Archer Materials Technology

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ASX Announcement (ASX: **AXE**) 22 October 2025

Presentation – Semiconductor Australia 2025

Archer Materials Limited ("Archer", the "Company", "ASX: AXE") is pleased to enclose a copy of the presentation to be delivered by Archer's Chief Executive Officer, Dr Simon Ruffell, at the Semiconductor Australia conference on Wednesday, 22 October 2025.

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

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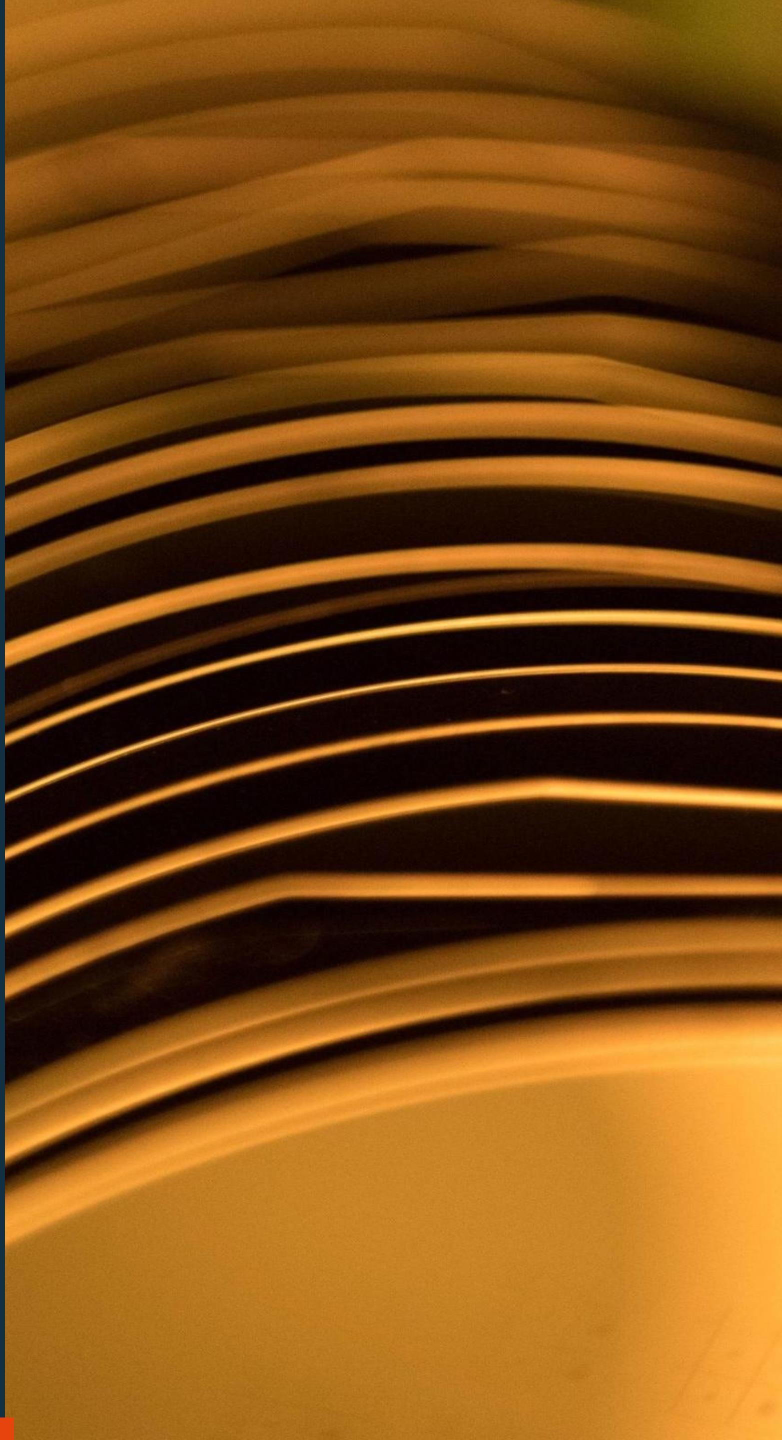
About Archer

