

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

6 October 2020

Patent applications progress update

Archer Materials Limited (“Archer”, the “Company”, “[ASX: AXE](#)”) is pleased to provide shareholders an update and summary on patent prosecution progress related to the Company’s ¹²CQ quantum computing qubit processor chip (“chip”) and graphene-based biosensor materials technology (“biosensor”).

¹²CQ quantum computing qubit processor chip

International patent applications (“IPAs”) associated to the chip have been lodged in seven jurisdictions (Exhibit 1). These jurisdictions were selected due to the size of the economies, potential addressable markets and prevalence of key and substantial semiconductor chip manufacturing industries.

The Company is pleased to announce that the IPAs are progressing in various stages of National Phase jurisdictions and that all IPAs have now been published online with the most recent publication being the US application on 24 Sept 2020. Publication of the IPAs is a key step in the process for the grant of a patent.

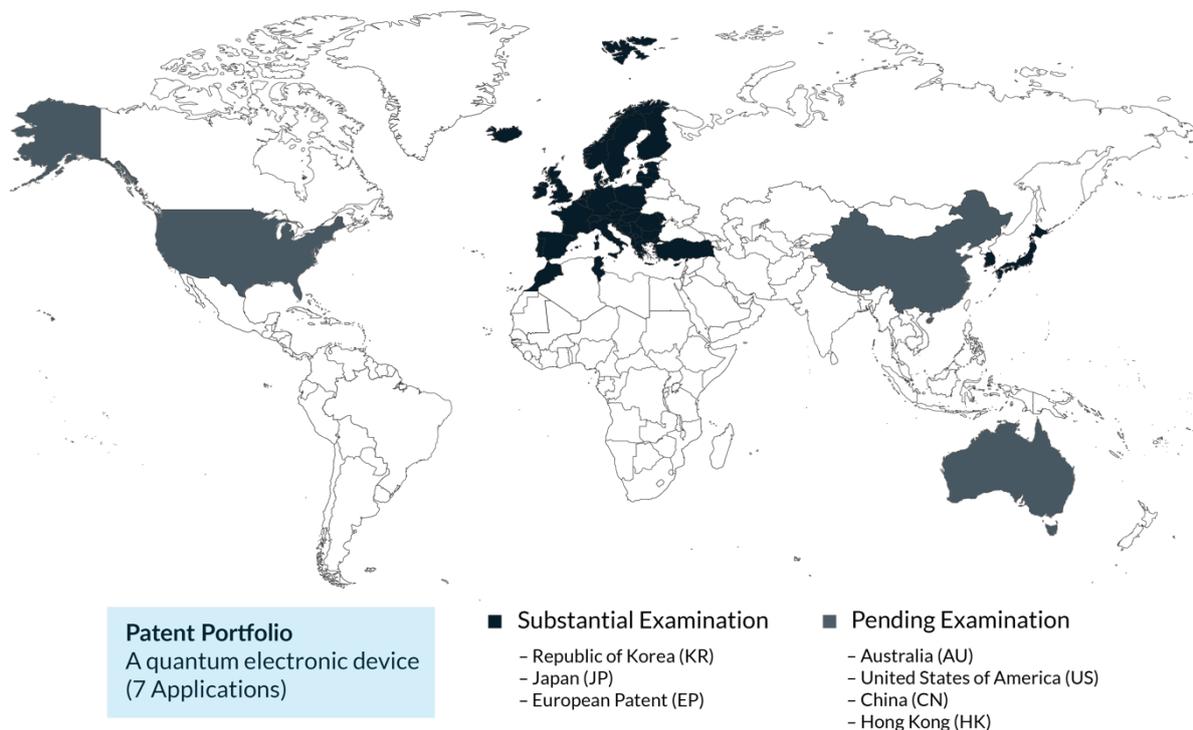


Exhibit 1. Map showing the geographic coverage of ¹²CQ chip IPAs as of Oct 2020. IPAs formally titled “A quantum electronic device”. EP, JP, and KR IPAs entered substantial examination in [May](#), [June](#), and [Aug 2020](#) respectively. All IPAs have now been published and are pending examination.

Graphene-based biosensor technology

The biosensor patent application filed under the Patent Cooperation Treaty (“PCT”) is progressing in the International Phase in the patent granting procedure, which is the first of two main phases, the second being the [National Phase](#) (Exhibit 2).

Patents Pending		
Priority Date	Technology Summary	Stage & Coverage
3 Dec 2015	■ A quantum electronic device. Quantum electronic devices for processing qubits represented by an electron spin on a new type of carbon nanomaterial and methods for using this material in quantum computing.	National Phase. AU, US, KR, HK, CN, EP, JP
15 Feb 2019	■ Graphene complexes and compositions thereof. Complexes comprising graphene compositions, methods of synthesising these complexes and compositions, and the use of these complexes and compositions in biomolecular sensing.	International Phase. AU

Archer strategic themes
■ Quantum Technology ■ Human Health

Term of protection available would typically be 20+ years from the Priority Date.

Exhibit 2. Description of patent applications pending in various jurisdictions and the respective portfolio alignment to Archer’s key strategic technology themes.

The Company has taken steps to accelerate the prosecution of IPAs (chip) and its PCT application (biosensor) where possible, e.g. filing a PACE request with the European Patent Office (which may be filed only once during each stage of the procedure). The Company will continue to release key progress in its patent prosecution to ASX.

Commenting on the Company’s portfolio of deep tech IP, Archer CEO Dr Mohammad Choucair said: “Archer’s deep tech IP assets are a valuable part of the Company. Progressing the prosecution of patent applications significantly derisks our technology commercialisation and provides opportunities for commercial partnership and licencing.

“We are employing a cost-effective IP strategy to prosecute a portfolio of strong international patent applications that are aligned with our business goal of building an industry leading materials technology company. This includes a forward-looking plan for capturing valuable IP as we grow over the next 6-12 months, across all three Company themes of Quantum Technology, Human Health, and Reliable Energy.”

The importance of patents in the deep tech economy

At the core of the deep tech industry is the ‘[knowledge economy](#)’ where output in the form of patents is a prerequisite to successful technology commercialisation. The type of knowledge underpinning Archer’s IP is very difficult to acquire and is supported by outcomes of years of R&D that ranks in the top percentiles of peer-reviewed scientific published works globally[†].

[†]Includes 25+ publications, with articles related to qubits (<https://www.nature.com/articles/ncomms12232>), graphene production (<https://www.nature.com/articles/nnano.2008.365>), and graphene materials (<https://pubs.rsc.org/en/content/articlelanding/2014/cc/c4cc04521a#!divAbstract>).

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.

General Enquiries

Mr Greg English
Executive Chairman

Dr Mohammad Choucair
Chief Executive Officer

Tel: +61 8 8272 3288

Media Enquiries

Mr James Galvin
Communications Officer

Email: hello@archerx.com.au

Tel: +61 2 8091 3240

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

Website:

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

Twitter:

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

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