeline



[https://qt.eu/app/uploads/2018/04/93056\\_Quantum-Manifesto\\_WEB.pdf](https://qt.eu/app/uploads/2018/04/93056_Quantum-Manifesto_WEB.pdf)

	1. Communication	2. Simulators	3. Sensors	4. Computers
0 – 5 years	<ul style="list-style-type: none"> <li>A Core technology of quantum repeaters</li> <li>B Secure point-to-point quantum links</li> </ul>	<ul style="list-style-type: none"> <li>A Simulator of motion of electrons in materials</li> <li>B New algorithms for quantum simulators and networks</li> </ul>	<ul style="list-style-type: none"> <li>A Quantum sensors for niche applications (incl. gravity and magnetic sensors for health care, geosurvey and security)</li> <li>B More precise atomic clocks for synchronisation of future smart networks, incl. energy grids</li> </ul>	<ul style="list-style-type: none"> <li>A Operation of a logical qubit protected by error correction or topologically</li> <li>B New algorithms for quantum computers</li> <li>C Small quantum processor executing technologically relevant algorithms</li> </ul>
5 – 10 years	<ul style="list-style-type: none"> <li>C Quantum networks between distant cities</li> <li>D Quantum credit cards</li> </ul>	<ul style="list-style-type: none"> <li>C Development and design of new complex materials</li> <li>D Versatile simulator of quantum magnetism and electricity</li> </ul>	<ul style="list-style-type: none"> <li>C Quantum sensors for larger volume applications including automotive, construction</li> <li>D Handheld quantum navigation devices</li> </ul>	<ul style="list-style-type: none"> <li>D Solving chemistry and materials science problems with special purpose quantum computer &gt; 100 physical qubit</li> </ul>
> 10 years	<ul style="list-style-type: none"> <li>E Quantum repeaters with cryptography and eavesdropping detection</li> <li>F Secure Europe-wide internet merging quantum and classical communication</li> </ul>	<ul style="list-style-type: none"> <li>E Simulators of quantum dynamics and chemical reaction mechanisms to support drug design</li> </ul>	<ul style="list-style-type: none"> <li>E Gravity imaging devices based on gravity sensors</li> <li>F Integrate quantum sensors with consumer applications including mobile devices</li> </ul>	<ul style="list-style-type: none"> <li>E Integration of quantum circuit and cryogenic classical control hardware</li> <li>F General purpose quantum computers exceed computational power of classical computers</li> </ul>

# Quantum Flagship

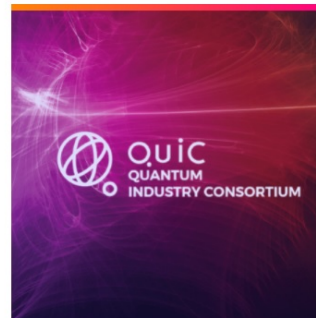
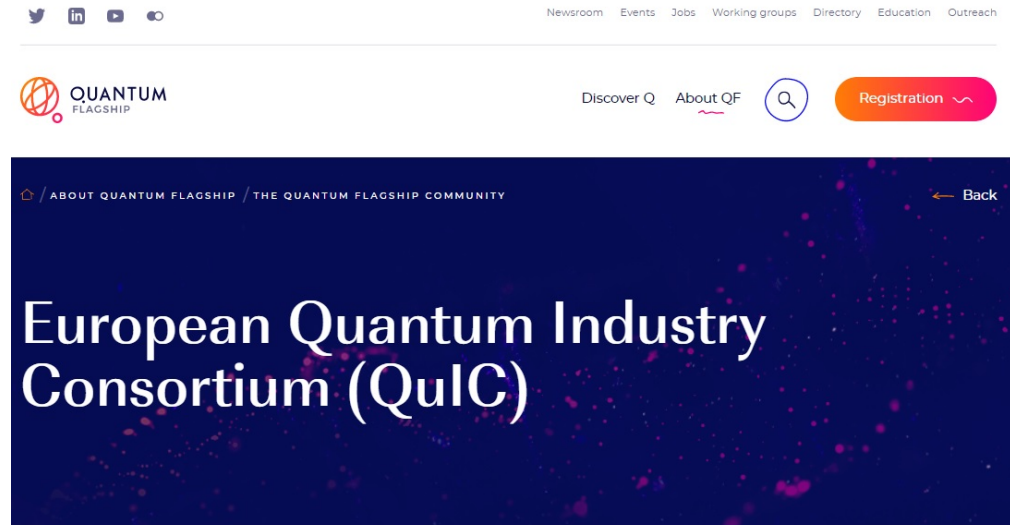


<https://qt.eu/>

- Quantum Flagship is focused on Quantum Computing, Simulation, Sensing and communication.
- Quantum Flagship program was launched under HORIZON2020 in 2018 but will be continued under HORIZON EUROPE.



# Quantum Flagship – Quantum Industry Consortium



As the second quantum revolution unfolds across the globe, **developing a strong European Quantum Technology ecosystem** is central for bringing forward innovative breakthroughs in science and technology and shaping the industry and the society we live in.

**Mission.** The European Quantum Industry Consortium (QuIC) advocates, promotes, and fosters the common interests of the European Quantum Industry towards all Quantum Technology stakeholders. **Objectives.**

<https://qt.eu/about-quantum-flagship/the-quantum-flagship-community/quic/>

# EuroQCI



## Shaping Europe's digital future

[Home](#) [Policies](#) [Activities](#) [News](#) [Library](#) [Funding](#) [Calendar](#) [Consultations](#)

[Home](#) > [Policies](#) > [The European Quantum Communication Infrastructure \(EuroQCI\) Initiative](#)

### 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.

Since June 2019, all 27 EU Member States have signed the European Quantum Communication Infrastructure (EuroQCI) Declaration, signalling their commitment to the EuroQCI initiative.

