



ALEXIUM

**QUARTERLY ACTIVITIES REPORT  
FOR THE PERIOD ENDED**

**30 June 2022**

## Q4 FY2022 Highlights:

- **Cash Receipts for the Reporting Period**
  - Totalled US\$8.9m for FY2022 (29% increase from previous fiscal year)
  - 4Q FY2022 totalled US\$1.3m with sales of US\$1.3m
- **Microclimate Regulation Driving New Revenue Streams**
  - New bedding products based on Biocool and Eclipsys technologies are being commercialised in Q1 FY2023 and throughout the fiscal year
  - Four customers in the body-armor market have finalized approvals
- **Alexium Commits to Greater Utilization of Biobased and Renewable Sources**
  - Plan for 70% of total PCM usage from biobased sources
  - This strategic plan is part of the Company's commitment to utilizing safe and ecologically friendly materials

## Introduction by CEO, Dr. Bob Brookins:

"FY2022 was a story of two parts for Alexium. 1H FY2022 was a strong period of revenue growth driven by the combination of strong consumer demand and new products; however, 2H FY2022 saw significant decreases in revenue due to the emergence of difficult economic conditions in the US which materially impacted consumer discretionary spending on home goods such as mattresses. Given these difficult operating conditions, our team has been focused on two major initiatives: ensuring strong customer retention and increasing market share in our target markets of bedding and body armor. Fortunately, the team has done a good job on both fronts retaining all our core customers and increasing our share of spending in product categories in which the Company is active. The March/April time frame was the most difficult from a sales perspective with this reflected in the June Quarter cash receipts, but we have seen slow steady improvements in sales since that time.

"Despite these challenges, significant progress has also been made in two key strategic areas over this quarter. First, we have entered an asset-based line of credit with Alterna CS which helps the Company manage its working capital needs as we grow into the future. Second, the accelerating adoption of our Eclipsys products in the bedding and body armor market demonstrated the strong technology leadership of the Company and management's ability to develop innovative solutions to meet customer needs."

## Q4 FY2022 Cash Flow Commentary

Cash receipts for the period totalled US\$1.3m with sales of US\$1.3m. Sales were predominantly for use in the bedding market. Cash receipts decreased by \$0.6m versus the previous quarter. YTD cash receipts totalled US\$8.9m which is a 29% increase over the previous fiscal year.

As noted in the prior quarterly report, the 2H FY2022 has seen decreased sales due to decreased retail sales in the bedding market. This decrease in bedding market activity reflects significant declines in the US Consumer Confidence Index which is now at a five-year low. US Consumer Confidence has been impacted by a number of macroeconomic factors including high inflation, the impact of continued COVID disruption and the Russian/Ukraine war and the outlook is clouded by further forecast increases in interest rates by the US Federal Reserve. Despite its

decreased sales over the period, the Company has strong retention of customers and continues to grow market share in thermal management products for the bedding and body armor markets. While the Company's new product offerings such as Eclipsys will help mitigate the weakness in the core traditional bedding market, the ramp up of the new product programs have progressed more slowly than in recent years due to market conditions.

Operating activity outflows (refer to Appendix 4C Item 1.2) primarily consist of raw material purchases, manufacturing costs, staffing costs, and corporate/administrative costs. Other cash outflows are in line with our typical quarterly expenses. Payments to related parties of the entity and their associates' (item 6), Alexium confirms that aggregate payments to related parties of A\$171k includes three months payments of Directors fees and three months interest on the outstanding Colinton Capital loan.

The Company and Colinton Capital Partners (CCP) agreed to defer the quarterly cash interest payment on the convertible note CCP holds in favour of Paid in Kind (PIK) interest which is fully accrued in the Company's financials. In consideration for this, the interest is now being calculated at an annual rate of 8% instead of the agreement rate of 6%. This interest will be paid when the loan is settled.

## **Commercialization of Microclimate Regulation Products**

Central to the Company's commercial growth is its microclimate regulation products. For many consumer and industrial products, user discomfort is a common problem as the microclimate around the user grows excessively hot and humid over the period of engagement with the product. Bedding and body armor are the initial target end markets for the Company's products, and the following notes outline updates on each market:

### **Bedding Market**

- Completely new mattress cooling systems designed around our Eclipsys perpetual cooling solution by a number of major bedding manufacturers. Sales are expected to begin in 1H FY23 with consumer products available on the showroom floor and/or online by early 2H FY23.
- To address an expected fall in consumer spending on mattresses and other higher dollar-value items, we are accelerating the availability of our technology for use in higher-volume bedding accessories such as pillows and mattress toppers. These Biocool and/or Eclipsys-branded products will be distributed nationwide in the US via leading department stores and online channels. Sales are expected to begin in 1H FY23.

