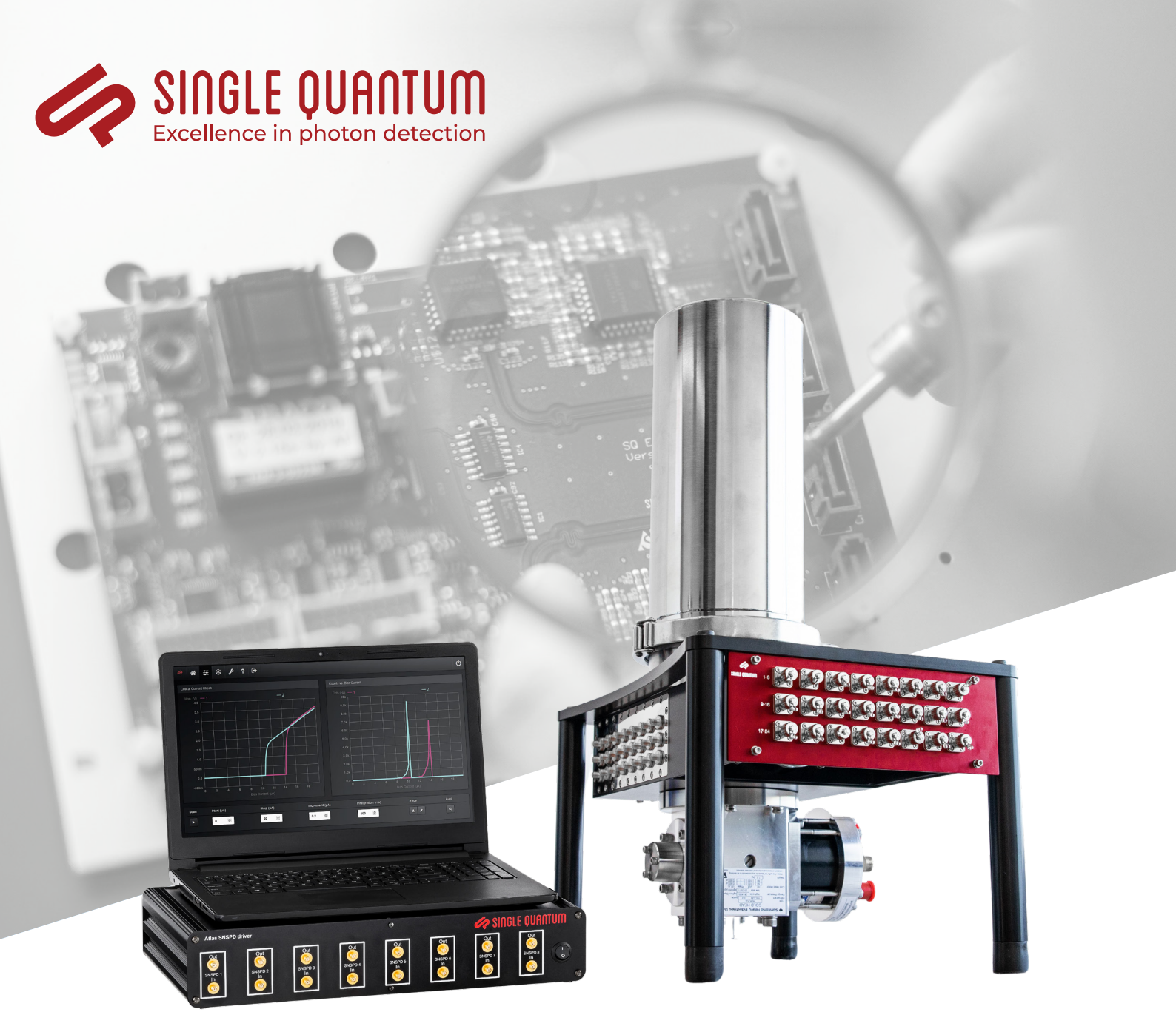
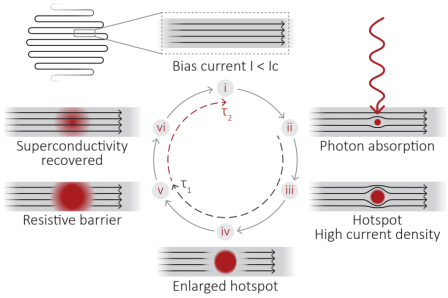
SINGLE QUANTUM
Excellence in photon detection



