

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

22 January 2025

Archer granted key Biochip patent

Highlights

- Archer granted a key US patent for its Biochip project to protect its IP rights in the US.
 - The patent grant protects Archer's Biochip technology IP and allows the Company to explore opportunities to work with medical device partners in the US.
 - The patent represents the design and work done on the graphene complexes and their compositions that can be used in the Biochip.
 - The US is the largest medical diagnostics market and is a key market for Archer to sell its Biochip technology.
 - Granting of the patent is an important milestone in building an IP portfolio around Archer's technology, in particular, the development of the Biochip.
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Archer Materials Limited ("Archer", the "Company", "ASX: AXE"), a semiconductor company advancing the quantum technology and medical diagnostics industries, has been granted a key patent in the United States of America ("US Patent") associated with Archer's Biochip technology, protecting the Company's related intellectual property ("IP") rights in the US.

The US Patent (Patent No. 12202730) represents the work done in Archer's development of the biosensing chip for graphene complexes and their compositions that can be used in biomolecular sensing.

The Company considers the US as a critical strategic jurisdiction to protect and potentially commercialise its Biochip IP. Patent protection in the US is required for any future commercialisation operations in the US, and also provides Archer with access to the world's largest economy¹ to exploit IP rights related to the Biochip.

Graphene is a form of carbon and possesses a number of useful attributes, including low molecular mass, extremely large surface area, high thermal and electrical conductivity, and exceptional mechanical strength. However, one limitation preventing the widespread use of graphene is its chemical robustness, with difficulties in attaching inorganic molecules to the graphene surface.

To overcome this challenge and unlock graphene potential (especially for biological sensing applications) new methods to attach inorganic molecules to graphene are needed. Archer has been researching new ways to address this challenge and with the granting of the US Patent, Archer's IP is now protected.

Archer has been successful in patenting new methods of modifying graphene surface for more complex chemical reactions, involving inorganic compounds with high thermal, oxidative and

¹ <https://www.weforum.org/reports/the-global-competitiveness-report-2020>

chemical stabilities. Archer believes that new graphene complexes and their compositions will play a significant role in the success of the Biochip.

Commenting on the grant of the US patent, Greg English, Executive Chair of Archer, said,

“The Archer Biochip team has made great progress in the development and the design of the graphene biosensing technology, and this US Patent protects their hard work.

“The grant of the US patent is a critical milestone for the Biochip program and bolsters our expanding intellectual property portfolio and provides enhanced protection for our Biochip program aimed at detecting potassium in blood.

“The US represents a key market for the sale of our Biochip in time, due to the size of the market and the rate of chronic kidney disease in the country.”

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