



ARCHER

Annual General Meeting Presentation
November 2018

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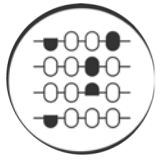
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Significant Developments in 2018







Quantum Technology

-  Archer enters exclusive negotiations for quantum technology IP
-  Key licence terms for quantum technology IP finalised, and facilitate filing of IP in EU, Australia, US, Japan, Korea, and China
-  Drafts of licence agreement for quantum technology IP exchanged with the University of Sydney







Reliable Energy

-  Campoona graphite structurally near perfect at atomic-scale
-  MOU with Urbix Resources for graphite toll processing
-  Collaboration agreements with FlexeGRAPH, and UNSW
-  Full-cell Li-ion batteries produced with Campoona graphite in-line with industry state-of-art



Human Health




-  Collaboration agreement with ARC Graphene Hub redefined to focus on carbon-based biosensors
-  Campoona graphite is process agnostic in graphene production
-  Graphene inks prepared from Campoona graphite used for printed biosensing technologies
-  Material transfer agreement signed with German biotech

Advanced Materials







Looking ahead, we are focused on delivering high-value outcomes that position Archer for major, long-term growth.

1 Quantum Technology

-  Finalise exclusive quantum technology IP licence with the University of Sydney
-  Execute collaboration and research service agreements for quantum technology IP
-  Finalise commercial plan for quantum technology IP with key partners

2 Reliable Energy

-  Co-develop IP to reduce costs related to graphite project
-  Lodge program for environment protection and rehabilitation (PEPR) for graphite project
-  Identify off-take partners for high-volume graphite supply
-  Grow the Carbon Allotropes Marketplace

3 Human Health

-  Enter into negotiations for biosensing related IP with a reputable institute
-  Partner with an industry collaborator to develop key biosensing componentry
-  Apply for grants and funding to support a commercial pathway to biosensor product development



