

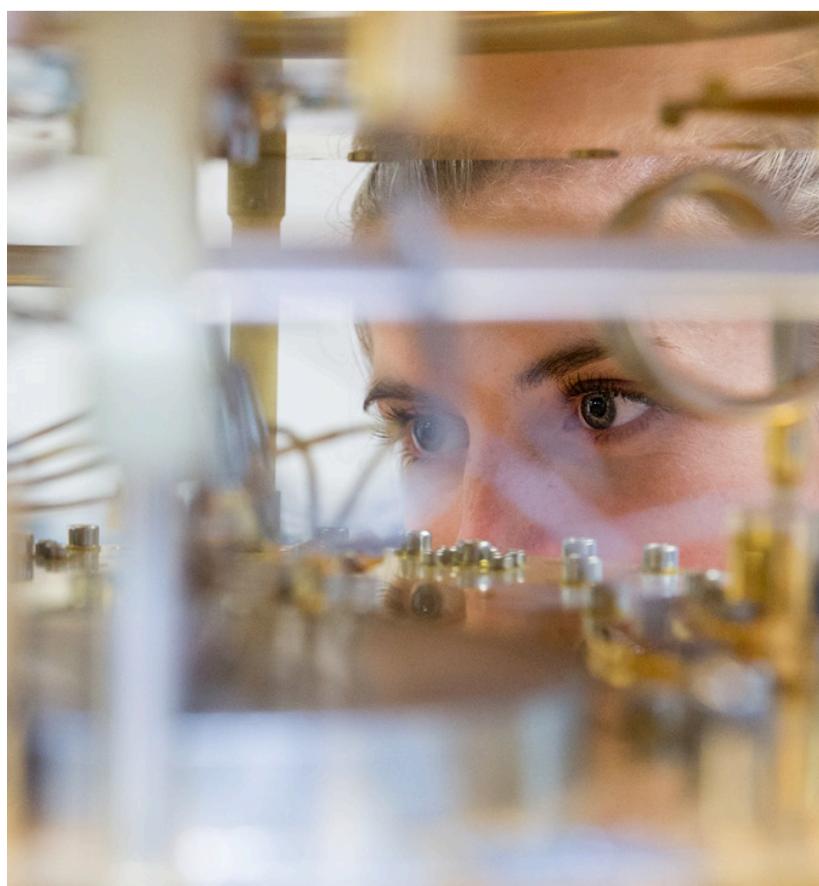
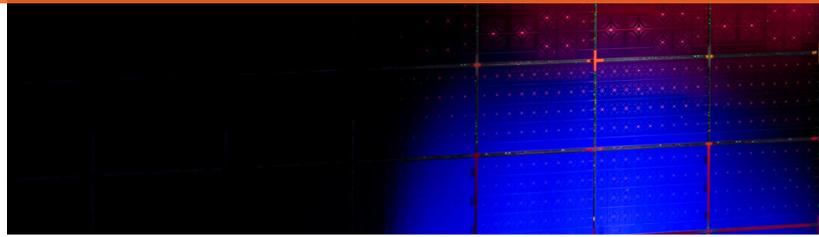


INVEST IN  
HOLLAND



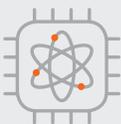
# Quantum Technology

The Netherlands



**1st**

TO DETECT THE  
**MAJORANA PARTICLE**  
in 2012



**1st**

TO BUILD A  
**LOOPHOLE-FREE BELL TEST**  
in 2015



**1st**

TO SHOW ON-DEMAND  
**QUANTUM ENTANGLEMENT**  
in 2018

# International Quantum Tech Hub

***A pioneer in quantum technology with a history of innovation, the Netherlands is at the forefront of this groundbreaking industry, set to transform the technology landscape.***

## ***The Cradle of Quantum Innovation***

The Netherlands is a world leader in quantum technology, as the first to detect the Majorana particle in 2012, the first to build a quantum internet in 2015 and the first to show on-demand quantum entanglement in 2018. In addition, Holland is home to the first research center fully dedicated to quantum algorithm and software development: QuSoft, founded in 2015.

## ***Unmatched Business Advantages***

Ranked the No. 1 most competitive economy in Europe by the World Economic Forum (WEF) in 2019, the Netherlands is a stable and welcoming place to do business. Holland's pro-business climate, multilingual workforce and fast-track visa for highly skilled migrants make it a seamless process to expand your business to Europe and recruit top talent from around the globe.

