IBM and the University of Tokyo Unveil the Quantum Innovation Initiative Consortium to Accelerate Japan's Quantum Research and Development Leadership

Keio University, Toshiba, Hitachi, Mizuho, MUFG, JSR, DIC, Toyota, Mitsubishi Chemicals and IBM to expand the country-wide quantum computing research, development and education ecosystem

TOKYO, July 30, 2020 /PRNewswire/ -- Today, IBM (NYSE: IBM) and the University of Tokyo unveiled a landmark collaboration with the launch of the Quantum Innovation Initiative Consortium (QIIC). Expanding from the December 2019 Japan–IBM Quantum Partnership initiative, QIIC, aims to accelerate the collaboration between industry, academia, and government to advance Japan's leadership in quantum science, business, and education.

QIIC's main goal is to strategically accelerate quantum computing R&D activities in Japan by bringing together academic talent from across the country's universities and prominent research associations and large-scale industry. The consortium plans to further develop technology for quantum computing in Japan and build an ecosystem to improve student skills and expertise, opening doors to future scientific discoveries and practical quantum applications.

Headquartered at the University of Tokyo, member organizations of QIIC will collaborate to engage students, faculty, and industry researchers with seminars, workshops, and events to foster new quantum business opportunities in Japan. Organizations in agreement to join the consortium include Keio University, Toshiba, Hitachi, Mizuho, MUFG, JSR, DIC, Toyota, Mitsubishi Chemicals and IBM Japan.

These organizations in consortium will also be part of the IBM Q Network – the world's first community of Fortune 500 companies, startups, academic institutions and research labs – to advance quantum computing and the development of practical applications for it. As part of the network, they will have access to IBM's expertise and resources, and cloud development environment, as well as cloud-based access to the IBM Quantum Computation Center, which includes IBM's most-advanced quantum computers.

In addition to cloud-based access to the IBM's fleet of quantum systems, the QIIC will also have access to an IBM Q System One, a dedicated system planned for installation in Japan in 2021. The first of its kind in the region, and only the second such installation outside of the US, this system – along with a separate testbed system to be part of a system technology development lab – will support the consortium's goals of next-generation quantum hardware research and development, including cryogenic components, room temperature electronics, and micro-signal generators.

According to Professor Makoto Gonokami, President of the University of Tokyo:

"Society 5.0 is the concept of a better future with inclusive, sustainable and a knowledge-intensive society where information and services create value underpinned by digital innovation. The key to realizing this society is to utilize real data in real-time. In order to achieve this, it is necessary to protect and nurture the global environment, an entity of physical space and cyberspace as one, by taking it as a global commons (a concept that encompasses global resources and the ecosystems) which is sustainable and reliable, while the fusion of physical space and cyberspace progresses.

"Quantum technology and quantum computers are indispensable technologies to make that happen. I believe that Japan will play an important role in implementing quantum computing technology to society ahead of rest of the world, and that industry-academia-government collaboration is necessary for this. The QIIC will accelerate quantum technology research and its

implementation to the Society 5.0 while firmly sharing each other's wisdom and promoting the close sharing of information."

"Today, I am extremely excited and proud to launch this new consortium that will help foster economic growth and quantum technology leadership in Japan. The QIIC will greatly advance Japan's entire quantum computing ecosystem, bringing experts from industry, government and academia together to collaborate on research and development," said Dario Gil, Director of IBM Research. "Quantum computing has the potential to tackle some of the world's greatest challenges in the future. We expect that it will help us accelerate scientific discovery so that we can develop vaccines more quickly and accurately, create new materials to address climate change or design better energy storage technologies. The potential is massive, and we will only reach this future if we work together – uniting the best minds from the public and private sectors. Universities, businesses and governments have to collaborate so that we can unleash the full potential of quantum computing."

QIIC's members are forging a path for Japan's discovery of practical quantum applications for the benefit of society. The cooperation between industry, academia, and government aims to create a new community for quantum computation research and use cases.

About IBM Quantum

IBM Quantum is an industry-first initiative to build quantum systems for business and science applications. For more information about IBM's quantum computing efforts, please visit www.ibm.com/ibmq.

For more information about the IBM Q Network, as well as a full list of all partners, members, and hubs, visit https://www.research.ibm.com/ibm-q/network/

About The University of Tokyo

The University of Tokyo was established in 1877 as the first national university in Japan. As a leading research university, the University of Tokyo is conducting academic research in almost all fields at both undergraduate and graduate schools. The University aims to provide its students with a rich and varied academic environment that ensures opportunities for acquiring both academic and professional knowledge and skills.

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