 Acquisitions & Partnerships

 Value-add Development

 Commercialisation



Quantum Technology



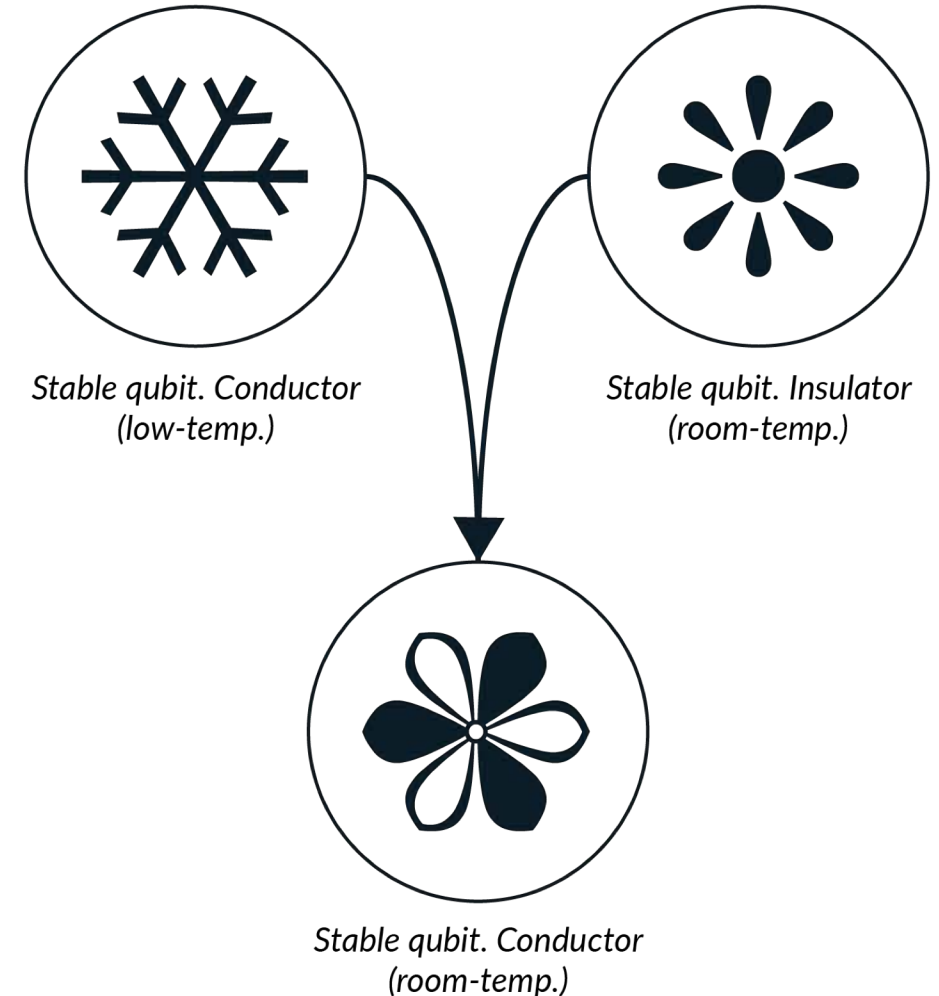
A CARBON-BASED QUBIT PROCESSOR

Quantum computers

represent the next generation of powerful computing⁴. They consist of a core device (chip) made from materials capable of processing quantum information (qubits) necessary to solve complex calculations⁵. One of the biggest challenges to wide-spread use involves keeping the qubit stable at room-temperature while integrating into electronic componentry. The development of quantum computers and technology is envisioned to impact all industries reliant on computational power, including financial modelling, cryptography and new currencies, and AI.

Unifying the materials dichotomy

During his previous employment at the University of Sydney, Archer CEO Dr Mohammad Choucair invented the first material known to overcome both the limitations of sub-zero operating temperatures *and* electronic device integration for qubits. The conducting carbon material was able to process qubits at room temperature⁶. This has the potential to reduce the commercial barriers to quantum computing and make it globally accessible. The patented device forms the subject of intellectual property licencing being negotiated between Archer and the University of Sydney.



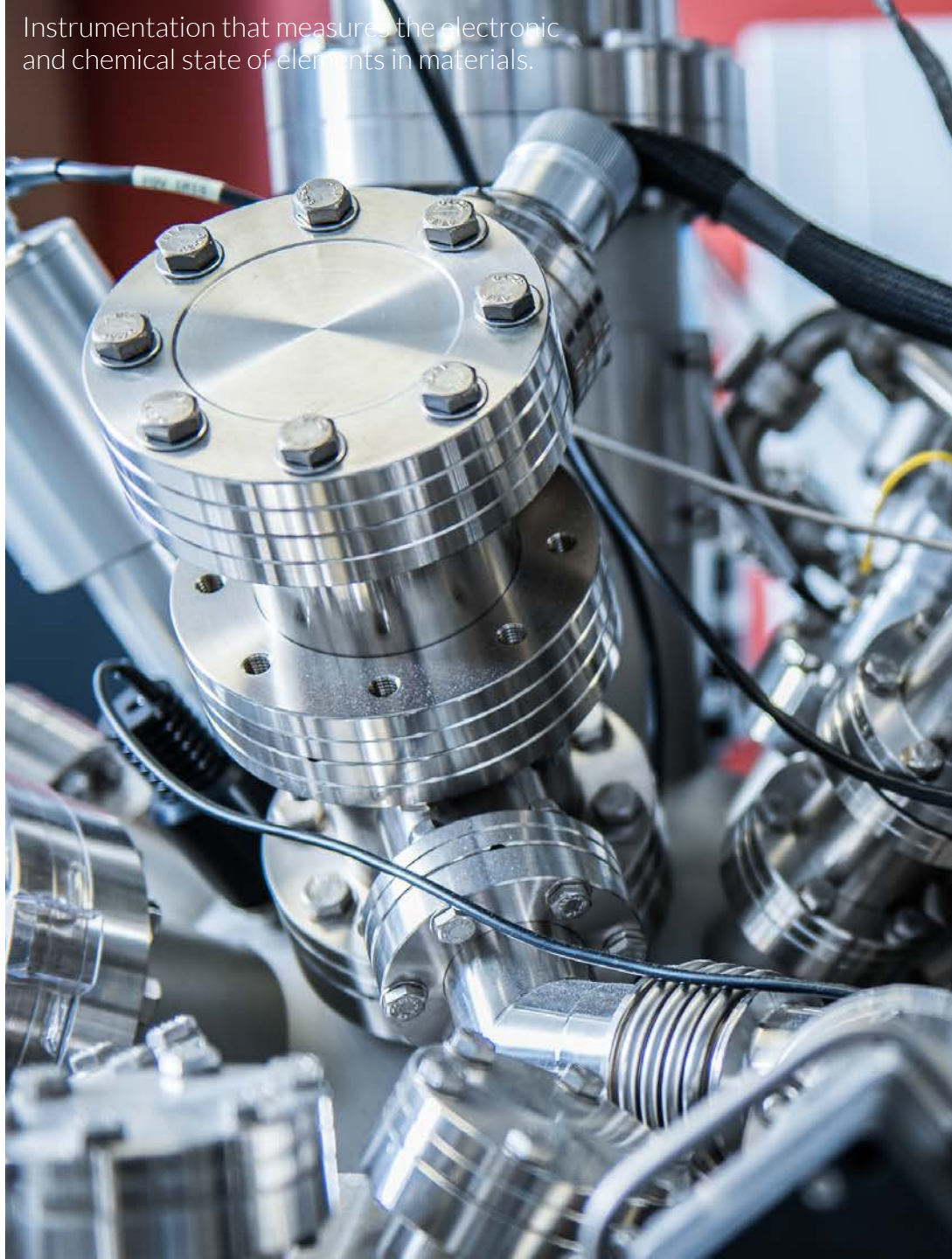
4. M. Russo, A. Thaker, S. Adam, BCG Henderson Institute, The Coming Quantum Lead in Computing (2018).

