

'Transformational' FY21 results

3 February 2022

Specialist in quantum-encrypted and satellite-based cybersecurity, **Arqit Quantum Inc.** reported Final Results for the year to 30 September 2021 on 16 December 2021. The combination with Centricus Acquisition Corp. (CAC) and subsequent Nasdaq listing on 7 September 2021 has resulted in a current market capitalisation of US\$1.9bn. As founder and CEO, David Williams noted, **FY21 was "transformational for Arqit"**, a year which saw:

- Full commercial launch of Arqit's QuantumCloud™, in July, and **over US\$130m of contracts** signed with governments and major corporations including BT Group, Sumitomo, Northrop Grumman, Dentons (UK), Juniper Networks and Babcock. In June Arqit announced a major building block in its strategy, the Federated Quantum Systems (FQS) initiative involving G7 governments and major corporations.
- **Cash and cash equivalents of US\$87.0m** resulting from the combination with CAC, providing ample resources for Arqit to fund the next stage of planned development.

Arqit recorded a FY21 adjusted PBT loss of US\$15.6m, excluding one-off non-cash combination expenses and Nasdaq listing costs (a loss on a reported basis of US\$271.7m).

Recent strategic developments

Post year-end, on 21 October 2021, Arqit announced an agreement with UK developer of unmanned and autonomous systems, Blue Bear Systems Research Ltd., on 8 December, collaboration with the Saudi NEOM Tech & Digital Company to develop quantum-based security for urban systems, on 23 December, a new launch contract with Virgin Orbit, on 10 January 2022 a contract with Australia's SmartsatCRC, followed on 18 January by AUCloud joining the FQS initiative.

FY22 outlook

Arqit has a clear development strategy based on three core offerings: sovereign-owned **'Private Instance'** quantum key provision, with strong appeal to governments and major corporations; sale of multi-year **'Master Distribution Rights'** to selected Channel Partners; and open access to batches of quantum key security on a **Platform-as-a-Service** basis. Spearheaded by initial FQS Private Instance contracts and evidence of a strong Channel Partner pipeline, **we estimate FY22 revenue of US\$32m** leading to estimated (adjusted) **PBT of US\$3.3m**.

Unique solution for a vast cyber security market opportunity

It is worth reiterating the huge scale of the market opportunity Arqit addresses. Coincident with the accelerating global deployment of data (including the arrival of 5G, Internet-of-Things and emergence of Network-as-a-Service - NaaS¹), **Public Key Infrastructure (PKI), the foundation of critical data encryption, is crumbling**. Its demise is already within the horizon of effective quantum computing-based solutions. This means that the market for the protection of data and the security of information and infrastructure must be refreshed in its entirety. The urgency of this was recently highlighted (30 November 2021) by Richard Moore, Head of UK's MI6, describing the threat from data access and theft (the so-called 'data trap'): *"If you allow another country to gain access to really critical data about your society, over time that will erode your sovereignty; you no longer have control over that data"*.

The market opportunity for the provision of 'unbreakable' quantum-based data encryption and protection, is huge, estimated to reach US\$230bn² by 2025.

¹ Cisco 2021 'The rise of Network-as-a-Service (NaaS)'. ² Gartner, Inc., 'Forecast: Information Security and Risk Management, Worldwide, 2019-2025, 2Q21 Update, 30 June 2021'

Company Data

NASDAQ quote	ARQQ
Share price (last close)	\$15.5
Market cap	\$1.9bn
ED Fair Value EV per share	\$37.5

Share Price, US\$



Source: ADVFN

Description

Arqit Quantum Inc., is an innovative developer and provider of quantum-based encryption services based on expertise in the combined fields of quantum cryptography, cyber security software and satellite technology.

Arqit has turned deep tech into a platform-as-a-service offering which is software-light and highly scalable, with worldwide distribution capability.

Its online sales model targets a wide range of verticals, initially in the defence, telecommunications, autonomous vehicles, and financial services sectors.

Arqit has assembled a management team with depth in technology and contacts with top-level decision takers in leading companies and government bodies.

Next event: FY22 H1 results, 29 July 2022.

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FY21 financial performance: contracts and cash

FY21 was dominated by the process of combination with CAC, commercial launch of QuantumCloud™ Release 1.0 in July, and the completion of many high-profile contracts. Notably, the year closed with **cash resources** at Arqit's disposal of **US\$87.0m**, ample to realise the next stages of development. **Signed contracts and agreements of over US\$130.0m** were agreed with major groups: BT Group plc, Sumitomo, Northrop Grumman, Dentons (London), Juniper Networks and Babcock. (see 'FY21 milestones', p7).

The launch of commercial operations in Q4 meant that FY21 revenue was negligible (US\$0.05m), whilst the combination with CAC and Nasdaq listing realised net proceeds of US\$96.0m. The adjusted PBT loss of US\$15.6m resulted from a PBT loss of US\$271.7m offset by reverse acquisition costs of US\$155.5m and change in the fair value of warrants of US\$98.1m. Nasdaq listing costs were US\$2.6m.

Summary financial performance FY20-FY21

30 Sep (US\$m)	2020	2021	30 Sep (US\$m)	2020	2021
P&L			Cashflow		
Revenue	0.000	0.048	Operating Cash Flow	(0.683)	141.167
Other (ESA contract)	1.964	0.000	Cash from operations	(2.140)	(24.304)
Operating Costs	(2.773)	(14.559)	Cash used in investing	(4.571)	(9.305)
Exceptional items	0.000	(158.050)	Net OpFCF	(5.905)	(33.340)
			Cash from financing	1.680	120.105
EBIT Reported	(0.809)	(172.561)	Cash, start of year	4.227	0.195
EBIT Adjusted	(0.809)	(14.511)	Cash, end of year	0.195	86.966
EBITDA Reported	(0.804)	(14.459)			
EBITDA Adjusted	(0.804)	143.591	Balance Sheet		
			Sum Fixed Assets	8.836	23.468
Financial income	0.065	0.000	Cash, Equivalents	0.195	86.966
Financial expense	(0.393)	(1.078)	Sum Current Assets	0.475	90.258
One-off	0.000	(98.090)	Total Assets	9.311	113.726
			Current Liabilities	(7.846)	(17.069)
PBT Reported	(1.137)	(271.729)	Long-term liabilities	(0.534)	(130.498)
PBT Adjusted	(1.137)	(15.589)	Net Assets	0.931	(33.841)
PAT Reported	(0.568)	(271.729)	Equity	0.931	(33.841)
PAT Adjusted	(0.568)	(15.589)	Net cash/(debt)	0.195	86.966

Source: Company data, Arqit Quantum Inc., Form 20-F No. 001-40777 pp44, F-6, F-8.

