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**STRATEGIC**  
ELEMENTS



**AGM 2022**

# The Company



**Strategic Elements generates high-risk high-reward ventures by sourcing and combining teams of leading scientists or innovators.**

**The Australian Government has registered Strategic Elements as a Pooled Development Fund with a mandate to back Australian innovation.**

1. The aim of the Pooled Development Funds programme is to increase the supply of capital to Australian small and medium-size enterprises (SMEs).
2. PDFs are venture capital funds registered under the Pooled Development Funds Act 1992
3. PDFs and their shareholders receive tax benefits on the capital gains and income derived from their investment. This is to help compensate for the higher risk of investing in SMEs.

**As a Pooled Development Fund the Company does not operate like a typical venture fund.**

1. Strategic Elements majority funds the initial development of each venture whilst seeking a key investor that could strongly assist commercialisation.
2. Access to \$100M+ of institutional technical infrastructure and equipment, government grants and R&D cash back \$\$ significantly reduces up front expenditure.
3. SOR seeks returns through a trade sale or listing of a subsidiary, a licensing deal or income generated from a subsidiary.



***High risk – high reward resources and technology innovation***

# Energy Ink™ Technology

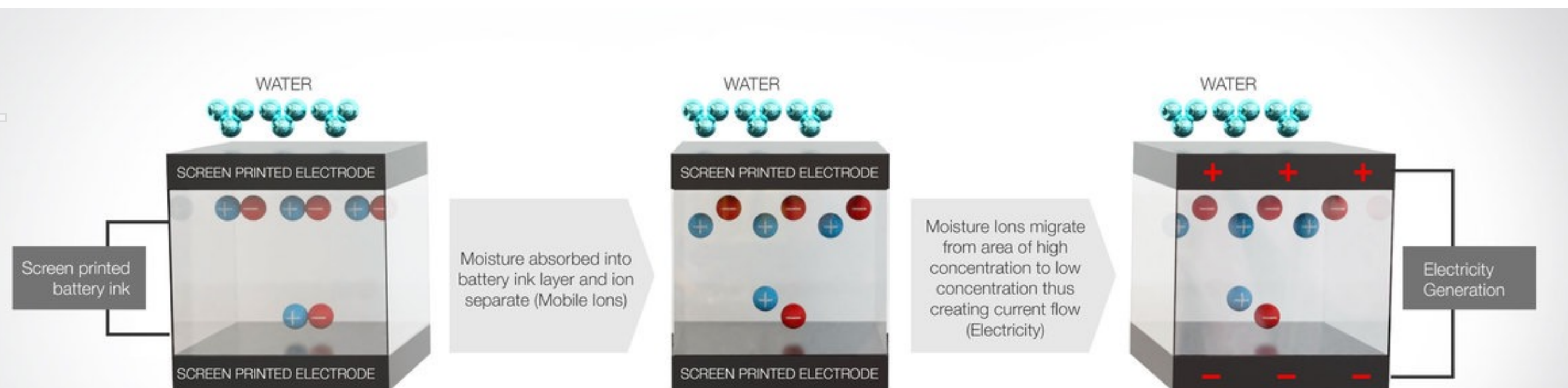


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Wholly owned Australian Advanced Materials Pty Ltd (AAM) is developing the Energy Ink™ with a world-leading material science team at the University of New South Wales.

The advanced graphene oxide-based Energy Ink™ enables extremely thin and lightweight energy cells to be printed onto surfaces such as glass and plastic.

1. The technology opportunity is for an environmentally friendly, renewable, and cost-effective method of generating energy from **moisture in the air**.
2. Unlike traditional batteries, Energy Ink™ uses green materials that are non-flammable and can be flexed and bent around the human body or other structures when printed onto flexible plastic.
3. The Energy Ink is principally a generator but also has the potential to store energy. It is considered a hybrid between generating and storing energy.



Moisture is a readily available, environmentally friendly energy source.

**energy ink™**  
POWERED BY MOISTURE™

# Energy Ink™ Technology



1. The Energy Ink™ technology is still in early development, and the fundamental upper limit of aspects such as maximum power output, duration and energy density remain unknown.
2. Screen printed graphene-oxide-based cells that harvest energy from airborne water molecules could potentially **directly power a device, complement a battery by extending device life or provide energy for battery storage.**
3. AAM has access to equipment that can print features as small as 100 micrometres and as large as 3m<sup>2</sup> (30,000 cm<sup>2</sup>).
4. Commercial printing equipment can produce small electrical components to as large as multi-square meters, from single-sheet production to long continuous print runs.