### **Body Armor Market**

- Body armor demand is largely insulated from general consumer spending. Four customers have completed testing and approved Eclipsys for incorporation in their body armor products. With an additional 30 prospective customers evaluating Eclipsys for body armor, we believe that this is a significant global commercial opportunity for Alexium in the current economic and geopolitical environment. Alexium will continue to drive commercialization of Eclipsys for body armor to achieve sales in 1H FY2023.

## **Commitment to Conversion of 70% of Total PCM Usage to Biobased and Renewable Sources**

We are pleased to announce that Alexium has committed to increase its use of biobased and renewable sources of phase change materials (PCMs) in its Alexicool/BioCool products to 70% of total PCMs in FY2023. The 12-month plan will entail working with customers to move to their purchases to the BioCool product line as well as working with the Company's raw material suppliers. This strategic plan is part of the Company's commitment to utilizing safe and ecologically friendly materials in our microclimate regulation and flame retardant applications.

With respect to this initiative, Alexium CEO Dr Bob Brookins stated, "Over the past 18 months, we've seen many of our customers naturally move to our BioCool products. With our advances in product development and application, I believe this is an opportunity to proactively drive a broad adoption of PCM products from biobased and renewable sources. The utilization of biobased and renewable materials is too often seen as involving a performance sacrifice or an increased cost, but this is no longer the case for phase change materials given the advances Alexium has made."







## **Flame Retardant Nylon/Cotton (FR NyCo) Update**

In parallel with the Company's thermal management product portfolio, the Company's FR NyCo effort has been active and proceeding well during the reporting period. As previously reported, the Company has begun working with segments of the US Military on the evaluation of its FR NyCo product. In the initial US military evaluation, the product's performance was well received meeting the previously specified performance criteria. The US Military evaluating body has requested that Alexium a second set of trials using fabric with a lower basis weight to achieve a lower final fabric weight. This adaptation is in line with the US military's initiative to lower the weight burden on the warfighter.

During the reporting period, the Company has worked with a major nylon fabric supplier on sourcing, applying, and validating the product performance at this lower weight. We are pleased to announce this has all been successfully completed during the reporting period, and during 1Q FY2023, these new fabrics will be submitted for continued testing and evaluation by the military. Notably, this now provides the Company with fabrics in two weight tiers that can be utilized for different end applications.

## Milestones Met for FY2022

At the beginning of FY2022, the board and management team identified key milestones as drivers for success in FY2022. The graphic below provides an overview and status of each of these FY 2022 milestones, along with the next milestone for each initiative to be accomplished in H1 FY2023. Importantly, all but one of the FY2022 milestones has been successfully completed. The one milestone not completed is the commercialization of Eclipsys in the bedding market which is proceeding well (as described above) with the finalisation of agreements set for Q1 FY2023.

 <p><b>MILESTONE</b> Optimization of FR NyCo manufacturing process and submission for military testing &amp; evaluation</p>	<p><b>ACCOMPLISHMENT</b> Completed product scale up and met 50x launderable flame retardancy</p>	<p><b>NEXT MILESTONE</b> Successful testing and evaluation with military and establish path for its adoption</p>
 <p><b>MILESTONE</b> Major customer has fully commercialized mattresses based on TMCS</p>	<p><b>ACCOMPLISHMENT</b> Fully commercial TMCS in 1H FY2022 with ongoing sales</p>	<p><b>NEXT MILESTONE</b> Further expansion of TMCS strategy in the bedding with new thermal management technologies (i.e., Eclipsys)</p>
 <p><b>MILESTONE</b> Complete commercialisation of Eclipsys™ technology in body armor market</p>	<p><b>ACCOMPLISHMENT</b> Fully commercial Eclipsys product in body armor with early adopter</p>	<p><b>NEXT MILESTONE</b> Increase customer base in US and international market segment with regular ongoing sales.</p>
 <p><b>MILESTONE</b> Broader market penetration of BioCool™ products in bedding market</p>	<p><b>ACCOMPLISHMENT</b> This product line drove greater market penetration while improving margins and ESG posture</p>	<p><b>NEXT MILESTONE</b> Full commercialisation of new customers won in the reporting period; &gt;50% of PCM revenue is biobased</p>
 <p><b>MILESTONE</b> Complete commercialisation of Alexiflam® for FR Sock products with supply chain partners</p>	<p><b>ACCOMPLISHMENT</b> Full commercialisation of FR sock manufacturers with the Company's FR products</p>	<p><b>NEXT MILESTONE</b> Full adoption of cotton-based FR socks driving regular ongoing sales.</p>
 <p><b>MILESTONE</b> Complete commercialisation Eclipsys™ technology in bedding market</p>	<p><b>PROGRESS</b> Agreement in principle for commercialisation of Eclipsys with major bedding brand</p>	<p><b>NEXT MILESTONE</b> Full commercialisation of Eclipsys-based mattresses driving regular ongoing sales</p>

