



SOR Nanocube Printable Memory on Global Stage

WESTERN AUSTRALIA, Perth, Feb. 28, 2020 – The Company is pleased to report that it has been hand-picked to speak on its Nanocube Printable Memory technology at the world's premier Printed Electronics event in Berlin May 13th-14th. The Company was also hand-picked to be one of only approx. 20 from around the world that will demonstrate its technology in a dedicated area within the event to an audience that includes some of the world's largest companies.

The Company recently presented its Nanocube technology demonstrator to a group in Finland which included the CEO of IDtechX a global leader in printed electronics. IDtechX is the industry leading strategy, research and consulting firm with multi-billion dollar companies as clients. IDtechX CEO Mr Raghu Das is renowned for assisting high growth emerging technologies large and small, from Fortune 50 companies to start-ups and has lectured at over 500 technology events around the World.

Commenting on the Nanocube technology demonstrator **CEO Raghu Das stated "I genuinely think it's one of the best developments I've seen in a while in printed electronics."** Mr Das personally offered the Company the opportunity to speak and demonstrate at its high growth emerging technologies event in Berlin that will attract over 2,500 attendees including some of the world's largest companies.

SOR Managing Director Mr Charles Murphy said "It is very satisfying that the technology demonstrator has received such positive feedback from recognised experts. The Nanocube technology has incredible potential to enable whole new electronics product categories through printability, transparency and flexibility. The Company is looking forward to meeting with potential end users in Berlin and understand potential options of co-development".

The Nanocube technology is being developed with the University of New South Wales, Product Engineers based in Sydney and experts based in VTT Finland. The data storage technology is physically printed onto surfaces (glass, plastics) introducing electronic memory to materials where industry standard silicon chip technology cannot go.

The Company has received encouraging early stage feedback on potential co-development options from the recent technology demonstrator presentation and is continuing to progress these and the goals outlined within the presentation itself.

*For reference please see a video on the demonstrator here <https://vimeo.com/386335109/5a8d162249>. The presentation previously released has also been attached to the back of this announcement.

