Quantum Exponential Investor Presentation

Q1, 2025 -Quantum Tech VC Fund **Private and Confidential**



1

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"We predict by 2035 the economic value derived from quantum computing will total up to \$2 trillion"* - McKinsey

*Today's economic value is \$42bn (01/2025)

Mc Kinsey Quantum Technology Monitor, April 2024



What is Quantum Technology?

Quantum technology leverages the principles of quantum mechanics—the science of the very small—to unlock groundbreaking applications and devices.

- <u>Quantum Computing</u>: Harnesses quantum bits (qubits) to perform complex calculations exponentially faster than classical computers.
- <u>Quantum Communication</u>: Provides ultra-secure data transmission via quantum key distribution (QKD), ensuring theoretically unbreakable encryption.
- <u>Quantum Sensing</u>: Delivers highly precise sensors and atomic clocks, revolutionizing navigation systems, medical imaging, and beyond.

such as:

What is Quantum Technology

https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/steady-progress-in-approaching-the-quantum-advantage https://www.meetigm.com/newsroom/press-releases/state-of-guantum-report-2024

This transformative technology is set to revolutionize industries

 Cybersecurity: QKD offers unparalleled encryption, fortifying global data security.

• **Drug Discovery**: Quantum simulations accelerate the discovery of new drugs and materials by modeling molecular interactions at quantum levels.

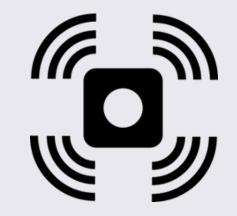
• **Financial Services**: Quantum algorithms optimize trading strategies, risk management, and portfolio optimization.

• Supply Chain & Logistics: Quantum computing enhances route optimization and inventory management.

• Artificial Intelligence & Machine Learning: Quantumaccelerated algorithms lead to faster processing and superior pattern recognition.







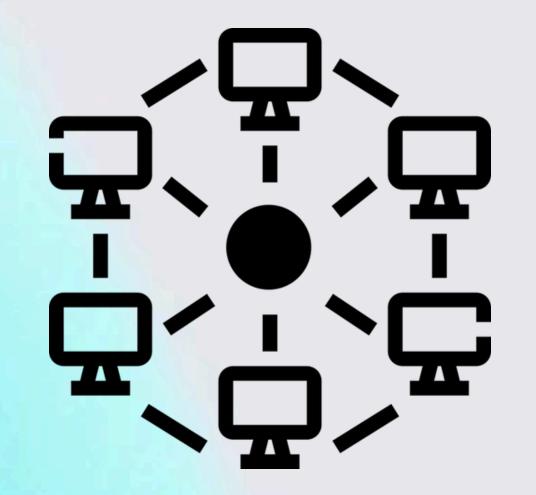


Sectors

Quantum Computing

Quantum Imaging & Sensing

Quantum Communications & Security



Quantum Computing

Quantum Computers rely on atomic level interactions to create systems that can simulate the real world in far greater depth and speed

Applications include creating new chemicals, manufacturing and logistics optimisation and financial markets simulation

Sectors

Quantum Imaging & Sensing

Far higher performance measurements of electric, magnetic, and gravitational fields, promising to greatly increasing the efficacy of today's tools

Applications in non GPS navigation, timing, medical imaging, underground mapping, materials characterisation

Sectors

Quantum Communications & Security

Current forms of encryption will be obsolete by the next decade

Quantum Technology can be used to create and distribute unhackable encryption keys through a range of processes

Future applications include secure government and critical infrastructure communications and a "Quantum Internet", increasing security

Sectors

Solving Important Problems

Defence

"Given the potential implications of novel quantum technologies for defence and security, NATO has identified quantum as one of its key emerging and disruptive technologies."

"Quantum sensors have some promising military applications. For example, quantum sensors could be used to detect submarines and stealth aircraft, and quantum sensors could be used for Position, Navigation and Timing (PNT)" QE's AegiQ is at the forefront of providing secure communications for various players in the Defence Sector.

