



ALEXIUM

**QUARTERLY ACTIVITIES REPORT
FOR THE PERIOD ENDED**

31 December 2022

Q2 FY2023 Update Contents:

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Introduction by CEO, Billy Blackburn:

After two quarters with Alexium, my confidence in our people and business continues to grow. The Alexium team has embraced the shift of approach to a laser-like focus on customers and commercializing our technologies. I have watched our operations and supply chain team overcome significant challenges for critical raw material disruptions paired with a strained freight industry. All of this in the name of serving Alexium customers and serving them well. Alexium has deep expertise and experience in its executive team and key technical roles. What has been most rewarding has been to witness the next generation of commercial, technical, and financial leadership step forward in our organization. This development bodes well for the company's future, providing a solid foundation to build upon.

The Company's new strategy and resulting business plan will be rolled out across the organisation in Q3 FY23. In advance of that formal rollout, the team is already aligning around and focusing their efforts and resources to meet the objectives of the strategic plan. In short, we have prioritized our efforts into three distinct categories of focus:

- 1) Bedding market applications for all products,
- 2) FR application for military uniforms, and
- 3) Eclipsys™ application for tactical gear.

They are our short-term areas of focus in order of priority. Over the last 3 – 5 years, the largest area of invested time and resources has been the application of our technologies for the bedding market, which in turn now results in our largest opportunities for near-term financial success being in that market.

The largest percentage of Alexium's sales is to customers in the bedding markets. Those sales are made up of cooling and comfort applications of our technologies to mattress, pillow, and mattress topper manufacturers. To meet our short-term sales and profitability goals, we must grow and diversify our revenue within the bedding market. We will do so using a three-pronged approach of saturating current accounts, adding new accounts, and adding sales offshore to developed countries with strong bedding demand. We expect this approach will culminate in meaningful revenue growth and diversification within the bedding market. Alexium's sales and product development efforts are well-aligned with this focus. Our new increased focus has started to deliver results with new customers recently secured in the top-of-bed segment of the bedding market, a segment which presents numerous short-term opportunities for added revenue that have a much shorter lead time than our traditional mattress applications.

The Second Quarter of FY23 was a lumpy ride reflecting the somewhat fragile rebound of volumes in our core mattress market. Alexium had strong sales in October, with a dip in November and

December. The October results were driven by PCM orders to Tier 1 manufacturers building mattresses to restock dwindled floor inventories and a few large top-of-bed orders for PCM. The >\$1M sales volume of October showed that Alexium can achieve monthly sales volumes that will lead to cash-positive results once repeated monthly. November and December both were a return to the soft demand and sales that we have experienced since the bedding market downturn started some 12-months ago. In developing the new strategy and business plan, our research has demonstrated that there is enough opportunity for sales growth within the bedding markets for Alexium to meet its short-term revenue and earnings goals even at current historically low levels of market activity. When the bedding markets make a full recovery, Alexium will enjoy significantly improved results from both the customer base that it continued serving during the difficult market conditions, the new customer base it has acquired, and the new product applications it has developed in these more difficult times.

Renewal of the Colinton Capital Partners (CCP) convertible note

The original CCP convertible note of A\$5.15M that was executed in December 2019 and due for repayment in December 2023 was replaced with a A\$7.0M convertible note in December 2022 and matures in December 2025. The new note issuance repaid the outstanding prior note face value of A\$5.15M, accrued interest of A\$0.35M, and facilitated the injection of cash of A\$1.5M to support the Company's working capital needs. The general terms of the new note include a three-year term with 10% cash coupon interest or 12% if the Company decides to defer and accrue interest payments. The conversion price is A\$0.03/share which was a greater than 75% premium to the stock price at the end of December when the note was issued.

Q2 FY2023 Cash Flow Commentary

Cash receipts for the period were US\$1.5m with sales of US\$2.0m. Cash receipts increased by US\$0.2m versus the previous quarter. Whilst cash receipts improved from the prior quarter, we had US\$0.4M of accounts receivable that were due in the last week in the December that were not collected until the first week of January as customers sort to manage their year end cash positions.