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

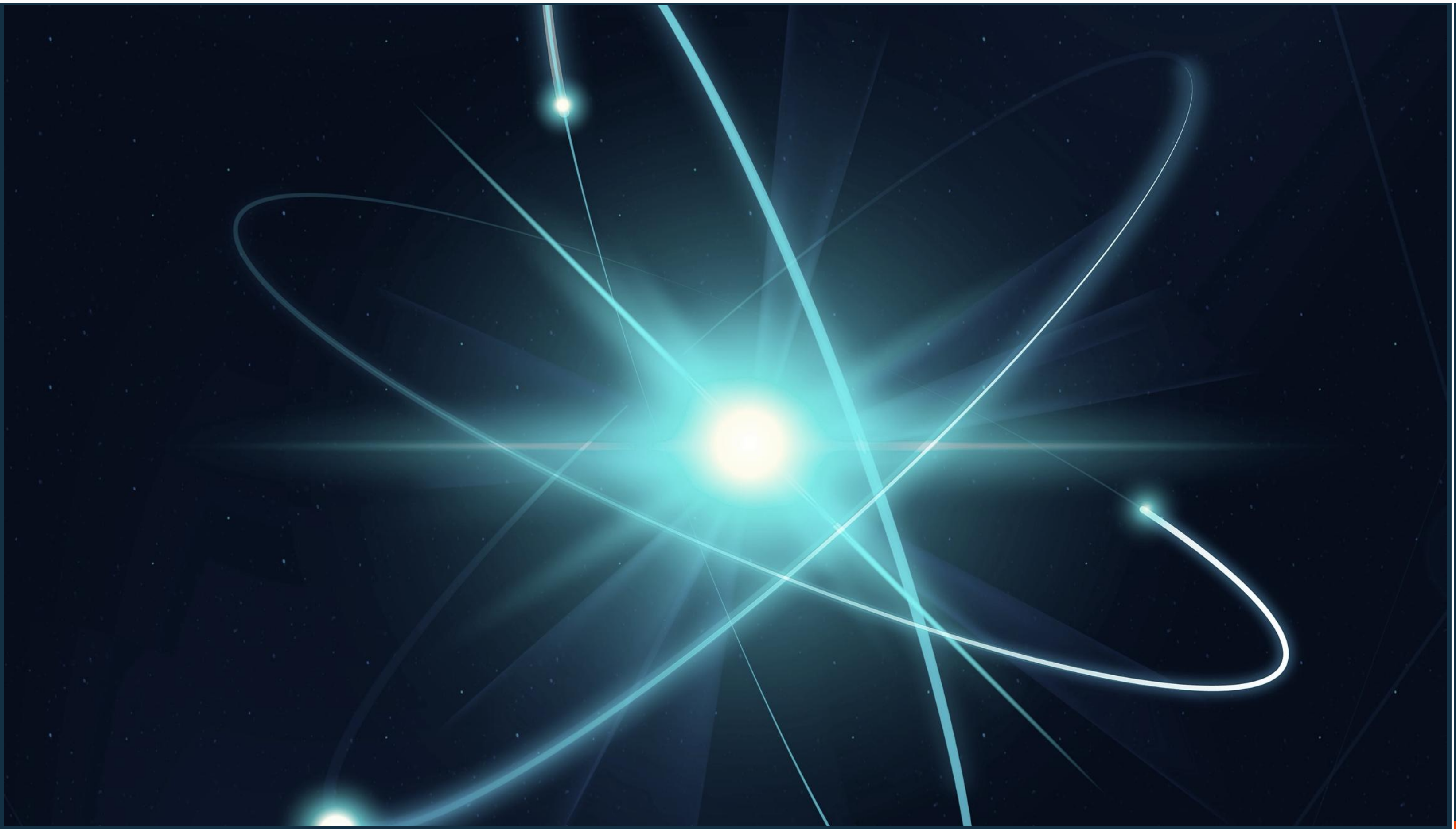
ARCHER

Semiconductor Australia 2025

22 October 2025



Overview



01

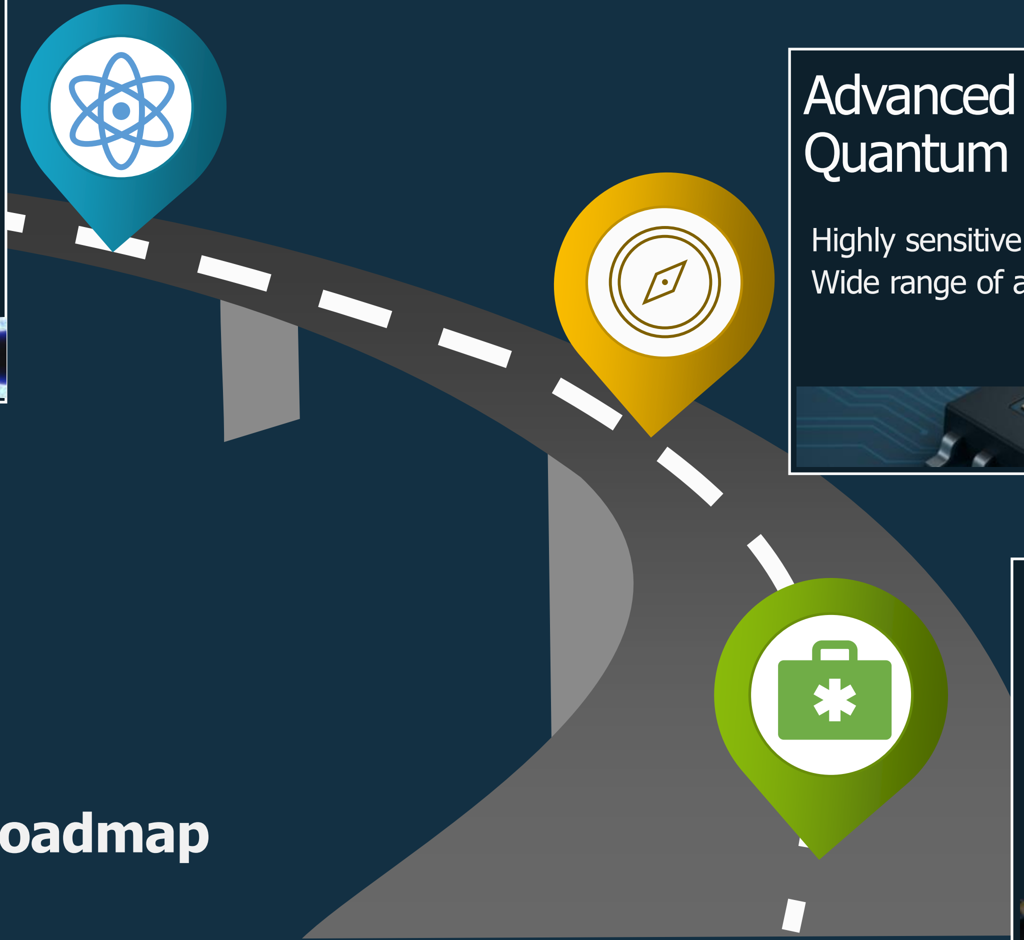
ABOUT ARCHER

Our Technology

Archer Materials is the only ASX-listed quantum technologies company. We are developing products to address high-value problems in computing, sensing, and medical markets.

^{12}CQ Chip

A carbon-based quantum device for applications primarily in computing and the possibility of integrating with other electronics.



Advanced Quantum Sensing

Highly sensitive sensors.
Wide range of applications.