N<u>ATO, 2021</u>

Future of Health

Looking at the impact that pandemics have on society, economy, and healthcare, we can envision future use cases for the role of quantum computing in vaccine development, drug discovery, optimization solutions, and in identifying and managing the spread of viruses.

QE's Siloton has demonstrated the quantum benefit for healthcare applications through their macular degeneration use case

Capgemini, 2022

Solving important problems



Solving Important Problems

Climate Change

"Quantum computing will revolutionize chemistry, enabling breakthrough innovations and advancements in low-carbon technologies." "Use cases in quantum computing could account for a substantial amount of emissions reductions needed to achieve a 1.5°C pathway."

QE's QLM has made substantial progress on this issue.

McKinsey, 2022

Food Security

"As we live in an age of data-driven [insights], classical computers are finding it much harder to handle the amount of information that comes their way. Quantum computers, on the other hand, can handle this complexity with ease."

"No longer would we see food wasted over route planning mistakes or badly designed traffic counterflow simulations run on classical models.

QE's QLM is scaling up production of methane sensors for the use in extractive & water industries.

The Quantum Insider, 2020

Solving important problems



Why now?

Quantum Technology at an Inflexion Point

- Hardware Progress: Rapidly increasing qubit counts & fidelity
- **Commercial Progress**: ultra precise sensing (Position Navigation Timing, medical) and unhackable networking commercial testing
- Multiple Technologies maturing: Superconducting, ion traps, photonics, etc.

first IPO activity

• **Early Mover Advantage:** Potential for outsized returns as the

• **Growing Ecosystem**: Hardware, software, and talent

converging rapidly

• **Increasing Commercial Interest**: Pharma, finance, materials

science, logistics

• Strategic Positioning: Secure foothold in a transformative,

high-impact field

Why now?

https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/steady-progress-in-approaching-the-quantum-advantage https://www.meetiqm.com/newsroom/press-releases/state-of-quantum-report-2024

Why invest now?

• **Rising Investment**: Billions in new VC funding, govt. support,

- technology matures



Why Quantum Exponential?

QE's network provides a unique high-quality deal flow through referrals, databases, universities, quantum centres of excellence, and organisations such as the Institute of Physics through which over 500 potential deals globally from early to late stage have been identified.

Quantum Exponential's unique positioning stems from the fact that there are only three dedicated quantum technology funds in the world. Furthermore, the UK boasts the West's second-largest public sector budget and significant intellectual property production through its five quantum centres of excellence.

Given the complexity of the quantum technology market, the need for a specialized investor like QE is more critical than ever to navigate and unlock the sector's full potential.



Why Quantum Exponential?

The Management Team

Ian Pearson

Non-executive Chairman

Experienced senior politician Chairman of Eqteq plc and Non-Exec Director of Thames Water

Previous experience includes:

- MP 1994-2010 (Labour Party)
- Minister of Trade, Science Minister
- Chief Secretary to the Treasury
- Chairman of Octopus VCT2 plc
- Extensive experience in management of companies, excellent network to investors and government institutions

Steven Metcalfe

Chief Executive Officer

Extensive experience in advising on listings, fund raisings and capital markets in general. Experienced board member

Previous experience includes:

- Hitchens Harrison
- Novum Securities

The Management Team

Simon Frost

Chief Financial Officer

Qualified Chartered Accountant

Previous experience includes:

- Partner at Keith, Bayley, Rogers & Co. (KBR)
- Head of the KBR, the Corporate Finance division of Walker Crips Group plc
- Group CFO of Proactive investors

The Investment Team

Stuart Nicol

Chief Investment Officer

Overall responsibility for investments Extensive experience in leading VC teams, mentoring entrepreneurs & corporate finance. corporate finance.

Previous experience includes:

- CIO at two regional UK venture funds
- Director at Octopus **Investments & Crowdcube**

Dr Oliver Cohen

Quantum Physicist

Provider of technical deal reviews

PhD in Quantum Physics numerous cited academic papers in quantum information. PhD in Quantum Physics from the University of London.

