

ASX Announcement (ASX:AXE)

17 February 2020

International patent application filed to commercialise graphene biosensor technology

Highlights

- Archer files patent application under the Patent Cooperation Treaty (“International Patent Application”).
 - International Patent Application filed to protect and commercialise graphene biosensor technology intellectual property (“IP”).
 - Archer maintains 100% ownership of the International Patent Application and related IP.
 - The global biosensor market is part of the emerging Medtech industry where patents are important licensable assets and sources of revenue^{1,2,3}.
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Archer Materials Limited (“Archer”, the “Company”, “ASX:AXE”) is pleased to announce that the Company has filed a patent application under the Patent Cooperation Treaty (“International Patent Application”), to protect and commercialise its graphene biosensor technology intellectual property (“IP”). Archer is using graphene materials to potentially solve selectivity and detection challenges in biosensing (see *Biosensors & Archer’s Graphene Advantage*).

Commenting on the Company’s commercial development, Archer CEO, Dr Mohammad Choucair, said: “One of Archer’s key execution priorities to deliver value to our shareholders is to prosecute patents related to the development of graphene-based biosensor technology.”

“Filing an international patent application represents the first step in the commercialisation of the Company’s graphene biosensor technology. Importantly, Archer independently generated the IP, and maintains 100% ownership of this new [Company] asset, that has the potential to positively disrupt the emerging Medtech industry”.

Archer filed a patent application under the Patent Cooperation Treaty (“PCT”) with the World International Patent Organization (“WIPO”) via IP Australia in compliance with the application process deadline for lodgement of February 15, 2020, thereby maintaining the priority date established from the Company’s provisional patent application (ASX Ann. Feb 19, 2019).

Filing a PCT application will allow Archer to decide which countries to have patent protection in and will allow for international protection, which can last for up to 20 years[†]. The International Patent Application and underlying IP is 100% owned by Archer and the inventor of the IP is Archer CEO, Dr Mohammad Choucair.

[†] <https://www.wipo.int/pct/en/faqs/faqs.html>

Next Steps

The next step in the patent prosecution process is the receipt from WIPO of Archer's International Patent Application, which is expected in the next few days.

Archer intends to commercialise the biosensing technology by seeking to establish commercial partnerships, including IP and patent licencing agreements, with highly resourced organisations in the biotechnology industry.

Commercialisation involves successfully prosecuting patent applications in Australia and around the world and de-risking the underlying materials technology by progressive development.

More information on Archer's graphene biosensor technology commercial pathway can be found in ASX Ann. 10 Feb 2020 and 13 Feb 2020.

Background & Market Summary

Biosensors & Archer's Graphene Advantage

Biosensors have a fundamental function in human biology, being used in medical testing and diagnostics. Biosensors can reduce patient wait times by bypassing traditional infrastructure requirements and lengthy testing processes in disease management.

There are very few materials in existence that can be used to perform biosensing rapidly and accurately for human health diagnostics. Archer is developing unique graphene-based materials technology that could provide a potential solution to rapid, highly sensitive, portable testing for *in-vitro* diagnostics.

The uniqueness of Archer's a biosensor technology is the use of digital manufacturing to print critical ultrasensitive graphene materials components that are integrated into one or a number of sensors. This type of knowledge is very difficult to acquire and is backed by IP that is 100% owned by Archer.

Market & Key Growth Catalysts

Australia has a critical mass of expertise in biotechnology and is at the forefront of the industry.

The global biosensor market revenue is expected to grow to US\$27 billion by 2022¹. There is a global need for healthcare to become cheaper, efficient and more accessible⁴. The key driving factors of growth are aging populations in North America, Asia and Europe.

Biosensors form part of the growing A\$300+ billion revenue global biotechnology industry². With a low industry concentration, large companies use strategic acquisitions and multi-stakeholder business models to expand their market share by **accessing crucial intellectual property** describing products that are commercially viable³.

Well-known examples from the biotechnology industry employing and utilising multi-stakeholder business models include Johnson & Johnson, Bayer, Siemens Healthcare, and Roche Diagnostics.

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 diverse advanced materials inventory, and access to over \$300 million of R&D infrastructure.

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

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

Twitter:

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

YouTube:

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

Medium:

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

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¹ Biosensors Market by Application, Global Forecast to 2022. Market and Markets, 2017.

² Ozelkan, A. IBISWorld Industry Report - Global Biotechnology. IBISWorld. 2017.

³ Medtech May Be Emerging Markets' Next New Thing. BCG. 2017.

⁴ 2018 Global Healthcare Outlook. Deloitte, 2018.