FY22 outlook - earnings assumptions

Strong order book led by government and major corporate demand

The major impetus underpinning the outlook for FY22 is the pressing need to replace existing encryption (based on PKI) with quantum-based encryption capable of withstanding quantum-based attack (see p3). QuantumCloud™ Release 1.0 brings a commercial proposition to this market.

Our FY22 estimates are based on the assumed on-boarding of announced orders and related enquiries, notably from the participants in Arqit's Federated Quantum System (FQS) initiative, announced in June. The year-end contract order book stood at **over US\$130m** including signed multi-year contracts each exceeding US\$25m. Post year-end agreements (Blue Bear, NEOM, SmartsatCRC and AUCloud; see p8-12), alongside ongoing initiatives, mean that this order book is likely to expand in FY22.

An urgent market opportunity

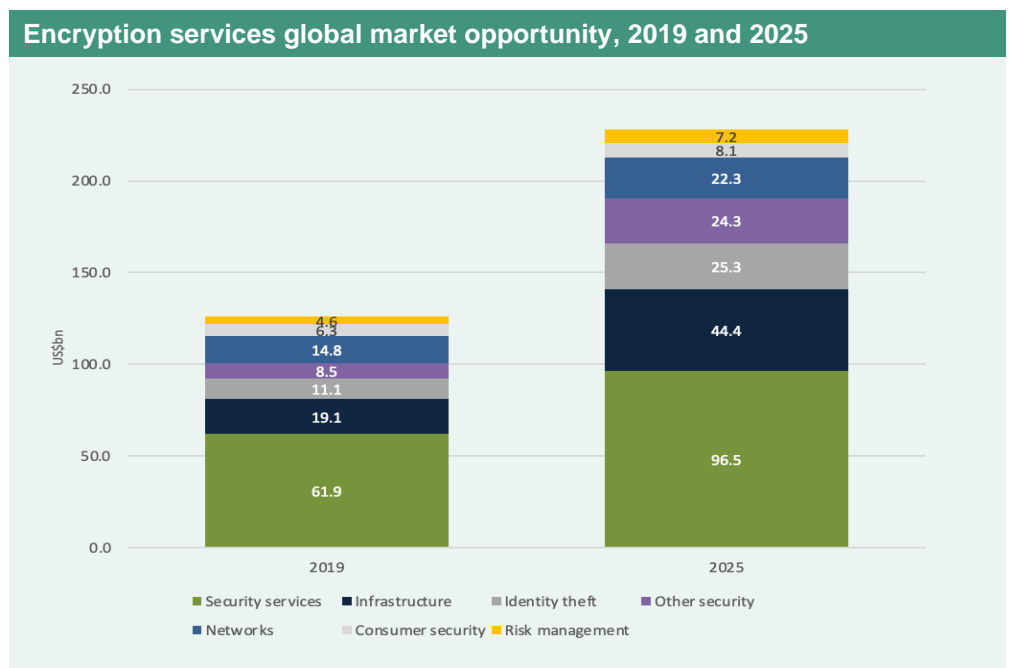
The arrival of quantum computing has highlighted the vulnerability to compromise of **all PKI-encrypted data**: “...an adversary can collect currently encrypted data and break it when quantum computation becomes available” (US Department of Homeland Security, October 2021). The deployment of next-generation 5G and the Internet-of-Things means that the scale of data at risk is increasing in inverse proportion to the waning protection offered by PKI-based encryption.

For governments this represents a threat to data sovereignty. As the U.S. Department of Commerce’s National Institute of Standards and Technology (NIST)³ recently noted: “**all secret symmetric keys and private asymmetric keys that are now protected using current public-key algorithms, as well as the information protected under those keys, will be subject to exposure**”, adding, “any information still considered to be private or otherwise sensitive will be **vulnerable to exposure and undetected modification**.” NIST concluded that: “it may be decades before the [security] community replaces most of the vulnerable public-key systems currently in use.”

The urgency of this situation highlights the huge scale of the opportunity that replacing PKI-based protection represents - quantum-based encryption offers the best means of countering quantum computer-based attacks on PKI-encased data. This means addressing the market for data encryption in its entirety, a market which Gartner Group² has estimated was worth US\$126.3bn in 2019, which by 2025 will rise to US\$228.1bn (CAGR 10.4%). The leading segments of this market are:

- **National security (sovereign) services** (42.3% of 2025 total; 2019-2025 CAGR 7.7%).
- **Infrastructure protection** (19.5%; 15.1%).
- **Personal identity protection** (11.1%; 14.7%).

The market for communications network security alone – as highlighted by Arqit’s collaboration with **Juniper Networks** - is estimated at US\$14.8bn in 2019, rising to US\$22.3bn by 2025 (CAGR 7.1%).



Sources: Arqit Quantum Inc., Form 20-F No. 001-40777 pp29,

²Gartner, Inc., ‘Forecast: Information Security and Risk Management, Worldwide, 2019-2025, 2Q21 Update, 30 June 2021’.

³U.S. Department of Commerce’s National Institute of Standards and Technology (NIST) ‘Getting Ready for Post-Quantum Cryptography: Exploring Challenges Associated with Adopting and Using Post-Quantum Cryptographic Algorithms’, April 2021.

Arqit's 'stronger, simpler' encryption

PKI encryption is based on the premise that the current generation of computers would require impractical amounts of time to decode complex sets of prime numbers. The approach also rests on successfully protecting the 'trusted' source of the 'private' key encryption and its 'public' counterpart. The arrival of quantum computing makes decryption of the most complex PKI primes and real probability.

Quantum-based encryption neutralises the threat posed by quantum computing decryption simply because any 'interference' is immediately detected and neutralised, and because the approach is **'trustless'**, i.e. not dependent on the 'trusted' sources of PKI encryption.

Arqit's innovation – satellite quantum key distribution

Arqit's solution has two differentiating components:

- The ability to instantly access a pair of symmetrical long random number keys.
- The ability to distribute these globally using satellites (currently operating in terrestrial simulation) which themselves do not contain compromising 'trusted' data.

The solution is a 'data light' software agent, which means that devices at any scale, from mobile handsets to automobiles or drones, do not require a cumbersome software download. In the Arqit QuantumCloud™ environment two or more devices in communication create a shared symmetric key in which, Arqit's AES256 algorithm enables encrypted information exchange over normal channels.

Distribution via satellite overcomes the problem of attaining global market reach which is not possible via terrestrial optic fibre because of optic interference which limits transmission to maximum distances of c.200 km.

Arqit's QuantumCloud™ end point innovation also means that a two-satellite system has sufficient 'entropy' (statistical number capacity) in its data centres to allow digital end points to create and generate 2×10^{15} (two quadrillion) pairs of keys, evidently a huge number of encryption possibilities which place decryption beyond the capabilities of even quantum computing.