The participating countries are working with the European Commission and the European Space Agency (ESA) to design, develop and deploy the EuroQCI. The aim is for it to be fully operational by 2027.



**DECLARATION ON A QUANTUM COMMUNICATION INFRASTRUCTURE FOR THE EU**

#### All 27 EU Member States

have signed a declaration agreeing to work together to explore how to build a quantum communication infrastructure (QCI) across Europe, boosting European capabilities in quantum technologies, cybersecurity and industrial competitiveness.



@FutureTechEU #EuroQCI

[Quantum communication infrastructure: Questions and answers >](#)

[Follow the latest progress and learn more about getting involved.](#)

Follow the Commission's work on tech and digital @DigitalEU



## Shaping Europe's digital future

[Home](#) [Policies](#) [News](#) [Library](#) [Funding](#) [Calendar](#) [Consultations](#)

[Home](#) > [The Digital Europe Programme](#)

### The Digital Europe Programme

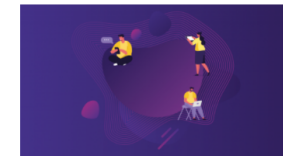
The Digital Europe Programme (DIGITAL) is a new EU funding programme focused on bringing digital technology to businesses, citizens and public administrations.

How to make Europe greener and more digital are the twin challenges for our generation, and our success in meeting them will define our future.

The European Commission has begun to look at a greener Europe through the lens of the European Green Deal. At the same time, it is opening up discussions about the move to a more digital world: the digital transition.

Digital technology and infrastructure have a critical role in our private lives and business environments. We rely on them to communicate, work, advance science and answer current environmental problems. At the same time, the COVID-19 pandemic highlighted not only how much we rely on our technology to be available to us, but also how important it is for Europe not to be dependent on systems and solutions coming from other regions of the world. Paving the way for achieving this goal is DIGITAL programme.

The Digital Europe Programme will provide strategic funding to answer these challenges, supporting projects in five key capacity areas: in supercomputing, artificial intelligence, cybersecurity, advanced digital skills, and ensuring a wide use of digital technologies across the economy and society, including through Digital Innovation Hubs. With a planned overall budget of €7.5 billion (in current prices), it aims to accelerate the economic recovery and shape the digital transformation of Europe's society and fibre future, bringing benefits to everyone, but in particular to small and medium-sized



[Funding & Tender Opportunities >](#)

[Horizon Europe >](#)

[Connecting Europe Facility >](#)

[Work as an expert: Call for](#)

# OPENQKD project as pilot for QCI

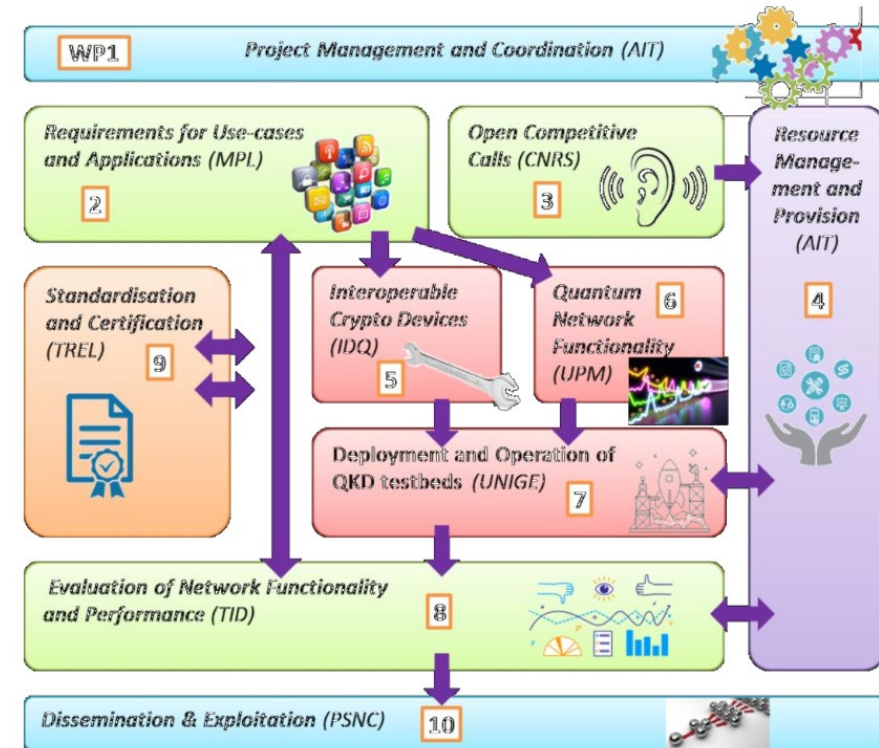
The screenshot shows the European Commission's funding portal for the Quantum Key Distribution testbed project. The page includes a navigation bar with options like 'SEARCH FUNDING & TENDERS', 'HOW TO PARTICIPATE', and 'PROJECTS & RESULTS'. The main content area displays the project title, topic ID (SU-ICT-04-2019), and a 'Grant' button. A detailed information table follows, covering general information, call details, and a topic description. The 'General information' table lists the programme as 'Horizon 2020 Framework Programme' and the work programme part as 'Information and Communication Technologies'. The call is identified as 'Cybersecurity (H2020-SU-ICT-2018-2020)' with a work programme year of 'H2020-2018-2020'. The type of action is 'IA Innovation action', which is marked as 'Closed'. The deadline model is 'single-stage', with an opening date of '26 July 2018' and a deadline date of '14 November 2018 17:00:00 Brussels time'. The 'Topic description' section details the specific challenge and scope of the project.

