



Electronic-photonic integrated quantum simulator platform

Fact Sheet

Project Information

EPIQUS

Grant agreement ID: 899368

DOI

[10.3030/899368](https://doi.org/10.3030/899368) 

Project closed

EC signature date

26 May 2020

Start date

1 October 2020

End date

30 September 2024

Funded under

EXCELLENT SCIENCE - Future and Emerging Technologies (FET)

Total cost

€ 3 263 791,00

EU contribution

€ 2 911 291,00

Coordinated by

FONDAZIONE BRUNO KESSLER



Italy

Project description

Moving quantum simulation from the realm of particle accelerators to desktop devices

Simulation, or the approximation of a real-life scenario, is critical to a myriad of areas, ranging from aviation and medicine to climate change and the stock market. Simulators create virtual 'experiments' that would be too costly, time-consuming, dangerous or even impossible to carry out in reality. In the world of quantum mechanics, classical physics cannot account for the nature and behaviour of matter and energy on the atomic and subatomic level. Currently, the only way to access quantum behaviours is with high-energy accelerators, often involving extreme temperatures. Creating a lab-accessible, silicon-based photonic-electronic compact

quantum simulator that works at room temperature could revolutionise our understanding of the quantum world by fostering rapid and widespread innovation. That is exactly the focus of the research carried out within the scope of the EU-funded EPIQUS project.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [electronic engineering](#) > [sensors](#) > **[optical sensors](#)**



Keywords

[Quantum Simulators](#)

[Scalable Photon Sources](#)

[Scalable Single-Photon Detectors](#)

[Chips-scale Integration](#)

Programme(s)

[H2020-EU.1.2. - EXCELLENT SCIENCE - Future and Emerging Technologies \(FET\)](#)

MAIN PROGRAMME

[H2020-EU.1.2.1. - FET Open](#)

Topic(s)

[FETOPEN-01-2018-2019-2020 - FET-Open Challenging Current Thinking](#)

Call for proposal

[H2020-FETOPEN-2018-2020](#) 

[See other projects for this call](#)

Sub call

H2020-FETOPEN-2018-2019-2020-01

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



FONDAZIONE BRUNO KESSLER

Net EU contribution

€ 1 132 025,00

Total cost

€ 1 132 025,00

Address

VIA SANTA CROCE 77

38122 Trento

 Italy 

Region

Nord-Est > Provincia Autonoma di Trento > Trento

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Participants (8)



UNIVERSITA DEGLI STUDI DI TRENTO

 Italy

Net EU contribution

€ 386 208,00

Address

VIA CALEPINA 14

38122 Trento 

Region

Nord-Est > Provincia Autonoma di Trento > Trento

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#) [Website](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 386 208,00



UNIVERSIDAD DEL PAIS VASCO/ EUSKAL HERRIKO UNIBERTSITATEA

Spain
Net EU contribution
€ 294 375,00

Address
BARRIO SARRIENA S N
48940 Leioa

Region
Noreste > País Vasco > Bizkaia

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#) [Website](#)
[Participation in EU R&I programmes](#)
[HORIZON collaboration network](#)

Total cost
€ 294 375,00



UNIVERSITAT WIEN

Austria
Net EU contribution
€ 329 933,00

Address
UNIVERSITATSRING 1
1010 Wien

Region

Ostösterreich > Wien > Wien

Activity type

Higher or Secondary Education Establishments

Links

- Contact the organisation Website
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

€ 329 933,00



UNIVERSITAET ROSTOCK

Germany

Net EU contribution

€ 325 000,00

Address

UNIVERSITATSPLATZ 1
18055 Rostock



Region

Mecklenburg-Vorpommern > Mecklenburg-Vorpommern > Rostock, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

- Contact the organisation Website
- Participation in EU R&I programmes
- HORIZON collaboration network

Total cost

€ 325 000,00



TECHNISCHE UNIVERSITAET WIEN

Austria

Net EU contribution

€ 443 750,00

Address

KARLSPLATZ 13
1040 Wien 

Region
Ostösterreich > Wien > Wien

Activity type
Higher or Secondary Education Establishments

Links
[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 443 750,00



ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE

 South Korea
Net EU contribution
€ 0,00

Address
**161 GAJEONG-DONG, YUSEONG-GU
305700 DAEJON** 

Activity type
Research Organisations

Links
[Contact the organisation](#)  [Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost
€ 152 428,00



LFOUNDRY SRL

 Italy
Net EU contribution
€ 0,00

Address

VIA A PACINOTTI 7
67051 Avezzano Aq 

Region

Sud > Abruzzo > L'Aquila

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



PUKYONGUNIVERSITY INDUSTRY UNIVERSITY COOPERATION FOUNDATION

 South Korea

Net EU contribution

€ 0,00

Address

45 YONGSO-RO NAM-GU
48513 BUSAN 

Activity type

Research Organisations

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 200 072,00

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European Union, 2025