Previous experience includes:

- 10 years in risk analysis for large financial institutions
- ArgitQuantum Inc employee

Anna Spandl **Investment Analyst**

Assisting with research and **Investment Administration** and Due Diligence. Supporting European expansion.

Previous experience includes:

• Legal Graduate at Corporate Law Firm in Austria

Helen Reynolds IC member

Independent Investment Committee Member at QE MD & Investment Director at **Bayes Entrepreneurship Fund** Director and Founder at Expert Ventures

Previous experience includes:

- Investment Director at Crowdcube
- Principal Consultant at Larpent Newton & CO

Our Investment Process

Capturing the market opportunity effectively

Proven ability to source, approach & complete first-round equity deals.

Collaboration with Institute of Physics and other Quantum Institutions of excellence. Access to proprietary data streams of The Quantum Insider and Notion Capital.

QE is seen as the preferred investor due to it's global expertise and brand.

QE has invested in a portfolio of companies with realistic cash requirements to achieve profitability or exit, supported by robust intellectual property.

QE expects the portfolio to contain a mix of companies that can deliver near-term applications to market or are likely to be acquired after certain product milestones are achieved through funding.

Sourcing ______ Selecting ______ Growing ______ Exiting

Scientific, operational and QE is in place to support growth phase and internationalization activities.

Active participation in Boards via NED or Observer position& intra portfolio networking. Patent and IP consultation, support and advisory services.

- commercialisation expertise at
- investee companies through their

Liquidity events are expected to be via sale to leading enterprises engaging in M&A (Trade) or strategic investors such as Private Equity.

IPOs can be considered as well (given our expertise in fundraising and capital markets) but is not part of the primary strategy



Advisory Board



Dr. Tariq Ali

Adviser

Pro-Vice-Chancellor, University of Liverpool, Member of Council at the Foundation for Science and Technology, Adviser at UKRI and 360ip

Katherine Courtney

Adviser

Former CEO UK Space Agency, over 20 years' experience in innovation, critical national infrastructure and economic growth

David Williams

Adviser

Founder CEO & Chairman of Arqit, Britain's most valuable quantum technology start-up which listed on NASDAQ in Sep 21 to become Arqit Quantum Inc. Market Cap 18 Mar 22 \$2.1Bn



Dr. Justin Hill Adviser

Head of Patents, Dentons Europe. Global leader in deep tech physics related patents. PhD Physics



Stephen Chandler

Adviser

Experienced Venture Investor. Managing Partner at Notion Capital. Investor AllStars Investor of the Year 2020. Previously President & CFO at MessageLabs. Ex UBS Investment Bank



Martin Schwedler Senior Adviser for Europe

Previous work experience: Lazard Freres, Raiffeisen Investment (Russia and Austria),GE Capital. Extensive knowledge and experience in TMT M&A and private equity investing

Advisory Board



Prof. Rupert Ursin

Adviser

Senior Group Leader Institute for Quantum Optics and Quantum Information, Austrian Academy of Sciences. Holder of the World Record in Free Space Quantum Optics



Dr. Dave Williams Adviser

Executive Director Government of Australia CSIRO Digital, National Facilities Group, Includes leading research in Quantum Technology. Ex CEO UK Space Agency & Chair of ESA Council

Portfolio to date

Exceptional Track Record

QE's 2022–23 portfolio is achieving a significant 75% valuation growth, reflecting precise investments in quantum computing, sensing, and communications. Spanning pre-seed to Series A, these ventures provide diversified exposure to groundbreaking technologies.

Revenue & Rapid Scaling

All 7 portfolio companies generate revenue and are scaling quickly; 3 secured valuation uplifts in the last six months. All have robust cash runwaysand clear roadmaps position them for further funding at higher valuations.

Strategic Positioning

Our portfolio companies have secured major grants, partnerships and strategic investors, strong IP, and alignment with global priorities (e.g., cybersecurity, climate) underpin future growth in a \$2 trillion quantum market.





Portfolio Companies



OQC is a leading superconducting quantum computer company. Users can access OQC's compute power via Amazon Web Services, making its computers available to millions of users. OQC continues to construct ever more powerful quantum computers and is also developing the ability to supply commonly-used parts to the sector.