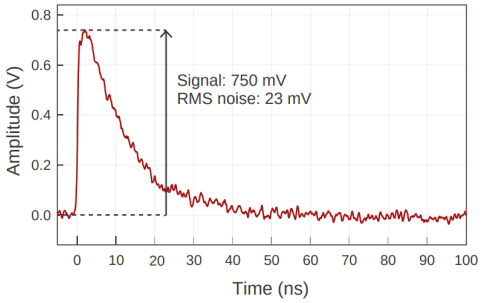
We make the world's fastest and most sensitive light sensors

limited only by the laws of physics



The photon detection

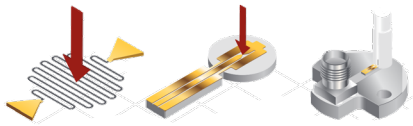
Once a single photon is absorbed in the nanowire, superconductivity is locally broken. As a result, the current is directed towards the amplification electronics and creates a voltage pulse. The detection process takes ~ 10 ps, after which the superconductivity quickly recovers in the nanowire.



Detector output @1550 nm

Fiber coupling

Each detector is coupled to an optical fiber without requiring manual intervention.



Closed-cycle cryostat

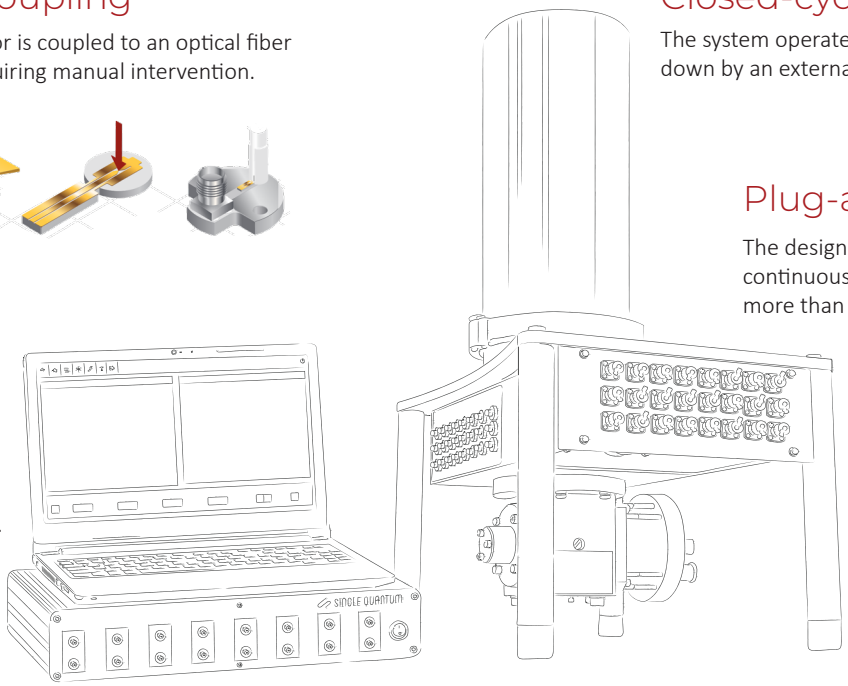
The system operates at 2.5 Kelvin, cooled down by an external helium compressor.

Plug-and-play

The design ensures continuous operation of more than 10,000 hours.

Electronic driver

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



Space Tech

SNSPD arrays for space-based quantum communication and deep-space exploration

Single Quantum Eos

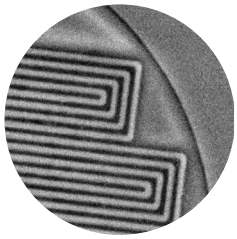
Superconducting single photon detection system

Specifications

Optimization wavelength	500 nm	800 nm	900 nm	1064 nm	1310 nm	1550 nm
System detection efficiency	≥ 85%	≥ 90%	≥ 90%	≥ 90%	≥ 90%	≥ 90%
Timing jitter	≤ 20 ps	≤ 15 ps	≤ 15 ps	≤ 15 ps	≤ 15 ps	≤ 15 ps
Dark count rate	≤ 1 cps	≤ 1 cps	≤ 1 cps	≤ 10 cps	≤ 10 cps	≤ 1 cps
Maximum count rate	≥ 10 MHz	≥ 80 MHz	≥ 80 MHz	≥ 50 MHz	≥ 50 MHz	≥ 50 MHz
Ultra-high count rate detectors	N.A.	≥ 500 MHz	≥ 500 MHz	≥ 500 MHz	≥ 500 MHz	≥ 500 MHz

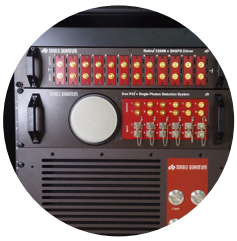
New developments

Switch 1200™
Gating Module



Interleaved Detectors
Photon Number Resolving
and Ultra-high Countrate

Iris X™
Single Photon Camera



Eos R12™
Rack-mountable
SNSPD System

Product lines

Excellence

For scientist who need
the very best to excel

Imaging

Near-infrared range to see
deeper and better

Tele-QKD

Single photon detectors for
industrial QKD systems

The ideal choice for quantum communication, cryptography, infrared fluorescence spectroscopy, laser ranging and many other applications.