Sales for the quarter were up by US\$0.5m versus prior quarter. There were signs of inventory replenishment in the bedding market over the period despite continued low US consumer confidence due to factors such as high consumer price inflation, the Russian/Ukraine war, and US Federal Reserve interest rate increases in the quarter. While sales volumes are down year-over-year, Alexium has retained its core customer base which will lead to increased revenues as the market rebounds.

Operating activity outflows (refer to Appendix 4C Item 1.2) primarily consist of raw material purchases, manufacturing costs, staffing costs, and corporate/administrative costs. Q2 staff costs were up US\$0.2M versus Q1 because of the timing of a third payroll in October due to the bi-weekly payroll cycle, payment of FY22 STIP to non-executives and a full quarter of Billy Blackburn as CEO with these items offset by headcount reductions. The Company experienced quarter over quarter increase of raw material purchases and production related costs of US\$0.1M as demand increased. Other cash outflows are in line with typical quarterly expenses. Total aggregate payments to related parties for the quarter equal US\$189K which include payments to non-

executive directors and compensation for executive directors, Bob Brookins, CTO, and Billy Blackburn, CEO.

Line of credit - The outstanding balance at the end of the period was US\$724K on the total eligible borrowing base of US\$1,690K leaving US\$966K available for use. This line availability plus the cash on hand of US\$1,102K gives the company total available funding of US\$2,068K.

Diversification of Alexium Customer Base in Bedding

The company has focused its business and product development efforts on diversifying sales across all segments of the bedding markets in North America and abroad. To succeed with this approach, Alexium must deliver attractive technological solutions for innerspring mattress producers, foam mattress producers, pillow producers, mattress topper producers, and online retailers focused on higher-volume e-commerce sales of “bed-in-a-box” units that are typically at a lower price point.

Importantly, the Company’s product development team has made recent technical breakthroughs with our PCM which make it more readily adaptable for application to foam mattresses and pillows. This advance opens approximately an additional 30% of the market previously not easily accessed by Alexium. The business development team has engaged new target customers for foam mattress and foam pillow applications of this new product, and we anticipate sales to customers in the foam mattress and pillow segments by the end of June.

At the same time, our new DelCool technology has opened doors for sales involving foam and innerspring mattress applications, and all types of pillows and mattress toppers. Importantly, this technology is priced to be applied in a lower price point market segment where significant sales volumes can be realized. Historically, Alexium’s technologies have only played well in the upper echelon of product classes where the additional cost adder could be readily absorbed at the ultimate retail level.

Finally, the Company is working with a top five international bedding brand to license Alexium technology for use in bedding applications abroad in markets where they have licensed bedding manufacturers making and selling their products.

These steps are all part of the revised strategy for Alexium to play a broader role across all segments of the bedding market, which will lead to improved results for the Company over the near term.

CY2023 Bedding Market Poised to Support Alexium Growth

Based on lead macroeconomic indicators in the US market, analysts are reporting the CY2023 is expected to show a modest upward growth trend in the North American bedding market. This forecast marks a positive shift in the market which has seen historic lows over the past two years.

While year-end data has not yet been published, CY2022 unit shipments of mattresses and foundation are expected to be down by c.-11% versus prior year, which would equal the largest

single year decrease in nearly 50 years based on ISPA market analyses.¹ This trend was driven by high US consumer price inflation coupled with the contraction in activity in the housing market. For CY2023, ISPA forecasts a modest increase in mattress sales as disposable incomes grow positively and consumer price inflation abates.

At Alexium, the current reporting period generally aligned with the ISPA market analysis. Periods of stronger sales were experienced as new customers in the top-of-bed market commercialized their new products. However, these sales while sizable are of intermittent frequency often reflecting seasonal and promotional activity by retailers and their customers. The Company sees further expansion in the top-of-bed market as a key component of growth in FY2023.