It is based in UK but has operations in and investors from several countries including Spain & Japan. Recent investors, as part of a Series C round, include Softbank, Chevron Ventures, Amadeus Capital and others . This round is at an increased valuation to QE's investment.



Aegiq is building a proprietary photonic quantum computer together with high quality single photon sources. The Company believes that this architecture will be more useful with a small number of qubits & more energy efficient than competing companies/ technologies.

The Company recently closed an oversubscribed £6m pre–Series A round & is also busy fulfilling contracts with the Royal Navy, the UK's national quantum computing centre & BT. The most recent investment is at a significantly increased valuation to QE's investment.



Universal Quantum Limited is constructing fault tolerant quantum computers using trapped ion technology that the founders created at the University of Sussex.

After QE invested the company won a cometitve tender to supply the German Air Force with two quantum computers. This contract is worth over £70m. This has removed the Company's need to fundraise & it has successfully met all development goals to which payments are tied.



Portfolio Companies



Siloton, UK based, uses quantum techniques and photonic integrated circuits for use in sub-surface optical scanning devices with applications across healthcare, and non-destructive testing. Siloton uses quantum-aligned technology to create a new generation of equipment to deliver a service to monitor disease status of those with age related macular degeneration. The Market for age-related monitoring of age-related macular degeneration expected to reach some 288 million patients by 2040. In late 2023 and through 2024 the Company raised a modest amount of external funding to enable it to take advantage of generous grants that it has won.

The most recent £1m investment round is at a significantly increased valuation to QE's investment.

QLM Technology Limited is a UK-based photonics hardware and technology development company that has developed a cutting-edge gas imaging camera based on quantum technology termed a Quantum Gas Imaging Lidar. This novel imaging technology can detect, visualize, localize and accurately quantify emission rates of greenhouse gases (GHGs).

The funding round was led by Schlumberger and included new investment from existing investors Green Angel Syndicate, Enterprise 100 Syndicate, the Development Bank of Wales, Newable, BritBots, and BPEC.

The company raised an additional £5m round from SLB (Schlumberger).

Portfolio companies





Portfolio Companies



Delta g is a UK-based gravity sensing hardware and technology development company that has developed a cutting-edge underground imaging system that leverages quantum technology to measure gravity gradients. Its gravity gradiometer has already received significant performance acclaim, demonstrated within a paper published in Nature (https://doi.org/10.1038/s41586-021-04315-3), and has attracted interest from large industrial end users across many industrial verticals.

The quantum gravity gradiometer has the potential to transform underground mapping for several industries such as utility mapping for smart cities and smart cities and smart mining as it can be used in realtime monitoring and is a direct measurement. Delta g raised a further £3m upround in 2024.

Argit supplies a unique quantum encryption Platform-as-a-Service which makes the communications links of any networked device secure against current and future forms of attack – even from a quantum computer. Arqit's product, QuantumCloud™, enables any device to download a lightweight software agent of less than 200 lines of code, which can create encryption keys in partnership with any other device. The keys are computationally secure, one-time use and zero trust. QuantumCloud[™] can create limitless volumes of keys in limitless group sizes and can regulate the secure entrance and exit of a device in a group. The addressable market for QuantumCloud™ is every connected device.

Argit trades on Nasdag under the ticker symbols 'ARQQ' and 'ARQQW. Quantum Exponential have an option to be transferred 199,993 ordinary Arqit shares.

