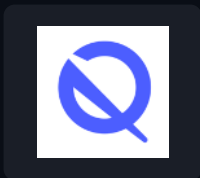


NEWSPACE MARKET · COMPANY PROFILE



SpeQtral

Singapore · founded 2018 · speqtralquantum.com

4

PRODUCTS

4

SERVICES

newspacemarket.com/companies/speqtral-pte-ltd/

as of 20 August 2026

SpeQtral

SpeQtral is a Singapore-based deep-tech company pioneering satellite-based Quantum Key Distribution (QKD) for next-generation secure communications networks. Spun out of the Centre for Quantum Technologies (CQT) at the National University of Singapore, SpeQtral was founded in 2018 and is headquartered at Fusionopolis, Singapore's science and technology hub. The company's technology enables unconditionally secure data transmission by exploiting the fundamental principles of quantum physics. SpeQtral develops both space-based and fibre-based QKD systems, making it a full-stack quantum communications provider. Its flagship SpooQy-1 nanosatellite — developed at CQT — demonstrated the world's first photon entanglement generation on a CubeSat, validating the core technology for global quantum-secured links. SpeQtral's product portfolio includes the SpooQies entangled photon source modules, SQUINT space-to-ground QKD terminals, and the Backend Quantum Unit (BQU) for ground network integration. The company serves government agencies, financial institutions, and critical infrastructure operators seeking quantum-safe security for their most sensitive communications.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Building trusted nodes for national quantum safe communications network

SpeQtral is building trusted nodes across Singapore to establish a national quantum safe communications network.

Joint market and business development for quantum security solutions

SpeQtral engages in joint market and business development initiatives with partners to advance quantum security solutions in key markets.

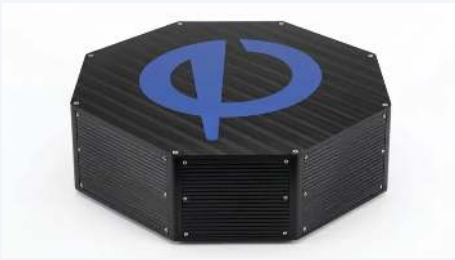
Proposal development and project bidding for quantum security

SpeQtral collaborates with partners on proposal development and project bidding to capitalize on emerging quantum security opportunities.

Quantum-Safe Terrestrial Networks implementation

SpeQtral implements fibre-based Quantum Key Distribution solutions for metropolitan communication networks in partnership with Telcos.

Product catalogue



SPEQTRAL

Backend Quantum Unit (BQU)

Plug-and-play quantum receiver module for retrofitting existing optical ground stations to receive quantum signals and integrate into a satellite QKD network with minimal modification

Form factor	Compact (small form factor)
Power requirements	Low power
Interfaces	Standard interfaces
Mounting	Rear optical bench mount; custom mount available for other telescopes
Compatibility	Existing Optical Ground Stations of various configurations
Function	Receives quantum signals, integrates OGS into quantum-secure network
Current model	BQU Gemini Enhanced

price on request

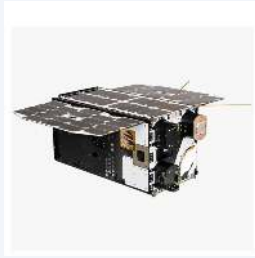
SPEQTRAL

Global Quantum Safe Network

SpeQtral's Global Quantum Safe Network combines satellite and terrestrial Quantum Key Distribution (QKD) solutions with Post-Quantum Cryptography (PQC) to provide un-hackable, quantum-secure communication

SpooQy-1 deployment from the International Space Station, June 2019

price on request



SPEQTRAL
SpooQies

Turnkey QKD satellite or constellation based on the flight-proven SpeQtral-1 design, supporting entanglement-based and prepare-and-measure QKD payloads for sovereign customers.

Payload types	Entanglement-based QKD and Prepare-and-Measure QKD
Heritage	Based on SpeQtral-1 satellite design
Delivery	Orbital delivery included
Configuration	Single dedicated satellite or custom constellation
Ground interface	Optical ground stations worldwide
TRL	Flight heritage from SpooQy-1 and SpeQtral-1 missions

TRL 1 price on request



SPEQTRAL
SQUINT

Space-qualified polarization-entangled photon pair QKD system in 1U form factor, generating up to 45 million entangled photon pairs per second for satellite-to-ground quantum key d

Form factor	1U (source and receiver, each)
Entangled photon pair rate	Up to 45 million pairs/second
QKD protocol	Polarization-entangled photon pair (BBM92-type)
Space qualification	Completed
Optional feature	Software module for quantum experiment test bed
TRL	Space-qualified (flight- ready)

price on request

Contact SpeQtral

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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