Alexium Dehumidifier Technology goes live in the Bedding Market

The company is currently negotiating terms for a multi-year supply contract for Alexium's newest innovation, DelCool. Sales of this technology to this new partner have already begun in earnest, which marks the commercial launch of this new technology. Initial trial quantity orders of 17,000 units have been secured under purchase order terms as the parties sort out the contract language for the longer-term, higher volume business. The initial orders are for the top-of-bed segment in the form of pillow liners. We will announce the finalization of the contract, along with forecasted revenues upon its execution.

The DelCool technology offers best in class, all night cooling with over 15°F reduction in heat index at peak performance and an average of 10°F reduction in heat index throughout the night for mattresses. Alexium is in discussions with several large players in the bedding market to adopt this technology into their products. To date, all prospective customer feedback has been positive, and we anticipate agreements to terms for the supply of meaningful volume to multiple parties over coming months.

Quarterly Update on Flame Retardant Product Portfolio

In addition to the Company's thermal management product portfolio for the bedding market, Alexium has significant commercial opportunities for its flame-retardant technology portfolio. While secondary to our primary focus area of the bedding market, this technology portfolio could prove to be one of Alexium's greatest sources of revenue gain in FY24 & FY25. Following is a summary of key activities during the reporting period:

Flame-retardant nylon/cotton fabrics (FR NyCo):

FR NyCo product development effort has been active and progressed well over the quarter. As previously reported in the prior quarter, the US Military's evaluation body has requested that Alexium provide our FR NyCo fabric with a lower final fabric weight, while achieving the required tear strength and fire-retardant properties. This adaptation is in line with the US military's initiative to lower the weight burden on military personnel while providing additional personal protection in the form of FR.

As reported in Q1, Alexium worked with a major nylon fabric supplier to source and validate the product performance at this lower fabric weight, which led to the new Alexium FR treated fabric meeting the key performance targets requested by the Military. The treated fabric samples were

¹ "Mattress Industry Forecast – November 2022" International Sleep Products Association.

submitted to the US Military for testing and evaluation. The initial review of those samples led to the military fast-tracking the technical review and field testing of this new FR NyCo offering to expedite a viable full-scale option for military personnel. More treated fabric was recently requested so they could cut and sew uniforms for active field testing on personnel. We caution that not all validation steps are yet complete, but all feedback thus far has been positive. It is now under review by two separate U.S. Military branches.

Market update for Eclipsys™ in Tactical Gear

A key market segment targeted by the Company is thermal regulation solutions for body armour applications in tactical gear. Due to the high heat & humidity retention of these products, wearers frequently suffer from significant thermal stress. To address this issue, the Company has developed an application of its Eclipsys™ technology for integration with body armour.

The initial launch of Eclipsys™ into this market in mid-2022 was very challenging. Alexium had to climb a steep learning curve to determine how to successfully integrate this technology into ballistic panels and tactical vests that have hundreds of variable types and sizes. On top of that, we had to perfect the production of the rolled good to be supplied to the producers of the tactical gear offerings. From all these learnings, the path forward became clear. The Eclipsys™ product was altered to provide a technical design that best suits the operational needs of tactical gear. In this work, the Company has been able to shift to a more sustainable material design while also providing improved thermal performance. The actual tactical gear application method was redesigned, which made customer adoption much simpler. Additionally, while making these adaptations, the Company's technical team improved upon our testing and validation methods to scientifically validate the heat and sweat reduction claims needed to demonstrate the Eclipsys™ value proposition to our customers and in turn their ultimate customers. We are happy to report that all improvements have led to multiple customers agreeing to test Eclipsys™ in their tactical gear. We just concluded a very successful business development event at the Shot Show in Las Vegas where a couple dozen new business development opportunities were landed with customers moving to test Eclipsys™ in early Calendar 2023.

Authorised for release by the Board of Directors of Alexium International Group Limited.