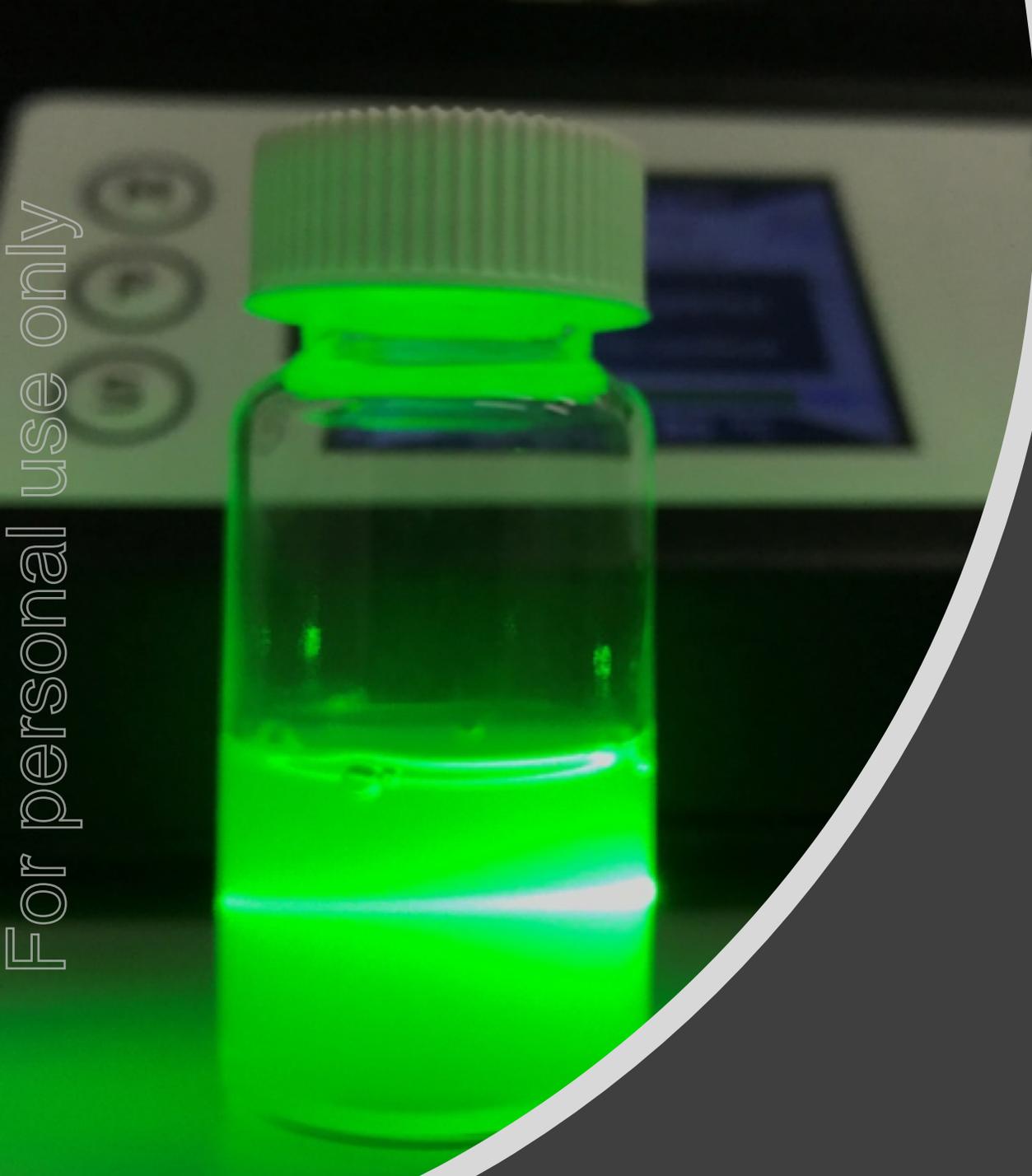
Strategic Elements

The Australian Federal Government has registered Strategic Elements as a Pooled Development Fund with a mandate to back Australian innovation. Strategic Elements operates as a 'venture builder' where it generates high risk-high reward ventures and projects from combining teams of leading scientists or innovators in the technology or resources sectors. Most investors in SOR pay no tax on capital gains from selling their SOR shares as the Company operates under a Federal Government program setup to encourage investment into innovation. The Company is listed on the ASX under the code "SOR". More information on the Pooled Development Program should be read on the Company's website at www.strategicelements.com.au

This announcement was authorised for release by Strategic Elements' Board of Directors.
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Nanocube Ink Nanomaterial

Matthew Howard

Australian Advanced Materials

30 Jan 2020 : PRINSE '20 : Finland

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Forward Looking Statements

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30/01/2020.



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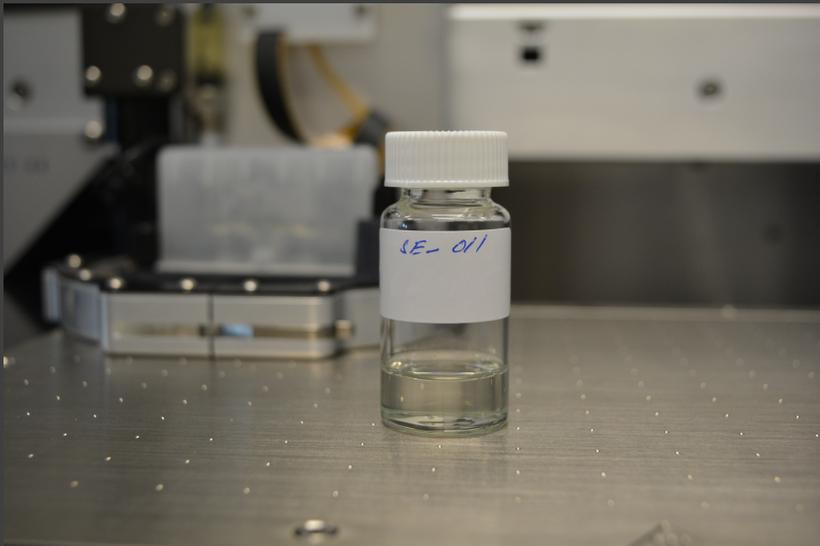
Australian Advanced Materials

Team Behind The Technology

- AAM was established to develop and commercialise revolutionary materials technology being developed in Australia. 100% owned by Strategic Elements Ltd.
- AAM licenced the underlying Nanocube Ink technology from the University of New South Wales. Multiple application potential, however most development to date focused on memory/data storage aspects of the technology.
- UNSW is globally recognised as a leading research institution in Materials Science and Engineering. Dr Chu, co-inventor, is recognised for his contribution to oxide nanoelectronics, including RRAM and TFT.
- Research and development work has also been progressed with teams from VTT Finland and the CSIRO Australia. AAM is also a member of PrintoCent in Oulu, Finland.