General information	General information		
Topic description			
Conditions and documents	Programme <b>Horizon 2020 Framework Programme</b>	Work programme part <b>Information and Communication Technologies</b>	
Submission service	Call <b>Cybersecurity (H2020-SU-ICT-2018-2020)</b>	Work programme year <b>H2020-2018-2020</b>	<a href="#">See budget overview</a>
Topic related FAQ			
Get support	Type of action <b>IA Innovation action</b> <span>Closed</span>		
Call information			
Call updates	Deadline model <b>single-stage</b>	Opening date <b>26 July 2018</b>	Deadline date <b>14 November 2018 17:00:00 Brussels time</b>
Funded project list			
<a href="#">Go back to search results</a>	<b>Topic description</b> Specific Challenge: Europe's economic activities and Europe's single market is dependent on well-functioning underlying digital infrastructures, services and data integrity, not the least for critical infrastructures like energy, transport, health, finance, etc. Current security of the digital infrastructures and services will soon be under threat of no longer providing long-term security. Confidentiality of data and communications, authentication, as well as the long-term integrity of stored data have to be guaranteed, even in the advent of quantum computers. Introducing Quantum Key Distribution (QKD) in the underlying infrastructure has the potential to maintain end-to-end security in the long-term. Scope: Building an experimental platform to test and validate the concept of end-to-end security, providing quantum key distribution as a service. Proposals should develop an open, robust, reliable and fully monitored metropolitan area testbed network (ring or mesh configuration). The aim is to integrate equipment, components, protocols and network technologies with QKD systems and current digital security and communication networks. Where necessary, R&D activities can be addressed. The testbed should be modular, to		

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/su-ict-04-2019>

# OPENQKD project as pilot for QCI

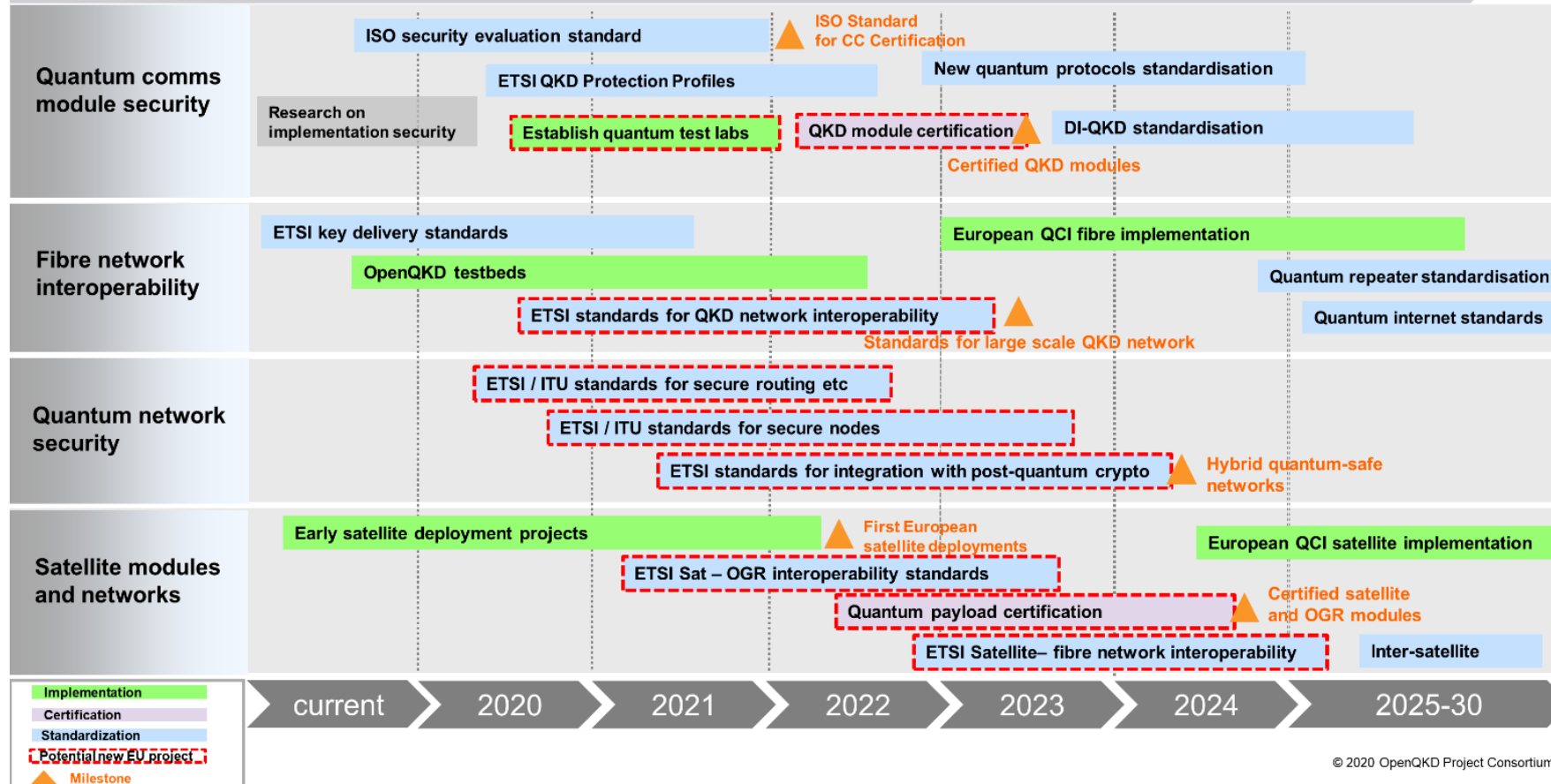
- Construction of QKD testbeds in Europe and implementation of 40 different scenarios for services using QKD technology
- Project start - October 2019
- Poznań- PSNC node is one of the main testbeds. Implementation and integration of QKD technology in the existing infrastructure and services of the POZMAN and PIONIER networks.
- Testing experimental QKD solutions in Poznań
- PSNC participates in works related to standardization activities and IPR
- PSNC will develop data management and analysis software
- Testbeds currently running in Geneva, Madrid, Berlin (June 2021). The epidemiological situation has suspended work for the remaining testbeds.
- **Project extended to Q2 2023**