Appendix 4C

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

Name of Entity	
ALEXIUM INTERNATIONAL GROUP LIMITED	
ABN	Quarter ended
91 064 820 408	31-December-2022

Consolidated statement of cash flows	Current quarter \$US'000	Year to date (6 months) \$US'000
1. Cash flows from operating activities		
1.1 Receipts from customers	1,480	2,713
1.2 Payments for		
(a) research and development	(90)	(205)
(b) product manufacturing and operating costs	(895)	(1,689)
(c) advertising and marketing	(1)	(1)
(d) leased assets	(21)	(41)
(e) staff costs	(672)	(1,156)
(f) administration and corporate costs	(380)	(746)
1.3 Dividends received (see note 3)		
1.4 Interest received	2	4
1.5 Interest and other costs of finance paid	(42)	(68)
1.6 Income taxes paid		
1.7 Government grants and tax incentives		
1.8 Other (GST received)	13	15
1.9 Net cash from / (used in) operating activities	(606)	(1,174)

2. Cash flows from investing activities		
2.1 Payments to acquire or for:		

Appendix 4C
Quarterly report for entities subject to Listing Rule 4.7B

(a) entities		
(b) businesses		
(c) property, plant, and equipment		(3)
(d) investments		
(e) intellectual property	(130)	(193)
(f) other non-current assets		
Consolidated statement of cash flows	Current quarter	Year to date (6 months)
	\$US'000	\$US'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 from / (used in) investing activities	(130)	(196)

3. Cash flows from financing activities		
3.1 Proceeds from issues of equity securities (excluding convertible debt securities)		
3.2 Proceeds from issue of convertible debt securities	1,023	1,023
3.3 Proceeds from exercise of options		
3.4 Transaction costs related to issues of equity securities or convertible debt securities	(1)	(1)
3.5 Proceeds from borrowings	1,410	2,645
3.6 Repayment of borrowings	(1,204)	(2,211)
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 / (used in) financing activities	1,228	1,456

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	607	1,027
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(606)	(1,174)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	(130)	(196)

Appendix 4C
Quarterly report for entities subject to Listing Rule 4.7B

4.4	Net cash from / (used in) financing activities (item 3.10 above)	1,228	1,456
4.5	Effect of movement in exchange rates on cash held	3	(11)
4.6	Cash and cash equivalents at end of quarter	1,102	1,102

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 \$US'000	Previous quarter \$US'000
5.1	Bank balances	1,102	607
5.2	Call deposits		
5.3	Bank overdrafts		
5.4	Other (provide details)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	1,102	607

6.	Payments to related entities of the entity and their associates	Current quarter \$US'000
6.1	Aggregate number of payments to related parties and their associates included in item 1	189
6.2	Aggregate amount of payments to related parties and their associates included in item 2	
	6.1 Total payment of \$189K for non-Executive Directors fees and payroll for Mr Blackburn, Managing Director and Dr Brookins, Director (including \$s split for the NEDs & Executive Directors)	

7.	Financing facilities	Total facility amounts at quarter end \$US'000	Amount drawn at quarter end \$US'000
7.1	Loan facilities	4,893	4,893
7.2	Credit standby arrangements	1,690	724
7.3	Other (please specify)	-	-
7.4	Total Financing facilities	6,583	5,618
7.5	Unused financing facilities available at quarter end		966
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.		

Appendix 4C
Quarterly report for entities subject to Listing Rule 4.7B

7.1 - Colinton Capital Partners 3-year 10% A\$7.0M secured convertible note that matures on 27-Dec-26
 7.2 - Alterna CS - Asset based loan secured with working capital accounts with \$724K drawn on a total availability \$1,690K as of the reporting date. Interest is variable based on Wall Street Journal published Prime Rate + 5% spread for a current rate 12.5%. Loan ends on 05-Apr-25.

8.	Estimated cash available for future operating activities	\$US'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(606)
8.2	Cash and cash equivalents at quarter end (item 4.6)	1,102
8.3	Unused finance facilities available at quarter end (item 7.5)	966
8.4	Total available funding (item 8.2 + item 8.3)	2,068
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	3.4
	<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: 31 January 2023

Authorised by: The Board of Directors

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 – e.g. 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.