

ASX Announcement ([ASX: AXE](#))

17 August 2020

## Archer and IBM joint webinar on quantum computing

Archer Materials Limited (“Archer”, the “Company”, “[ASX: AXE](#)”) is pleased to announce the Company will be holding a joint webinar with International Business Machines Corporation (“IBM”, “[NYSE: IBM](#)”) on the topic of quantum computing (“Webinar”). Representatives from Archer and IBM will discuss the development of quantum computing and its applications.

Archer Quantum Technology Manager, Dr Martin Fuechsle will be joined by IBM Q Ambassador Dr Adam Makarucha (“Speakers”) in giving a non-technical presentation (“Presentation”) on the opportunities and economic drivers behind quantum computing, and the timeframes associated with current technological progress in the broader quantum computing economy. The Webinar will cover areas in quantum computing that currently generate the most economic value and will include Q&A with the Speakers.

**The Webinar is open to the general public, and the full details of the Webinar are:**

Date:	Time:	Registration Link:
Tuesday, 15 <sup>th</sup> September 2020	9:00am to 10:00am (Sydney time)	<a href="https://the-era-of-quantum-advantage.eventbrite.com">https://the-era-of-quantum-advantage.eventbrite.com</a>

The full Webinar abstract and biographies of the Speakers are:

### Quantum Computing: The Era of Quantum Advantage

Quantum Computing represents the future of computing, promising an exponential increase in computational power and speed. As a fundamentally different way of computation, quantum computing could potentially transform businesses and societies.

Archer recently joined the [IBM Q Network](#) (ASX ann. [May 5, 2020](#)), which is a community of Fortune 500 companies, academic institutions, start-ups and national research labs working with IBM to advance quantum computing. The agreement with IBM supports Archer’s plans to use IBM’s open source framework, Qiskit, as the software stack for the Archer’s future <sup>12</sup>CQ qubit processor chip technology.

The Speakers will discuss the future applications and potential impact of quantum computing, highlighting why the ground-breaking technology has captured the interest of leading minds, investors, organisations and governments alike.

The Speakers will also cover the basics of quantum computing technology and provide a contextualised timeline toward reaching ‘*quantum advantage*’: the stage of development where quantum computing shows demonstrable and significant advantage over classical computers and algorithms.

Viewers will have the opportunity to participate in Q&A.

**Dr Martin Fuechsle, Quantum Technology Manager, Archer Materials Limited**

Dr Martin Fuechsle is the Manager of Quantum Technology at Archer and an Honorary Associate of the University of Sydney. He has 10 years' experience in building quantum computing devices and technology. During his post-doctoral research at the UNSW Centre for Quantum Computation and Communication Technology he developed the single-atom transistor. He received his PhD in Experimental Physics at the University of New South Wales in 2011, working on the fabrication of donor-based quantum logic devices in silicon. He was awarded the AIP Bragg Gold medal for the most outstanding Physics PhD in Australia for his thesis. In his current role, Martin's work focuses on developing a room-temperature compatible quantum processor as part of Archer's <sup>12</sup>CQ technology development.

**Dr Adam Makarucha, AI Practitioner and IBM Q Ambassador, IBM**

Dr Adam Makarucha is a Data Scientist and IBM Q Ambassador within IBM Systems where he is developing deep learning use cases and demonstrations for clients on IBM's Deep Learning Platform. He completed his post-doctorate at IBM Research Australia in 2018, where he worked on deep learning applications for the financial services industry. Adam completed his PhD in Applied Physics at RMIT University in 2015 and has more than 8 years' experience in using and setting up High Performance Computing environments. His current focus is on the intersection of deep learning and quantum information science, in particular how these two technologies can potentially be used together on the currently accessible quantum computers.

**About Archer's <sup>12</sup>CQ Chip**

<sup>12</sup>CQ is a world-first technology that Archer aims to build for quantum computing operation at room-temperature and integration in modern electronic devices. For more information about Archer's quantum technology, please view the Company's [most recent technical presentation](#).

<sup>12</sup>CQ® is a registered trademark of Archer Materials Limited.

**About IBM Quantum**

IBM Q Experience is an industry-first initiative to build commercial universal quantum systems for business and science applications. For more information about IBM's quantum computing efforts, please visit <https://www.ibm.com/quantum-computing/>.

IBM Q Network™ is a trademark of International Business Machines Corporation.

**Quantum Computing Market**

Australia forms a significant part of the growing quantum computing economy. Archer is one of few companies globally that provides investors an on-market opportunity to invest in quantum computing<sup>1</sup>. The highest-value in the quantum computing economy is derived from the technology's development in the US, EU, and Australia<sup>2</sup>.

## About Archer

A materials technology company developing materials in quantum computing, biotechnology, and lithium-ion batteries, and exploring for minerals in Australia. The Company has strong intellectual property, broad-scope mineral tenements, world-class in-house expertise, a unique materials inventory, and access to over \$300 million of technology development infrastructure.

The Board of Archer authorised this announcement to be given to ASX.

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For more information about Archer's activities, please visit our:

Website:  
<https://archerx.com.au/>

Twitter:  
<https://twitter.com/archerxau?lang=en>

YouTube:  
<https://bit.ly/2UKBBmG>

Medium:  
<https://medium.com/@ArcherX>

Sign up to our Newsletter:  
<http://eepurl.com/dKosXI>

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<sup>1</sup> <https://www.nature.com/articles/d41586-019-02935-4>

<sup>2</sup> <https://www.bcg.com/publications/2019/quantum-computers-create-value-when.aspx>