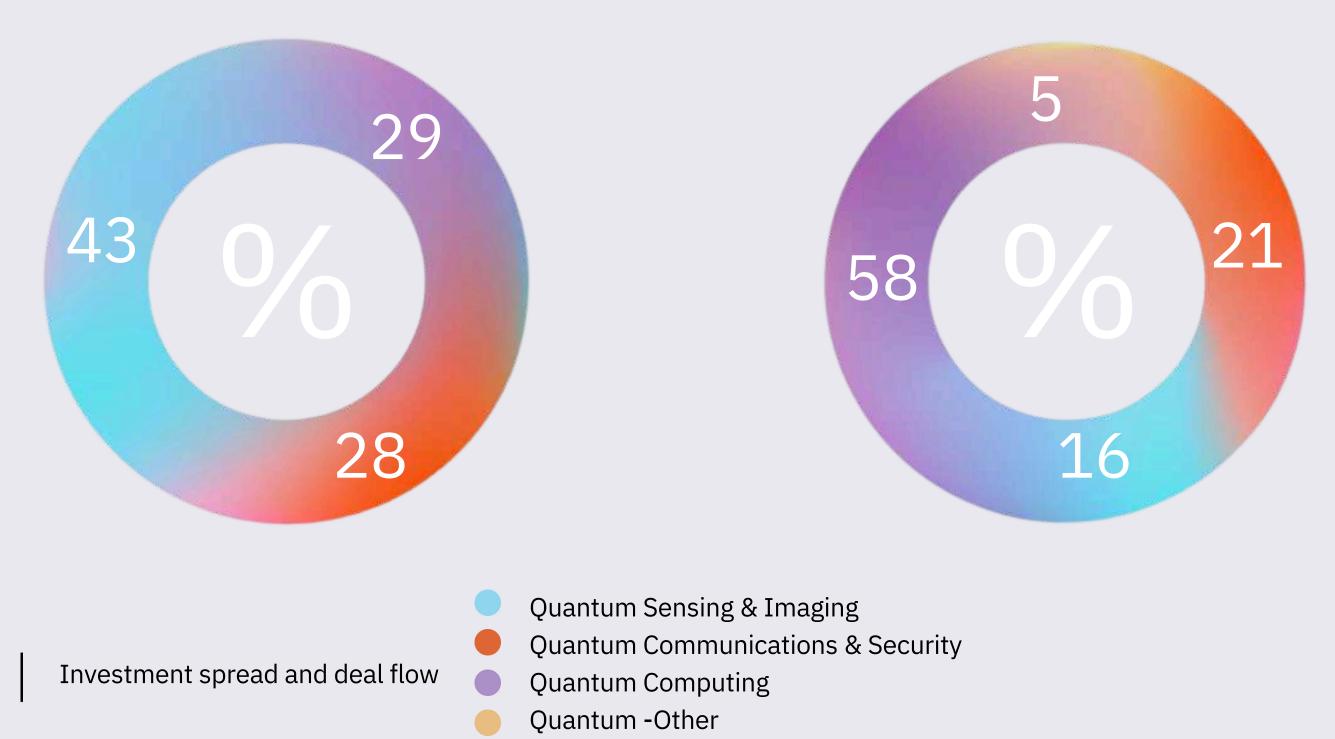
ARQ



Investment Spread and Deal Flow

Investment portfolio 01/2025

Identified deals 01/2025



Quantum Exponential In a nutshell

Clear focus, quick identification of deals, unparalleled due diligence expertise, trusted team with a reputation for adding value

Focused

Strong Team & Advisory Board

Value Added Investor

Diverse Geography

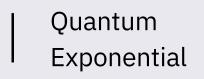
(NATO-Friendly)

Strong team of industry advisors, entrepreneurs and tech investment professionals with excellent access to opportunities, networks and markets. Thorough understanding of investment process, portfolio selection, due diligence, deal structuring, team motivation & exit optimization. Cooperation in place with Institute of Physics, regional Universities & Quantum Hubs. Deal introductions from other Co-Investors & data advantage via Notion & Quantum Insider data sources

At the outset we establish explicit ways to help the investee - such as commercial introductions, growth company admin, grant writing introductions, growth coaching, portfolio peer-to-peer networking among other value-adds.

Follow-on investing & further investor introductions (subject to suitable progress being made)

QE can invest in deals in any NATO friendly country. This is being done in association with trusted partners, such as hubs and universities to rely on their local market knowledge and expertise.



The Quantum Tech sector is still relatively new to investment, but is predicted to see huge inflows of high-growth innovative companies as a result of the commercialisation of governments' research funding & market need

> Quantum Exponential