

Perth, Australia  
April 30, 2025



## Strategic Elements March Quarter Update

**Strategic Elements Ltd (ASX: SOR)** provides the following update to accompany the Appendix 4C lodged for the quarter ending 31 March 2025. Strategic Elements (SOR) operates as a Venture Builder, sourcing and combining teams of leading scientists and innovators to develop high-potential, early-stage technologies. SOR majority-funds the initial stages of development and works closely with each venture, while seeking a strategic partner or major investor to support scale-up at the appropriate stage.

### Q1 2025 Summary – AAM and Stealth

- AAM advanced scalable Energy Ink™ fabrication and reduced prototype material set cost to under 20 cents/cm<sup>2</sup>, with the aim of enabling international collaboration.
- A screen printing trial in a commercial facility has commenced for disposable Energy Ink™ prototypes using automated equipment.
- A high-power Energy Ink™ prototype achieved a ~40% increase in energy density, with watt-range energy output demonstrated in a multi-cell array, however the prototype remains unsuitable for scaling at this stage.
- Stealth implemented a series of hardware and software upgrades based on in-mine data from underground field work conducted under its MOU with an Australian mining company.
- A new development drive application targeting overbreak and underbreak challenges in the gold sector was initiated, with WA-based trials planned for Q3.
- While the Company made meaningful technical progress during the quarter, no developments occurred that required separate disclosure under ASX Listing Rules.

### Australian Advanced Materials Pty Ltd

AAM, a wholly owned venture of SOR, is leading the development of the Energy Ink™ technology in collaboration with a world-class materials science team from the University of New South Wales and other partners. Energy Ink™ is a moisture-powered energy technology that generates electricity from humidity in the air. Essentially, it is an electronic ink composed of functionalised nanoparticles that generate electric current when exposed to ambient humidity or water vapor. SOR is supporting the early-stage development by providing patient equity capital and other resources while seeking a commercialisation partner or investor at the appropriate stage.

**During Q1 2025, AAM advanced scalable Energy Ink™ fabrication, improved prototype performance and cost, and is preparing for international pilot collaborations for its disposable technology. In parallel, AAM made important progress on a higher-power Energy Ink™ prototype, increasing energy output by approximately 40% and demonstrating watt-range generation in a large multi-cell array.**

The technology has attracted multiple collaborations and more than \$5 million in competitive, peer-reviewed scientific project funding to date. The Energy Ink™ technology remains in the early stages of development and continues to face important technical challenges such as power, durability, shelf life, scalability, and the transition from early-stage prototypes to integrated systems.

The technology is currently at the prototype stage, with two parallel development streams: a disposable low-power version using low-cost materials and a higher-power version designed for increased energy output.

### Disposable Energy Ink™ Cells

AAM is progressing the Energy Ink™ technology from laboratory-scale prototypes — which involved manually fabricating individual energy-harvesting cells — to prototypes produced in a commercial facility using larger-scale, automated equipment. This move is an important step toward industrial scalability.

### *Background to Current Focus*

Shifting from laboratory methods requires careful selection of appropriate fabrication techniques. While manual lab-based methods enabled early development and proof-of-concept testing, they are not suitable for high-volume or consistent manufacturing. In contrast, commercial-scale equipment allows for the production of prototypes with large numbers of integrated cells, fabricated with greater precision, repeatability, and efficiency.

Each potential large-scale manufacturing technique — including screen printing, inkjet printing, roll-to-roll processing, slot-die coating, and tape casting — imposes specific physical, chemical, and rheological demands on the ink formulation. Accordingly, achieving consistent performance at scale requires substantial modification and optimisation of the ink formulation through extensive time, iterative testing, and trial-and-error refinement for each selected process.

Demonstrating automated fabrication capabilities within Australia provides a strategically important proof point, validating that Energy Ink™ can move beyond lab-scale development. This strengthens AAM's position ahead of planned international collaboration with printed electronics specialists, where access to advanced sector expertise and industrial-scale equipment will be critical. The ability to produce integrated, multi-cell prototypes using commercial processes with international development partners lays the foundation for potential longer-term engagement with prospective pilot customers seeking Energy Ink™ solutions for specific applications.

During 2024, AAM and its collaborators trialled multiple fabrication methods to assess their suitability for scale-up. This work involved extensive trial-and-error testing, requiring significant time to adjust both fabrication parameters and ink properties. Following this evaluation, screen printing was selected at the end of Q4 as the most promising method due to its compatibility with the ink system, its suitability for scalable, repeatable production across a broad range of potential use cases, and the widespread availability of screen printing equipment in manufacturing facilities globally.

