

PRESS RELEASE

Award-winning technology transfer from Jena

Fraunhofer IOF, Digital Innovation Hub Photonics and Quantum Optics Jena GmbH receive DPG Technology Transfer Award

Jena / Bremen

The Fraunhofer Institute for Applied Optics and Precision Engineering IOF, together with the Digital Innovation Hub Photonics (DIHP) and Quantum Optics Jena GmbH, has been awarded the Technology Transfer Prize of the German Physical Society (DPG) for the successful transfer of quantum optics research into marketable high-security applications. The award ceremony took place on May 22 as part of the 6th WTT Forum in Bremen.

From laboratory to practice: The transfer of scientific know-how into concrete applications in industry and society is a central mission of the Fraunhofer-Gesellschaft. Fraunhofer IOF is also committed to this goal and is actively involved in transferring the latest results from science and research into practical applications. Spin-Off transfer paths are an essential part of this.

Fraunhofer IOF, together with the Digital Innovation Hub Photonics (DIHP) and Quantum Optics Jena GmbH, a spin-off Fraunhofer IOF, was awarded the prestigious Technology Transfer Prize of the German Physical Society (DPG) for the successful transfer of scientific findings into practice. This annual award honors the successful transfer of technologies from research to industry.

Technology transfer for highly secure quantum communication

Together, the prizewinners have developed sources for generating entangled photons and, building on this, optical systems for quantum key distribution (QKD). These systems form an important basis for highly secure quantum-based communication solutions. The highly efficient photon sources are the centerpiece of Quantum Optics Jena GmbH. Fraunhofer IOF has developed the necessary scientific know-how to make these sources usable for industry - a basis for commercial application.

In addition to optical components, the development of specialized software also played a central role in the implementation of complete QKD systems. These were supplemented by electronic hardware for detecting entangled states and software modules for secure key generation.

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Editor

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The QKD systems for highly secure quantum communication are already being used in **PRESS RELEASE** sections with increased security requirements, including the financial sector, critical May 23, 2025 || Page 2 | 4 infrastructure, public data and the security sector.

Spin-offs as the key to technology transfer

The Digital Innovation Hub Photonics is a central player in the transfer of photonic technologies into marketable applications at Fraunhofer IOF. As part of the Center of Excellence in Photonics, a joint initiative of the Fraunhofer IOF, the Friedrich Schiller University Jena, the Leibniz Institutes HKI and IPHT and the Helmholtz Institute Jena, the DIHP actively promotes the transfer of new ideas and research designs from the optics and photonics section to industry. In particular through innovative (spin-off) start-ups and collaborations between regional, national and international start-ups and science at the Jena location.

Quantum Optics Jena GmbH is one of these spin-offs whose founding process was supported by the DIHP. Since then, the company has established itself as one of the leading providers in the in quantum technologies for communication solutions.

DPG honors cross-institutional transfer performance

The DPG Technology Transfer Award was presented on May 22 at the 6th WTT Forum (Forum for Knowledge and Technology Transfer in Dialog) in Bremen. The award was presented by the former president of the German Physical Society, Dr. Lutz Schröter.

Every year, the DPG awards the Technology Transfer Prize to a successful technology transfer from a research institute to a company. It is awarded jointly to the parties involved - research institute, transfer institution and implementing company - and thus underlines the importance of cross-institutional cooperation for future technologies.

About Fraunhofer IOF

The Fraunhofer Institute for Applied Optics and Precision Engineering IOF in Jena conducts application-oriented research in the field of photonics and develops innovative optical systems for controlling light - from its generation and manipulation to its application. The institute's range of services covers the entire photonic process chain from opto-mechanical and opto-electronic system design to the production of customerspecific solutions and prototypes. At Fraunhofer IOF, about 500 employees work on the annual research volume of 40 million euros.

For more information about Fraunhofer IOF, please visit: www.iof.fraunhofer.de



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Press images

The following images are available in the Fraunhofer IOF press section at <u>https://www.iof.fraunhofer.de/en/pressrelease.html</u> for download.

Representatives of the honored institutes and companies as well as the German Physical Society after the award ceremony, f.l.t.r. Dr. Erik Beckert (IOF), Dr. Sebastian Händschke (DIHP), Dr. Kevin Füchsel (Quantum Optics Jena GmbH), Dr. Oliver de Vries (Quantum Optics Jena GmbH), Dr. Lutz Schröter (DPG) © Gabriele Becker (DPG)



The Technology Transfer Award by the Germany Physical Society. © Candy Welz

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