This startup aims to provide the "one-fits-all" solution for develop quantum communication

Funding from the Federal Ministry of Education and Research

Münster, August 25, 2023 - Pixel Photonics, a spin-off from the Department of Physics at Westfälische Wilhelms-Universität Münster founded in 2020, recently raised €1.45 million in a funding round to further develop its single photon detection and counting technology. In addition, the company is funded with millions of euros in research grants and by EXIST. Pixel Photonics' project partners include the Westphalian Wilhelms University of Münster, and the University of Heidelberg.

The Pixel Photonics team is developing photon detectors that have the potential to revolutionize quantum communications, quantum computing and medical technologies. Although its current equipment is about the size of a small refrigerator and comes at a high cost, the startup has already won its first customers and sees a lot of demand in the industry. "We are just at the beginning. The revolution in quantum communications has just begun. Our team is proud to be at the forefront of this exciting era," said Dr. Wladick Hartmann, co-founder and CTO of Pixel Photonics.

The Münster-based company sees enormous potential in its technology for encrypted quantum communication, quantum computing and medicine. The challenge now is to find suitable partners in the respective industries and bring their products to market. Hartmann continued, "Our technology enables us to detect and count single photons, the smallest and indivisible amount of light, and paves the way for a new era of encrypted quantum communication that opens up unimaginable possibilities. We are convinced that our single photon detectors will help to significantly improve the security of communications and information."

Together with partners such as the semi-public High-Tech Gründerfonds (HTGF), the Quantonation fund from France, which specializes in quantum technology, and entrepreneur Hendrik Sabert, Pixel Photonics plans to further develop its technology while expanding its marketing and sales activities.

With the goal of revolutionizing encryption standards through quantum cryptography, the company is also a partner in QuNET, a German initiative to develop a mobile quantum receiver for quantum key distribution (QKD). In parallel, Pixel Photonics is leading a project funded by the German Federal Ministry of Education and Research to demonstrate the capabilities of waveguide-integrated single photon detection in a fully integrated multichannel system for QKD (QSAMIS), as well as a project on complexity reduction of QKD systems (RECONNAITRE).

MultiQomm - with the Federal Ministry of Education and Research

The research project "Scalable Multichannel Quantum Communication Platform (MultiQomm)" aims to develop a detector chip that can meet various requirements for industrial applications. The main innovation of the project is the integration of different superconducting single photon detectors with different detector properties and functions on a single chip, which is a novel

approach so far. The chip is to be constructed according to the modular principle, whereby individual functional assemblies can be combined in an application-specific manner. This will enable more powerful systems with a smaller footprint, which will benefit applications such as QKD in particular.

Pixel Photonics is committed to building on the success of its research and development and looks forward to working with potential partners to realize the enormous potential of its photon detectors.

About Pixel Photonics

Pixel Photonics GmbH is a leading German nanophotonics start-up founded in 2021 as a spin-off from WWU Münster by Nicolai Walter, Dr. Wladick Hartmann, Dr. Fabian Beutel, Martin Wolff and Christoph Seidenstücker with the goal of commercializing highly scalable single photon detectors. Applications of Pixel Photonics' technology range from optical quantum computing, quantum key distribution and microscopy to metrology and sensing. The company consists of an international team of more than 20 full-time employees who take a unique technological approach to single photon detection that combines scalability with high detection efficiency at very high speed. This enables new applications and helps to increase the number of channels in quantum computing or data rates in quantum cryptography without increasing technical complexity. The company has received EXIST funding, venture capital funding from Quantonation and HTGF, and several research grants from the German Federal Ministry of Education and Research (BMBF). For more information about Pixel Photonics, visit www.pixelphotonics.com.

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