

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

29 November 2023

Chair's 2023 Annual General Meeting address

While the last 12 months has been volatile, especially for technology and pre-revenue small cap stocks, Archer has made solid progress in the development towards commercialisation for both its ¹²CQ qubit chip and its Biochip by validating and optimising their early stage performance.

Both of Archer's chip technologies still have some way to go in their development, but they each have the potential to solve complex global problems and transform multiple industries.

So ours is a long game. Ultimately, our ¹²CQ qubit chip aims to help bring quantum computing capability to everyday mobile devices, including laptops, tablets, smartphones, and wearable technology. Then there are the applications in health for our Biochip – a 'lab-on-a-chip' that is being designed to test for multiple diseases at once on a handheld device and deliver diagnostics at scale in a more timely and efficient manner than conventional devices.

The technological advancements Archer made over the past year for both chips further de-risks the technology and forms part of Archer's IP, creating a strong value proposition for the Company.

Archer's streamlined fabless model also makes commercial sense, as we do not need to spend excessive capital on the upkeep of foundries. Instead, Archer focuses on commercialisation while accessing the global semiconductor ecosystem for foundry partners that test, scale, and manufacture our chips.

Archer has strengthened its partnerships over the past few months with its foundry partners across Europe and Taiwan, some of the leading jurisdictions for chip manufacturing.

Quantum computing is the next generation of computing, simply because it will solve much more complex problems that current computers just can't.

Archer's research team further integrated its ¹²CQ qubit material into complementary metal-oxide semiconductor (CMOS) technology. The componentry is made using standard and commercially available semiconductor fabrication technology.

For the first time, our team increased electron spin coherence times for the ¹²CQ qubit chip at room temperature. The team also protected this quantum coherence under the same conditions by mimicking a high vacuum environment to encapsulate the qubit material. Coherence is important because longer coherence times mean more time to run complex calculations and error correction programs. Long qubit coherence times are a prerequisite for quantum computing.

The team also designed and manufactured microwave circuitry for readout devices, which will be embedded in the ¹²CQ chip. Readout is required for the qubit, as it assists the user in interpreting the output of information from the qubit. These devices are undergoing foundry fabrication tests in partnership with an industry-based measurement facility in Germany. The early tests aim to provide a proof-of-principal for initial approaches to Archer's readout technology, including the first indications of quantum state detection.

The design and manufacture of readout hardware, technology, and associated techniques for the ¹²CQ chip is ongoing, and we are working with foundry partners for the design of scaled production of the prototyped device designs linked to operation.

Archer's other chip technology, its Biochip, has two designs in development.

Our more advanced Biochip graphene sensor device design (gFET) has been initially validated with a whole wafer run in a commercial foundry in the Netherlands. While our first-generation Biochip design was validated by a foundry partner in Germany in Archer's first joint fabrication of graphene devices with an external foundry partner. The external validations of both Biochip designs are a step into the development stages of the Biochip.

Archer bolsters its R&D through its tertiary network, including the University of Sydney and École Polytechnique Fédérale de Lausanne (EPFL) in Switzerland, to help test and develop its chip designs. The Company's partnership with the World Economic Forum's Centre for the Fourth Industrial Revolution (C4IR), provides Archer access to work with other organisations looking to utilise its technology, collaborations with the public and private sectors, forming strategic partnerships for product development, and creating paths to capital streams.

We are well funded and prudently managing our operating expenses. We will look to methodically continue our work in pushing the boundaries as we develop cutting-edge semiconductor technology that will shape and create new industries and play an ever-increasing role in our daily lives. Each stage we achieve on the road to developing a commercial chip will further de-risk the projects.

The ongoing investment and the current geopolitical landscape demand that technological advancements must happen, and our team is at the forefront of this.

I want to thank a few people. First, I want to thank the Board for their counsel and the management team led by CEO Dr Mohammad Choucair for their leadership and execution of our business goals. I also want to thank the Archer R&D team for their professionalism, expertise, and hard work in bringing these technologies to life.

And finally, I would like to thank you, our shareholders, for your investment in, and support of Archer to deliver chips that will help bring about the next technological change and ultimately advance society and how it functions.

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

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About Archer

Archer is a technology company that operates within the semiconductor industry. The Company is developing advanced semiconductor devices, including chips relevant to quantum computing and medical diagnostics. Archer utilises its global partnerships to develop these technologies for potential deployment and use across multiple industries. www.archerx.com.au