- The first applications to be powered by the Energy Ink™ will be **wearable skin patches** that monitor health, well-being, sports performance ...
- The market is growing rapidly in medical, healthcare, fitness and cosmetic fields. Aim is to be lighter, smaller, more comfortable and less invasive compared to conventional wearable devices.
- **Over USD 10 billion in wearable skin patch annual revenues in 2021 are forecast to grow to USD 30 billion by 2031<sup>1</sup>.**
- Current batteries may meet some requirements of wearable skin patches today, but struggle to achieve flexibility, thinness, and power demands from complex applications.
- Based on early results of the upgraded Energy Ink™, the Company believes the **technology profile has met the power output requirements of many existing wearable skin patch devices.**

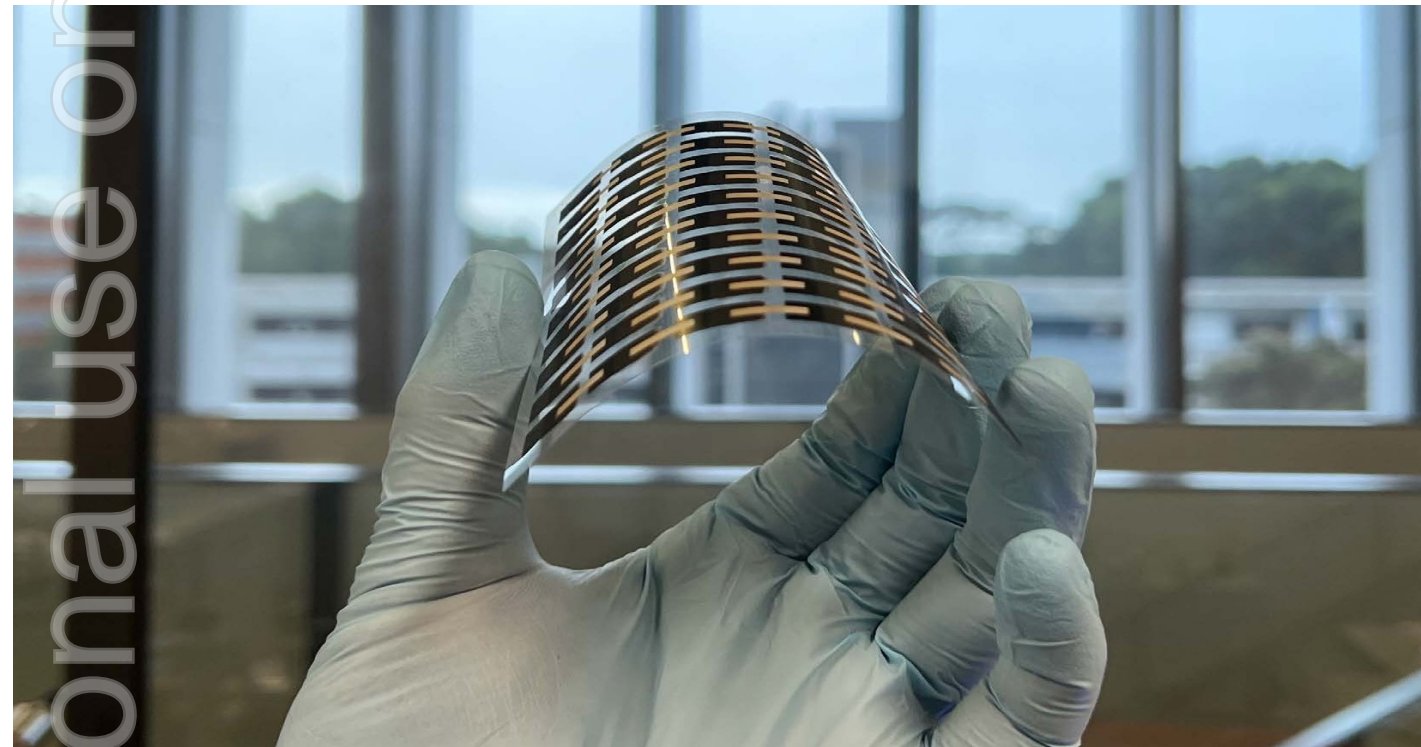
<sup>1</sup> IDC : Electronic Skin Patches 2021-2031

# Energy Ink™ Technology



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- The Energy Ink™ is being developed by integrating significant existing ink formulation and printed electronics intellectual property from AAM's Nanocube Memory Ink technology.
- AAM provided the technical team with the freedom to pursue deep research and development and trial-and-error materials engineering which resulted in a step change in energy generated from the Energy Ink™.
- **This has firmly established the technology as a leader globally and significantly broadens its potential use in electronics with enhanced power requirements.**

**Sept 20th 2021** – Energy Ink battery pack achieved over 1mA current output. Generated 100 mAh of electrical charge.

**Jan 25th 2022** – Energy Ink battery pack Achieved over 5mA of current output. Generated 250 mAh of electrical charge from a 36cm<sup>2</sup> battery pack.

**May 11th 2022** - AAM successfully demonstrated the potential to increase the electrical charge capacity from milliamp-hours (mAh) to ampere-hours (Ah).

