



## SOR Escalates Self-Charging Battery Development

**Perth, Australia, 30 October 2020** – Strategic Elements Ltd (ASX:SOR) subsidiary Australian Advanced Materials has agreed to escalate development of the **self-charging** flexible battery technology under collaboration with the University of New South Wales<sup>1</sup>. The team will fast-track ink scale up to achieve 1 litre of ink within the next 4 weeks. To provide perspective, 1 litre of Battery Ink has the capacity to **produce more than 2000 printable battery cells**.

**SOR Managing Director Charles Murphy said:** *"It took years for our team to understand how to scale up our Nanocube Memory Ink to a 1 litre batch size. Achieving this within 4 weeks for the Battery Ink will provide strong evidence of the potential to harness our previous electronic ink experience. It's an ambitious goal but it's a challenge the team have taken on. We have also agreed with UNSW to pursue Federal Government 'matching grant funding' opportunities for integration of the Memory, Battery and Electronic Circuit ink technologies".*

The **self-charging** battery technology is being developed under a collaboration with the University of New South Wales and CSIRO partially funded by the Federal Government<sup>2</sup>. The Battery cells **generate electricity from humidity in the air or skin surface** to self-charge themselves **within minutes**. No manual charging or wired power is required. They are created with a **printable ink** and are ideally suited for use in Internet of Things (IOT) devices. The global **battery market** for IOT was worth USD 8.7 billion in 2009 and forecast to be USD 15.9 billion in 2025<sup>3</sup>.

*The Company intends to deploy its capital to accelerate development in current projects and to seek further acquisitions in Australian innovation. The Company will announce these plans as they are agreed with the various development teams and partners.*

### Battery Ink

The **Battery Ink** is being developed by integrating significant existing ink formulation and printed electronics intellectual property from the Company's **Nanocube Memory Ink** technology with an **advanced graphene oxide** material. Strong potential competitive advantages exist over lithium based batteries that suffer from flexibility, dimension, weight and safety issues whilst needing a constant power supply to recharge.

#### Lithium Batteries

- manually charged or plugged into power
- inflexible
- potentially flammable
- comparatively heavy
- environmental issues

#### Battery Ink Cells

- self-charging in minutes
- flexible
- not flammable
- extremely thin and light
- environmentally friendly

### Batteries for Internet of Things (IOT)

Technological advancements and adoption of various IOT devices such as wearable healthcare electronics, smart meters, various sensors and home automation products, are key reasons for driving growth in the battery market. The growing need for thin and flexible batteries in IOT and **medical devices**, along with inherent advantages of **micro batteries** provides significant opportunities.

Development will be conducted under the collaboration between the Company, UNSW and CSIRO part funded by the Australian Research Council<sup>1</sup>. The expected outcomes of the circa \$1M Project are new electronic materials for a wide range of uses in flexible electronics and significant advances in energy efficient data storage devices. IP and commercialisation rights remain with the Company.

### Strategic Elements Background

- Investors in SOR potentially **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 Australian Federal Government has registered Strategic Elements as a Pooled Development Fund with a mandate to back Australian innovation. SOR funds teams of leading scientists or innovators in the technology or resources sectors.
- The Company is listed on the ASX under the code "SOR". More information on at [www.strategicelements.com.au](http://www.strategicelements.com.au)

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

<sup>1</sup>announced 27/10/20

<sup>2</sup>announced 30/7/20 <sup>3</sup><https://www.marketsandmarkets.com/Market-Reports/battery-iot-market-153084557.html>