## ***A Countrywide Commitment***

The National Agenda Quantum Technology in Holland is supported by a variety of partners and funding, and has high ambitions:

**15+**

Universities and Research and Technology Organizations

**20+**

Companies, Including Microsoft, Intel, IBM, Shell, ABN AMRO and Juniper Networks

**420  
Million  
EURO BUDGET**

Create  
**Quantum Sensor**  
TESTBED

DEVELOP  
**1st**  
European Quantum  
Computer

IMPLEMENT  
**Nationwide Quantum  
Communication Network**  
by 2023



The Microsoft Quantum Lab Delft, which was opened in February 2019 by King Willem-Alexander of the Netherlands, is the culmination of a partnership between Microsoft and QuTech, the advanced research center for Quantum Computing and Quantum Internet, to research collaboratively the building blocks for a quantum computer.

***“ Together, we have built a world-class laboratory in Delft which will enable us to expedite development of a revolutionary quantum computer. The Netherlands now has the necessary ingredients to develop the type of computing power that could drastically change humankind's daily lives.”***

Leo Kouwenhoven  
Scientific Director  
Microsoft Quantum Lab

DID YOU KNOW...

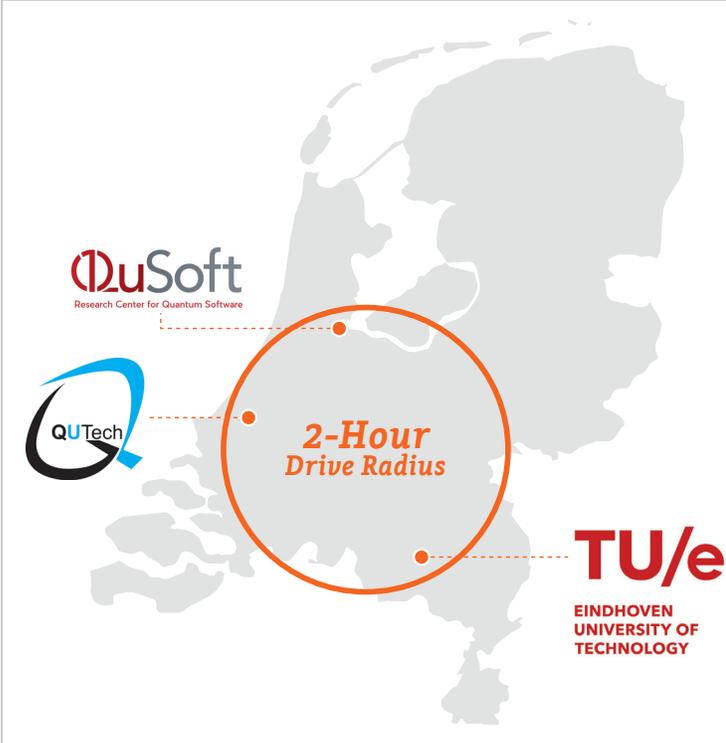
***The Netherlands is home to the world's largest Internet exchange—AMS-IX.***

# World-Class R&D and Talent

**Dutch universities and knowledge institutes are leaders in the field of qubits, quantum internet, quantum algorithms and post-quantum cryptography, serving as a magnet for global business investments, groundbreaking research, and talent.**

## A Quantum R&D Ecosystem

The full quantum stack – from materials to qubits to quantum software – is developed within a two-hour drive in the Netherlands at over a dozen R&D institutes, including QuSoft, QuTech, and QT/e.



The map shows the Netherlands with a central orange circle labeled "2-Hour Drive Radius" centered on Eindhoven. Three logos are connected to the map by dashed lines: QuSoft (Research Center for Quantum Software) in the north, QuTech in the west, and TU/e (Eindhoven University of Technology) in the south.

- **QuSoft:** Research collaboration fully dedicated to quantum algorithm and software development between the National Research Institute for Mathematics and Computer Science (CWI), the University of Amsterdam and the VU University Amsterdam. Partnerships with Bosch and ABN AMRO, among others.
- **QuTech:** Advanced research center for Quantum Computing and Quantum Internet, a collaboration between Delft University of Technology and the Netherlands Organization for Applied Scientific Research (TNO). Partnerships with Intel and Microsoft, among others. A thriving startup ecosystem, including Qblox, Bluefors and Delft Circuits.
- **QT/e:** Center for Quantum Materials and Technology Eindhoven (QT/e). Advanced materials, nanotechnology and integrated circuit development for quantum technologies, located at Eindhoven University of Technology (TU/e).