## Appendix 4C

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

<b>Name of Entity</b>	
ALEXIUM INTERNATIONAL GROUP LIMITED	
<b>ABN</b>	<b>Quarter ended</b>
91 064 820 408	30-June-2022

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$US'000</b>	<b>Year to date (12 months) \$US'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	1,309	8,924
1.2 Payments for		
(a) research and development	(123)	(647)
(b) product manufacturing and operating costs	(619)	(6,146)
(c) advertising and marketing	(1)	(16)
(d) leased assets	(11)	(71)
(e) staff costs	(368)	(1,888)
(f) administration and corporate costs	(255)	(1,478)
1.3 Dividends received (see note 3)		
1.4 Interest received	0	2
1.5 Interest and other costs of finance paid	(29)	(275)
1.6 Income taxes paid		
1.7 Government grants and tax incentives		
1.8 Other (GST received)	2	24
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(95)</b>	<b>(1,571)</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		(52)
(d) investments		
(e) intellectual property	(191)	(303)

(f) other non-current assets			
<b>Consolidated statement of cash flows</b>		<b>Current quarter \$US'000</b>	<b>Year to date (12 months) \$US'000</b>
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 from / (used in) investing activities</b>	<b>(191)</b>	<b>(355)</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		
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	(4)	(4)
3.5	Proceeds from borrowings	251	251
3.6	Repayment of borrowings	(65)	(115)
3.7	Transaction costs related to loans and borrowings	(58)	(58)
3.8	Dividends paid		
3.9	Other (provide details if material)		
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>124</b>	<b>74</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	1,224	2,933
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(95)	(1,571)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(191)	(355)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	124	74
4.5	Effect of movement in exchange rates on cash held	(35)	(54)
<b>4.6</b>	<b>Cash and cash equivalents at end of quarter</b>	<b>1,027</b>	<b>1,027</b>

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

<b>5. Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$US'000</b>	<b>Previous quarter \$US'000</b>
5.1 Bank balances	1,027	2,332
5.2 Call deposits		
5.3 Bank overdrafts		
5.4 Other (provide details)		601
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>1,027</b>	<b>2,933</b>

<b>6. Payments to related entities of the entity and their associates</b>	<b>Current quarter \$US'000</b>
6.1 Aggregate amount of payments to related parties and their associates included in item 1	171
6.2 Aggregate amount of payments to related parties and their associates included in item 2	
6.1 Total payment of \$171K for non-Executive Directors fees and payroll for Dr Brookins, Managing Director.	

<b>7. Financing facilities</b>	<b>Total facility amount at quarter end \$US'000</b>	<b>Amount drawn at quarter end \$US'000</b>
7.1 Loan facilities	3,685	2,947
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
<b>7.4 Total Financing facilities</b>	<b>3,685</b>	<b>2,947</b>
<b>7.5 Unused financing facilities available at quarter end</b>		<b>738</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.		
Colinton Capital Partners - 4-year 6% A\$5.15M secured convertible note that matures on 24-Dec-23 Alterna CS - Asset based loan secured with working capital accounts with \$231K drawn on a total availability \$970K as of the reporting date. Interest is variable based on Wall Street Journal published Prime Rate + 5% spread for a 20-June rate of 9.75%. This is loan ends on 5-Apr-25.		



8.	Estimated cash available for future operating activities	\$US'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(95)
8.2	Cash and cash equivalents at quarter end (item 4.6)	1,027
8.3	Unused finance facilities available at quarter end (item 7.5)	738
8.4	Total available funding (item 8.2 + item 8.3)	1,765
<b>8.5</b>	<b>Estimated quarters of funding available (item 8.4 divided by item 8.1)</b>	<b>18.5</b>
	<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: 29 July 2022

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 – 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.