

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

12 August 2025

## **Archer to Unlock Scalable, Cost-Effective Potassium Sensor Production with IMEC**

### **Highlights**

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- Archer to partner with IMEC, a world leading independent research and innovation centre, for the development of its Biochip and blood potassium sensor.
  - Leveraging Archer's learning, IMEC will develop ion sensors based on silicon semiconductor technology that are both scalable to high-volume manufacturing and tap into the robust global chip supply chain.
  - The initial stage of the IMEC project is expected to be completed by November 2025. After that, Archer plans to move forward with IMEC to develop a final chip and readout system that will be integrated into a hand-held point-of-care or at-home product
  - The project with IMEC will derisk various aspects of the biosensor development, such as supply chain, manufacturability, and integration of the chip into a final product. The biosensor is entering a key phase on the engineering roadmap as Archer seeks to optimise the chip design and electronic readout system.
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Archer Materials Limited ("Archer", the "Company", "ASX: AXE"), a semiconductor company advancing the quantum technology and medical diagnostics industries, has signed a contract to work with Interuniversity Microelectronics Centre (IMEC) on the Company's biosensor product development.

IMEC will trial the use of silicon-based devices such as ion-selective field effect transistors alongside Archer's graphene devices. Silicon has long been the foundation of global semiconductor manufacturing and is widely supported by existing foundries. If proven to deliver comparable sensitivity to graphene, silicon will offer a faster and more scalable path to manufacturing, reducing barriers to clinical translation and commercial production.

IMEC will develop potassium ion sensors using semiconductor technology that is both scalable to high-volume manufacturing and will access mature and well-established semiconductor supply chains. A key milestone is testing semiconductor foundry processes to build and functionalise the chips—turning them into potassium ion sensors.

The project with IMEC will derisk various aspects of the biosensor development, such as supply chain, manufacturability, and integration of the chip into a final product. This marks another major step in the potential commercialisation of Archer's biosensor platform.

The IMEC stage 1 project work is expected to be completed by November 2025 after which Archer expects to progress to the next stage with IMEC developing a full prototype which will include readout electronics and disposable cartridges for use with handheld biosensor readers.

IMEC's world-class expertise and infrastructure will accelerate Archer's product development, while opening access to a broad European network of manufacturers, suppliers, and medical device specialists. IMEC can also support initial biochip production and later scale manufacturing to high-volume commercial foundries.

**Commenting on the Biochip progress, Dr Simon Ruffell, CEO of Archer, said,**

"The biosensor technology continues to demonstrate encouraging results in our testing. We are now working to ensure that the device can be manufactured using well-established semiconductor processes.

Partnering with IMEC is a major milestone for Archer. Their global reputation as a leader in advanced technology development speaks for itself. The work we're undertaking together is critical to scaling up our biosensor manufacturing, securing our supply chains, and achieving our target production costs—all essential steps toward commercial success."

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, 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](http://www.archerx.com.au)

**About IMEC**

IMEC is a world-leading, independent research and innovation centre in nanoelectronics and digital technologies. Headquartered in Leuven, Belgium, IMEC conducts research in advanced semiconductor and system scaling, silicon photonics, artificial intelligence, and other areas. It collaborates with industry leaders, startups, and academia to accelerate innovation in various sectors like health, mobility, and energy.  
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