Archer Materials
Technology

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ASX Announcement (ASX: **AXE**) 7 April 2026

Archer advances Biochip toward beta prototype and clinical validation

Highlights

- Next phase focused on beta prototype development, including cartridge engineering, readout electronics integration, stability testing, and external user validation.
- Silicon selected for current prototype builds due to faster development timelines and established manufacturing pathways.
- Graphene remains Archer's next-generation chip platform for future performance optimisation and product expansion.
- Core value resides in Archer's proprietary functionalised layer chemistry and sensing architecture, which can be applied across both silicon and graphene chip substrates.
- Stage 2 project discussions with IMEC progressing to support fabrication scale-up, packaging, and clinical trial preparation.

Archer Materials Limited ("Archer", the "Company", "ASX: AXE"), a quantum company developing technologies in computing, sensing, and medical diagnostics, provides an update on progress of its Biochip program following completion of the Stage 1 project with IMEC.

The Company previously announced the completion and demonstration of its alpha prototype as part of the Biochip program (ASX announcement 30 January 2026). This in combination with completion of the stage 1 IMEC collaboration project has moved Archer on to development of the beta-prototype.

The beta-prototype will be suitable for external use and will combine the silicon sensing chip, Archer's functionalisation of the chip, chip design, cartridge and microfluidics, readout methodology, and electronics. This optimised and robust system is designed for external testing and pre-clinical trials as well as accelerating in-house development of potassium testing and feasibility studies for our pipeline of Biochip applications beyond this.

Importantly, the key differentiator in Archer's technology is not whether the underlying chip substrate is silicon or graphene. The proprietary value lies in Archer's functionalised sensing layer, surface chemistry, sensing chip design, and associated signal processing methodology.

This core intellectual property provides for the sensing architecture can be deployed on various semiconductor sensing chip architectures and for many sensing applications. This flexibility significantly de-risks manufacturing and commercialisation.

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Next Steps

The next major milestone is the development of the beta prototype. This system will integrate the chip with Archer's proprietary functionalisation, measurement methodology, and readout electronics within a next generation cartridge format suitable for external use. For investors, this marks the transition from proof of concept to productisation.

The beta prototype will involve:

- engineering a user-ready cartridge format.
- integrating readout electronics and software.
- testing for further iteration on ease-of-use.
- shelf-life and storage stability testing.

By using the beta prototype externally, we can continue developing the hardware towards the final medical diagnostic product as well as optimise equally important use-case items like blood sample workflow and user experience. All of this is key for the device, but also for preparation for clinical trials and data collection required for regulatory approval.

Compared to the current alpha prototype, the beta system is being designed for use by external users and laboratories. This will enable collection of real-world performance data and user feedback to inform engineering of the final product. It will also generate important learnings for Archer's contract manufacturing partners.

Commenting on the Biochip project progress, Dr. Simon Ruffell, CEO of Archer, said:

"The completion of the alpha prototype Stage 1 project with IMEC is an important milestone as we continue to progress our Biochip toward commercialisation.

The results demonstrate that our potassium sensor can be built on a silicon platform without compromising performance, while also providing advantages in stability and manufacturability. This gives us greater confidence in our ability to scale production and meet target product requirements as well as build a pipeline of other applications.

We are now focused on translating these outcomes into a beta prototype system and advancing our partnership with IMEC into the next phase of product development. This work will support our pathway to clinical trials and ultimately bring a practical, easy-to-use diagnostic product to market."

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

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About Archer

Archer is a quantum technology company that operates within the semiconductor industry. The Company is developing advanced semiconductor devices, including chips relevant to quantum computing, sensing, and medical diagnostics. Archer utilises its global partnerships to develop these technologies for potential deployment and use across multiple industries. www.archerx.com.au