5. M. Jackson, Singularity Hub, 6 Things Quantum Computers Will Be Incredibly Useful For (2017).


6. M. Choucair et al. Nature Communications volume 7, Article number: 12232 (2016).

Key licence terms for quantum technology intellectual property (IP) were finalised with the University of Sydney. The licence terms would allow Archer to develop and commercialise carbon-based quantum computing technology. When executed, the licence will provide us with patents to develop and commercially exploit the quantum computing technology in Europe, America and Australasia.

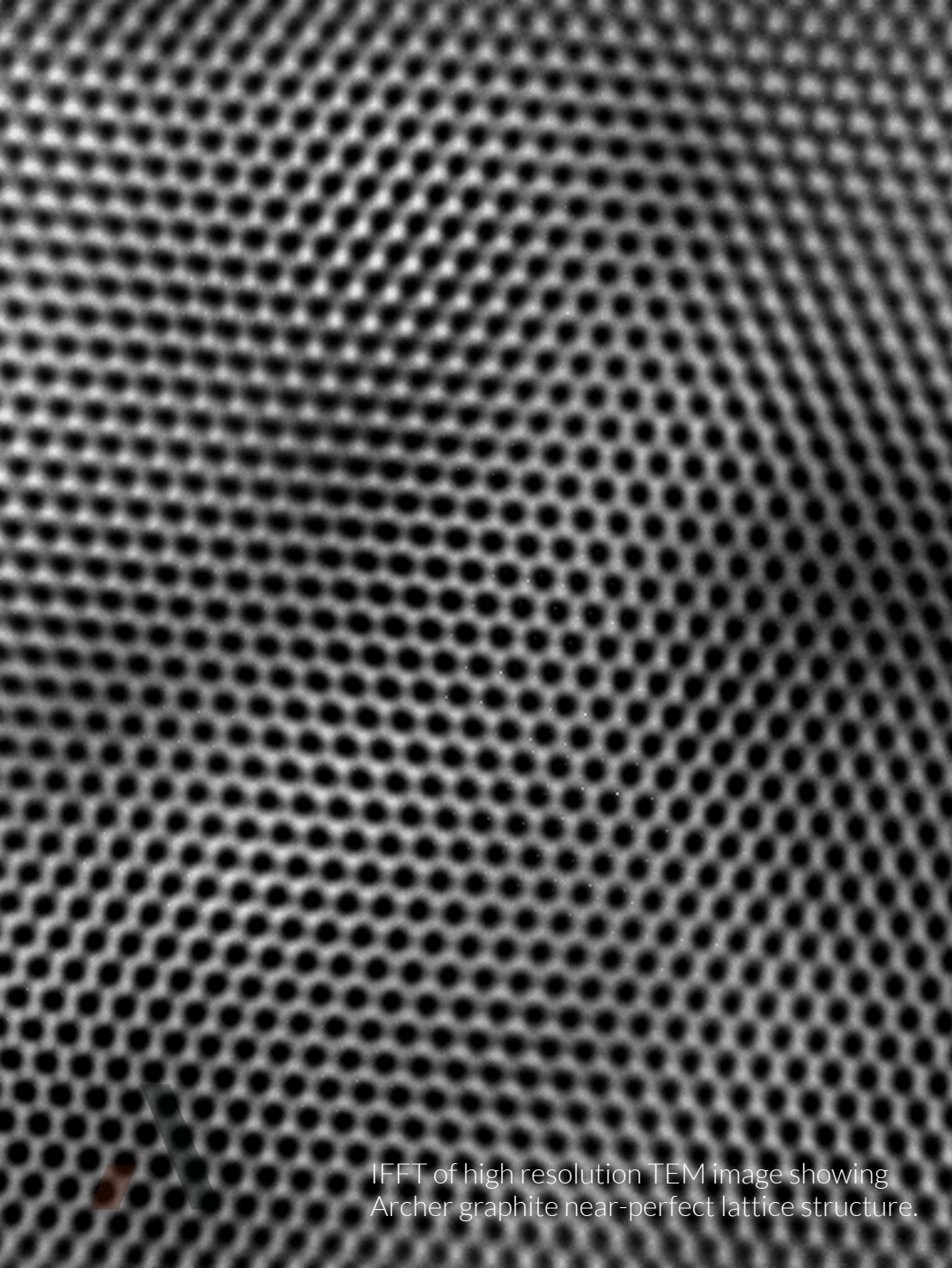
The IP relates to the development of a quantum electronic device (QED) for storing and processing quantum bits (qubits) – the fundamental components of a quantum computer. In particular, the QED comprises advanced carbon material components critical for its function, including graphene, which are available in the inventory of Archer's wholly owned subsidiary, Carbon Allotropes.



