

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

23 May 2022

Australian patent granted for ¹²CQ quantum computing chip

Highlights

- ¹²CQ chip technology patent is granted in Australia.
 - Granted ¹²CQ chip patents now span Australia, the US, China, South Korea, Japan, and a further 12 countries in Europe including the UK, France, and Germany.
 - Archer is the only ASX listed company and one of a few players in the world developing qubit processor technology.
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Archer Materials Limited (“Archer”, the “Company”, “[ASX: AXE](#)”) is pleased to announce the granting of the Australian Patent associated with Archer’s ¹²CQ quantum computing chip technology (“¹²CQ chip”). Archer is the only ASX listed company and one of a few players in the world developing qubit processor chip technology in the semiconductor industry.

The granting of the Australian Patent (Patent No. 2016363118) represents a significant early-stage milestone in Archer’s development of the ¹²CQ chip. The granted patent protects a proposed qubit processor chip that offers a path to realise practical quantum computing.

The Australian patent provides Archer with exclusive and legally enforceable commercial rights to the ¹²CQ chip invention in Australia. The protection provided by the Australian patent system gives Archer the right to stop others from manufacturing, using and/or selling the ¹²CQ chip technology invention in Australia, and is required for any possible future Australian commercialisation operations.

Commenting on the grant of the Australian patent, Archer CEO Dr Mohammad Choucair said: “We are excited about the grant of the ¹²CQ chip Australian patent. Patent protection in major markets is a central element in Archer’s strategy to develop the ¹²CQ chip.

“Obtaining Australian patent approval effectively protects the ¹²CQ chip technology and prevents others from copying, making, or selling our devices in Australia.

“With the focus on quantum technologies in Australia now stronger than ever, we believe that the granting of the Australian patent related to Archer’s ¹²CQ chip will contribute to strengthening quantum computing and technology innovation in Australia.”

Patents protecting the ¹²CQ chip have now been granted in Japan (ASX ann. [20 Jan 2021](#)), South Korea (ASX ann. [10 Aug 2021](#)), China (ASX ann. [11 Aug 2021](#)), the US (ASX ann. [22 Sept 2021](#)), in several European jurisdictions including the UK, France, and Germany (ASX ann. [Feb 23 2022](#)), and Australia. The patent application process and procedures for the additional patent application in the jurisdiction of Hong Kong is ongoing.

Some of the advantages of Archer’s ¹²CQ chip qubit material could potentially allow for the possibility of quantum processors in mobile devices, which is highlighted in a recent Company presentation (ASX ann. [28 Apr 2022](#)). Archer’s technology development advances continue to provide direct evidence to support this exciting possibility (ASX ann. [1 Feb 2021](#)).

Further information on Archer's global competitive advantage and tech differentiation

The scientific breakthrough made in 2016 to realise Archer's ¹²CQ qubit material is available online in the peer-reviewed scientific journal [Nature Communications](#), which reports the advantages, technological trade-offs, and the technological barriers that have been overcome towards realising practical quantum computing, over several other qubit proposals.

Patent information related to the ¹²CQ chip qubit and proposed device(s) is available online, including examiner reports, through the [WIPO website](#).

About Archer

Archer is a technology company developing advanced semiconductor devices, including processor chips that are relevant to quantum computing. Archer is developing the ¹²CQ chip, a world-first qubit processor technology, that could potentially allow for quantum computing powered mobile devices ('QPMDs').

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

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