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QCV develops single photon source

SAN DIEGO, CA — The world's first commercial source of individual photons (particles of light) using diamond based quantum technology has been developed by Quantum Communications Victoria (QCV) within the School of Physics at The University of Melbourne, Australia.

The Single Photon Source will be launched today at the Optical Fibre Communication Conference and Exposition in San Diego, USA. The technology uses the unique properties of diamond to produce single particles of light (photons) at room temperature on demand.

"This is a critical moment in the development of quantum based technologies for practical use," said QCV CEO Dr Shane Huntington. "The availability of a commercial single photon source will enable many viable quantum technologies to reach the market place."

The device which can be accessed with a standard optical fibre connection has the potential to be used for many applications including as a component in secure telecommunications systems, for quantum metrology and other quantum based applications.

"As an initial application the Single Photon Source will be integrated into existing commercial Quantum Cryptosystems, drastically improving their performance and providing 100% secure telecommunications," said Huntington.

QCV is considering commercial partners and investors to participate in a start-up which will pursue commercialization of the Single Photon Source in various markets.

The Australian based development team is collaborating with MagiQ Technologies, a Boston based supplier of Quantum encryption equipment to optimize the integration of the Single Photon Source into existing Quantum Cryptosystems, with testing and field trials the next step.

Further work is being undertaken in investigating the various other applications for the QCV Single Photon Source including: other quantum applications, microscopy and optical sensing.

QCV is supported by a State Government Infrastructure grant in Victoria, Australia and is the first group in the world to produce such a device.