**Sept 6th 2022** – An investigation into whether Energy Ink cells generate more electrical charge as they increase in size was successful. With a single 100cm<sup>2</sup> Energy Ink cell generating over 1400 mAh of electrical charge, a 400% increase on the 36cm<sup>2</sup> cell pack reported on January 25th.

# Energy Ink™ – Next Steps



- The AAM materials science team has worked to develop, implement and validate multiple technology breakthroughs into a world-first prototype **Energy Ink™ Pack** containing six 36cm<sup>2</sup> cells connected in parallel.

- The objective is to print an Energy Ink™ Pack using green, sustainable, safe materials able to generate **amp hour range** of electrical charge solely from moisture in the air.

**Development is firmly on track and AAM expects results to be available in Q3, 2022.**

- Stealth Technologies Pty Ltd, an automation and robotics company, owned by Strategic Elements, is currently building **programmable load simulators** that will enable automated testing to simulate how Energy Ink™ cells perform in real-world applications.

- This will accelerate testing and enable AAM to determine the size of battery cells or packs that are required to power the circuits used in different real-world products. The extensive data captured will form a data bank for future discussions with OEM development partners for different products.

**The first demonstrator from this work is targeted towards wearable skin patches is expected in Q4 2022.**

- The Company will continue to investigate increasing the area over which cells are printed, ink formulation, battery cell size, storage and architecture relevant to applications requiring different performance characteristics.

- **The Energy Ink™ technology is still far from reaching its maximum potential. The team will continue to discover, develop and showcase the technology's ability to generate energy from moisture.**



# AxV Platform Across Multiple Sectors

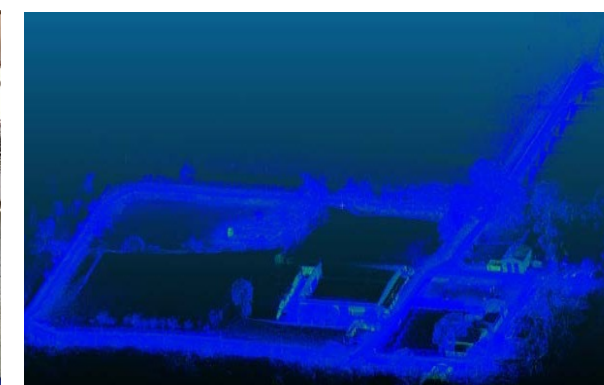
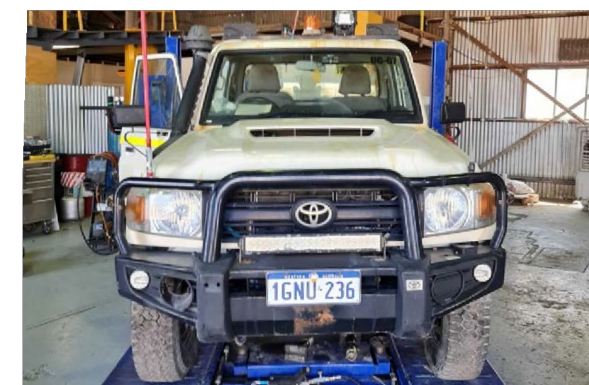


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- **Stealth is currently 100% owned by Strategic Elements Ltd.**
- It is developing automation and robotics technology through its AxV Platform in perimeter security, mining, defence and agriculture.
- Stealth Technologies has been developing its automation and robotics platform in conjunction with collaborators across different programs.
- These have included Fortune 100 Company Honeywell, The University of Western Australia, Defence Science Technology Group (part of the Australian Department of Defence), the Eastern Goldfields Regional Prison (part of WA Department of Justice) and others.



**STEALTH**  
TECHNOLOGIES



# Honeywell Agreement



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**Stealth has signed an agreement with global software-industrial company Honeywell to progress the commercialisation of Autonomous Security Vehicles (ASVs) for perimeter security.**

**The first-generation Stealth ASV autonomously navigates pre-defined missions to autonomously test critical Perimeter Intrusion Detection Systems (PIDS) and conduct surveillance.**

**The Stealth and Honeywell teams have enabled real-time integration of the ASV with the Honeywell Enterprise Buildings Integrator product, which has thousands of systems deployed globally.**

**The ASV has successfully achieved thousands of operational PIDS tests in previous live trials at a correctional facility.**



1. Stealth will engage exclusively with Honeywell for perimeter security customers in the correctional, telecommunications and defence industries in Australia, New Zealand and other countries as agreed by the parties.
2. An ASV Pilot Deployment program is being conducted to establish a supportive engagement for innovative customers to deploy an ASV in their organisations and obtain hands-on insights into the perimeter security benefits of robotic automation and autonomous vehicles.
3. ASV Pilot Deployments will further validate perimeter security use cases, model the return on investment with real-world customer feedback, explore the most effective ways of introducing robotics and autonomous vehicles, and direct customer feedback into engineering.