## Quantum Engineers of Today and Tomorrow

- 70–100 Principal Investigators
- 200–250 PhDs in Quantum Technology
- 2,500+ MSc graduates in Quantum Technology per year
- QuTech Quantum Academy
- QuSoft Master Program
- Quantum Materials and Technology Certification at Eindhoven University of Technology (TU/e)

## DID YOU KNOW...

*The Python Programming Language was first developed by the Dutch National Research Institute for Mathematics and Computer Science (CWI).*

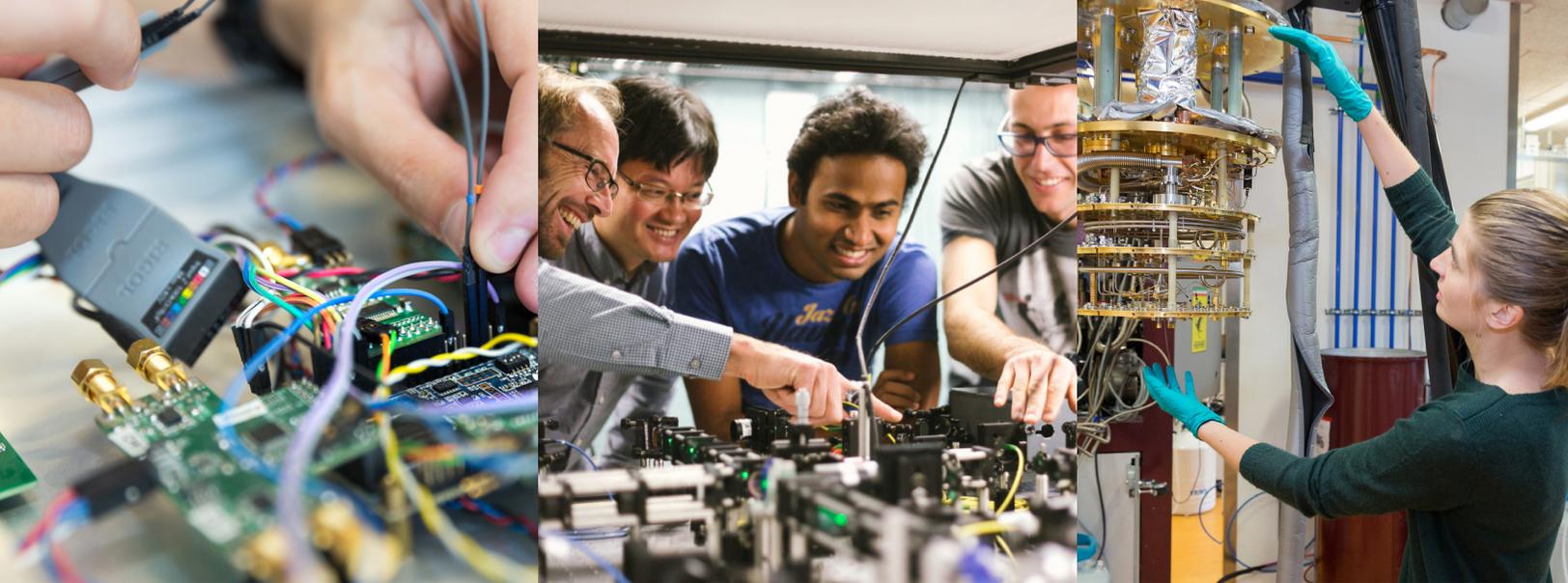


Intel announced plans in 2015 to invest \$50 million with QuTech, the quantum research institute of Delft University of Technology (TU Delft) and TNO, with the goal to accelerate quantum computing research over the next 10 years.

“

*Our collaboration with QuTech will explore quantum computing breakthroughs that could influence the industry overall.”*

Dr. Michael Mayberry  
Chief Technology Officer  
Intel



## How We Can Help

Want to learn more about investing in Holland?  
The Netherlands Foreign Investment Agency (NFIA) stands ready to help companies big and small at every stage of establishing or expanding operations here.

Visit [www.investinholland.com](http://www.investinholland.com) to set-up a meeting with an NFIA representative near you.



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Photo Sources:

Tim Herman/Intel Corporation  
QuTech

October 2019