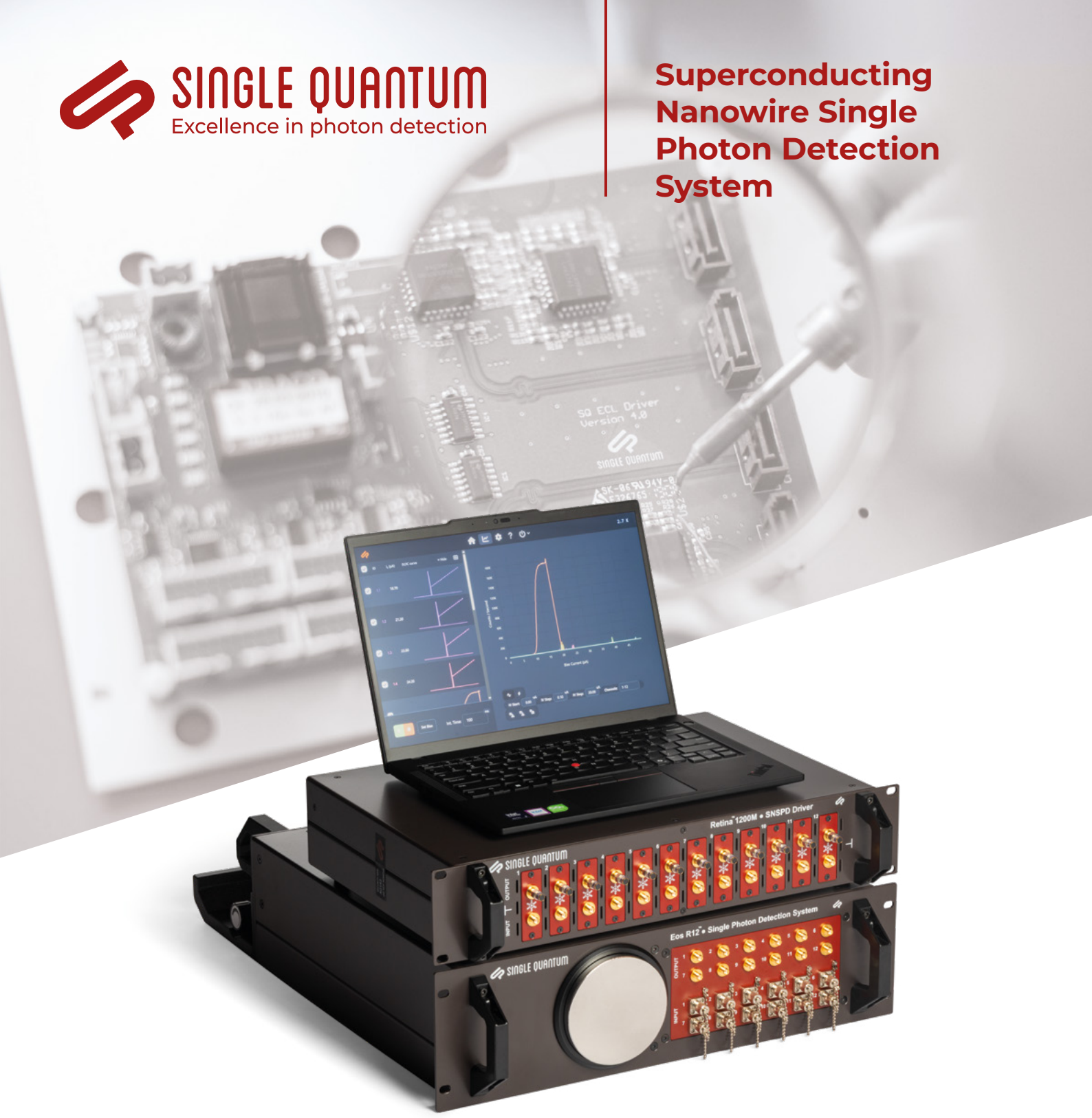
SINGLE QUANTUM
Excellence in photon detection

