



SOR Strategic Elements March Quarter Update

Perth, Australia – 28 April 2023 Strategic Elements Ltd (ASX: SOR) provides the following Company update to accompany the attached Appendix 4C lodged for the quarter ending 31 March 2023.

Strategic Elements Ltd ended the March quarter with \$8.68M in cash.

Capital Raising

The Company opened a Share Purchase Plan (SPP) on 21st of February 2023, seeking to raise \$1,000,000. Within two and half days of opening the SPP, \$1,700,000 in applications were received, immediately exceeding the \$1,000,000. In an effort to ensure all shareholders had the opportunity to participate, the Directors held the SPP open for a further 7 days.

Shareholder demand was very strong, with \$6,708,650 in applications received. Under the terms of the SPP, oversubscriptions were accepted at the Directors' discretion and subject to all legal and regulatory requirements. In recognition of the strong desire for shareholders to participate, the Company ultimately accepted \$5,850,000 in applications and issued 56,053,546 new shares at 10.5 cents.

AAM currently has an Energy Ink™ grant with the University of New South Wales under consideration from the Federal Government. The total budget for the project is **\$2,789,275** and if successful, requires a cash contribution of **\$800,000 from AAM**. Under this project, Professor Chu, a co-inventor of the technology, will be able to be engaged in a **full-time** capacity for four years. Energy Ink™ IP will be retained **100%** by AAM. Successful applicants are expected to be notified in Q2 2023.

Under these types of grant programs, agreements are formed between the funding body, a scientific organisation such as a university and a Company, which contributes a portion of the overall budget. The Company places high value on winning competitive Federal grants that provide cash funding and access to otherwise unobtainable researcher expertise and multimillion-dollar equipment. Third-party technical due diligence by leading scientific peers is an underappreciated benefit.

Funds raised will also be used in part for AAM's existing **active development program** to power wearable devices and R&D pathways for **larger-scale** Energy Ink™ systems.

Australian Advanced Materials (AAM)

During the period, Strategic Elements Ltd reported multiple successful developments in the Energy Ink™, a revolutionary new power source that generates electrical energy from moisture in the air. Development during the quarter focused on stable voltage and power management for skin patch devices and the investigation of potential R&D pathways for larger-scale energy ink systems.

Energy Ink™ is still in development, and the fundamental upper limit of aspects such as maximum power output, duration and energy density remains unknown. Significantly, the team are consistently identifying multiple avenues that increase performance. It is accepted that the imperative for more innovative, renewable energy creation and power sources will continue to grow. Printed, environmentally friendly graphene-oxide-based cells that generate energy from airborne water molecules could potentially directly power a device, complement a battery by extending device life or providing energy for battery storage.

The Company has successfully compared the power output of an Energy Ink battery, powered solely by moisture, to the baseline power consumed by a leading glucose-monitoring skin patch. The extremely thin, flexible, environmentally friendly Energy Ink battery generated over 200% more power than required¹. During the quarter, multiple Energy Ink™ battery breakthroughs were achieved in materials engineering and power management, targeting the rapidly growing USD 10 billion Electronic Skin Patch market¹. Testing showed a further 225% increase in power output, and importantly, for the first time, an ultra-stable output voltage was demonstrated from moisture.

Stable output voltages are critical to power the sensitive electronic circuits contained in many electronic devices, enabling them to perform more reliably and without error. It is unusual to demonstrate such a stable output voltage this early in the development of new battery technology. Given the revolutionary manner in which the Energy Ink generates energy from moisture, it is a highly important early achievement.

Key Achievements

- Innovative work at UNSW laboratories in printed electrode design, nanoengineering and integration of various functional materials significantly upgraded the ability of the Energy Ink to produce a highly stable output voltage from moisture.
- The Perth Engineering Lab utilised a new power management module to further modulate and control the output voltage whilst emulating the load of a leading Continuous Glucose Monitoring (CGM) skin patch. An ultra-stable, highly controlled output voltage demonstrated the stability to power sensitive digital electronics such as CPUs, memory and wireless communications
- In addition, a 225% increase in power output was achieved, as compared with the simple power management reported in December 2022.

Electronic Skin Patches

Testing was conducted by simulating the load of a leading Continuous Glucose Monitoring (CGM) skin patch. With the use of these devices expected to surge globally, the clear goal for manufacturers is to make devices as inconspicuous as possible, provide more advanced sensing, keep costs low, and be friendlier to the environment. The advantages of the Energy Ink technology align with these goals.

CGM patches (and their batteries) are replaced by the user every 10-14 days. Worldwide there are over 7 million users (equating to over 150M patches), with the segment undergoing rapid growth. For example, the leading CGM Company posted sales of \$1.1 billion in the fourth quarter of 2022 alone, a year-over-year jump of more than 40%. The second-ranked Company reported \$815 million, up 17% year-over-year^{1,2}.