Since no mathematical process, such as prime number generation, is involved in encryption a computer cannot reverse engineer it; for a 256-bit key the application of computational 'guesswork' **would take even a quantum computer millions of years** to guess all permutations in linear sequence.

Arqit QuantumCloud™ device interaction



Source: Arqit Quantum Inc., 2021 Fiscal Year Earnings Call Presentation, December 16 2021, p8.

Go-to-market strategy

Arqit has developed a three-stage product platform comprising three offerings: **Private Instance**, **Channel Partner** and **Platform-as-a-Service**.

Private Instance contracts

Private Instance sovereign-controlled end-to-end provision of Arqit quantum encryption for unlimited key generation backed by full technical support. This is particularly attractive to governments seeking to ring-fence and control their data protection strategies and aligned with the Federated Quantum Systems (FQS) initiative which was announced on 11 June, at the UK Cornwall G7 Leaders Conference.

Channel Partner agreements

In this arrangement clients purchase 'Master Distribution Rights' for on-sale to corporations and governments under controlled processes in multi-year contracts. Partnerships are not permitted in countries and regions deemed a security risk. Under a Channel Partners agreement Arqit grants quasi territorial or sector exclusivity in return for a binding 5-year revenue share. The specific terms include:

- A retail price for which the distributor pays 60% with an obligation to sell to sub-distributors.
- Arqit direct-sale rights.

A typical Year 1 to Year 5 agreement can scale annual revenues from <US\$1m to c.US\$21m:

Channel Partner revenue example		
	US\$m	Users
Year 1	0.7	2
Year 2	2.2	4
Year 3	6.9	14
Year 4	13.1	23
Year 5	20.9	34

Source: Arqit Quantum Inc., 8 September 2021 presentation 'Stronger, simpler encryption' p14.

Platform-as-a-Service offering

Platform-as-a-Service, offers cloud-delivered open market access to batches of quantum keys for transaction protection, highly-scalable for mass-market use. The service includes on-line customer validation, contract signature and payment, and software delivery, with an entry-level paired device fee of US\$25/month. Revenue stream results from a '3-dimensional' combination of:

- [end point group size x end points in the network x rate of key refresh].

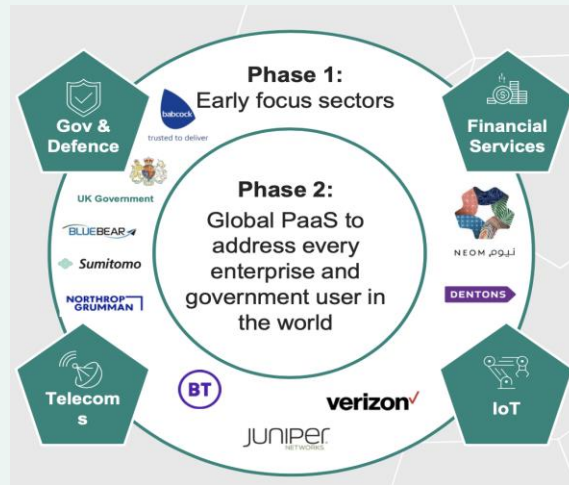
As a result the market opportunity increases as more devices are connected, network scale expands and the resulting key refresh rate grows.








Product deployment

Arqit's planned product offering entails two phases of market development:

- **Phase I** establishes a customer base in key market verticals - defence, telecommunications services, financial services and IoT deployment. This is based initially on Private Instance sales and Channel Partnerships to establish market credentials and relationships.
- **Phase II:** based on a reputation engendered by Phase I relationships, expansion of Channel Partnerships and introduction of the Platform-as-a-Service global offering.

Arqit's market development and target verticals

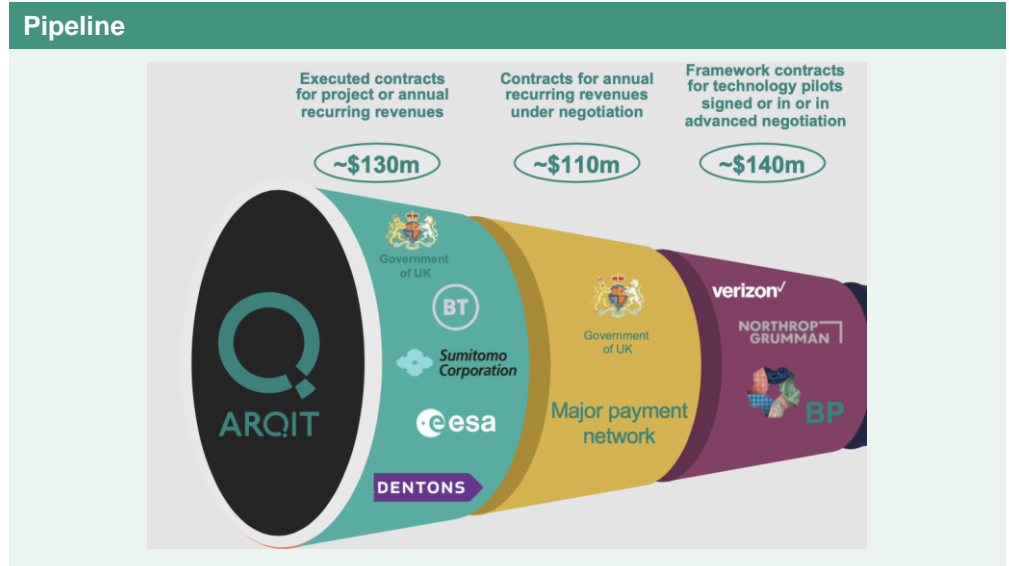


Defence	Telco	Financial Services	IoT
<p>Federated Quantum Systems consortium formed to sell "private instances" to governments 30 identified potential customers to date representing significant near term opportunity</p> <p> </p>	<p>Agreement to become channel partners and incorporate QuantumCloud™ into their own product offering</p> <p>  </p>	<p>Agreement to develop a self-sovereign identity system Broad application within legal and financial sectors</p> <p></p> <p>Additional identified opportunities in blockchain/digital asset management under development</p>	<p>Agreement to build and trial 'Cognitive City' Quantum Security System</p> <p></p>

Source: Arqit Quantum Inc., 2021 Fiscal Year Earnings Call Presentation, December 16 2021, p11.

FY21 milestones

Arqit reports revenue-generating contracts in FY21 totalling US\$130m with, as illustrated, a pipeline of further potential revenue streams at various stages of negotiation. A leading component at this stage are government-level Private Instance contracts, each amounting to potential annual revenue of US\$25m.



