



## Minister Ingrid van Engelshoven and European Commissioner Mariya Gabriel launch Europe's first quantum computer in the cloud: Quantum Inspire

**THE NETHERLANDS, 20 APRIL 2020** - Today, Minister Ingrid van Engelshoven and European Commissioner Mariya Gabriel launched Europe's first public quantum computing platform: 'Quantum Inspire'. The platform was developed by Delft-based QuTech, a collaboration between TU Delft and TNO. Quantum Inspire makes the quantum computer accessible to everyone and is the first in the world to use a quantum processor made of scalable 'spin qubits'.

### Real quantum computing for anyone

With Quantum Inspire, QuTech aims to make quantum computers accessible to the market and society as quickly as possible. QuTech has launched a web portal at [www.quantum-inspire.com](http://www.quantum-inspire.com), and Kees Eijkel (Director Business Development) said that it makes the new quantum technology a reality for a broad audience: "Our platform focuses primarily on training and education, and the development of applications, so that more people can use the quantum computer as it develops further and becomes more widely available. First-hand experience will allow the technology to be adopted more rapidly in society. Quantum Inspire is also an important magnet for the ecosystem forming in Delft of knowledge institutions, companies and start-ups."

### Electron spin qubit

A quantum computer performs its calculations using quantum versions of bits – so-called 'qubits'. As a world first, Quantum Inspire contains a processor made of highly promising semiconductor 'spin qubits'. Richard Versluis (Systems Engineer): "The electron spin qubit is made with the same technique as a classic transistor and is just as small. This makes it suitable for mass production. Our platform also provides access to a processor made of superconducting (transmon) qubits – a unique combination. Users can experiment with quantum algorithms and compare the processors."

### Key technology

The quantum computer is seen as a key technology, enabling radically new products and services. It has the potential to solve certain problems much faster than 'classical' computers will ever be able to achieve. Versluis said that one example is helping to unravel the complex behaviour of molecules for drug development: "Quantum computers calculate using the fundamental laws of quantum mechanics, so the qubits can be both 0 and 1 at the same time. This changes dramatically what we are able to achieve with some calculations."

### Quantum Flagship

The European Commission recognises the potential of quantum technology for society and launched a billion-euro program in 2016: the Quantum Technology Flagship. This large-scale European research programme is part of the 'Technology Package'; a broad package of measures to strengthen Europe's digital economy.

Mariya Gabriel (European Commissioner for Innovation, Research, Culture, Education and Youth): "Europe is in a unique position to lead the next quantum revolution. Harnessing the power of quantum technologies is key to building a smarter,

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more sustainable, and more secure European Union. The launch of Quantum Inspire marks an important step forward for European quantum, enabling our researchers to unlock the full potential of quantum technologies.”

### National Agenda for Quantum Technology

The Netherlands has drawn up the National Agenda for Quantum Technology (NAQT). This agenda includes catalyst programs (CATs), whose goal is accelerating maturity of technology for application areas in market and society. Quantum Inspire will serve as the backbone of one of the CATs: the ambitious Quantum Computing and Simulation testbed. Last January, the Dutch government announced an initial investment of € 23,5 million to fund the high-priority actions in the agenda.

Ingrid van Engelshoven (Minister of Education, Culture and Science): “Quantum computing is a key technology for the future. The Netherlands is a scientific leader in this field. I am extremely proud of the researchers and engineers from Delft, who combine research with innovation, entrepreneurship and the training of talent. Quantum Inspire is a first step, the intention is to further scale up the platform within the Netherlands and Europe. Even in times of crisis, it is important to share knowledge and continue to work on tomorrow's innovations”.

*The launch event took place online. A recording of the event will be made available later this week through [qutech.nl](http://qutech.nl).*

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### Note to the editors

#### Press pack

[Available at qutech.nl](http://www.qutech.nl): Technical fact sheet Quantum Inspire (PDF) | Photo Quantum Inspire | Animation: The Quantum Inspire Journey | Video: Building Quantum Inspire (the making of) | Press release – English (PDF) | Press release – Dutch (PDF)

#### About QuTech

At Delft-based QuTech, National Icon since 2014, we are working on a radically new technology with world-changing potential. Our mission: to develop scalable prototypes of a quantum computer and an inherently safe quantum internet, based on the fundamental laws of quantum mechanics. To achieve these ambitious goals, we bring scientists, engineers and industry together in an inspiring environment. Together we are creating the quantum future, because we believe that quantum technology can be a game changer in many social and economic sectors, including health, agriculture, climate and safety.

QuTech ([www.qutech.nl](http://www.qutech.nl)) is a research institute of Delft University of Technology and the Netherlands Organisation for Applied Scientific Research (TNO). Public funding of QuTech is based on a partnercovenant that includes the following partners: The Ministry of Economic Affairs and Climate; The Ministry of Education, Culture and Science; TNO; TU Delft; The Netherlands Organisation for Scientific Research (NWO); and TKI Holland High Tech.

#### Image and video credits

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