# Superconducting Nanowire Single Photon Detection System

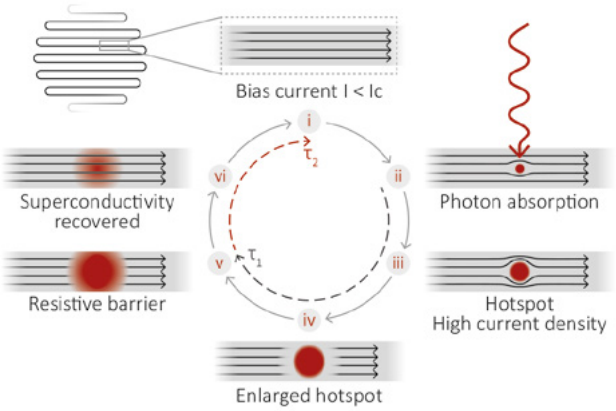



**We make the world's fastest and most sensitive light sensors**

limited only by the laws of physics

# Single Quantum Eos R12

Superconducting Nanowire Single-Photon Detection System




## The photon detection

Once a single photon is absorbed in the nanowire, superconductivity is locally broken. The current is directed towards the amplification electronics and creates a voltage pulse. The detection process takes ~10ps before the superconductivity recovers in the nanowire.

## Closed-cycle cryostat

The system operates at 2.5 Kelvin, cooled down by an external helium compressor.

## Electronic driver

Our driver and software are unique and enable fully computer-controlled operation, making it effortless to interface with any programming language.

## Scalable

Up to 12 detectors in one Eos R12 unit.

## Optical coupling

Detectors offer coupling options: optical fiber or free space through an optical window.

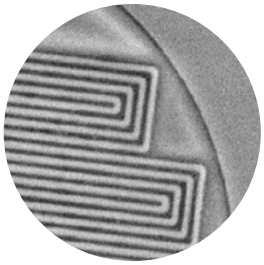




## Integrated Pump

- Integrated vacuum pump with fully automatic cooldown
- Remote system control for enhanced convenience
- Clean, rack-mounted setup – the size of the R12, the driver, and the vacuum pump combined is now just 5U
- Over 50% space savings, making the Eos R12 one of the most compact cryostats

# New developments



**Interleaved Detectors**

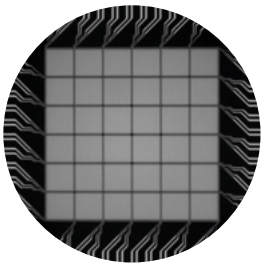
Photon Number Resolving and Ultra-high Countrate

**Eos R48™**

Rack-mountable, 48-channel SNSPD system with cryostat, retina driver, and compressor