Source: Arqit Quantum Inc., 8 September 2021 presentation 'Stronger, simpler encryption' p11.

Arqit noted the launch in July 2021 of QuantumCloud™ Release 1.0 followed in September by full commercialisation and highlighted a number of and contracts and agreements:

- **BT Group plc:** agreement to partner in a long-term revenue commitment incorporating Arqit's product into its UK portfolio offering.
- **Sumitomo:** long-term contract, with revenue commitment, to sell Arqit technology to the Japanese government, enterprises, and market place. Sumitomo also invested in the private placement transaction within the Centricus Acquisition Corp., business combination.
- **Northrop Grumman:** agreement to develop quantum encryption for potential use in defence and national security settings.
- **Dentons:** agreement to co-develop a quantum safe, self-sovereign identity system (SSI) for the London institution with legal, financial and wider applications.
- **Juniper Networks:** (15 September 2021) 'Technology Alliance Partner Agreement', combining Juniper's expertise in AI-based networks with Arqit's quantum encryption knowledge to improve the security of communications systems. As stated, this aims to "explore how network providers can apply quantum secure key-exchange mechanisms to limit interruptions and improve business resiliency" and offer "network providers the opportunity to provide stronger, more active authentication of devices to secure organisations' data from even a quantum attack."
- **Babcock:** an agreement to use QuantumCloud™ encryption in test cases and practical applications for its government and defence customers.
- **The Federated Quantum Systems (FQS) initiative.** On 11 June, at the Cornwall G7 Leaders Conference, Arqit announced the formation FQS, an international group of companies and governments to deploy quantum encryption technology. This is initially a Private Instance offering attractive to governments focused on the protection of *sovereign* data and communications networks.

The founder FQS partners comprise: BT; Sumitomo Corporation; Northrop Grumman; Leonardo; QinetiQ Space N.V.; and Honeywell. Developed with support from the UK Space Agency (UKSA) through its National Space Innovation Programme, FQS combines dedicated satellites and control systems with Arqit's QuantumCloud™ software and will be made available to the UK's 'Five Eyes' (FVEY) international intelligence alliance with Australia, Canada, New Zealand and the US, allied governments and other international partners.

The first commercial Arqit satellites are scheduled for 2023.

Expanded patents and post year-end

In addition, in FY21 Arqit grew its filed patent portfolio to 1,435 patent claims on 21 pending or allowed, further expanded post year-end. Arqit has since added six major agreements.

Blue Bear Systems Research

On 21 October 2021, Arqit announced an agreement with the developer of unmanned and autonomous systems, **Blue Bear Systems Research Ltd.** (see <https://bbsr.co.uk>). Based in the UK (Bedfordshire), Blue Bear focuses on autonomous and unmanned systems for military, commercial, agritech and emergency services markets, including fixed-wing and rotary unmanned aerial vehicles (UAVs), and management and coordination systems.

Blue Bear systems were deployed in the Fukushima Daiichi plant explosion clean-up operation in 2016. Offerings include UAV and autonomous vehicles and management software such as its iSTART, portable, foldable, fixed wing vehicle which flies autonomously, a larger fixed wing version, and its SNAP® autopilot and avionics system.

Blue Bear Blackstart fixed wing UAV and RISER rotary UAV



Source: Blue Bear Systems Limited, <https://bbsr.co.uk/products>.

NEOM *cognitive city* development

On 8 December 2021 Arqit announced a memorandum of understanding (MoU) agreement with **NEOM** (**'New Enterprise Operating Model'**) **Tech Digital Company** (<https://www.neom.com/en-us/sectors/technology-and-digital>), and affiliate NEOM Company, to build and trial a 'Cognitive City' quantum-based security system.

The project will develop cyber defences for NEOM, the 'world's first cognitive city', located in the Tabuk region of north-west Saudi Arabia.

The city will be constructed around next-generation technologies, including artificial intelligence systems which are designed to continually evolve and benefit its citizens seamlessly and non-invasively, and to attract the latest development technologies and manufacturing processes.

Arqit and NEOM envisage opportunities which extend beyond the initial project, noting that: "the system could be exported to other cognitive cities around the world, offering billions of users a highly secure means to authenticate, identify and secure all forms of devices while fully guaranteeing their privacy".

NEOM is being designed as the 'world's first cognitive city', a reimagined industrial eco-city being designed and constructed from scratch around the latest available technologies. Its foundation elements include:

- 100% renewable, sustainable, energy sources.
- Integrated urban transportation combining electric shuttle systems with walkways and cycling. As the NEOM project states: "*Walkability will define life on THE LINE [a new linear city] – all essential daily services, such as schools, medical clinics, leisure facilities, as well as green spaces, will be within a five-minute walk. Ultra-high-speed transit and autonomous mobility solutions will make travel easier and give residents the opportunity to reclaim time to spend on health and wellbeing. It is expected no journey will be longer than 20 minutes.*"
- Secure, efficient financial exchanges and hubs.
- Secure 5G hyperconnectivity and other next-generation communications systems.
- Use of AI to develop 'anticipatory' systems and services, both intuitive and non-invasive.
- Technology development business incubators backed by access to data and use of augmented and virtual reality.

At a projected US\$500bn scale, the project will be funded by the Saudi sovereign wealth Public Investment Fund (PIF) backed by private investment. Located within an area of 26,500 km², the project is part of the 'Saudi Vision 2030' initiative to diversify the economy away from a dependence on oil. Construction of an initial 170km linear settlement, called *The Line*, started in Q121.

It is expected that the new city – which will have no cars, streets, or a carbon footprint – will create 380,000 jobs and generate US\$48bn for the economy.

The project also includes plans for a 48km² floating next-generation industrial city, *NEOM Oxagon* located on the Red Sea coast adjacent to the Suez Canal – a route which carries an estimated 13% of global sea trade - plus an automated port facility with capacity of 3.5m container units/year, 100% powered by clean energy.

NEOM cognitive city – ‘The Line’



Source: <https://tomorrow.city/a/neom-saudi-arabia>.

Virgin Orbit collaboration expanded

On 23 December 2021, Arqit announced a new launch contract with Virgin Orbit (see: <https://virginorbit.com/>) covering two dedicated launches for Arqit's deployment of its platform-as-a-service offering. Via Arqit's FQS initiative, the two companies were already collaborating on space security for the Five Eyes (FVEY) international intelligence alliance. Virgin Orbit has also invested US\$5.0m in Arqit.

Arqit also announced that Virgin Orbit had signed a QuantumCloud™ Software License agreement to use Arqit's encryption to protect and secure Virgin Orbit's infrastructure and operations.