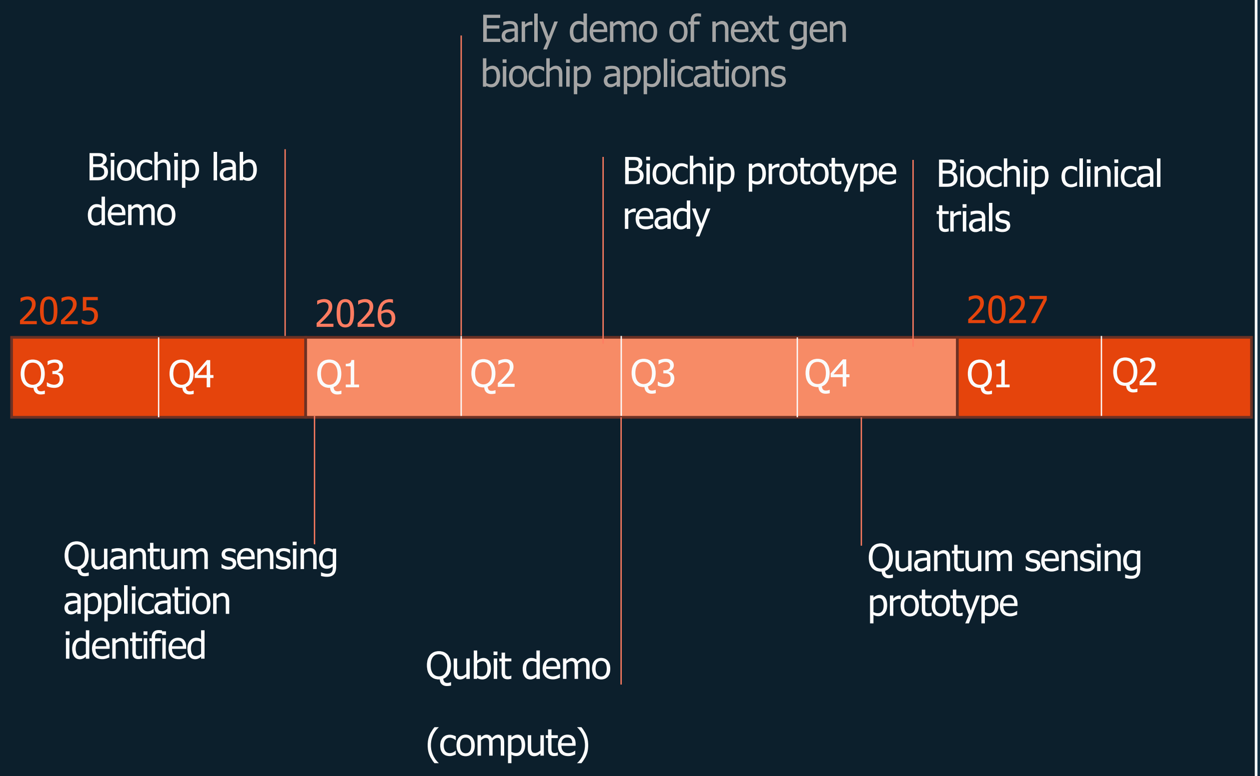
Biochip

Highly sensitive, chip-based sensors for at-home management and treatment of chronic diseases.

Our roadmap

Key Catalysts and Outlook

Calendar years to 2027



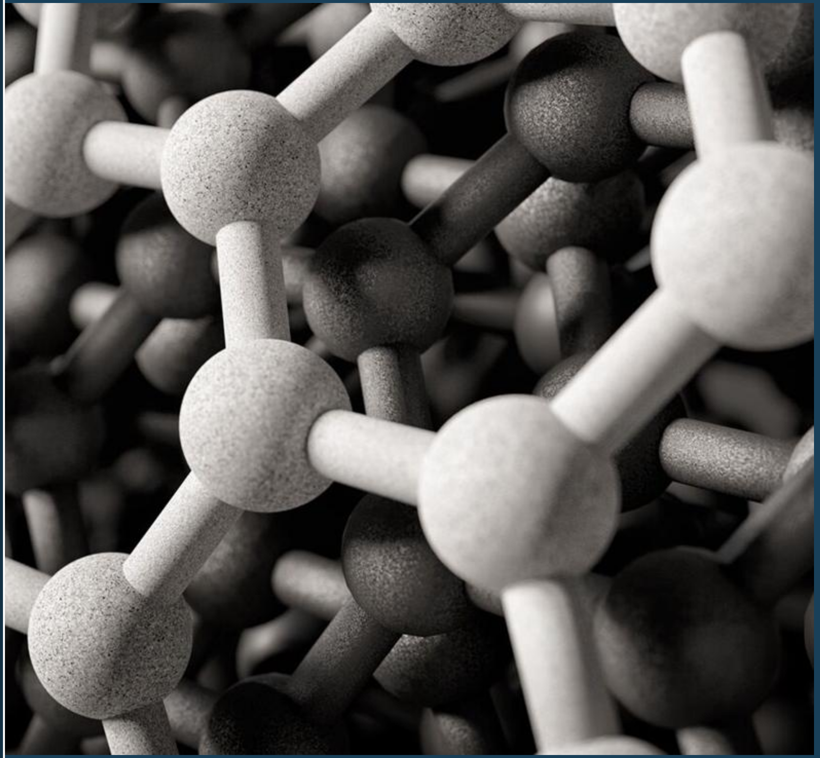
- Lab demonstrator of blood potassium sensor end of 2025
- Blood potassium prototype sensor mid-2026
- End of 2026 begin clinical trials for blood potassium sensor
- Targeting quantum application and market validation end of 2025 (TMR, carbon/graphene)
- Work to begin on development of next generation biosensor from R&D – early 2026
- Carbon-based quantum qubit demonstration mid-2026 (computing)

Archer's Carbon Quantum – differentiation & advantages

- Our **differentiated** approach is aimed at tackling current quantum technology roadblocks like manufacturability, scaling, cost, and complexity.

- Our purpose is to commercialise quantum innovation in ways that deliver real competitive advantage to customers.

- Attractive quantum properties that provide:
  - Simplified device architectures.
  - Manufacturable technology.
  - Diverse technologies from qubits for computing to sensing in areas like navigation and biomedical.