# OPENQKD project as pilot for QCI

## Quantum Communication Standardisation Roadmap (v2)



<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-results-platform/29227>

# Calls for EuroQCI studies



The screenshot shows the Airbus website's newsroom page. At the top, there are navigation links for 'Careers', 'Investors', 'Suppliers', 'Newsroom', and a stock price for Airbus at 99.85 € with a 1.319% increase. Below this is a main navigation bar with 'Who we are', 'What we do', 'Innovation', 'Sustainability', 'Safety', and 'Products & Services'. The breadcrumb trail reads 'Home > Newsroom > A consortium of European digital players to design the future EU quantum internet'. The article is dated '31 May 2021' and categorized under 'Innovation'. The title is 'A consortium of European digital players to design the future EU quantum internet'. Below the title is a photograph of a quantum communication network visualization with binary code (0s and 1s) and glowing blue lines. To the right of the article, there is a 'Joint Press Release' section with the same title. It includes a list of social media handles: @AirbusDefence, @Consiglio Nazionale delle Ricerche, @EU\_Commission, @Istituto Nazionale di Ricerca Metrologica, @Leonardo, @Orange, @PwC\_France, and @Telespazio. The text of the press release states that the European Commission has selected a consortium to study the design of the future European quantum communication network, EuroQCI. It mentions that the consortium is led by Airbus and includes Leonardo, Orange, PwC France and Maghreb, Telespazio, the Consiglio Nazionale delle Ricerche (CNR), and the Istituto Nazionale di Ricerca Metrologica (INRiM). The press release also notes that EuroQCI will integrate quantum technologies into terrestrial fibre optic communication networks and include a space-based segment for full coverage.