Contract to define Australian participation

On 10 January 2022 Arqit announced a contract with Australia's SmartsatCRC within an agreement between the governments of Australia and the UK for delivery of the first phase of Arqit's FQS 'private instance' quantum encryption service. Under the initial '**Space Bridge**' contract, funded to the end of June 2022, Arqit will work with the Australian Government, Australian National University and industrial partners to plan Australia's participation in supply chain development and long-term planned funding.

SmartsatCRC (see: <https://smartsatcrc.com/>), supported by the UK Science and Innovation Network and Satellite Applications Catapult, was established to run Anglo-Australian research projects within the Space Bridge Framework. The Space Bridge Framework Agreement was co-signed on 23 February 2021 in Canberra and Westminster by representatives of the Australian and UK governments, respective space agencies and space industry associations. The SmartsatCRC consortium of universities and research organisations is briefed to develop advanced telecommunications, IoT, satellite and Earth observation systems.

On 16 December 2021, for example, Smartsat announced collaboration with cosine Remote Sensing for the SAST1 Kanyini⁴ HyperScout2 miniature hyperspectral imager satellite with earth observational and IoT payloads (see: <https://incubed.phi.esa.int/incubed-supported-hyperscout-imager-selected-for-high-profile-australian-cubesat-mission/>).

⁴Kanyini is a Pitjantjatjara aboriginal word describing the principle of responsibility and unconditional love for all creation.

Partnership with AUCloud

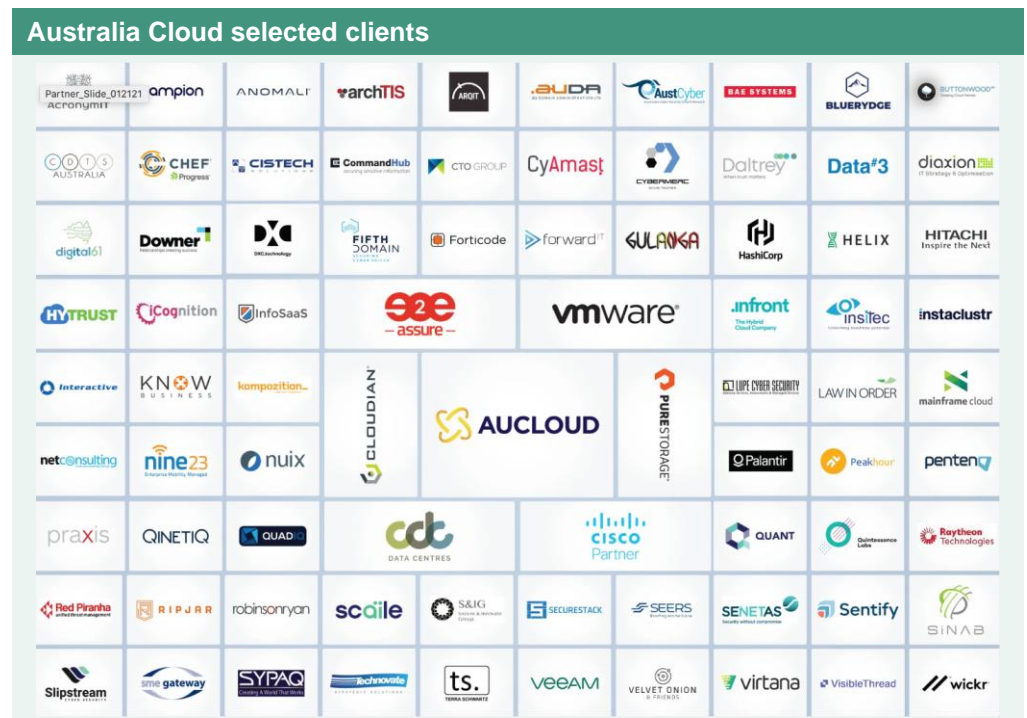
On 18 January, following the UK-Australia Space Bridge agreement, Arqit added Sovereign Cloud Australia Pty Ltd - AUCloud - to its FQS participation, in partnership with the Australian Government. AUCloud provides high security sovereign cloud services to the Australian Government, Defence, Intelligence, and Critical National Industry (CNI) communities on an Infrastructure-as-a-Service (IaaS) basis, backed by strategic investor NextDC (see: <https://www.nextdc.com/>), Australia's largest data centre operator. NextDC (ASX:NXT) has a market capitalisation of AU\$5bn with FY21 (30 June year-end) revenue of AU\$246.1m and (adj.) EBITDA of AU\$134.5m.

The AUCloud partnership falls within the emerging **AUKUS - Australian, UK and US alliance** for joint defence investment and innovation, adding impetus to interest in cyber security, quantum, and Artificial Intelligence (AI) prompting joint development of an Australia-wide network of Sovereign Quantum Edge Cloud Services.

The initial projects include defining technical contributions, establishing the industrial supply chain, and preparing to deploy Arqit QuantumCloud™.

Australia Cloud (AUCloud) positioning and market access

Australia Cloud itemises a wide range of data services clients that include systems integrators, Hitachi Vantara and DXC; software providers, VMWare and e2e-Assure; equipment manufacturers, Cisco and Pure Storage; Australian managed service providers, Downer, Interactive, Digital61 and Instec; and scale-up enablers, Archtis, Daltrey, Fifth Domain, Penten and SypaQ.



Source: <https://www.australiacloud.com.au/partners/>

AUCloud was listed as Sovereign Cloud Holdings (SOV:ASX) in December 2020, with a current market cap AU\$112m. At Q2 22 (31 December 2021) it reported total contract value (TCV) of AU\$6.6m, and, following an equity raise of AU\$35.0m backed by NextDC, a cash balance of AU\$40.6m.

Australian IaaS opportunity: AU\$3bn by 2025

Aiming to expand its IaaS services into adjacent markets via its customers and partners, in FY21 AUCloud noted (FY21 Investor Presentation, August 2021, p11) that:

- “Australian organisations spent \$1.36 billion on IaaS in 2020 up 38 per cent from the \$988 million spent in 2019 and on track exceed \$3 billion by 2025”.

Federal legislation to protect critical infrastructure

Announcing Q2 22 results and partnership with Arqit Quantum Inc., on 19 January, AUCloud highlighted the opportunities arising from **government legislation to protect key infrastructure**, saying:

- “Most notably, the Company looks forward to the anticipated opportunities arising from the new Federal government legislation passed during Q2 around protecting “Critical Infrastructure and Systems of National Significance reforms”, which extended the formal number of industry sectors designated under critical infrastructure legislation from four to eleven including: communications; financial services and markets; data storage or processing; defence industry; higher education and research; energy; food and grocery; health care and medical; space technology; transport; and water and sewerage. These sectors, along with a growing range of security conscious enterprise organisations with increased awareness of cyber security risks, will likely begin to transition their security practices to align with that of Federal Government; an area where AUCloud remains one of the leading sovereign cloud practitioners.”