Instrumentation that measures the electronic and chemical state of elements in materials.



Reliable Energy



IFFT of high resolution TEM image showing Archer graphite near-perfect lattice structure.

We are capable of producing high quality graphite from our Campoona deposit. Nano-scale and atomic-scale analysis was undertaken by Archer at the world-class Australian Centre for Microscopy & Microanalysis. The analysis of Archer's graphite confirmed the materials' near-perfect structure. These excellent results have greatly assisted in marketing our material to potential customers and end users.

An MOU with Urbix Resources, LLC (Urbix) was reached for investigating the suitability of Archer's Campoona graphite using Urbix's proprietary purification processes. The work led to an opportunity to toll-process Archer graphite in North America to grades in-line with HF leaching methods. This represents a potential capital cost benefit of \$14M over the life of the Campoona graphite project.

The collaboration agreement with FlexeGRAPH

represents an opportunity to convert our high-volume Campoona graphite to high-value graphene materials. We agreed to co-develop advanced materials for the thermal management of electric vehicle batteries, internal combustion engines, and high-performance computing systems and to have these products sold through the Carbon Allotropes marketplace.

We signed a collaboration agreement and research service agreement with The University of New South Wales. The collaboration has led to the successful implementation of commercially scalable full-cell configuration lithium-ion batteries using Archer's Campoona graphite. We are now able to demonstrate complete, functioning, and commercially relevant batteries with Archer's graphite.