# AxV Platform Across Multiple Sectors



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## Stealth – Mining Sector

1. Stealth completed a comparison and detailed analysis of mapping data captured over several weeks by the Stealth Sensor Pack from an underground mine in Western Australia as part of Phase 1 of a pilot investigation with a mining company.
  2. The Stealth Sensor Pack captured mapping data of a portion of the mine's underground environment to validate the technology's potential suitability for several potential product applications.
- **The next stage will see the parties decide whether to proceed to Phase 2 of the pilot investigation.**

## Stealth – Agriculture Sector

1. Stealth is developing technology to automate the capture and integration of multiple data types and produce 3D location maps of agricultural weeds.
  2. 3D Mapping of agricultural weeds will enable farmers to apply modern agronomy to weed management. Stealth collaborates with the Australian Herbicide Resistance Initiative, a world-leading global research group in herbicide resistance and its management in cropping systems.
  3. Stealth technology was successfully deployed in a pilot onto John Deere, CASE, New Holland, and MacDon combine harvesting equipment.
- **Stealth has been enhancing its sensor pack in preparation for an expanded live trial and validation of the technology.**

## Stealth – Defence Sector

1. Stealth is collaborating with the Defence Science Technology Group (DSTG), part of the Australian Department of Defence, and the University of Western Australia to build a world-first, autonomous drone-carrying vehicle that automates the detection and sensing of chemical, biological, radiological and nuclear (CBRN) agents.
- **The Stealth team has progressed CBRN proxy sensor and drone integration in preparation for a live trial of the Stealth AxV stack flying drones with the DSTG CBRN detection algorithms.**

# Other Projects



## Cognition Engines

1. Strategic Elements Ltd has been actively conducting early stage R&D on various potential opportunities to transform how data is used.
  2. Michael Counsel has been engaged to provide CTO and other services. Michael spent 20 years with Oracle Corporation (USD 190 Billion market cap), where he held senior positions, including Group Vice President and Chief Technology Officer Asia Pacific and Director Enterprise Architecture.
- **The Company is developing a team of scientists and innovators capable of developing a revolutionary approach to data solutions.**

## Maria Resources

1. Maria focuses on applying **innovative geological models** to unexplored terrains in the search for metals related to batteries and advanced technologies.
  2. Maria owns the Leviathan Project, the Cyclops Project and the recently formed Red Rock Project in the highly underexplored Madura Province on the Nullarbor.
  3. Increased nearby activity by companies include Rio Tinto, BHP Nickel West, Chalice Gold Mines (under JV with Sensore) and more recently by Native Mineral Resources (NMR).
- **The Company is compiling data for its projects and the surrounding Nullarbor in conjunction with Dr Franco Pirajno prior to assessing partnering/funding options.**

## Strategic Materials

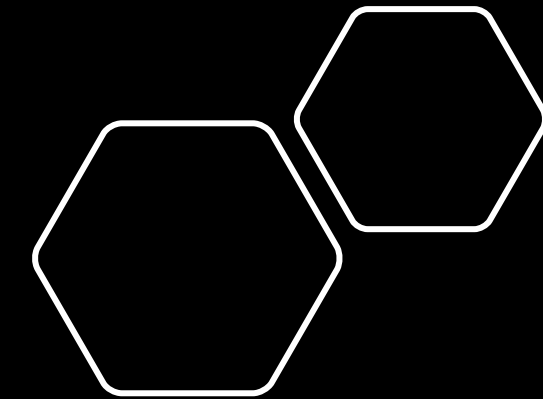
1. The Company holds permits over the entire historic Golden Blocks Mines permit in New Zealand. The Company is seeking to apply modern technology to a historic goldfield that has been left completely untouched by modern exploration.
- **The Company is reviewing its partnering options for the asset.**



# STRATEGIC

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- **Technology and battery metals demand will only increase and the frontier exploration assets have the potential to attract a farm-in partner.**
- **Artificial Intelligence is driving the next generation of data solutions. Cognition Engines is formative but may provide a significant opportunity as the technology sector rebounds.**
- **Robotics and automation in perimeter security, mining and other activities position Stealth Technologies for near-term revenues. The Honeywell relationship provides significant upside for the Company.**
- **Despite the difficulty in general capital markets, the imperative for more innovative, renewable energy creation and power sources will continue to grow. [The Energy Ink™ technology is still far from reaching its maximum potential.](#)**



PDFs and their shareholders receive tax benefits on the capital gains and income derived from their investment. This is to help compensate for the higher risk of investing in a PDF.

SOR model with access to \$100M+ of institutional technical infrastructure and equipment, government grants and R&D cashback significantly maximizes shareholder funds.