### *Progress and Future*

In Q1 2025, an expanded trial using commercial-scale automated screen printing equipment was initiated to explore the feasibility of producing integrated, multi-cell Energy Ink™ prototypes. This work remains part of a broader effort to address key technical challenges. Progress at this stage is important for informing targeted international collaboration with printed electronics groups, where access to specialised infrastructure will support the next phases of development. Establishing a stable, scalable fabrication pathway is also a prerequisite for future application development.

In parallel, the development team successfully optimised the disposable Energy Ink™ cell prototype to improve electrical performance and extend the duration of energy harvesting. Notably, these gains were achieved using low-cost, readily available materials — an important technical step in aligning the technology with future commercial pathways. As a result, the material set cost for prototype Energy Ink™ cells was reduced to under AUD 20 cents per cm<sup>2</sup>, with further reductions possible through bulk sourcing of input materials. Achieving meaningful energy output at such a low material cost represents a key technical advancement and enhances the potential to commercialise the Energy Ink™ technology.

In Q2 2025, AAM will focus on completing the current expanded trial of screen printing in Australia, to prepare the disposable Energy Ink™ cell technology for transfer to international collaborators with the expertise and industrial infrastructure required to support the next stage of scale-up and development.

Throughout 2024 and into the first of 2025, development efforts will have primarily focused on R&D within Australia, leveraging available local expertise and facilities to advance the Energy Ink™ technology. AAM anticipates expanding development activities during Q4 2025 to include international collaborations with specialist groups in printed electronics. These collaborations are intended to further accelerate technical progress and open the door to pilot programs with prospective end customers identified through the networks of AAM's collaborative partners.

### High Power Energy Ink™ Cells

In Q1 2025, AAM made meaningful progress in developing a higher-power version of the Energy Ink™ technology aimed at significantly increasing energy output per unit area. While still at an early stage, the latest single ink layer prototype achieved a ~40% increase in energy density compared to earlier multilayer designs. A previous 10-layer prototype averaged 15.3 mWh/cm<sup>2</sup> per layer over a 3-hour test, whereas the new single-layer configuration achieved 21.5 mWh/cm<sup>2</sup> in a large-array format.

To evaluate fabrication pathways, AAM trialled commercial screen printing, but the high-power formulation was not compatible with standard printing equipment. Instead, a pick-and-place assembly method was trialled at an Australian commercial facility. A 64-cell array was fabricated and tested in open-air conditions, producing over 21 mWh/cm<sup>2</sup> on average per cell and more than 1 Wh of total energy over a 3.5-day period. This marked the first time an Energy Ink™ array demonstrated watt-range energy generation.

The 64-cell device has successfully advanced Energy Ink™ prototypes from the milliwatt to the watt range, whilst extending high-power energy harvesting from hours to multiple days. Despite these promising results, both the current fabrication method and high-performance material set — developed with UNSW — are not yet cost-effective or suitable for scaling.

In Q2 2025, AAM will continue work on further high-power development challenges, while primarily focusing on developing the capability for the disposable cell technology to be transferred to international collaborators with the expertise and equipment to support the next stage of progress.

### Stealth Technologies Pty Ltd

Stealth Technologies Pty Ltd (Stealth), a wholly owned venture of SOR, is developing the AxV Platform — an integrated hardware and software system combining autonomous vehicles, computer vision, robotics, and artificial intelligence. Stealth's current underground mining development work leverages the AxV Platform's capabilities to create solutions tailored for the demanding operational environments found in underground mining.

The AxV Platform is the result of years of accumulated experience and development across multiple technology domains. Stealth has previously worked under collaboration and research agreements with leading scientific organisations including Defence Science and Technology Group (DSTG), University of Western Australia, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), and the University of New South Wales. The Company has also successfully secured grant funding from Defence West, the Commonwealth Automotive Engineering Grant, and CSIRO On Prime programs.

#### *Collaboration on Technology for Underground Applications*

In Q1 2025, Stealth continued to advance the development of its underground mining technology platform. Data collected during collaborative trials within the underground mine operations of a mining company (under an existing Memorandum of Understanding) led to a series of enhancements to both hardware and software components. These improvements have expanded the range of potential underground mining applications based on insights identified during collaboration.

Key outcomes during the period include:

- Upgrade of computing hardware to an NVIDIA chipset, improving processing speed and local computational capacity.
- Enhanced thermal management to accommodate higher-performance chipsets.
- Integration of new hardware interfaces to enhance real-time interaction with the underground environment and operators.
- Software upgrades to support additional underground use cases.