**Switch 1200™**

Gating Module

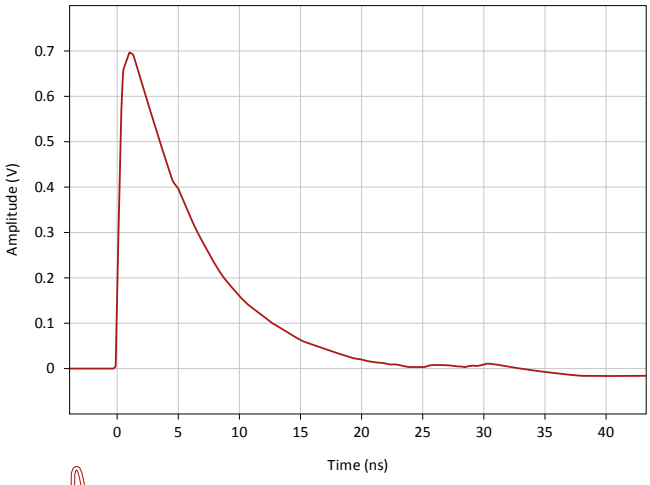


**Iris X™**

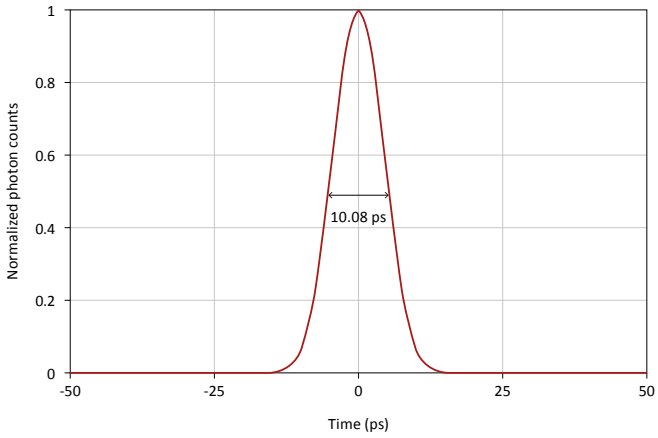
Free space SNSPD camera



# Electronics




**The best timing jitter on the market**

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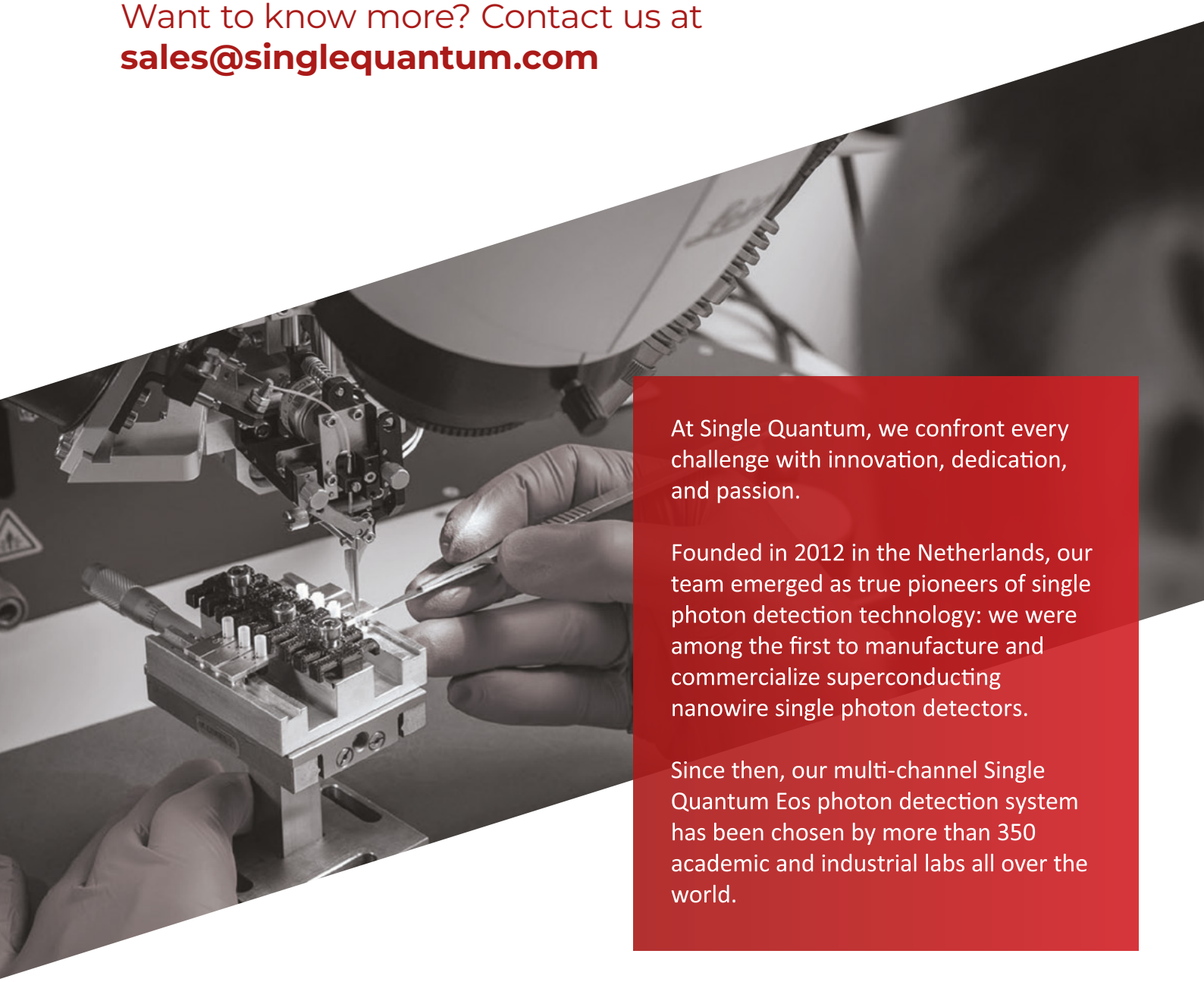

At Single Quantum, we confront every challenge with innovation, dedication, and passion.

Founded in 2012 in the Netherlands, our team emerged as true pioneers of single photon detection technology: we were among the first to manufacture and commercialize superconducting nanowire single photon detectors.

Since then, our multi-channel Single Quantum Eos photon detection system has been chosen by more than 350 academic and industrial labs all over the world.

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