The reforms noted are part of the Australian *Security Legislation Amendment (Critical Infrastructure) Bill 2020*: (see: <https://www.homeaffairs.gov.au/reports-and-publications/submissions-and-discussion-papers/protecting-critical-infrastructure-systems>) and include recommendations for the formation of an Active Cyber Defence Alliance (ACDA) see: <https://www.homeaffairs.gov.au/reports-and-pubs/files/critical-infrastructure-consultation-submissions/EDS089-CISoNS-ActiveCyberDefenceAlliance>

UK 5G cellular platform selection

On 26 January 2022 Arqit announced that it had been selected by the UK Department for Digital, Culture, Media and Sports (DCMS) to develop a **wideband solution** for next generation 5G wireless Open Radio Access Networks (RAN) platforms.

Specifically, the project is tasked with developing default security systems in order to secure any network device against attack, including quantum computer-based. The project is part of the Future RAN Competition (FRANC) awards announced on 8 December 2021 (see <https://www.gov.uk/guidance/future-ran-diversifying-the-5g-supply-chain-competition-winners>) which aims to free RANs from vendor-based fealty in order to improve interoperability and lower costs over 35% of UK RAN architectures by 2030. Arqit will incorporate its QuantumCloud™ platform in order to design-in unbreakable security for 5G networks against quantum computer-based attack.

Recent events provide a reminder of the growing importance of shielding key systems and networks from penetration. On 28 January the UK National Cyber Security Centre (NCSC) issued guidance to corporations – in particular those controlling critical infrastructure elements – to shield systems from potential cyber-attack.

Valuation considerations

Arqit Quantum Inc. has established strong credentials at the level of government sovereign entities on the basis of a demonstrable quantum encryption-based alternative to PKI-embedded encryption systems; a suitable quantum-based solution to the threat from the coming generation of quantum computers.

The Arqit business plan sets out a roadmap for further commercial deployment and, ultimately, satellite-based global accessibility to quantum encryption for any device in a data light format. The scale of the market opportunity, estimated at US\$228bn² within a three-year horizon, is sizeable, not least because it equates to a complete overhaul of existing data security systems.

Valuation based on EV/Revenue

The market capitalisation of the 22 leading quoted cryptography and data security quoted peers listed below totals **US\$333bn** (02/02/2022). This aggregate value valuation equates to the potential value of the data encryption market by 2029-30, i.e. an estimated US\$228bn in 2025 which, if continuing to grow at the 2019-2025 CAGR of 10.4%, will reach US\$307bn by 2028 and US\$374bn by 2030.

The peer group shown below indicates a +1 year revenue based market cap-weighted average EV/revenue multiple of **20.8x** (early-stage EV/EBITDA or PE multiples are less reliable due contain significant negative or outlier data points).

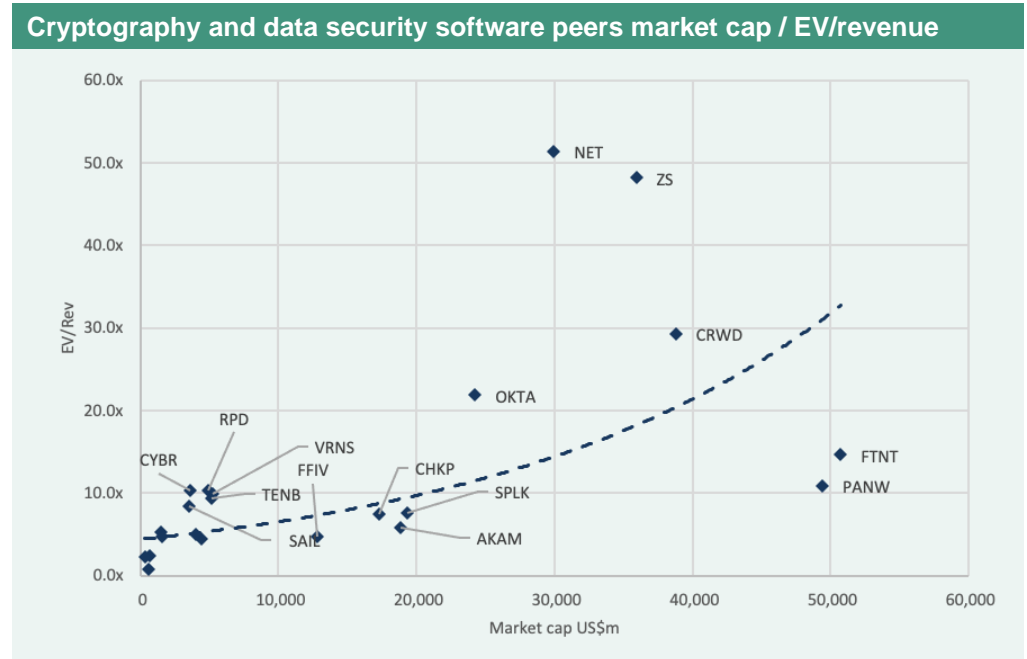
Cryptography and data security software peer group valuations					
Company	Symbol	Mkt cap. (US\$m)	EV/Rev	EV/EBITDA	PE
Fortinet	FTNT	50,738	14.6x	67.8x	67.2x
Palo Alto Networks	PANW	49,419	10.9x		56.9x
CrowdStrike	CRWD	38,804	29.3x		197.8x
Zscaler	ZS	35,940	48.2x		279.3x
Cloudflare	NET	29,970	51.3x		
Okta	OKTA	24,257	21.9x		
Splunk	SPLK	19,324	7.6x		(85.8)x
Akamai Technologies	AKAM	18,850	5.8x	13.3x	19.6x
Check Point Software	CHKP	17,282	7.5x	15.8x	16.8x
F5 Networks	FFIV	12,789	4.7x	13.1x	15.9x
CyberArc Software	CYBR	5,250	9.9x	71.6x	
Rapid7	RPD	4,951	10.4x		692.9x
Tenable	TENB	5,151	9.4x		145.7x
BlackBerry	BB	4,434	4.5x	32.0x	
SolarWinds	SWI	4,037	5.0x	10.7x	11.9x
Varonis Systems	VRNS	3,585	10.4x		172.7x
SailPoint Tech	SAIL	3,530	8.4x		
Ping Identity	PING	1,528	5.3x	38.8x	57.6x
Radware	RDWR	1,580	4.7x	27.6x	39.1x
OneSpan	OSPN	640	2.5x	25.9x	
Sumo Logic	SUMO	586	0.8x	(4.8)x	(24.5)x
Tufin Software	TUFN	321	2.2x	(12.5)x	(12.0)x
Market cap weighted average			20.8x		84.4x

Source: Yahoo Finance, 2 February 2022. Negative or >1,000% outlier data are omitted.