CGM patches are just one segment of the overall Electronic Skin Patch market that provide sports, health and other information from devices attached to the human body. The overall market is forecast to grow to USD 30 billion by 2031³.

Investigation of Potential R&D Pathways for Larger-scale Energy Ink Systems

Research and development activities indicate that the Energy Ink™ technology is on track to exceed the power density of solar technology due to breakthroughs in converting moisture into energy. The Energy Ink™:

- currently has a peak power density of 14mW/cm² which is equivalent to 70% of the power density of solar technology;
- currently has over 200x the power density of other relevant moisture electricity generation technologies published in global literature;
- leverages breakthroughs in the fundamental mechanisms that convert moisture to energy; and
- integrates these breakthroughs into nanoionic inks that enable high power density.

Specific development goals are:

- nano-engineering of discoveries in the fundamental mechanisms that convert moisture to energy into an ink formula;
- optimisation of the ink to produce ultra-thin cells of approx. 200 micrometres (2 pieces of paper); and
- fabrication and testing of Energy Ink™ cells with **power density exceeding solar** (>20mW per cm²).

Power density is a measure of how much power can be generated from a given space. To date, no other relevant renewable energy technology has come close to exceeding the power density of solar technology. Successful development would provide a strong, early indication of the technology's potential; however, it should also be recognised that the technology is under development and still has risks.

Renewable Energy Power Density

In renewable energy technology, power density is highly desirable because it means that more power can be generated from a given space. In the context of solar panels, power density refers to the amount of power that can be generated per unit area of the panel. Photovoltaic technology (solar) has the highest power density of all renewable energy sources and is the gold standard. Exceeding the power density of solar will represent a significant global achievement for the Energy Ink™.

Power density is also used to predict the potential power output of renewable energy systems scaled up over a larger area or volume. Once the power density of the Energy Ink™ cell is finalised, predictions on the potential power output of a larger-scale system can be made. This will assist the Company in communicating the significant potential larger-scale opportunity of the Energy Ink™.

Application Focus

Market entry is focused on where solar or grid energy is **impractical or too expensive**. The Company is working with experts from specialised areas, such as electric vehicle charging and computing infrastructure, to identify initial applications that leverage the features of the Energy Ink™.

Summary of potential features:

- Renewable green energy
- Utilises free, limitless ambient moisture
- Generate energy both day and night
- Portability, lightweight, flexible materials
- Position in a cabinet indoors or outdoors
- Avoid expensive grid infrastructure
- Much smaller footprint
- Printable materials reducing time and cost

Stealth Technologies (Stealth)

Automation and robotics/AI company Stealth has continued to work on solutions for the mining sector in Western Australia, in particular processing data collected from live underground mining environments with a major mining company. Solutions that are capable of increasing mine throughput and productivity in the short term are being targeted, and Stealth has developed its own hardware and software for these solutions.

During the preceding 6-month period, Stealth signed an agreement with global software-industrial company Honeywell to progress the commercialisation of Autonomous Security Vehicles (ASVs) for perimeter security. Under the agreement, Honeywell is responsible for identifying, engaging, and maintaining customer relationships, procuring access to customer facilities, processing fees and entering into and maintaining agreements with customers to facilitate ASV Pilot Deployments.

Stealth has also been developing new hardware and software products for the security sector, which are at different stages of development. These consist of a range of product types, including hardware and software/AI. Stealth is currently testing the market demand for some of these.

Stealth engineers have continued to support the battery technology development at Australian Advanced Materials Pty Ltd by through testing at the laboratory in Perth, and continuing to developing further customised test equipment and cloud-enabled test data storage and analysis.

Stealth also continued to progress its late-stage broadacre weed detection technology. The data from the live field trials that was completed with the Australian Herbicide Resistance Initiative in the last quarter is currently being processed and results are expected to be available Q2 2023. The live field trials were conducted at Pingelly in the wheat belt of Western Australia.

Maria Resources (Maria)

Maria focuses on technology metals (e.g. REE, Ni, Cu, Au, PGE (platinum group elements) related to batteries and advanced technology and applying innovative geological models to unexplored terrains. It is applying scientific modelling to projects based in the highly underexplored Madura Province on the Nullarbor. During the quarter, the Company commenced a review of its projects in relation to partnering strategies. Where necessary, this may include activities to test the geology, cover depth etc., through geophysics or field activities.