# Calls for EuroQCI studies



JRC TECHNICAL REPORTS

A Secure  
Quantum Communications Infrastructure  
for Europe

Lewis, Adam M.  
Travagnin, Martino

Limited  
2019

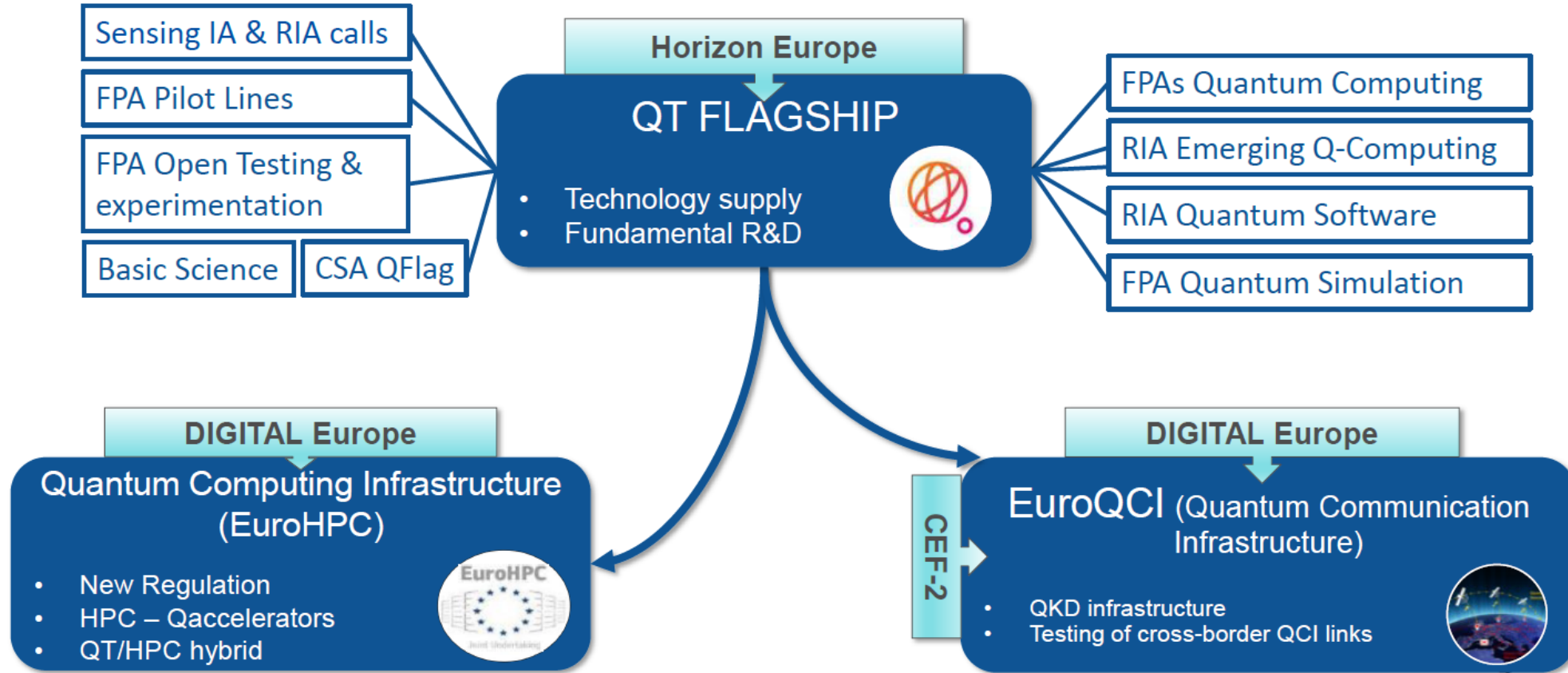




# Horizon Europe

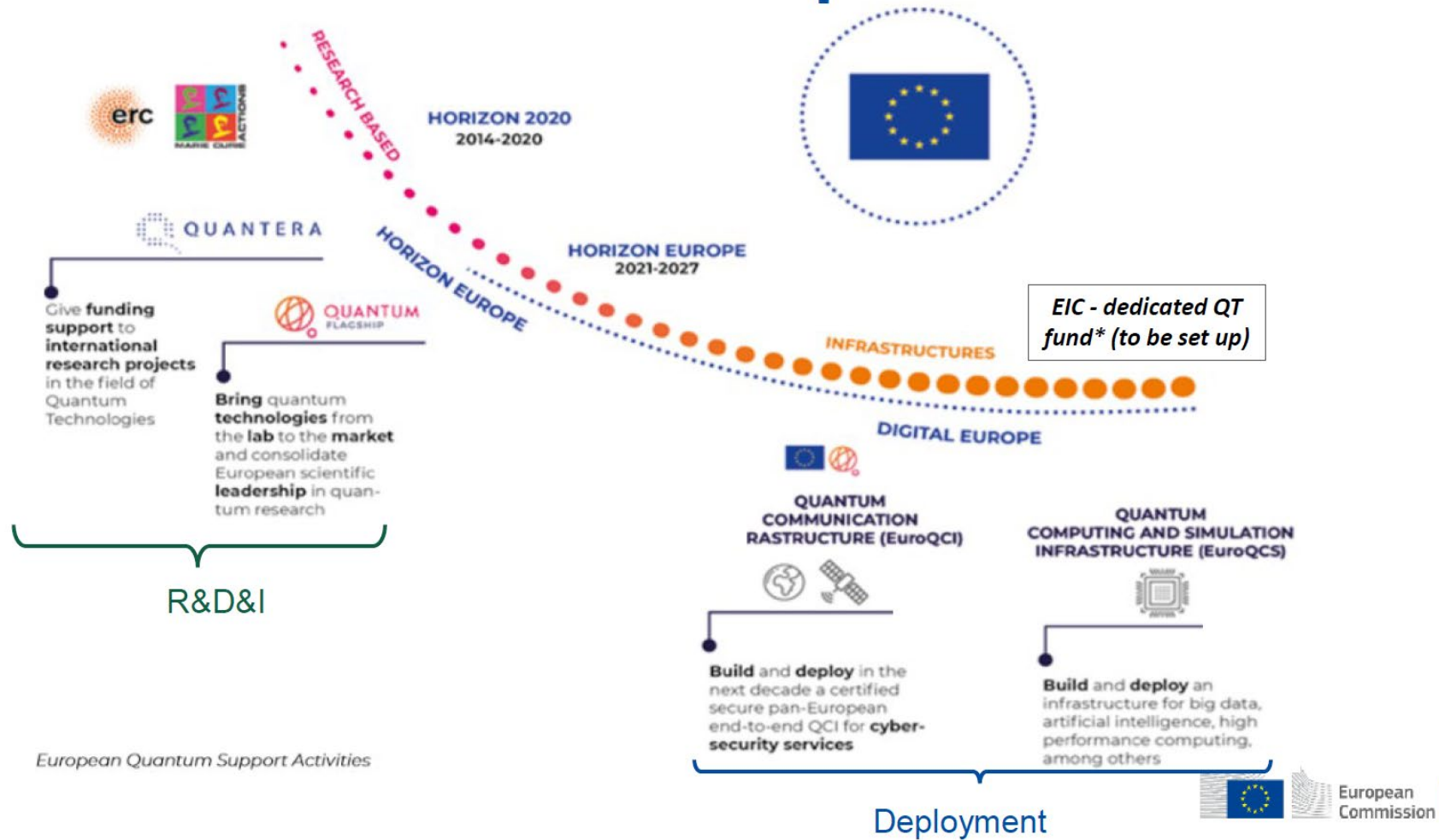


## QT Flagship as technology enabler



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## Quantum in the EU in the period 2021-2027



## From FPA to SGA



### Framework partnership agreement (FPA)

- follows an open call
- Long term cooperation that typically leads to several or recurrent grants (SGA). [Consortium + Action Plan]
- Specify the objectives, the nature of the actions planned, and the procedure for awarding specific grants
- Partners can be added or removed during the FPA duration
- no obligation to award grants / no financial commitment
- Some Partners in the FPA can be inactive (not present in a given SGA).



### Specific Grant agreement (SGA)

- Follow a restricted procedure -> Only those who have a FPA will be invited to send a proposal for a SGA
- Like standard grant (operating grants or action grants)
- The coordinator of the FPA -> coordinator of the SGA
- set out the project-specific rules that apply to the grants (eligible costs, reporting and payment schedule, etc)
- cannot be signed if the FPA is not signed
- new SGAs must be awarded before end date of FPA



