

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

13 August 2026

Early Pre-Pilot Study Advances Potassium Biosensor

Highlights

- Archer completes an early-stage blood collection study involving 20 donors to support development of its potassium Biosensor.
 - Results identified a capillary blood collection approach that produced low levels of haemolysis broadly comparable with conventional venous blood collection.
 - Findings provide important inputs into the engineering of Archer's beta prototype and its blood sample collection and processing workflow.
 - Results will help inform future pilot and pivotal study design and are expected to support planned regulatory engagement, including a future FDA Pre-Submission.
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Archer Materials Limited ("Archer", the "Company", "ASX: AXE"), a quantum company developing computing, sensing, and medical diagnostic technologies, is pleased to announce results from an early-stage blood collection study undertaken as part of the ongoing development of its potassium Biosensor.

Why is this study important?

The study represents an important step in Archer's transition from developing the individual components of its Biosensor towards an integrated system suitable for evaluation in future clinical studies.

An important consideration in blood potassium testing is haemolysis, where red blood cells are damaged during or after blood collection. Haemolysis can release additional potassium into the sample and potentially result in an artificially elevated potassium reading.

For Archer, developing a reliable potassium test involves not only the performance of the Biosensor itself, but also measuring and managing haemolysis. Haemolysis can affect potassium measurement, making it important to integrate a haemolysis measurement sensor and to understand how blood sample collection and preparation, prior to reaching the sensor, may influence haemolysis levels.

This study builds on Archer's previous work in haemolysis measurement, including the development and evaluation of its haemolysis sensor technology described in the Company's announcements of 31 March 2025 and 29 July 2026. The current work extends beyond haemolysis detection itself to examine how sample collection and preparation may contribute to haemolysis, supporting the development of an integrated approach to reliable potassium measurement.

Study results

The study involved 20 donors and evaluated conventional venous blood collection (current pathology lab method) alongside several capillary blood collection (finger-prick type method) approaches. The extent of haemolysis associated with each collection approach was then assessed using established laboratory methods.

The results identified a promising capillary blood collection approach that achieved consistently low levels of haemolysis broadly comparable with conventional venous collection. The study also provided valuable insights into other capillary collection approaches, where higher levels of haemolysis were observed, helping Archer identify the most suitable collection methods for further development of its potassium testing workflow.

Use of results and next steps

This work is an early pre-pilot development study and is not a clinical validation study of Archer's potassium Biosensor. Rather, the study is part of the engineering work required to develop the beta prototype into an integrated blood testing system. Archer will use the findings to further develop how blood is collected, processed and presented to the Biosensor, with the objective of reducing sources of error that could affect potassium measurement.

The next stage of this work will bring the preferred blood collection approach together with Archer's blood processing components and Biosensor technology, allowing the Company to increasingly evaluate the complete sample-to-result workflow. This integrated approach is consistent with the development pathway for 2026.

The results will also help Archer design its future pilot and pivotal studies, including appropriate blood collection and sample quality procedures. The data are expected to contribute to Archer's planned regulatory engagement, including a future Pre-Submission to the US Food and Drug Administration (FDA).

Archer Materials CEO Dr. Simon Ruffell said,

"As we progress our potassium Biosensor, it is important that we understand not only how the sensor performs, but also what happens to a blood sample before it reaches the sensor.

"Damage to red blood cells during collection can release potassium into the sample and potentially lead to an artificially high result. This study gives us valuable information about how different collection approaches affect the quality of the blood sample and how we should engineer our overall testing workflow.

"The results support our progression from individual prototype components towards an integrated beta system and will help us design the pilot and pivotal studies required for the future development of our potassium test."

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.
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