Stealth continues to work with its partner to plan the next phase of technology testing and refinement under the collaboration.

### *Additional Development*

In Q2 2025, Stealth will also progress technology development specifically focused on improving underground development drive construction. This addresses a significant opportunity in overbreak and underbreak challenges. Stealth's development efforts in this area are not currently under its existing MOU and form part of a separate commercialisation pathway.

Overbreak refers to excess excavation beyond design specifications, while underbreak results in incomplete excavation that requires costly rework. Both issues can materially increase development costs, delay mine schedules, and reduce advance rates — significantly impacting access to revenue-generating ore bodies. Improving control of development drives addresses a very large, critical inefficiency across the global underground mining sector.

Precision control of development drives has the potential to improve project economics by 1) Accelerating access to ore and early revenue generation 2) Reducing rework, ground support, and scheduling delays and 3) Enhancing infrastructure connection accuracy underground.

A key technical advantage of Stealth's platform is its fully self-contained, handheld design, requiring no external network connection, off-board computing, or cloud-based storage. All processing and analysis are conducted locally on the device. This architecture supports reliable, real-time performance underground, even where conventional communications infrastructure is unavailable.

Following technical upgrades and field activities planned for Q2 2025, Stealth will seek to engage additional mining companies across a broader range of mineral resources. Engagements will focus on validating performance in real-world conditions and demonstrating the commercial value proposition of the technology. Field trials are intended to commence with Western Australian-based industry partners during Q3 2025.

## **Maria Resources Pty Ltd & Strategic Materials Pty Ltd (100%)**

Maria Resources is collaborating with Dr Franco Pirajno, previously recognised among the top 1% most-cited researchers globally. He has 246 published peer-reviewed publications, is a sole author of 4 geology books. In industry, Dr Pirajno has worked in mining and exploration with Anglo-American Corp of South Africa for 19 years in Africa, Australia, SW Pacific and New Zealand and was an Exploration Manager for Anglo-American Corporation of South Africa Ltd in the Southwest Pacific. Maria Resources focuses on applying innovative, scientific geological models to unexplored terrains and is currently working in the underexplored Madura Province (Nullarbor, WA).

Strategic Materials is currently in discussions with relevant New Zealand authorities regarding the Golden Blocks Project. Additionally, the company is developing a Project Information Memorandum to share key project details with potential partners or investors, ensuring it aligns with ASX public reporting requirements.

## **Pooled Development Fund Program**

The Australian Federal Government has registered Strategic Elements as a Pooled Development Fund (PDF) with a mandate to back high-potential, early-stage Australian innovation. New PDF registrations are no longer available; however, existing Funds registered under the PDF program continue to operate under Federal regulation.

The PDF program provides a highly beneficial tax structure while placing strict regulatory oversight on the Company and its Directors to ensure compliance with the Australian Federal Government's Pooled Development Fund Act 1992. The program encourages investment into Australian SMEs by offering tax incentives to Pooled Development Funds that provide patient capital.

This structure helps bridge the funding gap for SMEs that require long-term growth capital without the immediate pressure of rapid returns. Patient equity capital enables companies to pursue strategic initiatives such as innovation, intellectual property development, pilot program deployment, and partnerships with potential customers — fostering sustainable growth over accelerated short-term outcomes.

### *Collaboration with Research Institutions and Universities*

Wherever possible, SOR encourages its ventures to collaborate with research institutions and universities. Partnerships with these institutions provide access to advanced research infrastructure and expertise, which can significantly enhance development capabilities while reducing capital and operational expenditure.

Additionally, these collaborations create opportunities to apply for external funding grants, particularly from federal sources. Access to grant funding not only supports ventures during the critical development stage but also reduces the amount of direct capital required from SOR, optimising the deployment of funds and extending the capacity to pursue new opportunities.

### *Partnering and Market Engagement*

Pilot programs and trial projects are a key focus area for SOR's ventures. These early deployments allow a venture to collaborate with a potential customer or partner to test, validate, and demonstrate the capabilities of its technology in a real-world environment. The goal is to prove the value and effectiveness of the solution prior to full-scale implementation, providing valuable insights into performance, refinement opportunities, and the feasibility of adoption. Successful pilot programs are critical to building customer confidence and accelerating market entry.

