



Press Release

For Immediate Release

OneConnect Financial Technology and Singapore Management University announce key findings from joint research on potential for quantum computing to resolve blockchain trilemma

- *Result findings were revealed at virtual event organised by Blockchain Association Singapore*
- *Proof of Concept (PoC) developed for a quantum distributed ledger to uncover potential advantages for distributed ledgers (DLT)*

Singapore, 7 April 2021 – OneConnect Financial Technology Co., Ltd. (OneConnect) the leading technology-as-a-service platform provider and an associate of Ping An Insurance Group, and **Singapore Management University** (SMU) today announced the key findings from a jointly conducted research on the potential of quantum computing to augment blockchain technology for businesses. The research report has been vetted by the **Blockchain Association Singapore** (BAS) and the findings were shared at the BAS webinar titled “*Enterprise Blockchain in the New Decade*” earlier today, moderated by Ms Tan Bin Ru, Co-Chairwoman of BAS, who is also CEO (SEA) of OneConnect Financial Technology.

The findings from this research follow an earlier Memorandum of Understanding (MOU) between OneConnect and SMU in 2019 to develop a Proof of Concept (POC) to investigate the characteristics of quantum computing for distributed ledger technologies (DLTs). Co-led by Associate Professor Paul Griffin from SMU School of Computing and Information Systems, the report focused on studying quantum algorithms that could augment blockchain technology in the area of robust large-scale consensus.

While reviewing various types of consensus mechanisms and the suitability of quantum computing in business, the research has shown that the inherent constraints faced by classical DLTs known as the “blockchain trilemma”, or the notion of improving all three fundamental attributes of blockchain – speed, security and size – at once could be broken by quantum technologies, thus increasing potential business usage. For current blockchains, a longer time is required to reach a consensus for highly secure DLTs, and increasing the speed of consensus leads to lower security.

The result findings from the research project include:

- Quantum and classical consensus take a similar number of rounds to agree on the same value, meaning that with a quantum internet, big data such as social media and IoT information could be used for consensus and not be limited to the few hundreds of financial



transactions of current blockchains. This would likely benefit many areas of financing including trade finance and the under-banked.

- Quantum consensus has more variation than classical and can take longer or shorter times to achieve consensus, potentially speeding up consensus if the shorter times are engineered to be selected.
- Real quantum computers need careful configuration and noise mitigation, and this will take time to become commercially useful. Furthermore, there is much more work needed to connect quantum computers to quantum networks.

Ms Tan Bin Ru shared, “We are excited to be announcing the results and insights gathered from this joint research over the last one year – it has indeed been a remarkable journey and a significant milestone that we are sharing with SMU today. Collaborations like these will allow us to better understand and lay the groundwork for the potential of blockchain technology that can be applied to businesses in the future, such as improving financing and the under-banked woes. We look forward to continuing long-term partnerships with educational institutes like SMU to potentially expand its usefulness in industry applications.”

Associate Professor Paul Griffin, a speaker at the BAS webinar, shared “It has been a wonderful journey with OneConnect to work on this exciting future-oriented research. The potential for quantum computing is just beginning to be explored and this project has helped to move this forward in a relevant area for the industry. SMU would like to thank all the people involved and look forward to continuing this and other research with OneConnect in the future.”

Following the joint research, OneConnect and SMU will continue to forge partnerships in the areas of innovation and building talents for the digital economy.

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About OneConnect Financial Technology

OneConnect Financial Technology Co., Ltd. (NYSE: OCFT) is a leading technology-as-a-service platform for financial institutions. The Company’s platform provides cloud-native technology solutions that integrate extensive financial services industry expertise with market-leading technology. The Company’s solutions provide technology applications and technology-enabled business services to financial institutions. Together they enable the Company’s customers’ digital transformations, which help them increase revenue, manage risks, improve efficiency, enhance service quality and reduce costs.

The Company’s 13 technology solutions strategically cover multiple verticals in the financial services industry, including banking, insurance and asset management, across the full scope of their businesses — from sales and marketing and risk management to customer services, as well as technology infrastructures such as data management, program development, and cloud services.



About Singapore Management University

A premier university in Asia, the Singapore Management University (SMU) is internationally recognised for its world-class research and distinguished teaching. Established in 2000, SMU's mission is to generate leading-edge research with global impact and to produce broad-based, creative and entrepreneurial leaders for the knowledge-based economy. SMU's education is known for its highly interactive, collaborative and project-based approach to learning.

Home to over 11,000 students across undergraduate, postgraduate professional and postgraduate research programmes, SMU comprises six schools: School of Accountancy, Lee Kong Chian School of Business, School of Economics, School of Computing and Information Systems, School of Law, and School of Social Sciences. SMU offers a wide range of bachelors', masters', and PhD degree programmes in the disciplinary areas associated with the six schools, as well as in multidisciplinary combinations of these areas.

SMU emphasises rigorous, high-impact, multi- and interdisciplinary research that addresses Asian issues of global relevance. SMU faculty members collaborate with leading international researchers and universities around the world, as well as with partners in the business community and public sector. SMU's city campus is a modern facility located in the heart of downtown Singapore, fostering strategic linkages with business, government and the wider community. www.smu.edu.sg

About Blockchain Association Singapore

The Blockchain Association Singapore (BAS) seeks to empower its members and the community to leverage blockchain and scalable technologies for business growth and transformation. The Association is designed to be an effective platform for members to engage with multiple stakeholders - both regional and international - to discover solutions and promote best practices in a collaborative, open, and transparent manner.

It aims to promote blockchain literacy and build a strong talent pipeline for the digital economy in Singapore. BAS also aims to accelerate the development of blockchain companies operating in or entering into Singapore, and their subsequent integration and acceleration into the Singapore blockchain ecosystem.

For more information, please visit <https://singaporeblockchain.org/>.



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