Peer comparisons

As illustrated, amongst 22 quoted encryption and data security peers, the majority of which are at early stages of development, there is evidence of separation into two groups:

- **Sub-US\$20bn market capitalisation, <10x EV/revenue.**
- **Market capitalisation above US\$20bn, with EV/revenue multiples of 20.0x – 50.0x.**



Source: Source: Yahoo Finance.

Early-stage valuation parameters

To arrive at a first-pass valuation we include:

- The estimated value of the global encryption market of US\$228bn in 2025 which, continuing to grow at the 2019-2025 CAGR of 10.4%, indicates a value of c.US\$307bn by 2028.
- The Arqit business plan for global deployment, i.e. capable of addressing the market opportunity. Arqit Quantum Inc., medium-term earnings projections⁵ show the potential to achieve the equivalent of c.0.31% of projected data encryption market value by 2025.
- The current quoted peer group market cap-weighted average **EV/Revenue of 20.8x**, discounted from 2025 at 20.0%.

This indicates a first-pass Arqit Quantum EV fair value of US\$4.51bn or US\$37.5 per share⁶.

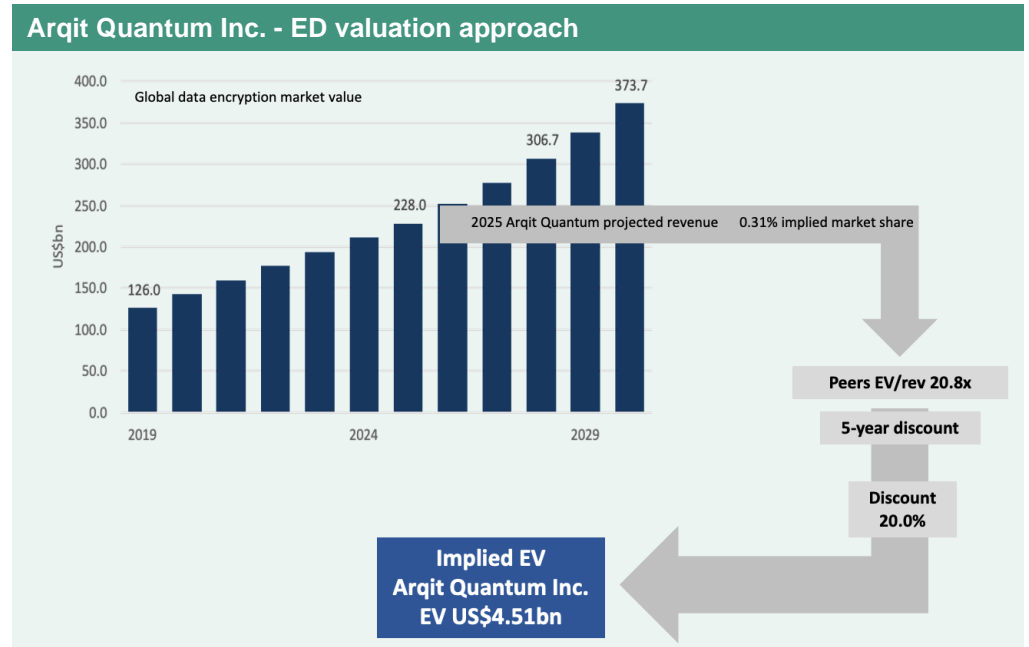
At Arqit's early stage of business development and deployment valuation is necessarily dependent on the establishment of milestones, however the surety with which credentials have been established at government level, the latest being the recent SmartsatCRC and AUCloud Australian agreements, provides the basis for medium-term projections.

⁵ Filed by Arqit Quantum Inc. Pursuant to Rule 14a-12 under the Securities Exchange Act of 1934 Subject Company: Centricus Acquisition Corp. (Commission File No. 001-39993) Commission File No. for the Related Registration Statement: 333-256591.

⁶ Based on 120.07m shares in issue.

Valuation approach

Our approach, based on estimated market expansion and peer group valuations, is summarised in the following graphic:



Sources: ¹Yahoo Finance, ²Gartner, Inc., 'Forecast: Information Security and Risk Management, Worldwide, 2019-2025, 2Q21 Update, 30 June 2021', share prices as at 02.02.2022, Equity Development Estimates.

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Summary P&L				
P&L Year to 30 Sept (US\$m)		2020	2021	2022E
Revenue		0.000	0.048	32.0
Gross Sum		1.964	0.048	24.0
	<i>Margin</i>	<i>N.M.</i>	<i>N.M.</i>	75.0%
Sum operating costs		(2.773)	(14.559)	(21.0)
EBIT Reported		(0.809)	(172.561)	3.0
EBIT Adjusted		(0.809)	(14.511)	3.0
	<i>Margin</i>	<i>N.M.</i>	<i>N.M.</i>	9.4%
	Amortisation	0.000	0.000	0.0
	Depreciation	(0.005)	(0.053)	(2.4)
EBITDA Reported		(0.804)	(14.459)	5.4
EBITDA Adjusted		(0.804)	143.591	5.4
	<i>Margin</i>	<i>N.M.</i>	<i>N.M.</i>	16.9%
Financial income		0.065	0.000	0.0
Financial expense		(0.393)	(1.078)	0.0
PBT Reported		(1.137)	(271.729)	3.0
PBT Adjusted		(1.137)	(15.589)	3.0
Tax		0.569	0.000	0.0
PAT Reported		(0.568)	(271.729)	3.0
PAT Adjusted		(0.568)	(15.589)	3.3
Basic wtd. av. shares (m)		59.3	68.3	120.1
Diluted wtd. av. shares (m)		59.3	68.3	135.0
EPS Reported Basic (\$c)		(0.96)	(397.69)	2.50
EPS Reported Diluted (\$c)		(0.96)	(397.69)	2.22
EPS Adjusted Basic (\$c)		(0.96)	(22.82)	2.75
EPS Adjusted Diluted (\$c)		(0.96)	(22.82)	2.45

Source: Company announcements historic data. Equity Development estimates.

