

Building the foundations: a vision for the UK's quantum economy

We have seen over many years waves of new technology which are impacting business models and creating what we term Innovative New Value Chains. Examples include the dot com first wave of internet creating online retail, and efficient supply chains.

We have also seen mobile devices creating new mobile services, Internet of Things (IoT) impacting health care, Artificial Intelligence (AI), New Electric Vehicles (NEV) and many more changing industries. There has been the rise of new ventures dominating the new value chains and these include Alibaba, Alphabet / Google, Amazon, Apple, NVIDIA, Tencent, Tesla and many more that are larger than the incumbents.

Corporate Investment and Commercialisation

Aimava have explored the hypothesis that Quantum has reached the point where it is now going through the phases of scaling with corporate investment and commercialisation.

Corporate Venture Capital (CVC) is corporates investing minority stakes in

startup ventures. These can have the purpose of the exploring 'frontier' technologies and business models which are outside the scope of corporates' traditional core business. In the first half of 2021 according to a CB Insights report, CVC investments reached a record \$79B investment and 2,099 deals. A Silicon Valley Bank survey published in Aug 2021 showed 54% of average CVC check sizes were less than \$5M and 74% of investment were in seed and early stage investments'.

An example is MSD (Merck) Global Health Innovation Fund and Prem Tumkosit who spoke at the Aimava Quantum Future Programme about the reasoning for investing in Zapata Computing. Quantum was one of the key areas which MSD GHI Fund wanted to explore from 2019. They invested to gain insights on Quantum applications and workflows plus it gave the opportunity to share with the venture understanding on how the new tech can impact the development and use of new health and pharmaceuticals.

Quantum Ventures scaling

Ilana Wisby, CEO of Oxford Quantum Circuits (OQC), gave her perspectives on the Quantum Future panel on the current investment space has evolved from software to then hardware investment as it was realised that the fundamental new solution is being built. In 2020 we have seen more forward thinking strategic investors being involved as they can see it will be impacting their businesses. This has also built hype in 2020/21 and investment has risen from millions to tens of millions as understanding and strategies are progressing. We have seen this evolution in other technologies like Electric Vehicles where we

first saw tentative investments and installing charging sockets at petrol stations to now large scale industry investment and change. There are other examples in tech and business model such as Internet of Things in applications such as industrial, health and consumer solutions.

Quantum has reached the stage of development of trials and investment in the potential solutions to major business and society challenges. Investment is growing from strategic corporate venture units. Quantum ventures need to understand and engage with corporates and their venture units.

Andrew Gaule is CEO of *Aimava* and has been working for 20 years with leading corporates and investors who are supporting strategic innovation with tech ventures that change business models. Andrew terms this the development of Innovative New Value Chains. He has worked in previous waves of tech and business models such as dot comm, IoT, Electric Vehicles, AI etc. From work Aimava has done in Quantum it is now reaching the stage of strategic venture investing.

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