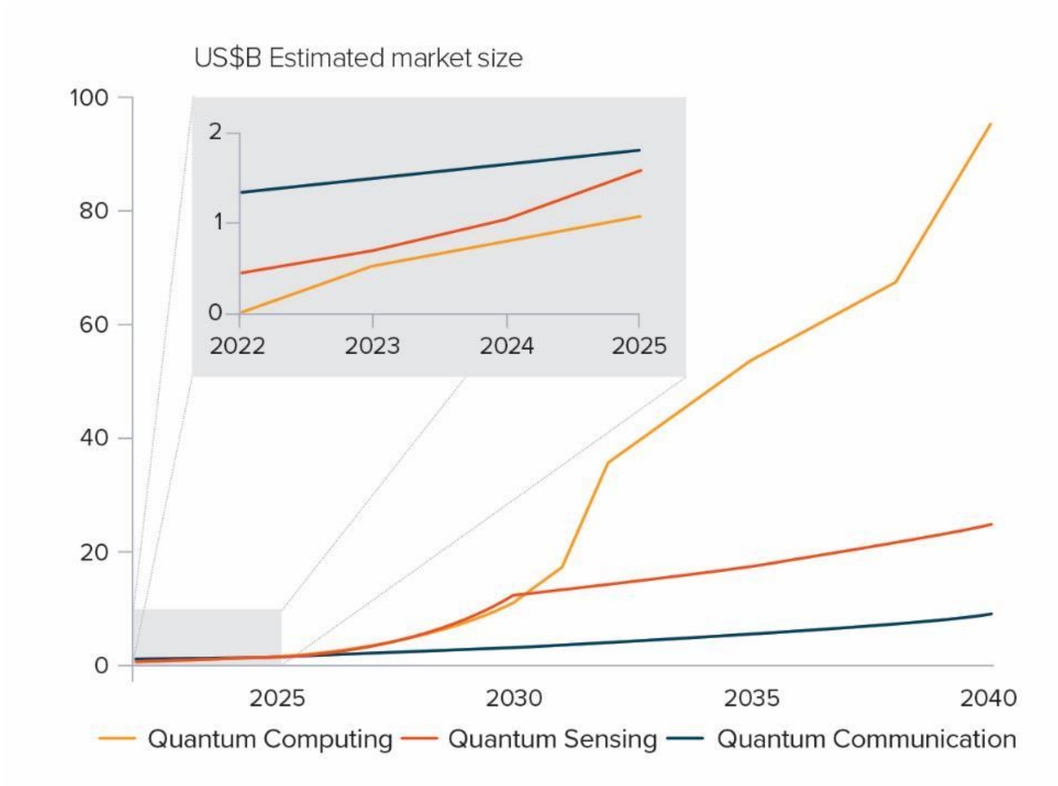
QUANTUM COMPUTING

Quantum Technology: The Next Frontier

Archer considers quantum technology to be the next great technological advance.

- Archer is the only ASX-listed quantum company.
- Adoption of quantum tech expected to increase with quantum hardware maturity.
- Quantum computing and sensing is expected to rapidly increase in share of total quantum value.
- US$30B market by 2030.

Quantum Technology Market Growth Projections 2025-2040



Sources:
BCG analysis
Krelina, "Quantum technology for military applications" EPJ Quantum Technology (2021); IBM quantum roadmap; IonQ quantum roadmap

BioChip

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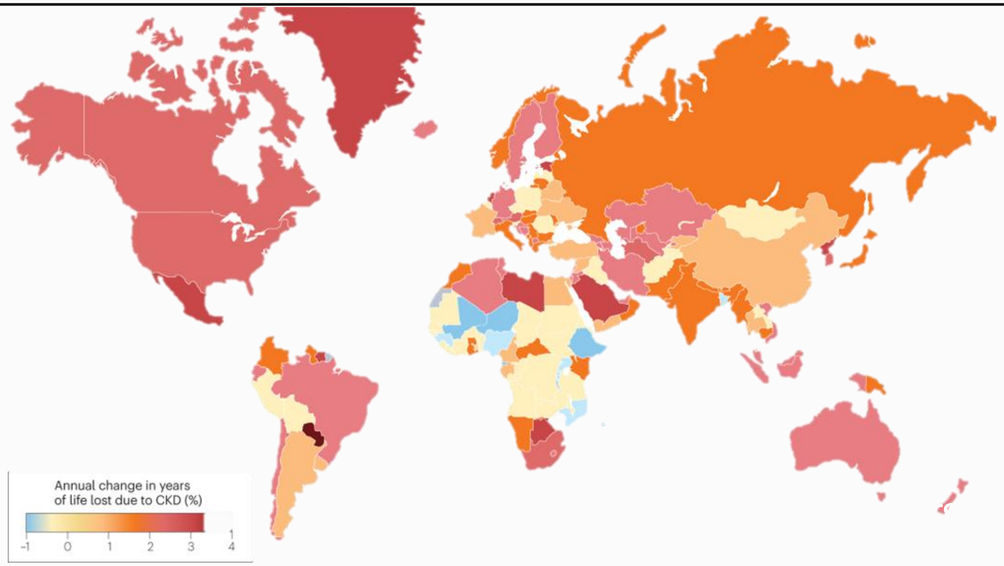
High-Value Problem

