Â 24 October 2024

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Quantum Blockchain Technologies plc

("QBT" or "the Company")

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Bitcoin Mining - Method C

Hardware AI Oracle Implementation and Performance Increase

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Quantum Blockchain Technologies (AIM: QBT), the AIM-listed investment company focused on a R&D and investment programme within blockchain technology, is pleased to announce a series of breakthrough achievements with regards its predictive Bitcoin Artificial Intelligence (AI) model mining tool, Method C.

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HIGHLIGHTS

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- Method C's AI Oracle successfully and efficiently implemented onto Bitcoin Mining hardware
- Method C performance increased significantly from 30% to 50%, at lower mining difficulty
- Lab tests of Method C's AI Oracle at current level of mining difficulty confirm the effectiveness of the model
- The Company believes this is a major innovation which undermines industry assumptions and is a significant step forward to commercialisation
- Patent application to be filed before year end

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Method C - Increased Performance

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The Company announced on 13 March 2024 the development of a proprietary AI Oracle, broadly defined by the R&D team as Method C. While the Machine Learning model has previously been defined as Method C, the result of its `training' with relevant data is known in the industry as an AI Oracle. This Oracle is being used by QBT to implement its prediction engine.

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Method C's AI Oracle is able to predict the likelihood of an input to SHA-256 (the core algorithm to mine Bitcoins) to produce a winning Hash. Should the AI Oracle calculate that the current SHA-256 will not be successful in finding the winning Hash, it skips that calculation and moves on to the next input. In the March 2024 announcement, the Company reported that irrelevant SHA-256 computations were being avoided almost 30% of the time.

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It was further reported on 15 August 2024 that, following further testing, the AI Oracle was performing real-time simulated mining, at historic lower mining difficulty levels, for the purpose of industry demonstrations.

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The Company is now able to report that at a lower level of mining difficulty, the performance of the AI Oracle generated by Method C, used at the mining rig level, has been materially improved from 30% to more than 50%. Simply stated, this means that on an average of 100 inputs to SHA-256, more than 50 of them are assessed as not worth being calculated, since no winning hashes will be generated from those inputs.

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The Company believes this is a major innovation, which undermines a key Bitcoin Mining industry assumption that the SHA-256 algorithm output cannot be predicted. The implications are, therefore, significant in that a Bitcoin miner operating with the AI Oracle at a lower level of difficulty than the current one, would be able to:

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- Double the mining rate in the same time period, and
- Keep energy costs at the same level.

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While the Company is now finally able to demonstrate the above achievements in real time simulated mining, using QBT's AI Oracle hardware implementation (see below) and a simulation of the blockchain using historic data, it has to be noted that recent lab tests have also clearly demonstrated the effectiveness of the AI Oracle, as a result of the training of the Method C model, running at the *current* level of mining difficulty.

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From a commercial perspective, QBT's vigorous testing has demonstrated that the performance of the AI Oracle on a single mining rig at a lower level of mining difficulty is such that more than 50% of the inputs to SHA-256 are discarded, without affecting the chance of the miner to find a winning Hash.

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Detailed measurements of global efficiency for the AI Oracle generated by Method C are currently in progress so QBT can benchmark the improvements against existing mining devices operating at current levels of mining difficulty using key industry parameters, such as, energy saving and improved hashing power (Joule per Tera Hash).

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The Company is now focused on two elements which are key to producing a commercial version of AI Oracle generated by Method C.Â Firstly, it is investigating a route to maintain the AI Oracle's success at current and future mining difficulty levels, and secondly, the QBT Machine Learning team is working on producing a software-only version of the AI Oracle generated by Method C, that can be used by mining pools.

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Method C - Hardware Implementation of the AI Oracle generated by Method C

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The Board recognises that a commercial product is key to the future success of the Company, and it can report it has now taken a major step forward with the development of a real-time hardware implementation for the AI Oracle, which QBT sees as being both innovative and efficient.Â The Company will be in a position to provide further details of this technical solution once it has filed a patent application, which it anticipates doing by the end of 2024.

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Following the filing of the patent application, live demonstrations of the AI Oracle will be shared with potential partners. These demonstrations will aim to show the real-time superiority between a mining device running the AI Oracle compared to the same mining device without it.
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Francesco Gardin, CEO and Executive Chairman of QBT, commented, "The combined effort and close cooperation of the Machine Learning Team, in conjunction with the Hardware Team, has been one of the keys to unlocking this astonishing and impressive result.
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"The Company's strategy to use AI to improve the performance of SHA-256, despite the industry's common view that this was impossible, is so far proving successful and represents a potentially effective new approach to Bitcoin Mining.
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"Once the new patent application has been filed, we will start to demonstrate the real-time, disruptive application of the AI Oracle generated by Method C to potential key partners and clients."
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This announcement contains inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ("MAR"), and is disclosed in accordance with the Company's obligations under Article 17 of MAR.
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About Quantum Blockchain Technologies Plc
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QBT (AIM: QBT) is a London Stock Exchange AIM listed Research & Development and investing company focused on an intensive R&D programme to disrupt the Blockchain Technologies sector, and which includes, cryptocurrency mining and other advanced blockchain applications. The primary goal of the R&D programme is to develop Bitcoin mining tools and techniques, via its technology-driven approach, which the Company believes will significantly outperform existing market practices.
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Glossary of Terms
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Bitcoin Mining: Bitcoin mining is the process of using computer hardware to do mathematical calculations for the Bitcoin network in order to confirm transactions. Miners collect transaction fees for the transactions they confirm and are awarded Bitcoins for each block they verify.
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Hash: A hash is the output of a hashing function, which is a mathematical function that converts an input of arbitrary length into an encrypted output of a fixed length.
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Method C: A Machine Learning based development by QBT R&D team which is composed by an AI model to be trained and an AI Oracle (the result of the training of the model). The Oracle assesses in real time the likelihood of an input to SHA-256 to generate a winning Hash.
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Oracle: It is an intelligent system which is designed for only answering questions and has no ability to act in the world.
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SHA-256: Secure Hashing Algorithm (SHA)-256 is the hash function and mining algorithm of the Bitcoin protocol, referring to the cryptographic hash function that outputs a 256 bits long value.