### *Investment*

As ventures mature, they will require additional funding to support their growth. SOR will play an active role in organising subsequent funding rounds by introducing co-investors and syndicate partners who are aligned with the venture's strategic direction. Because SOR provides patient equity capital at the early stages, subsequent investment rounds are typically organised after a venture has validated its technology and demonstrated traction, allowing an appropriate valuation to be attained and protecting early-stage shareholder value.

## **Strategic Elements Financials**

The Company ended the quarter with a strong cash position of \$4.87M and no debt. Across the group, net expenditure was \$618k; this included all corporate costs, research and development expenditures, internal costs incurred in operating the ASX-listed entity and direct costs in providing management assistance to investee companies, principally Australian Advanced Materials (Energy Ink™ technology) Stealth Technologies (robotics and artificial intelligence) and Maria Resources (frontier exploration).

Corporate and internal costs incurred in operating the ASX-listed entity of \$373k were attributable to Strategic Elements. Payments of \$211k to related parties and their associates are reported at item 6.1 of the accompanying Appendix 4C, this includes remuneration for Executive Directors. AAM incurred expenditure of \$85k related to R&D development undertaken at UNSW, consultants and other costs incurred in research and managing AAM's IP portfolio. Stealth incurred \$166k in staff, consultants, and R&D development expenses across projects. Cognition Engines incurred no costs for R&D development and consulting costs. Maria incurred \$13k in costs associated with its technology metals projects. Strategic Materials incurred \$7k in permit and consulting fees for holding the Golden Blocks permit in New Zealand. R&D rebates totalling \$339k were awarded to Australian Advanced Materials and Maria Resources for FY24 R&D activities

**More Information:** Mr Matthew Howard, Executive Director / Company Secretary

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

*Risks and Forward-Looking Statement- The Company's future success depends on its venture companies' successful development. The Company has had initial success with the development of Energy Ink™ technology. However, given it is still an early-stage technology, it is susceptible to risks associated with early-stage R&D, such as the uncertainty of material science development, intellectual property risks, materials engineering challenges, competition, fabrication challenges, access to required laboratory equipment and problems scaling up lab-based methods. There can be no guarantee that the assumptions and contingencies on which any forward-looking statements, opinions and development timeline estimates contained in materials published by the Company are based will ultimately prove to be valid or accurate. The forward-looking statements, opinions and estimates depend on various factors, including known and unknown risks, many of which are outside the control of the Company. Actual performance of The Company may materially differ from forecast performance.*

## 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 2025

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (9 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	1	1
1.2 Payments for		
(a) research and development	(156)	(854)
(b) product manufacturing and operating costs	-	-
(c) advertising and marketing	(1)	(12)
(d) leased assets	-	-
(e) staff costs	(361)	(1,106)
(f) administration and corporate costs	(141)	(580)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	41	135
1.5 Interest and other costs of finance paid	-	(3)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	339	707
1.8 Other	-	-
<b>1.9 Net cash used in operating activities</b>	<b>(278)</b>	<b>(1,712)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) businesses	-	-
(c) property, plant and equipment	(4)	(13)
(d) investments	-	-
(e) intellectual property	-	-
(f) other non-current assets	-	-

Appendix 4C

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

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)	-	-
<b>2.6</b>	<b>Net cash used in investing activities</b>	<b>(4)</b>	<b>(13)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	875
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	-	(37)
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)	-	-
<b>3.10</b>	<b>Net cash from financing activities</b>	<b>-</b>	<b>838</b>

<b>4.</b>	<b>Net increase/(decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	5,151	5,756
4.2	Net cash used in operating activities (item 1.9 above)	(278)	(1,712)
4.3	Net cash used in investing activities (item 2.6 above)	(4)	(13)
4.4	Net cash from financing activities (item 3.10 above)	-	838

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	-	-
4.6	Cash and cash equivalents at end of period	4,869	4,869

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	721	406
5.2	Term deposits	121	121
5.3	60 Day Notice	4,050	4,630
5.4	Other (credit card)	(23)	(6)
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	4,869	5,151

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	211
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>		



<b>7.</b>	<b>Financing facilities</b> <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>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	<b>Total financing facilities</b>	-	-
7.5	<b>Unused financing facilities available at quarter end</b>		-
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.		

<b>8.</b>	<b>Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1	Net cash used in operating activities (item 1.9)	(278)
8.2	Cash and cash equivalents at quarter end (item 4.6)	4,869
8.3	Unused finance facilities available at quarter end (item 7.5)	-
8.4	Total available funding (item 8.2 + item 8.3)	4,869
8.5	<b>Estimated quarters of funding available (item 8.4 divided by item 8.1)</b>	17.51
	<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: 30 April 2025.....

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.