Archer's biochip uses highly sensitive, high speed, low power sensors to detect ions in blood. The chip will be integrated into an at-home testing system that will analyse a finger prick of blood.



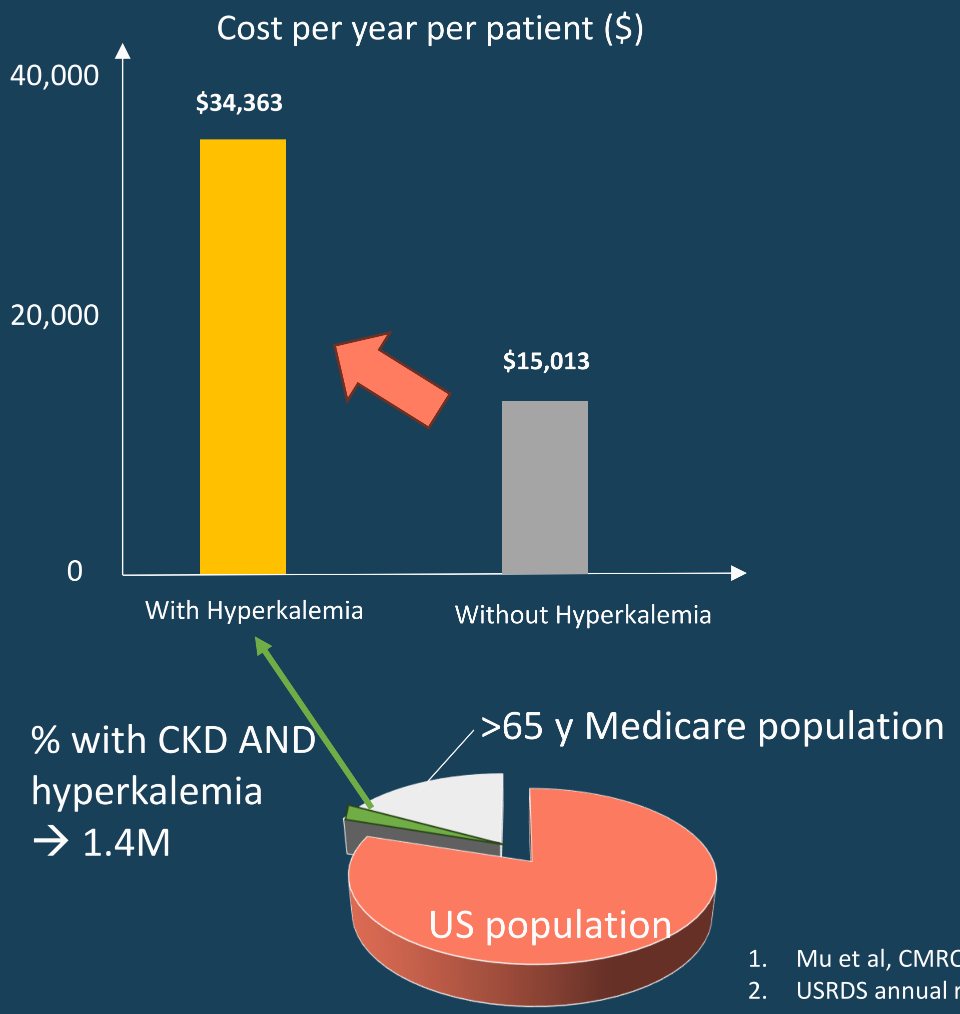
4% annual increase

1. Kidney Health Australia (https://kidney.org.au/kidney-check-heart-diabetes-blood-pressure)
2. Yole "Biosensors Marketing Report 2024-32", Market Research Future "Renal Disease Market Report". Bottom-up estimate using refs above

- Over 850M people (>10% of global population) suffer from chronic kidney disease (CKD).
- More than US$3B total addressable market within the US$80B+ renal disease space.
- Kidney disease patients are at high risk of lethal potassium imbalances (kidneys regulate electrolytes) → Hyperkalemia.
- Potassium testing is lab-based, monthly, and too infrequent for timely intervention.
- Extendable to heart disease and treatment.
- Extendable to more applications in medicine, industrial, and agriculture.