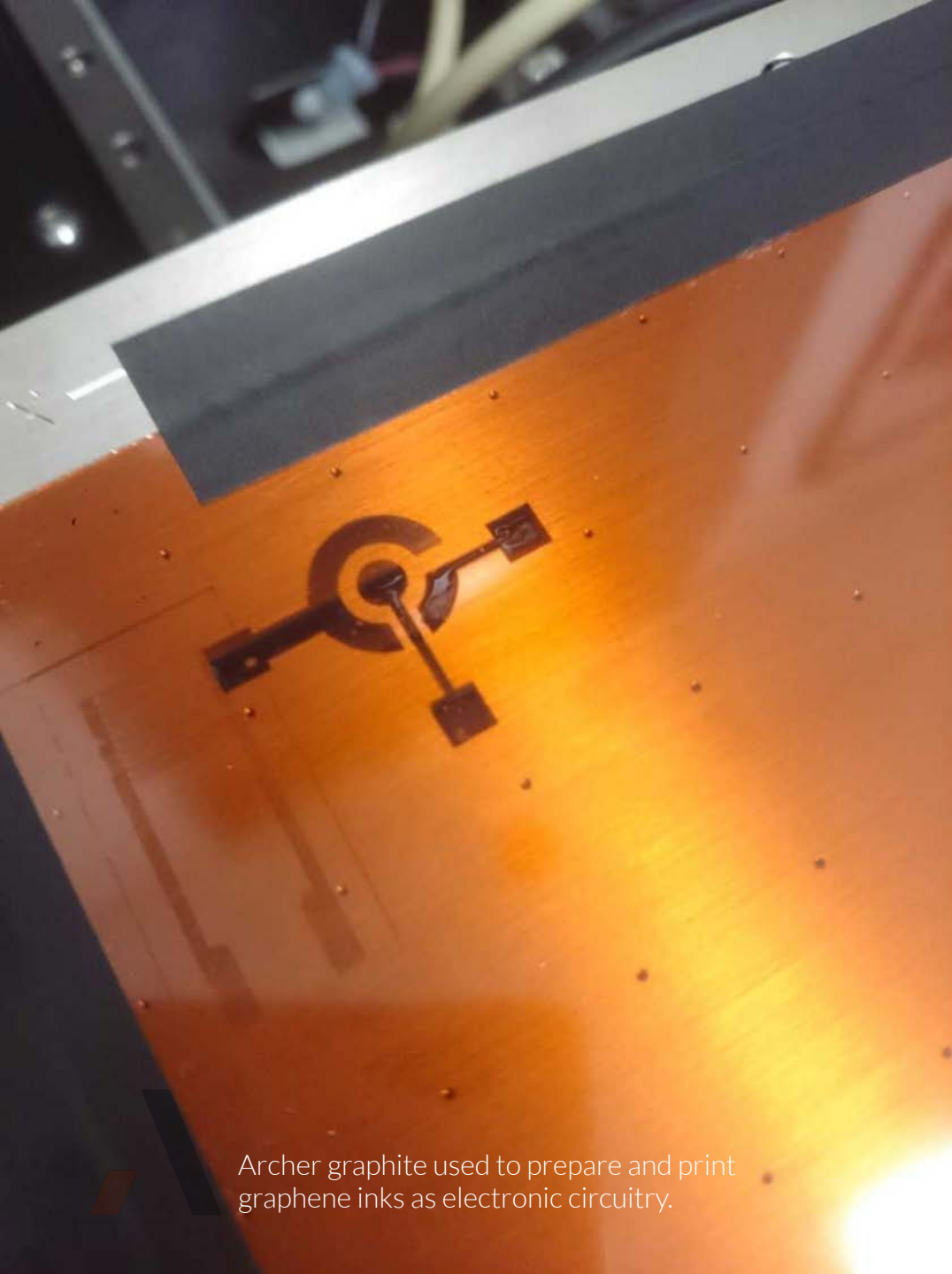


Archer graphite product used to prepare coin-cell scale full-cell batteries at UNSW.