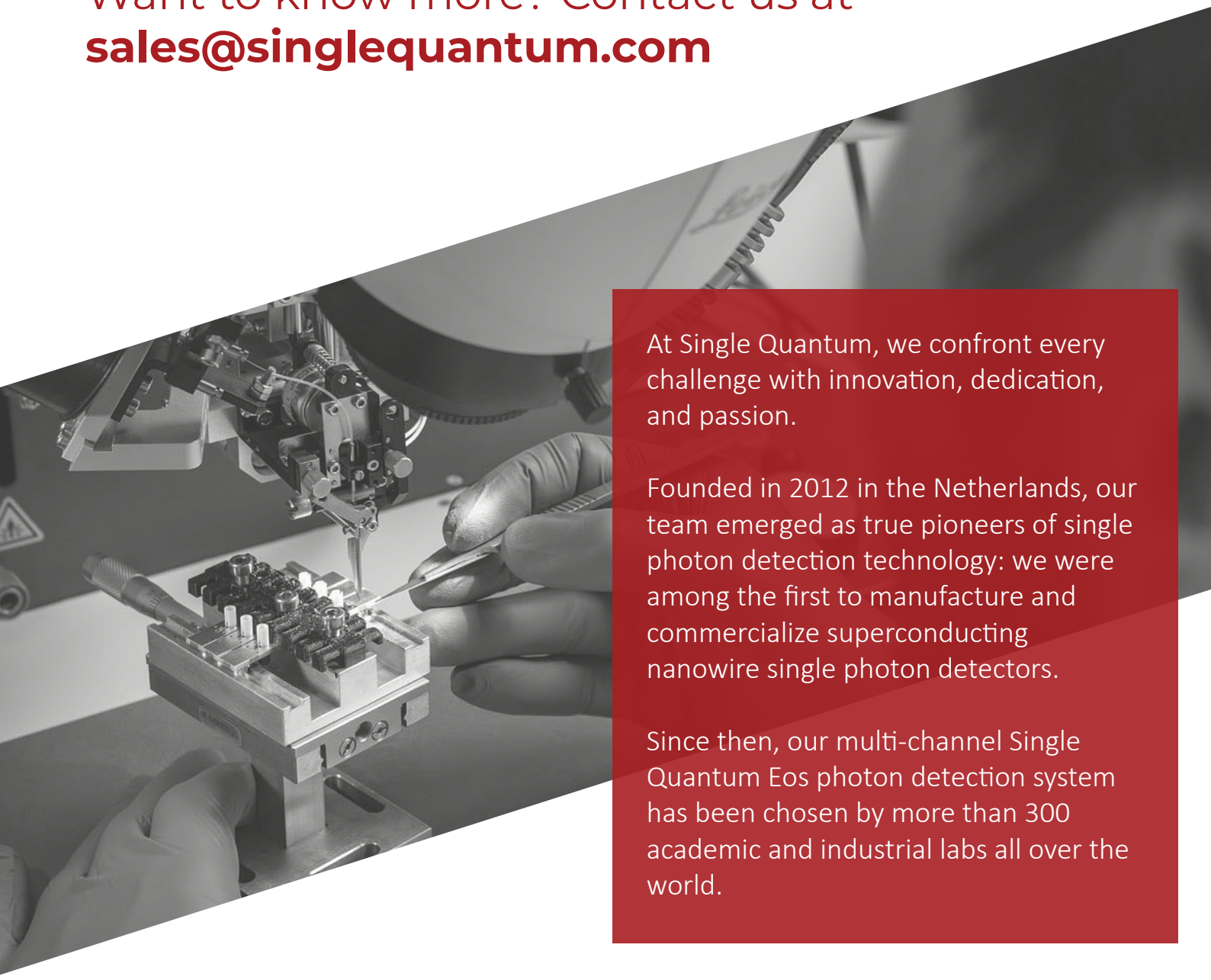
If you are interested in different specifications and industry lines, please visit
singlequantum.com/solutions

300+
Satisfied users

10+ Years
of experience

Global sales
network

Want to know more? Contact us at **sales@singlequantum.com**



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 300 academic and industrial labs all over the world.

singlequantum.com single-quantum singlequantum

Rotterdamseweg 394 / 2629 HH / Delft / The Netherlands