

**Quantum Blockchain Technologies Plc**  
 (“QBT” or “the Company”)

**Significant improvements in bitcoin mining success rate and energy use**  
**driven by advances in proprietary software**

Quantum Blockchain Technologies plc (AIM: QBT) has now completed a key testing phase of its proprietary bitcoin mining search algorithm and is pleased to announce satisfactory results. The test results show that QBT’s algorithm, known as Method B, has theoretically increased the rate of successful bitcoin mining by 2.6 times compared to standard bitcoin mining industry practices widely used over the same time period.

The research results and the statistical methodology used to validate them give the Company confidence that the research approach being used has uniquely identified some properties of the SHA-256 space that other research teams have not detected.

The Company’s algorithm also theoretically reduced electricity consumption by 4.3%. To illustrate this, a mining farm - with 100,000 miners<sup>(1)</sup> - would save up to \$4.5 million per year when applying Method B and only considering the impact of the reduced energy consumption.

Given the expense and accessibility of current bitcoin mining equipment, ASIC chipsets and mining strategies, these results are based on a bitcoin mining difficulty<sup>(2)</sup> lower than the difficulty currently in the market. However, the research results and the statistical methodology used to obtain them give the Company confidence that its algorithms should be scalable for commercial use. This would enable a step-change improvement in the probability of successfully mining bitcoin using the current bitcoin mining standards in mining equipment, ASIC chipsets and mining strategies akin to what is in commercial use globally.

Up until now, the bitcoin mining industry has mainly sought to achieve improved mining efficiency by optimising hardware and its integrated firmware. The Company’s R&D team of senior researchers from leading European universities has taken a different approach. It is focusing its intensive R&D efforts on identifying and exploiting certain key predictive properties in the operation of bitcoin’s SHA-256 cryptographic [hash functions](#) as originally designed by the United States [National Security Agency](#) and first published in 2001.

Assuming continued successful progress with testing, the Company believes its proprietary software has the potential to significantly improve the financial performance of bitcoin mining once deployed at full-scale. It is currently expected by the board that QBT’s algorithm could successfully improve the likelihood of mining success while lowering the energy cost of the process.

**Francesco Gardin, chairman and CEO of Quantum Blockchain Technologies summarises the Company’s recent experimental success**, “Following nearly two years of research by our Machine Learning R&D teams, we believe we have achieved conceptually what appears to be a real breakthrough in the bitcoin mining industry. Under rigorous testing conditions, our algorithms are achieving a marked increase in the frequency of successfully mining bitcoin, while lowering electricity use.

“We will now speed up the next phase of testing allowing us to confirm our current results at a degree of difficulty as close as possible to conditions now prevailing in the bitcoin mining industry. In addition, we intend to begin development of the industrial commercialisation phase of our bitcoin mining Method B, including deployment on mining rigs of the type currently in widespread use by larger bitcoin mining corporations.

“The Company’s R&D work is both designed and carried out by a team of senior researchers, including scientists previously working as full tenured professors at leading European universities.

“In parallel, the Company continues its R&D efforts to design and fabricate a next generation bitcoin mining ASIC, as well as utilise quantum computing hardware and software to similarly improve the success rate of mining bitcoin.”

(1) Assumptions are nominal 100 Th/s hashing power, 3050W energy consumption per miner and cost of electricity of 0.04 \$/kWh.

(2) Every blockchain has a mining process by which miners can generate new coins. An algorithm regulates how difficult it is for the miners to mine a certain block. This difficulty is represented by a number known as mining difficulty. The more the hash rate, the more difficult it will be to find valid hashes for a block. Currently, it takes about 10 minutes to mine a Bitcoin block. After every 2,016 blocks are mined, Bitcoin adjusts its mining difficulty, in order to keep the total block time at 10 minutes. The difficulty increases based on the number of miners and their combined hash rate. In 2009, difficulty started from 1, today it is more than 48T.

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### **About Quantum Blockchain Technologies Plc**

QBT (AIM: QBT) is an AIM listed investment company which has recently realigned its strategic focus to technology related investments, with special regard to Quantum computing, Blockchain, Cryptocurrencies and AI sectors. The Company has commenced an aggressive R&D and investment programme in the dynamic world of Blockchain Technology, which includes cryptocurrency mining and other advanced blockchain applications.