Value Proposition (US Medicare Population)

- **The Problem**: CKD patients with hyperkalemia drive billions in preventable costs (>$15k per patient, >$30B total).
- **The Gap**: No convenient, fast, low-cost potassium testing exists today.
- **The Opportunity**: Our portable tester enables early detection → fewer admissions → significant savings.
  - $1 to $10B savings from the >$30B current burden.
  - $50 to $1000 per year per patient cost vs >$15,000



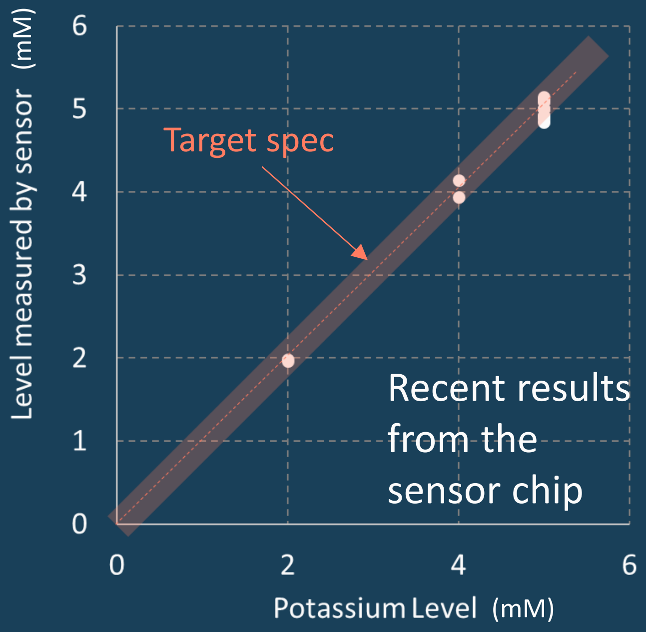
1. Mu et al, CMRO (2020)
2. USRDS annual report

Our Solution: Archer Potassium Test

The first of its kind and the most technologically advanced POC medical diagnostic in the world.

- A technology inflection beyond decades-old lateral flow tests.
- More capability and applications.

Lead application for our chip-based sensing platform.



Concept Image

Built to prevent life-threatening cardiac events.

Potassium Sensor

Chip - Highly sensitive, fast response, low power

Haemolysis Sensor

Eliminates false positives from blood cell rupture

Accessible

Simple at-home testing, even in rural or remote areas

At-home Potassium Sensor - Roadmap

Phase gate development process for a diagnostic medical device regulated under ISO13485

Proof of concept → Feasibility → Development & Optimisation → Scale up & transfer to manufacturing → Verification & validation → Launch