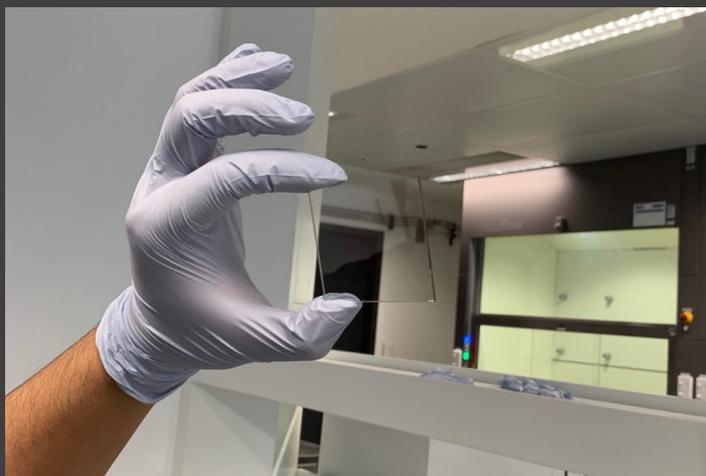
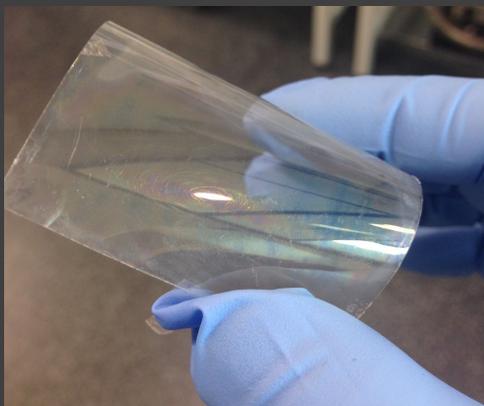


Nanocube Memory Ink



- The Nanocube Ink technology has **multiple application potential**.
- The first application being developed is a RRAM technology for storage and memory, the **Nanocube Memory Ink**.
- The Nanocube Memory Ink is a transparent ink containing billions of nanometre scale particles. When printed onto a surface and assembled with electrodes they operate as computer memory.
- Current memory technology is restricted to RF sputtering onto more rigid silicon materials in semiconductor fabs. Whereas this technology is a fully printed, transparent memory technology fabricated at room temperature onto non-silicon materials.
- Favourable properties for Printed Electronics applications, particular those that benefit from locally stored data.
- US Patent granted in January 2020 related to RRAM memory and methods of manufacture. Pending patent applications related to further aspects of this technology.

Nanocube Memory Ink



- Key milestones achieved to date across a range of prototypes include:
 - Successful scale up for synthesis process to produce large volumes of Nanocube Ink;
 - Stable yield of operating storage cells across printed devices;
 - Uniform electrical behaviour across devices;
 - 1000+ endurance cycle results;
 - Results on glass and plastic substrates
 - Slot-die / ink-jet printable;
 - > 80% optical transparency;
 - Promising early flexibility testing;
 - Ultra thin film;

