

ASX Announcement (ASX:AXE)

19 February 2019

## Provisional patent registered for biosensor ink

### Highlights

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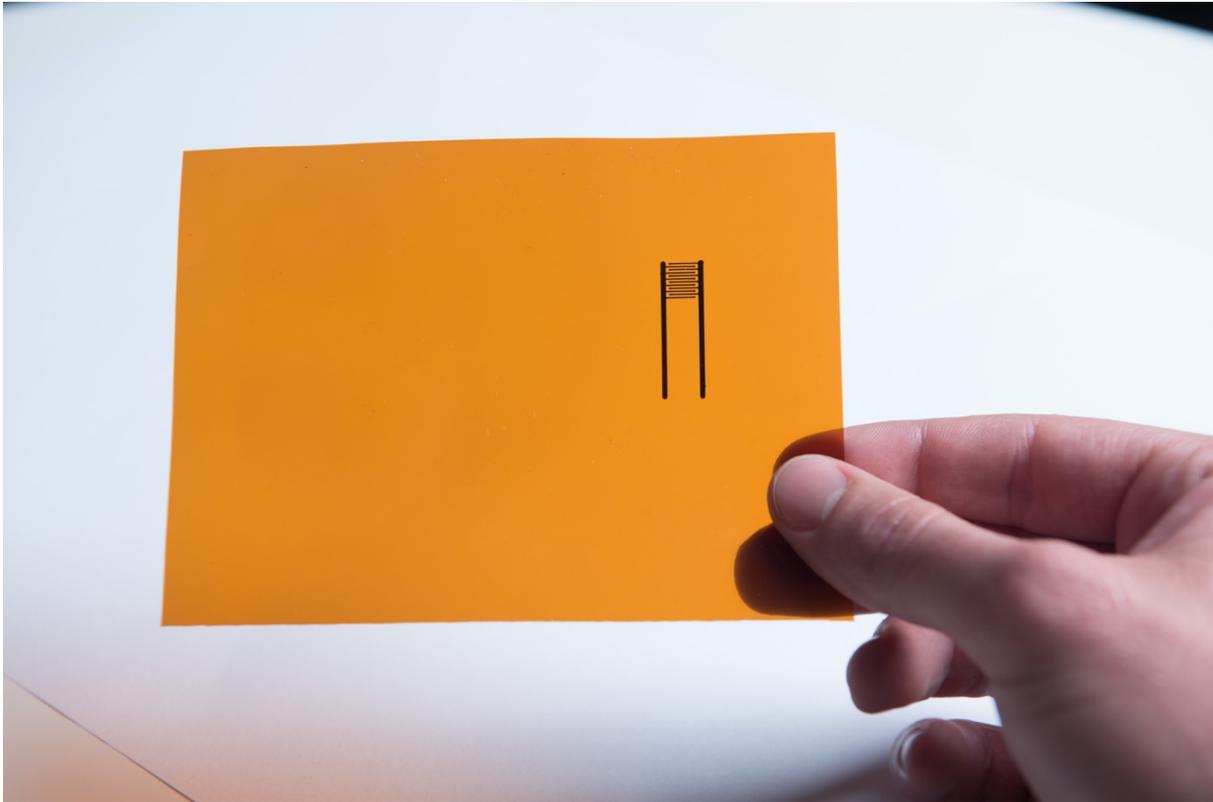
- Provisional patent (patent) registered with the Australian Patent Office (IP Australia), comprising intellectual property relating to graphene ink compositions (inks), methods of synthesising the inks, and the use of the inks for biomolecular sensing (IP).
  - Archer is the sole applicant of the patent and maintains 100% ownership of the patent and IP.
  - The patent application provides Archer the earliest possible international filing date (priority date) for the detailed description of the IP, and commercially represents a first-mover advantage.
  - The technical claims and specifications of the patent are to be verified by Archer by leveraging access to the ARC Graphene Hub resources and facilities, in order to provide the support, sufficiency, and enablement requirements for successful granting of national or international patents.
  - Archer will manage the prosecution of the patent application and has up to 12 months to consider maturing the application to a Standard Patent, Innovation Patent, or file a Patent Cooperation Treaty, that would provide Archer with exclusive rights to commercially exploit the IP.
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Archer Exploration Limited (Archer, Company) is pleased to announce that the Company has registered a provisional patent (patent) with the Australian Patent Office (IP Australia), comprising intellectual property relating to graphene ink compositions (inks), methods of synthesising the inks, and the use of the inks for biomolecular sensing (IP). The registration of the patent is part of Archer's strategy to commercially develop materials and technology in the key vertical of Human Health.

**Commenting on the patent registration, Archer CEO Dr Mohammad Choucair said,** "We are now capable of generating our own IP for commercial translation. The registration of the provisional patent is a vital step in implementing our commercial plans and in legally protecting our competitive advantages during development. It gives us up to 12 months to consider our commercial options prior to a full patent application. Importantly, we now have a timeline for commercialisation related to our maiden graphene-based biosensor technology in our Human Health vertical".

The provisional patent application establishes a priority date and contains a detailed specification and examples describing Archer's IP. The invention title and applicant name (i.e.

Archer Exploration Limited) will be published in the Australian Official Journal of Patents. Archer will not yet publicly disclose any of the technical or scientific details of the patent specification. The non-disclosure is required by Archer, as filing a provisional patent application does not yet provide the legal protection of a full patent application, and in order to maintain the integrity of the patent application examination process in during prosecution.



**Fig. 1.** Archer graphene-based ink derived from the Campoona deposit, printed as an interdigitated electrode pattern on a flexible polyimide film to be used as critical componentry in biosensor devices. The patent embodies Archer's competitive advantages in ink formulation, printing, and use in targeting various diseases.

#### **Next Steps:**

For a patent to be granted and exclusive commercial rights realised, the claims (legal definitions) and embodiments (descriptive examples) of the patent must satisfy both the support and sufficiency and support and enablement requirements for patent applications<sup>1</sup>. A provisional patent provides a 12-month period for Archer to consider filing a full patent application with the benefit of having established the earliest possible priority date. Over the next 12 months Archer will access dedicated technical development resources and infrastructure support from The University of Adelaide as part of the Australian Research Council Research Hub for Graphene Enabled Industry Transformation (ARC Graphene Hub) collaboration, to perform the value-added claims and embodiment verification in support of a robust patent application.

**- Ends -**

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<sup>1</sup> <https://www.ipaustralia.gov.au/patents>

## Background:

Archer is engaged in a collaboration agreement with The University of Adelaide as part of the ARC Graphene Hub (Collaboration). The Collaboration seeks to target high value, high growth markets servicing human health applications by developing and implementing graphene and carbon-based materials for use in complex biosensing devices. Work continues on the development of graphene inks with The University of Adelaide and a leading German biotechnology company (ASX announcement 27 September 2018) with the aim of fabricating a proof-of-concept biosensor, comprising printable components capable of detecting disease state markers, such as antibodies or antigens (Fig. 1).

## About Archer

Archer provides shareholders exposure to innovative technologies and the advanced materials that underpin them. The Company has a focused strategy targeting globally relevant advanced materials markets of human health, reliable energy, and quantum technology. Archer is well positioned to execute on its strategy.

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### Shareholders

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<https://www.youtube.com/watch?v=Te5QyBjpsK0>