Human Health



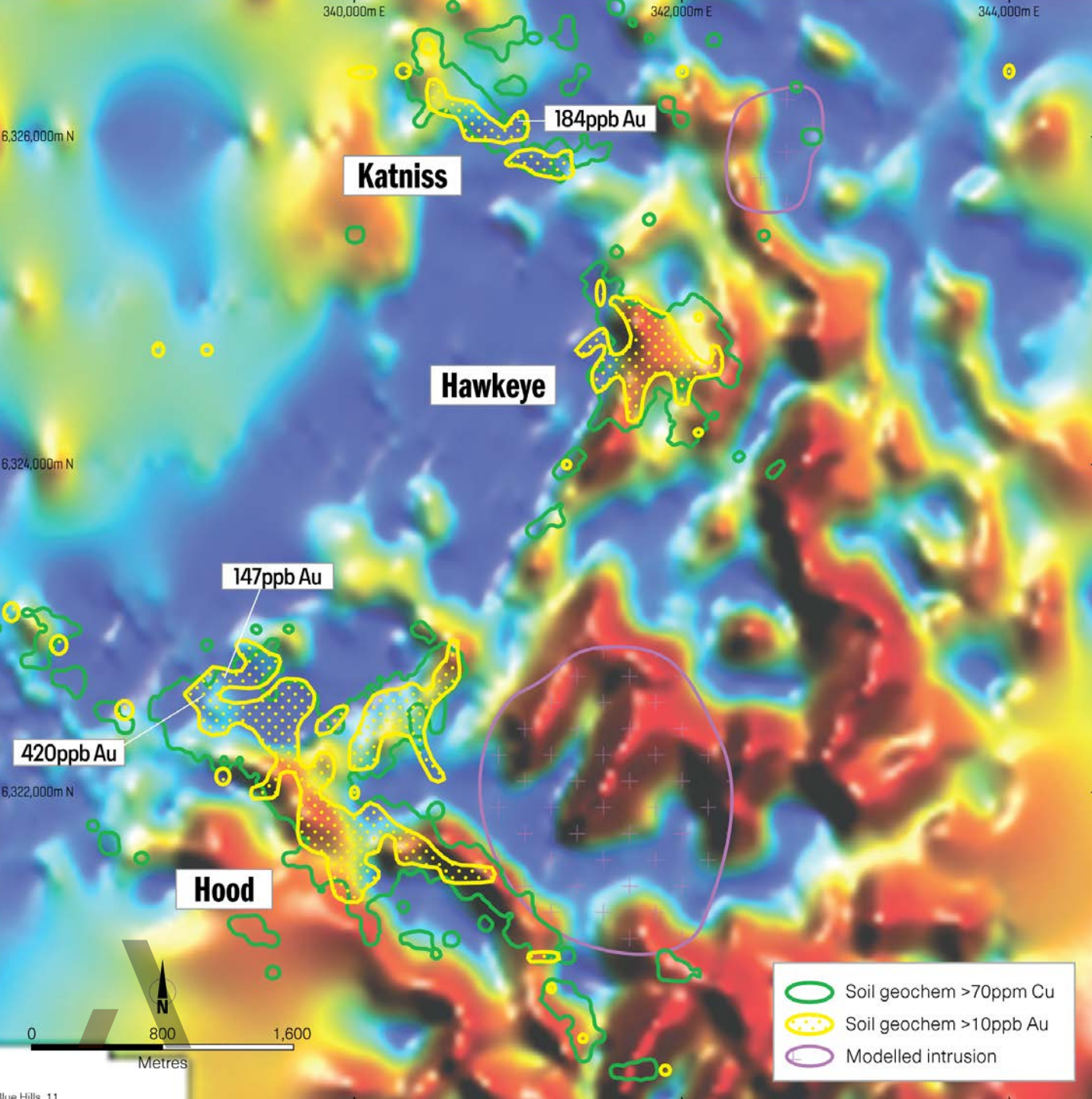


Archer graphite used to prepare and print graphene inks as electronic circuitry.

The existing collaboration agreement with The University of Adelaide ARC Graphene Hub was varied. This was the first of our targeted efforts to capture solutions with Archer's graphite and graphene materials. The effort would see graphene and carbon-based materials developed for use in complex biosensing, directly aligning with Archer's vision to target applications in human health.

Graphene-based conductive inks derived from Archer's Campoona graphite have since been developed with The University of Adelaide ARC Graphene Hub. The inks were used to print electronic circuits on substrates that function as basic bio-electrochemical sensing device componentry. This led to a material transfer agreement between Archer and a German biotech to develop biosensing componentry for specific markets.

Mineral Projects



Archer has a legacy of mineral exploration.

Blue Hills is Archer's 100%-owned project with a large-scale copper-gold prospect located about 240km north of Adelaide, South Australia. Soil surveys over approximately 40km² of Blue Hills, or 60% of the larger Blue Hills magnetic anomaly, identified three large copper anomalies at +90ppm along interpreted edges of an intrusive body.

An airborne electro-magnetic survey over the soil anomalies and their possible extensions under cover has been performed, and a rotary air blast geochemical drilling program intersected strong anomalous copper and widespread gold in the bedrock. We intend to drill in greater detail at least one of the anomaly targets, with drilling due to commence in January 2019 with results expected in February 2019.

A person wearing a white lab coat and a red and black plaid shirt is holding a small, white, rectangular card or sample. The background is a laboratory with various equipment, including a robotic arm and a workbench with bottles and containers. The text "The Path Forward" is overlaid on the image.

The Path Forward

1



Quantum Technology

Lead the development and commercialisation of carbon-based quantum technology. Reduce the commercial barriers to wide-spread quantum computing by building a practical qubit processor.

2



Reliable Energy

Integrating our Campoona graphite material resource downstream in the lithium ion battery supply chain. Target off-take & partnerships with technology and product manufacturers through efficiency of scale.

3



Human Health

Make complex biosensing simple. Service niche segments of the global biosensor market by developing commercially viable probes for rapid diagnostic medical imaging and disease detection.

4



Exploration

Develop the Blue Hills Copper Gold Project and look for opportunities to develop or divest the Company's other exploration projects.

UNSW Scientist formulating battery materials chemistries for testing with Archer graphite.



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