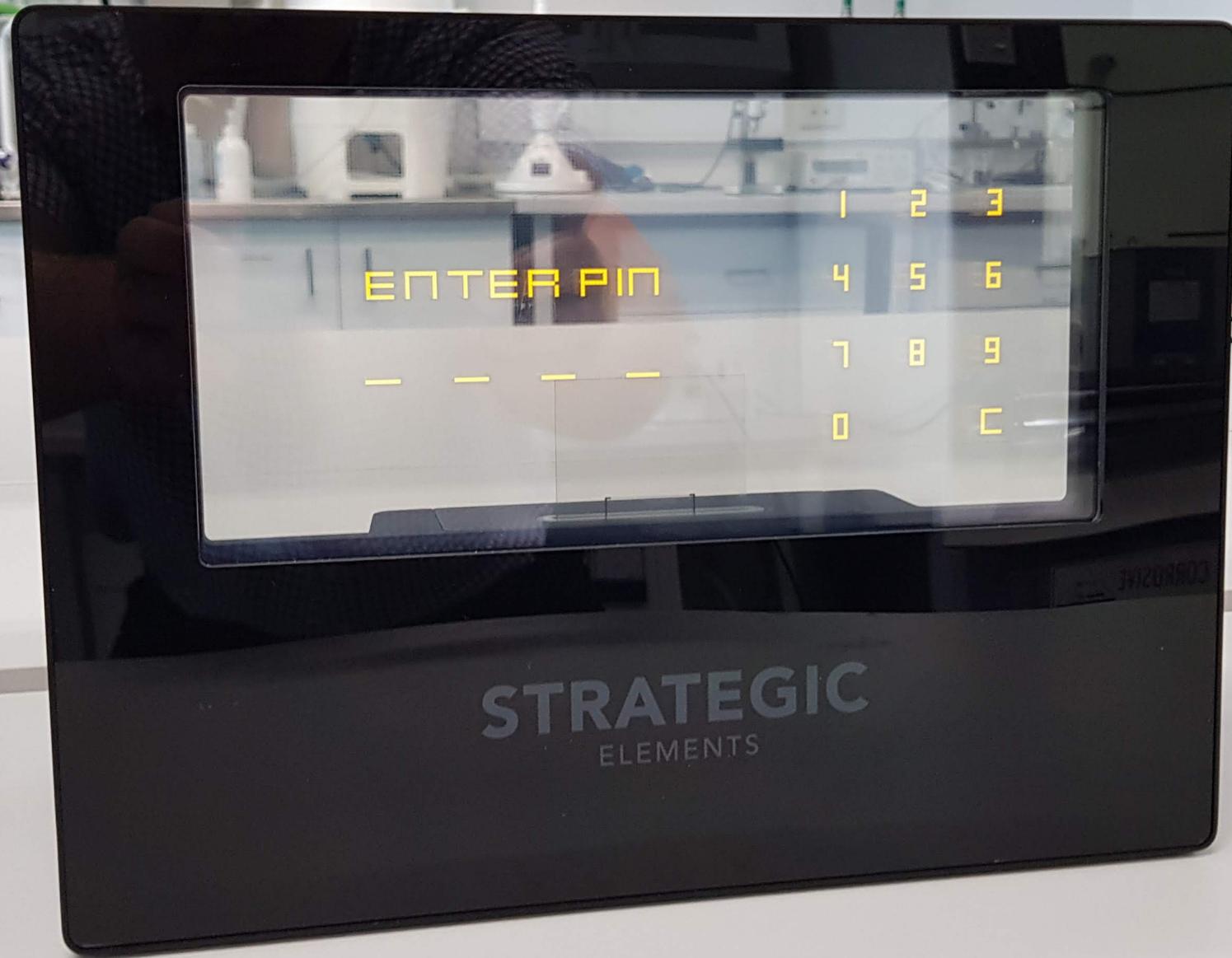
Transparent Glass Demonstrator



- Fabricated an access control system with UNSW and VTT Finland to highlight the **transparent, printable** characteristics of the Nanocube Memory Ink.
- The role of the Nanocube Memory is to store authentication data for use as part of a Transparent Security Access System.
- Third party transparent display and touch sensor component was integrated with the transparent Nanocube Memory Ink and custom application logic developed by the team.
- The initial version showcases the transparent nature of the Nanocube Memory and the ability to print functional memory onto glass. A writable device was demonstrated utilizing ITO. Further performance enhancements expected.
- Subsequent versions with different functions to security. Could store a range of information or images **directly** on a glass display or window. Could be combined with sensors and other computer vision technologies.

Transparent Glass Demonstrator – Access Control System

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The Opportunity

- Dramatic expansion in storage requirements.
- Expanding Printed Electronics applications.
- Enhanced Security.
- Edge applications requiring compute and data storage as a result of more processing at the edge.
- Delivering storage on glass and plastic for transparent, structural and/or flexible electronics (**freedom of design forces a re-think of new product applications and categories**).

Memory is at the heart of transparent and flexible electronics and the development of a printed, transparent memory component could dramatically increase the ability for new applications to be developed globally.

Part of the Roadmap 2020

- Seeking research and development partners with advanced printing capabilities, suppliers of innovative glass, plastic substrates or materials for patterning of substrates.
- Deliver a prototype Nanocube **selector** technology with capacity to **dramatically increase printable memory storage density**.
- Expand development on plastic and deformable substrates.
- Fabricate a Nanocube Memory **demonstrator device with 2D storage array on a flexible material**.
- Showcase proof of concept for **alternative applications** of the Nanocube Nanomaterial.
- Seek potential **licensing** partner or **strategic funding** partner for the Nanocube Nanomaterial.
- Secure an additional funding grant from the Australian Government.