

PRESS RELEASE

Quandela, a world leader in quantum photonics, raises €15M to bring the first photonic quantum computer online in 2022

Paris, November 16th 2021 – Quandela, the French leader in quantum photonics, has just raised €15 million from the deeptech investment fund Omnes, the Defence Innovation Fund managed by Bpifrance and subscribed by the Defence Innovation Agency (AID), and the quantum technology dedicated fund Quantonation.

This operation will enable the team to make the first complete photonic quantum computer available and to provide access to it via an online platform from 2022.

Co-founded in 2017 by Pascale Senellart (research director at the Center for Nanoscience and Nanotechnology, a CNRS and University of Paris-Saclay laboratory and 2014 CNRS silver medalist), Valérian Giesz (PhD engineer in optics) and Niccolo Somaschi (Ph.D. in semiconductor nanotechnology), Quandela is known for being the originator of *Prometheus*, the world's first photonic qubit generator with broad application domains including quantum cryptography, quantum computation or quantum sensors.

Quandela's technology, the result of more than 20 years of research at the Centre for Nanoscience and Nanotechnology, is unique in the world. It has been published several times in peer-reviewed journals such as *Nature* and *Physical Review Letters*.

Based on this technology, the Quandela team has progressively developed an entanglement system based on a chain of single photons contained in an optical fibre loop. The assembly of different components already offered to the market by Quandela (eDelight, 6-DMX, QShaper, QFiber, ...) has allowed the creation of a prototype quantum computer based on a high flux of single and indistinguishable photons for demanding quantum research. From 2022, this opens up the possibility of putting this type of machine online ("cloud") to promote broad access to research and its computing resources.

Valérian Giesz, CEO and co-founder of Quandela, says: *"In just a few years Quandela has established itself as a key player in the development of photonic quantum computing. We are collaborating with several European universities in the framework of the European project Photonic quantum sampling machine (Phoqusing), which will be launched in September 2020. We also sell our components to companies and research centres all over the world: Italy, Australia, Austria, the Netherlands... This fundraising will enable us to accelerate the structuring of the team and the investment in new equipment to achieve our objectives with a first step: the availability in the cloud of the first complete optical quantum computer in 2022."*

While many global players are racing for quantum power, the technology developed by Quandela based on a single photon source of unparalleled quality and efficiency allows this quantum computer to grow in power more rapidly, without suffering from the inherent brakes of other technologies (ions, superconducting qubits, etc.).

Niccolo Somaschi, CTO and co-founder of Quandela, says: *"Given the recent technological advances in the development of solid state quantum light emitters, it is time to explore the full potential of this technology for large-scale quantum computing. Quandela is one of the international leaders in the technology, with all the resources to boost further developments and integrate the blocks needed to build computing platforms in a modular way."*

Quandela, a real flagship of French research, is now well positioned in the international race for quantum computers.

The Omnes fund was the lead investor in this operation. **Fabien Collangettes, member of Quandela's board of directors**, said: *"Quandela brings together a world-class team and proposes a major technological breakthrough in the field of photonic quantum computers. Our financial support will enable the company to take up major new technological challenges and to position itself as a European leader in the race for quantum advantage."*

For **Charles Beigbeder, founder of the Quantonation investment fund**, which has held a stake in Quandela since 2020: *"Quandela is part of this very small club of European deeptech companies that can revolutionise our technological universe. By capitalising on the properties of the elementary constituent of electromagnetism, the photon, Quandela wants to produce highly scalable and efficient quantum processors."*

Quandela also receives strong support from the Fonds Innovation Défense, managed by Bpifrance.

Nicolas Berdou, Investor at Bpifrance, said: *"After having supported the early stages of Quandela's development via our innovation financing mechanisms, we are proud to support the company's growth with the Defence Innovation Fund. This investment marks our collective ambition to participate in the growth of quantum technologies, to make France a major player in this sector of the future."*

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About Quandela

Co-founded in 2017 by Pascale Senellart (research director at the Centre de Nanosciences et de Nanotechnologies of the CNRS and the University of Paris-Saclay and 2014 CNRS Silver Medalist), Valérian Giesz (engineer and PhD in quantum optics), and Niccolo Somaschi (PhD in semiconductor nanotechnologies), Quandela is a French company that is among the world leaders in quantum photonics. Quandela is known for being the originator of Prometheus, the world's first photonic qubit generator with broad application domains including quantum cryptography, quantum computing or quantum sensors. The start-up markets its components worldwide to companies and research centres. It is collaborating on the European quantum computer project Phoquising, launched in 2020. In 2021, Quandela raised €15M from the Omnes deeptech investment fund, the Defence Innovation Fund managed by Bpifrance and subscribed by the Defence Innovation Agency (AID), and the Quantonation fund specialising in quantum technologies.

About Omnes

Omnes is a major player in private equity and infrastructure. With €5 billion of assets under management, Omnes provides companies with the equity capital they need to grow through its four core businesses: Venture Capital, Expansion Capital & LBO, Infrastructure and Co-investment. Omnes is wholly owned by its employees. Omnes is committed to ESG issues. The company has created the Omnes Foundation in favour of children and young people. It is a signatory of the United Nations Principles for Responsible Investment (PRI).

www.omnescapital.com

About Quantonation

Quantonation is the first investment fund dedicated to Quantum Technologies. Fields such as molecular simulation, high-performance computing, cybersecurity and medical imaging are experiencing a revolution thanks to innovations coming out of physics laboratories. With its unique scientific expertise, Quantonation supports the transition of these laboratory technologies into commercial products for industry.

www.quantonation.com

About Bpifrance and about the Fonds Innovation Défense

Bpifrance finances companies at every stage of their development with credit, guarantees and equity. Bpifrance supports them in their innovation and international projects. Bpifrance also ensures their export activity through a wide range of products. Advice, university, networking and acceleration programmes for start-ups, SMEs and ETIs are also part of the offer to entrepreneurs.

Thanks to Bpifrance and its 50 regional offices, entrepreneurs benefit from a close, single and efficient contact to support them and face their challenges.

www.Bpifrance.fr

Created in 2020 by the French Ministry of Defence and managed by Bpifrance, the Defence Innovation Fund aims to support the growth and development of innovative companies whose dual technologies are of particular interest to the defence sector, through equity and quasi-equity investments. With a target size of €400 million, mostly subscribed by the Defence Innovation Agency (AID), the fund contributes to the emergence of new critical size players at the French and European level.