Summary cashflow

Cashflow Year to 30 Sept (US\$m)	2020	2021	2022E
PBT	(1.137)	(271.729)	3.0
One-off items	0.000	158.050	0.0
Amortisation	0.000	0.000	0.0
Depreciation	0.005	0.053	2.4
Other non-cash	0.122	253.716	0.0
Finance income	(0.065)	0.000	0.0
Interest	0.393	1.078	0.0
Operating Cash Flow	(0.683)	141.167	5.4
Working capital			
(Increase)/Decrease in receivables	(0.173)	(6.132)	(4.6)
Increase/(Decrease) in payables	(1.284)	(1.289)	(9.2)
Movement in working capital	(1.457)	(7.421)	(13.8)
Cash from operations	(2.140)	(24.304)	(8.4)
Forex	(0.028)	0.269	0.0
Tax (paid)/received	0.833	0.000	0.0
Net cash from operations	(1.334)	(24.035)	(8.4)
Investing activities			
PPE	(0.026)	(0.223)	(24.0)
Intangibles	(4.544)	(9.082)	0.0
Net cash used in investing	(4.571)	(9.305)	(24.0)
Net OpFCF	(5.905)	(33.340)	(32.4)
Financing activities			
Convertible loans	0.646	14.148	0.0
Borrowing	1.034	5.042	0.0
Borrowing repaid	0.000	(6.120)	0.0
Funds acquired	0.000	107.035	0.0
Net cash from financing	1.680	120.105	0.0
Forex	0.193	0.006	0.0
Net increase in cash / equivalents	(4.032)	86.771	(32.4)
Cash at beginning of year	4.227	0.195	87.0
Cash at year end	0.195	86.966	54.6
Net cash/(debt)	0.000	86.966	54.6

Source: Company announcements historic data. Equity Development estimates.

Summary balance sheet

Balance Sheet Year to 30 Sept (US\$m)	2020	2021	2022E
Fixed Assets			
Intangible assets	8.777	18.235	18.2
PPE net	0.027	0.199	21.3
Investments	0.032	0.034	0.0
Other	0.000	5.000	0.0
Sum Fixed Assets	8.836	23.468	39.5
Current Assets			
Trade receivables	0.281	3.292	7.9
Tax assets	0.000	0.000	0.0
Cash, Equivalents	0.195	86.966	54.6
Sum Current Assets	0.475	90.258	62.5
Total Assets	9.311	113.726	102.0
Current Liabilities			
Trade payables	(2.386)	(17.069)	(7.9)
Borrowings	(5.460)	0.000	0.0
Tax, Other	0.000	0.000	0.0
Sum Current Liabilities	(7.846)	(17.069)	(7.9)
Total Assets less Current Liabilities	1.465	96.657	94.1
Long-term Liabilities			
Borrowings	0.000	0.000	0.0
Warrants	0.000	(128.038)	(128.0)
Payables	(0.534)	(2.459)	(2.5)
Sum Long-term liabilities	(0.534)	(130.498)	(130.5)
Total liabilities	(8.380)	(147.567)	(138.4)
Net Assets	0.931	(33.841)	(36.4)
Capital & Reserves			
Share Capital	0.000	0.011	0.0
Convertible loans, other	1.411	166.805	0.0
Currency translation reserve	(0.129)	0.255	0.0
Share Premium	0.000	70.999	232.6
Share option reserve	0.135	0.303	0.2
Retained earnings	(0.485)	(272.215)	(269.2)
Equity	0.931	(33.841)	(36.4)
Net cash/(debt)	0.195	86.966	54.6

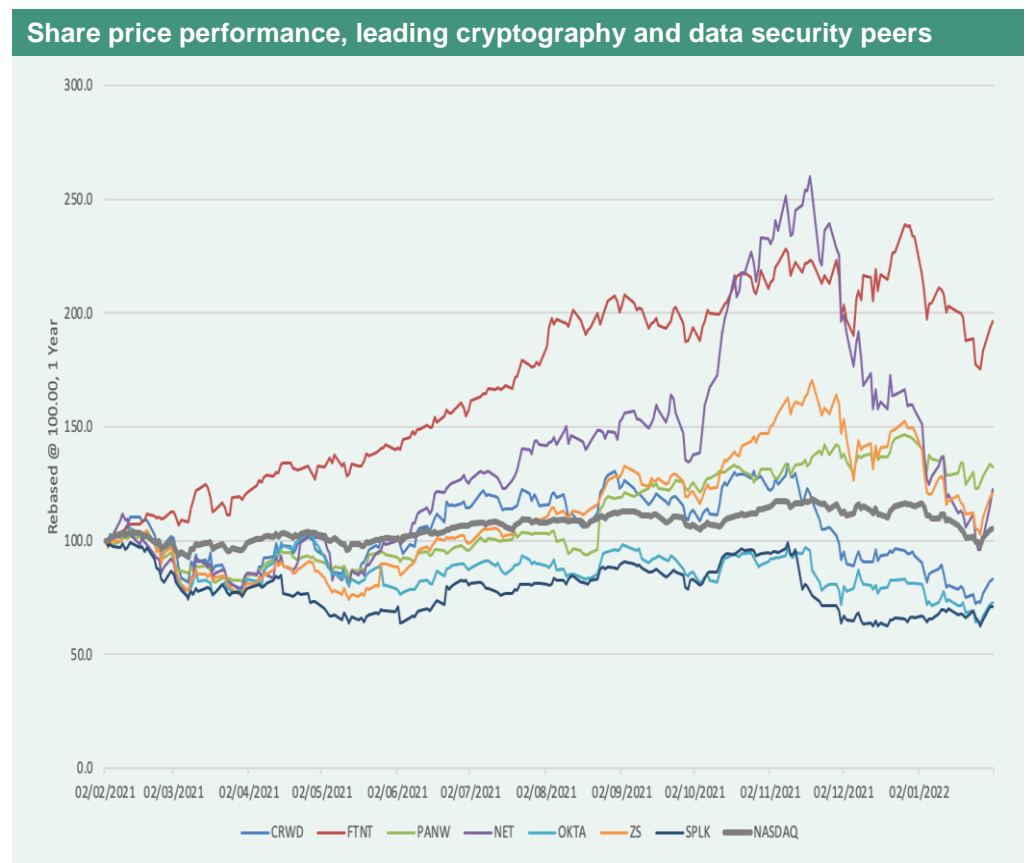
Source: Company announcements historic data. Equity Development estimates.

Appendix I: Peer group share price performance

One year share price performance, leading data security and cryptography peers, rebased @ 100.0:

- Fortinet Inc. (FTNT), +97%.
- Palo Alto Networks Inc. (PANW), +32%.
- CrowdStrike Holdings Inc. (CRWD), -17%.
- Cloudflare (NET), +23%.
- Zscaler (ZS), +21%.
- Okta (OKTA), -27%.
- Splunk (SPLK), -29%.

Overall, the market cap weighted average performance of the group, at +24.2% compared to +5.4% for the NASDAQ Composite (^IXIC) over the past year.



Source: Yahoo Finance, year to 2 February 2022.



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