## Quantum Technologies Calls 2021

Call	Description	Main Coordinator / Backup Coordinator	Open Date	Close Date
HORIZON-CL4-DIGITAL-EMERGING-2021-01-21	<b>Next generation quantum sensing technologies (RIA)</b>	Dagmar Floeck Philippe Raynal	22/06/2021	21/10/2021
HORIZON-CL4-DIGITAL-EMERGING-2021-01-30	<b>Investing in new emerging quantum computing technologies (RIA)</b>	Philippe Raynal Doru Tanasa	22/06/2021	21/10/2021
HORIZON-CL4-DIGITAL-EMERGING-2021-01-32	<b>Support and coordination of the Quantum Technologies Flagship Initiative (CSA)</b>	Dagmar Floeck Oscar Diez	22/06/2021	21/10/2021
HORIZON-CL4-DIGITAL-EMERGING-2021-01-23	<b>International cooperation with Canada (RIA)</b>	Christian Trefzger Dagmar Floeck	22/06/2021	21/10/2021
HORIZON-CL4-DIGITAL-EMERGING-2021-02-16	<b>Basic Science for Quantum Technologies (RIA)</b>	Dagmar Floeck Christian Trefzger	28/10/2021	27/01/2022
HORIZON-CL4-DIGITAL-EMERGING-2021-02-20	<b>Quantum sensing technologies for market uptake (IA) *</b>	Doru Tanasa Dagmar Floeck	28/10/2021	27/01/2022
HORIZON-CL4-2021-DIGITAL-EMERGING-02-10	<b>Strengthening the quantum software ecosystem for quantum computing platforms (RIA)</b>	Philippe Raynal Doru Tanasa	28/10/2021	27/01/2022
HORIZON-CL4-DIGITAL-EMERGING-2021-02-15	<b>Framework Partnership Agreement for developing the first large-scale quantum computers (FPA) *</b>	Oscar Diez Christian Trefzger	28/10/2021	27/01/2022
HORIZON-CL4-DIGITAL-EMERGING-2021-02-17	<b>Framework Partnership Agreement for developing large scale quantum simulation platform technologies (FPA) *</b>	Dagmar Floeck Christian Trefzger	28/10/2021	27/01/2022
HORIZON-CL4-DIGITAL-EMERGING-2021-02-19	<b>Framework Partnership Agreements in Quantum Communications (FPA) *</b>	Doru Tanasa Oscar Diez	28/10/2021	27/01/2022
HORIZON-CL4-DIGITAL-EMERGING-2021-02-22	<b>Framework Partnership Agreements for open testing and experimentation and for pilot production capabilities for quantum technologies (FPA) *</b>	Christian Trefzger Doru Tanasa	28/10/2021	27/01/2022

\* Art 22.5 Special restrictions apply





## FPAs/SGAs Quantum Technologies

- **FPA for developing the first large-scale quantum computers (HORIZON-CL4-DIGITAL-EMERGING-2021-02-15)**
  - HORIZON-CL4-QUANTUM-01-SGA Developing the first large-scale quantum computers (SGA)
- **FPA for developing large scale quantum simulation platform technologies (HORIZON-CL4-DIGITAL-EMERGING-2021-02-17)**
  - HORIZON-CL4-QUANTUM-02-SGA for developing large scale quantum simulation platform technologies
- **FPAs in quantum communications (HORIZON-CL4-DIGITAL-EMERGING-2021-02-19)**
  - HORIZON-CL4-QUANTUM-03-SGA Building the Quantum internet (SGA)
  - HORIZON-CL4-QUANTUM-04-SGA Quantum encryption and future quantum network technologies (SGA)
- **FPAs for open testing and experimentation and for pilot production capabilities for quantum technologies (HORIZON-CL4-DIGITAL-EMERGING-2021-02-22)**
  - HORIZON-CL4-QUANTUM-05-SGA Supporting open testing and experimentation for quantum technologies in Europe (SGA)
  - HORIZON-CL4-QUANTUM-06-SGA Supporting experimental production capabilities for quantum technologies in Europe (SGA)

# Horizon Europe

## HORIZON-CL4-DIGITAL-EMERGING-2021-02-15 FPA/SGA developing first large-scale Quantum Computers

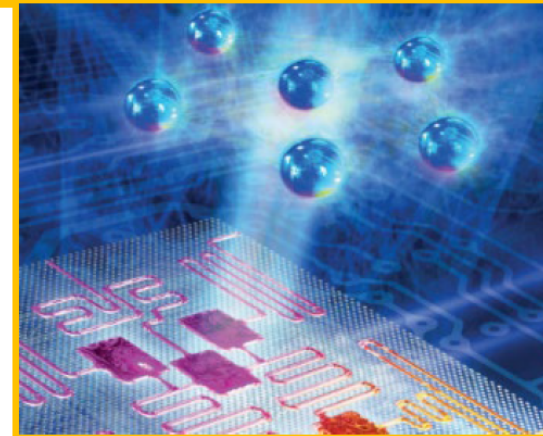


### Scope

2 FPAs - (TRL 4-5 to TRL 6-7)



- **build** on the QC platforms supported **Quantum Flagship ramp up phase**.
- integrating the key building blocks in NISQ regime (**>100 qubits**) with control electronics, low-level software, verification and validation.
- break-even point of fault tolerance to **increase algorithmic depth** (#operations).
- integrate **full SW stack** (compiler, scheduler), programming tools & algorithms
- open QC experimental systems and work on **reduction of their form factor**.



### Outcomes

- Universally programmable processor at least **100 physical qubits (2025)**
- NISQ domain including firmware and sufficient coherence to perform computations **involving all of its qubits**
- **HW-agnostic test suite**, including **real-world applications**
- Full stack, highly connected, high fidelity **QC 1000 physical qubits (2029)**
- Standards and interface specifications for a **complete SW and HW stack**.



Opening: Oct 2021  
Closing: Jan 2022



Duration: FPA 4 years  
SGAs 3 years



Budget (EUR million)  
0 FPA -> 40 €mill SGA



Topic Coordinator  
Oscar Diez



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# Horizon Europe

HORIZON-CL4-DIGITAL-EMERGING-2022-02-17  
FPA/SGA for developing large scale quantum simulation platform technologies



## Outcome

- Fully programmable open quantum simulators reaching **several hundred individual quantum constituents (by 2025/2026)** and **above 1000 quantum constituents (by 2029)**.
- **Improved levels of control and scalability** and achievement of a **further entropy reduction**
- Demonstrated **full quantum simulation stack and operational stability for various classes of problems**



## Scope

(TRL 4-5 to TRL 6-7)

- simulator should be **based on and reinforce existing physical platforms (such as ultra-cold atoms, trapped ions, Rydberg atoms, photonics or other qubits)**
- The simulator platform should **include user-interfaces and software to allow applications of real world problems** in e.g. material science, quantum chemistry and others
- Applications **in solving practical routing and scheduling problems**