Strategic Elements Ltd

The Company received \$270k in rebates under the R&D Tax Incentive program and a further \$17k in interest income. Strategic Elements incurred expenditure of \$485k which includes costs associated with the Company's Share Purchase Plan (SPP) which closed on the 3rd of March. The Company accepted \$5.88m under the SPP and issued 56,053,546 new shares at 10.5 cents. Payments of \$258k to related parties and their associates at item 6.1 of the accompanying Appendix 4C. These payments comprise director's fees for Directors and salaries for Executive Directors.

AAM incurred expenditure of \$120k related to R&D development undertaken at UNSW, consultants and other costs incurred in developing and managing AAM's IP portfolio. AAM received an R&D rebate of \$217k for the FY22 period. Stealth incurred \$203k in direct expenses related to staff, consultants and R&D development costs across projects. Cognition Engines incurred net expenditure after R&D rebate for FY22 of \$6k related to early technology evaluation costs. Maria incurred \$63k in costs associated with its battery metal projects. Strategic Materials incurred \$2k in permit and consulting fees related to holding the Golden Blocks permit in New Zealand. Net cash used across the group over the March quarter was \$661k.

The Australian Federal Government has registered Strategic Elements as a Pooled Development Fund with a mandate to back Australian innovation. The Company supports leading Australian scientists and innovators in high-risk-high reward ventures. SOR majority funds the initial development of each Venture whilst seeking a major strategic investor/partner able to assist commercialisation. The Company is backing projects across robotics, artificial intelligence, printable technologies (battery, storage) and battery metals.

More Information:

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

Footnotes

1. <https://www.nasdaq.com/articles/heres-why-you-should-retain-abbott-abt-stock-for-now-3>
2. <https://www.investors.com/news/technology/dexcom-stock-dexcom-earnings-q4-2022/>
3. <https://www.idtechex.com/en/research-report/electronic-skin-patches-2021-2031/821>

Appendix 4C

Quarterly cash flow report for entities subject to Listing Rule 4.7B

Name of entity

Strategic Elements Limited

ABN

47 122 437 503

Quarter ended ("current quarter")

31 March 2023

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
1. Cash flows from operating activities			
1.1 Receipts from customers	-	15	
1.2 Payments for			
(a) research and development	(309)	(953)	
(b) product manufacturing and operating costs	-	-	
(c) advertising and marketing	(14)	(52)	
(d) leased assets	-	-	
(e) staff costs	(452)	(1,299)	
(f) administration and corporate costs	(170)	(462)	
1.3 Dividends received (see note 3)	-	-	
1.4 Interest received	17	28	
1.5 Interest and other costs of finance paid	-	-	
1.6 Income taxes paid	-	-	
1.7 Government grants and tax incentives	270	721	
1.8 Other	-	-	
1.9 Net cash used in operating activities	(661)	(2,005)	
2. Cash flows from investing activities			
2.1 Payments to acquire or for:			
(a) entities	-	-	
(b) businesses	-	-	
(c) property, plant and equipment	-	-	
(d) investments	-	-	
(e) intellectual property	-	-	
(f) other non-current assets	-	-	

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
2.2	Proceeds from disposal of:		
	(a) entities	-	
	(b) businesses	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) intellectual property	-	-
	(f) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash used in investing activities	-	-

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	5,886	5,886
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(20)	(20)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from financing activities	5,866	5,866

4.	Net increase/(decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	3,478	4,824
4.2	Net cash used in operating activities (item 1.9 above)	(661)	(2,005)
4.3	Net cash used in investing activities (item 2.6 above)	-	-
4.4	Net cash from financing activities (item 3.10 above)	5,866	5,866

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (9 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	(2)
4.6	Cash and cash equivalents at end of period	8,683	8,683

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	2,082	1,950
5.2	Term deposits	6,616	1,540
5.3	Bank overdrafts	-	-
5.4	Other (credit card)	(15)	(12)
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	8,683	3,478

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	258
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

7.	Financing facilities <i>Note: the term "facility" includes all forms of financing arrangements available to the entity.</i> <i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	-	-
7.5	Unused financing facilities available at quarter end		-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash used in operating activities (item 1.9)	(661)
8.2	Cash and cash equivalents at quarter end (item 4.6)	8,683
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	8,683
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">13.14</div>
<i>Note: if the entity has reported positive net operating cash flows in item 1.9, answer item 8.5 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.5.</i>		
8.6	If item 8.5 is less than 2 quarters, please provide answers to the following questions:	
8.6.1	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
	Answer: n/a	
8.6.2	Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
	Answer: n/a	
8.6.3	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?	
	Answer: n/a	
<i>Note: where item 8.5 is less than 2 quarters, all of questions 8.6.1, 8.6.2 and 8.6.3 above must be answered.</i>		

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 28-April-2023.....

Authorised by: Matthew Howard.....
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.