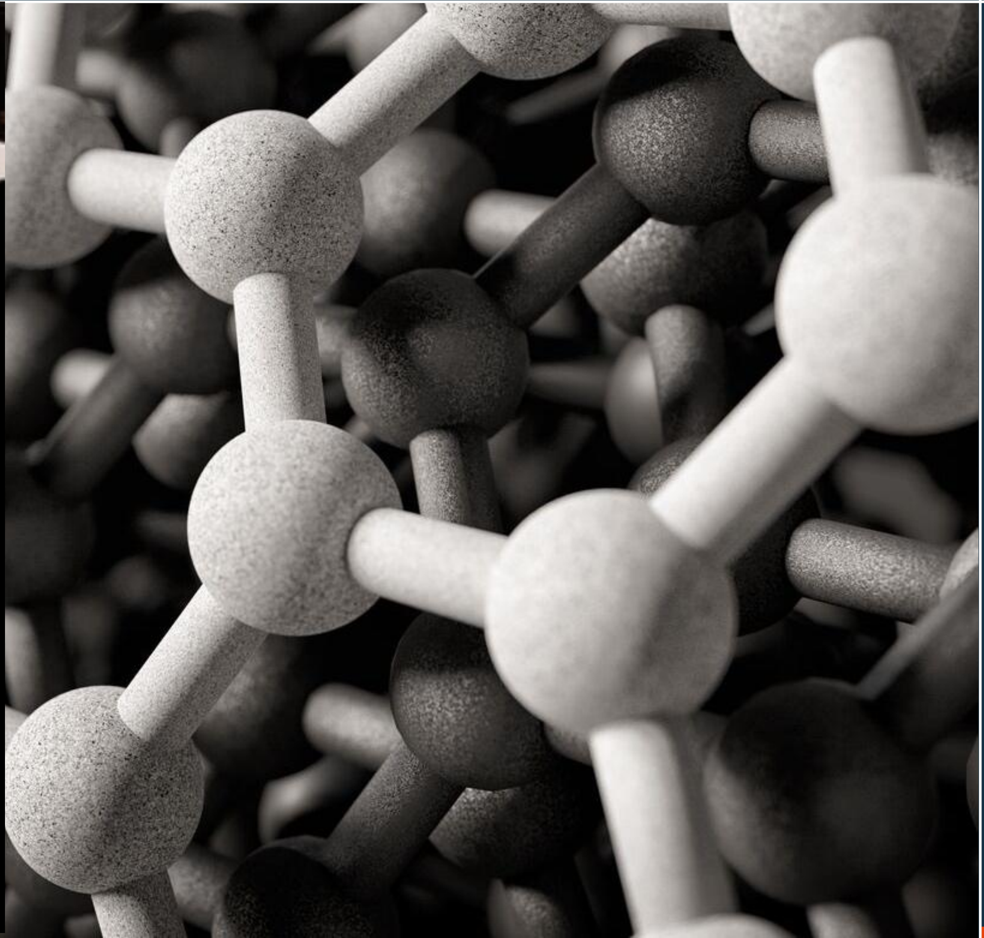
2025

- Work ramping up in Sydney, towards Archer's 1st prototype.
- Building strategic partnerships: medical diagnostics companies, academic groups, product development consortia.
- Building access to clinical advisors, potential trial locations.
- Developing regulatory and product placement/use-case strategy.

Target of prototype in 2026. Regulatory and product placement plan.

Archer aiming to begin clinical trials by end of 2026.

Quantum Computing and Sensing



03

Qubit Roadmap

Work will be extended on devices built around nanodots of carbon. Targeting a qubit architecture demonstration in 2026.

2025

Q2 — Single electron transport
Electrical coupling to spins ✓

Q3 — Demonstration of gating in Archer's proprietary carbon film ✓

Q3–Q4 — Creating of single electron transistor

Q4 — Electron spin state readout – Detection of Zeeman split spin states and time averaged readout

2026

Q1

Q2 — Microwave spin control

Full qubit demonstration including single spin control and readout

Key Partnerships

imec

Key for biochip productization and derisking various aspects of the biosensor development, such as supply chain, manufacturability, and integration of the chip into a final product.

PARAGRAF

Paragraf is one of the world's only dedicated graphene foundries. They're a key partner for Archer's technologies including the biochip, computing, and other graphene quantum.

HyliDx

Partnering to integrate their homolysis sensor with our biochip for the CKD product.

EPFL

EPFL have been a long-time partner and have helped us make key breakthroughs in chip-based control and readout for our qubit technology.

EMERGENCE QUANTUM

We're harnessing graphene and carbon-based materials through a phased innovation and commercialisation program that bridges research and application.

Our partnerships are critical to our success. They bring experience and world-leading expertise to our programs.

Thank you

ASX Code: AXE

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

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This presentation contains information which was reported in ASX announcements lodged between 1 October 2017 and 13 February 2024 (together the "Announcements"). All material assumptions and technical parameters set out in the Announcements continue to apply and have not materially changed. The Announcements can be viewed online at www.archerx.com.au.

Certain statistical and other information included in this presentation is sourced from publicly available third party sources and has not been independently verified.

ABOUT ARCHER

Corporate Snapshot

Founded in 2007, Archer Materials (ASX:AXE) is developing unique semiconductor technology to solve critical problems in quantum tech and bio electronics, helping unlock transformations across industries, economies and healthcare – and improve millions of lives.

ASX Code: **AXE**

255m Shares on issue	**$0.27** Share price (9 Sep 2025)
$70m Market capitalisation	**Nil** Debt
$14m Cash (30 Jun 2025)	**21%** Top 20 shareholders

Our Foundations

Archer has the foundations in place to advance its quantum technology towards commercialisation in global markets.

Future technologies

Archer's devices look to solve high value problems using quantum technology.

Strong partnerships

Strong industry partnerships and links with leading research institutes.

Growing markets

Archer's technologies have a range of applications across growing markets such as medical diagnostics, quantum computing & sensing, and massive data like AI.

IP portfolio

A growing IP portfolio of granted and pending patents across key markets such as North America, APAC, and Europe.