**Opening: 28 Oct 2021**  
**Closing: 27 Jan 2022**



**4 years/3 years**



**Budget (EUR million)**  
**0 FPA -> 16.6 SGA**



**Topic Coordinator**  
**Dagmar FLOECK**



# Horizon Europe

## HORIZON-CL4-DIGITAL-EMERGING-2021-02-19 FPAs/SGAs in Quantum Communications



### 2 FPAs/SGAs for:

1. Building the Quantum Internet
2. Quantum encryption and future quantum network technologies



### Scope

- Develop quantum communication technologies with improved performance and security to ensure European leadership
- Build on the ongoing projects supported under the Quantum Flagship ramp up phase and on those currently defining the EuroQCI initiative
- Realise a quantum communication/inf. network over very large distances



**Opening: Oct 2021**  
**Closing: Jan 2022**



**4 years / 3 years**



**Budget (EUR million)**  
**0 FPAs -> 24 / 25 SGAs**



**Topic Coordinator**  
**Doru Tanasa**



### Outcomes

- Demonstrate long-distance (i.e., above 500 km) entanglement distribution involving quantum memories
- Demonstrate a fully functional prototype of a quantum repeater operating across multiple network nodes
- Demonstrate future quantum network technologies in support of the EuroQCI initiative



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# Horizon Europe



## HORIZON-CL4-QUANTUM-03-SGA Building the Quantum internet



### Within the FPA HORIZON-CL4-DIGITAL-EMERGING-2021-02-19



- Consortia submit proposal implement 3 - 4 years (indicative) of the action plan defined in their respective FPA
- progress the Quantum Internet Technologies in accordance with the research roadmap as defined in the FPA

### In particular:

- enabling long-distance entanglement-based quantum communication



### Scope

(TRL 2-4 to TRL 4-6)



- how any results of the ramp-up phase will be accessed and exploited
- how it will provide efficient coordination under strong scientific leadership
- activities in education, dissemination, ethics and societal aspects.
- how it will grasp the technological potential in a way that accelerates innovation in all relevant application areas
- contribute to spreading excellence across Europe; for example, through the involvement of Widening Countries

Opening: 2022  
Closing: 2022



1 Project - 3 years



Budget EUR 24 million



Topic Coordinator  
Doru Tanasa



## HORIZON-CL4-QUANTUM-04-SGA Quantum encryption and future quantum network technologies



### Within the FPA HORIZON-CL4-DIGITAL-EMERGING-2021-02-19

- Consortia submit proposal implement 3 - 4 years (indicative) of the action plan defined in their respective FPA
- progress the Quantum encryption and future quantum network technologies field in accordance with the research roadmap as defined in the FPA



### Scope

(TRL 4-5 to TRL 6-7)

- how any results of the ramp-up phase will be accessed and exploited
- how it will provide efficient coordination under strong scientific leadership
- how it will grasp the technological potential in a way that accelerates innovation in all relevant application areas
- collaboration with other initiatives or programmes at regional, national, transnational or global level
- any additional support it may receive in its activities from relevant national, or regional programmes and initiatives
- contribution to the governance and overall coordination of the Quantum Technologies Flagship and the EuroQCI initiative



**Opening: 2022**  
**Closing: 2022**



**1 Project - 3 years**



**Budget EUR 25 million**



**Topic Coordinator**  
**Doru Tanasa**



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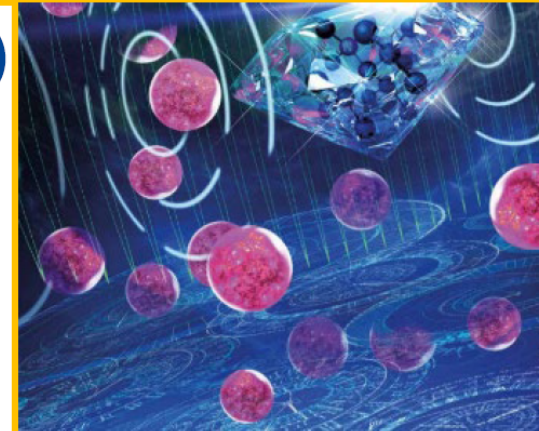
# Horizon Europe

HORIZON-CL4-2021-DIGITAL-EMERGING-02-22:

Open testing and experimentation, and pilot production capabilities for quantum technologies



- Create long-term open, supportive and sustainable experimental and testing infrastructures in Europe that are openly accessible by European academia and industry
- Develop and provide access to first European fabrication (production) capabilities for QT, building on and linking together existing infrastructures



## Scope

- Establish well-networked lab facilities that interact and support each other
- Federate key competences in the whole QT innovation value chain
- Provide access and support to European QT innovation actors
- Provide the QT ecosystem with a 'one-stop-shop' to unique facilities, competences and know-how centred at various locations in Europe



Opening: Jun 2021  
Closing: October 2021



Duration: FPA 4 years  
/ SGA 3 years



Budget EUR 38 million  
2 FPA/SGA



Topic Coordinator  
Christian TREFZGER



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# QCI DEP calls

The screenshot displays the European Commission's 'Funding & tender opportunities' portal. The main navigation bar includes 'SEARCH FUNDING & TENDERS', 'HOW TO PARTICIPATE', 'PROJECTS & RESULTS', 'WORK AS AN EXPERT', and 'SUPPORT'. The current page is titled 'Digital Europe Programme (DIGITAL)'. On the left, a search filter sidebar shows 'DIGITAL-2021-QCI-01' in the search box, with filters for 'Match whole words only', 'GRANTS', and 'TENDERS'. Below this are sections for 'Submission status' (Forthcoming, Open for submission (3), Closed), 'Programming period' (Digital Europe Programme (DIGITAL)), 'Filter by call', and 'CPV code (Tenders Only)'. The main content area, titled 'Funding and tenders (3)', lists three grant opportunities:

- Grant: Create a European Industrial Ecosystem for Secure QCI technologies and systems**  
Open for submission  
Programme: Digital Europe Programme (DIGITAL)  
ID: DIGITAL-2021-QCI-01-INDUSTRIAL  
Types of action: Digital SME Support Actions  
Deadline model: single-stage  
Opening date: 17 November 2021  
Deadline date: 22 February 2022 17:00:00 Brussels time
- Grant: Deploying advanced national QCI systems and networks**  
Open for submission  
Programme: Digital Europe Programme (DIGITAL)  
ID: DIGITAL-2021-QCI-01-DEPLOY-NATIONAL  
Types of action: DIGITAL Simple Grants  
Deadline model: single-stage  
Opening date: 17 November 2021  
Deadline date: 22 February 2022 17:00:00 Brussels time
- Grant: Coordinate the first deployment of national EuroQCI projects and prepare the large-scale QKD testing and certification infrastructure**  
Open for submission  
Programme: Digital Europe Programme (DIGITAL)  
ID: DIGITAL-2021-QCI-01-EUROQCI-QKD  
Types of action: DIGITAL Coordination and Support Actions  
Deadline model: single-stage  
Opening date: 17 November 2021  
Deadline date: 22 February 2022 17:00:00 Brussels time

At the bottom of the results, there is a pagination control showing '1' of 50 items.





# QCI DEP calls

## Deploying advanced national QCI systems and networks

TOPIC ID: DIGITAL-2021-QCI-01-DEPLOY-NATIONAL

Grant

<b>General information</b>	<b>General information</b>		
Topic description	Topic description		
Conditions and documents	Conditions and documents		
Partner search	Partner search		
Submission service	Submission service		
Topic related FAQ	Topic related FAQ		
Get support	Get support		
Call information	Call information		
Call updates	Call updates		
<a href="#">Go back to search results</a>	<a href="#">Go back to search results</a>		
	<b>Programme</b> <a href="#">Digital Europe Programme (DIGITAL)</a>	<b>Work programme part</b> <a href="#">Digital Europe Work Programme 2021-2022</a>	
	<b>Call</b> <a href="#">EU Secure Quantum Communication Infrastructure (DIGITAL-2021-QCI-01)</a>	<b>Work programme year</b> DIGITAL-2021-2022	<a href="#">See budget overview</a>
	<b>Type of action</b> DIGITAL-SIMPLE DIGITAL Simple Grants	<b>Type of MGA</b> DIGITAL Action Grant Budget-Based [DIGITAL-AG]	<a href="#">Open for submission</a>
	<b>Deadline model</b> single-stage	<b>Opening date</b> 17 November 2021	<b>Deadline date</b> 22 February 2022 17:00:00 Brussels time
	<b>Topic description</b>		
	<b>ExpectedOutcome:</b>		
	<b>Outcomes and deliverables</b>		
	<ul style="list-style-type: none"><li>First deployed QKD experimental networks integrated and operating with existing communication networks in several Member States and addressing different advanced use cases, stimulating the emergence of a fully-fledged and technologically autonomous European quantum communication industry and contributing to preparations for the full deployment of the EuroQCI;</li><li>A large number of trained users in quantum communication technologies and Member States ready for the design and deployment of next generation highly secure communication and data networks.</li></ul>		
	<b>Objective:</b>		
	The objective of this topic is to fund research to develop advanced quantum communication systems and networks for the quantum communication technology and for integration with existing communication networks. On the other hand, to ensure		

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/digital-2021-qci-01-deploy-national;callCode=null;freeTextSearchKeyword=DIGITAL-2021-QCI-01;matchWholeText=true;typeCodes=0,1,2;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=43152860;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState>

# QCI DEP calls



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SEARCH FUNDING & TENDERS HOW TO PARTICIPATE PROJECTS & RESULTS WORK AS AN EXPERT SUPPORT

## Coordinate the first deployment of national EuroQCI projects and prepare the large-scale QKD testing and certification infrastructure

TOPIC ID: DIGITAL-2021-QCI-01-EUROQCI-QKD

Grant

<b>General information</b>	<b>General information</b>
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<a href="#">Go back to search results</a>	
	<b>General information</b>
	Programme <b>Digital Europe Programme (DIGITAL)</b> Work programme part <b>Digital Europe Work Programme 2021-2022</b>
	Call <b>EU Secure Quantum Communication Infrastructure (DIGITAL-2021-QCI-01)</b> Work programme year <b>DIGITAL-2021-2022</b> <a href="#">See budget overview</a>
	Type of action <b>DIGITAL-CSA DIGITAL Coordination and Support Actions</b> Type of MGA <b>DIGITAL Action Grant Budget-Based [DIGITAL-AG]</b> <a href="#">Open for submission</a>
	Deadline model <b>single-stage</b> Opening date <b>17 November 2021</b> Deadline date <b>22 February 2022 17:00:00 Brussels time</b>
	<b>Topic description</b>
	ExpectedOutcome: Expected outcomes and deliverables
	<ul style="list-style-type: none"><li>A full set of requirements for an operational QKD infrastructure facility covering EU needs in terms of testing, experimentation, and validation of QKD devices, technologies and systems, with a view to their standardisation and accreditation [within the first six months of the action];</li><li>consolidated feedback from the national deployments at real scale, identifying the complementary activities (including technology developments) required to establish a complete the EU QKD ecosystem;</li><li>a well-coordinated assessment of the first deployments of EuroQCI networks and systems for preparing the full deployment phase of the EuroQCI.</li></ul>
	Objective:

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/digital-2021-qci-01-euroqci-qkd;callCode=null;freeTextSearchKeyword=DIGITAL-2021-QCI-01;matchWholeText=true;typeCodes=0,1,2;statusCodes=31094501,31094502,31094503;programmePeriod=null;programCcm2Id=43152860;programDivisionCode=null;focusAreaCode=null;destination=null;mission=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=sortStatus;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState>

# Thank you

Any questions?

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