

Munich, April 24, 2019

Press Release

LASER World of PHOTONICS 2019

The world's leading trade fair for photonics brings the quantum technology breakthrough to life

- Top international researchers and leading companies present the latest progress in quantum technology
- Exhibitors, Congress and supporting program provide profound insights into the quantum world in Munich from June 24 to 27, 2019.
- Insights from quantum physics are now being translated into industrial applications

The “second quantum revolution” will transform our world. Be it computers, communication, sensors, imaging or simulation: new solutions from the quantum world are maturing at breakneck speed. Governments around the world are investing billions in funding programs to help shape the quantum revolution. LASER World of PHOTONICS 2019 brings together leading technology providers and top players in the quantum research field. Application panels and the Congress provide visitors with the latest first-hand quantum knowhow.

Six million euros funding for a clock that is a second out? At first blush, that sounds incredible. Because what it means is a one second accuracy over the age of the universe. This is precisely the intended degree of precision of a single-ion clock being developed by the Opticlock project. The ultra-accurate clock is based on a single ytterbium ion trapped and laser-cooled in an ion trap. The project aims to create a compact clock functioning outside the laboratory. It could be used to synchronize data networks or radio telescopes and enable more accurate Earth observation measurements of differences in elevation or optimized timescales for improved GPS or GALILEO satellite navigation.

It is no coincidence that half a dozen LASER World of PHOTONICS exhibitors, [TOPTICA](#), [Menlo Systems](#), [QUBIG](#), [VACOM](#) the [Physikalisch-Technische Bundesanstalt](#) and the [Forschungsverbund Berlin](#) are involved in the Opticlock project. Because photonics manufacturers and research institutes are enabling the second quantum revolution. In the last few decades they have developed the

Barbara Kals
PR Manager
Tel. +49 89 949 21473
Barbara.Kals@messe-
muenchen.de

Messe München GmbH
Messegelände
81823 München
Germany
messe-muenchen.de



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necessary ultra accurate tools and know-how required to translate quantum physics insights into industrial applications.

Billions for quantum technology – community meets in Munich

As with the Opticlock project, the players are attracting research funding big time. For example, the European Union is making a billion euros available to the Quantum Flagship initiative. The US government is announcing a similarly endowed funding program, and China is even investing ten billion euros in a national quantum research center. South Korea, Germany, Great Britain and other countries have announced lavishly funded programs to ensure they play an active part in the anticipated quantum revolution.

From June 24 to 27, 2019 Munich will be a hotspot of the global quantum community. Highly specialized exhibitors such as [Single Quantum](#) and [PicoQuant](#) will be showcasing high resolution single photon counters in time and space as key quantum technology components. [ID Quantique](#) (IDQ) showcases quantum-cryptographic solutions underpinning South Korean company SK Telecom's 5G mobile phone network and a new, ultra-secure quantum communication network in Great Britain. As part of the EU Flagship initiative, [Laser Quantum](#) from Manchester contributes high-frequency femtosecond lasers for developing on-chip quantum light sources for simulation, communication, metrology and sensor technology. Research associations such as the British Quantum Technology Hub [QuantIC](#), a network of more than 120 researchers from various universities and more than 30 companies, will also be represented. Also among the exhibitors is the Fraunhofer Institute for Applied Optics and Precision Engineering [IOF](#), the driving force behind the new Jena Innovation Center for Quantum Optics and Sensor Technology. The same goes for the Fraunhofer Institute for Applied Solid State Physics [IAF](#), which is showcasing quantum cascade lasers in action, together with spectrally tunable (4-11 μm) quantum cascade lasers, and new quantum magnetometry approaches.

First-hand knowledge updates

LASER World of PHOTONICS 2019 will bring the quantum community's pioneering spirit to life on numerous fronts. For example, in the form of [Application Panels](#) on the role of optical quantum technologies in imaging and communication as well as in sensor technology and computing. A further first-hand knowledge update opportunity is afforded by the [European Quantum Electronics Conference](#) as part of the World of Photonics Congress. In addition to lectures by leading international researchers, Prof Anton Zeilinger will give an insight into the latest research by the Austrian Academy of Sciences' Institute for Quantum Optics and Quantum Information in Vienna.

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Photonics is driving the second quantum revolution at full speed. Scheduling a visit to the trade fair in Munich from June 24–27, 2019 is a must for anyone wanting to get a full picture of the upheavals in store.

Further information, interviews, trends and topics can also be found in the [photonics industry portal](#), the information platform for photonics.

About LASER World of PHOTONICS

The LASER World of PHOTONICS is the world's leading platform for the laser and photonics industry. Europe's largest World of Photonics Congress will be taking place in parallel with the trade fair. The program comprises a variety of scientific conferences of leading global organizations. Supplementing this Messe München GmbH will be offering practical lectures on the applications of photonics ("Application Panels"). In 2017 the trade fair set an exhibitor record with 1,293 exhibitors from 42 countries. More than 32,000 trade visitors from 90 countries entered the Messe München site. The World of Photonics Congress registered around 3500 participants, with around 3,000 lectures and presentations including poster presentations on offer. The LASER World of PHOTONICS has been organized by Messe München International every two years since 1973; the next event will take place in Munich from June 24–27, 2019, the next World of Photonics Congress will take place in parallel from June 23–27, 2019 in the ICM - International Congress Center Munich.

www.world-of-photonics.com

About the LASER World of PHOTONICS global network

The LASER World of PHOTONICS has developed an international trade fair network. The LASER World of PHOTONICS in Munich is the world's leading laser and photonics trade fair and as the innovation pacemaker is where the global photonics industry gathers every two years. The [LASER World of PHOTONICS CHINA](#) and the [LASER World of PHOTONICS INDIA](#) are leading regional trade fairs for laser and optical technologies and are staged annually in China (Shanghai) and in India (alternating between Bengaluru, Mumbai, Bangalore and New Delhi). With these trade fairs in Munich, China and India, Messe München is the world's leading trade fair organizer for lasers and photonics.

Messe München

Messe München is one of the leading exhibition organizers worldwide with more than 50 of its own trade shows for capital goods, consumer goods and new technologies. Every year, a total of over 50,000 exhibitors and around three million visitors take part in more than 200 events at the exhibition center in Munich, at the ICM – Internationales Congress Center München and the MOC Veranstaltungszentrum München as well as abroad. Together with its subsidiary companies, Messe München organizes trade shows in China, India, Brazil, Russia, Turkey, South Africa, Nigeria, Vietnam and Iran. With a network of associated companies in Europe, Asia, Africa and South America as well as around 70 representations abroad for over 100 countries, Messe München has a global presence.