



ALEXIUM

**QUARTERLY ACTIVITIES REPORT
FOR THE PERIOD ENDED
30 September 2023**

Q1 FY2024 Update Contents:

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Introduction by CEO, Billy Blackburn:

This report marks 12 months since I joined Alexium. I am pleased with how the team has continued to execute our strategy, gaining customers within a very difficult bedding market, and progressing our diversification strategy into adjacent and breakthrough areas.

Business & Product Development – FY23 & FY24 Focused Priorities

We will focus our business and product development teams, resources and time in the following percentage allocations:

Core Focus Areas (70%):

PCM, DelCool™ & Eclipsys® applications:

- Innerspring Mattress
- Foam Mattress
- Low-cost/Hi-Volume Mattress Applications (“bed in a box”)
- Top of Bed – Pillows and Mattress Toppers

Adjacent Focus Areas (20%):

Alexiflam® & Alexiguard® Applications:

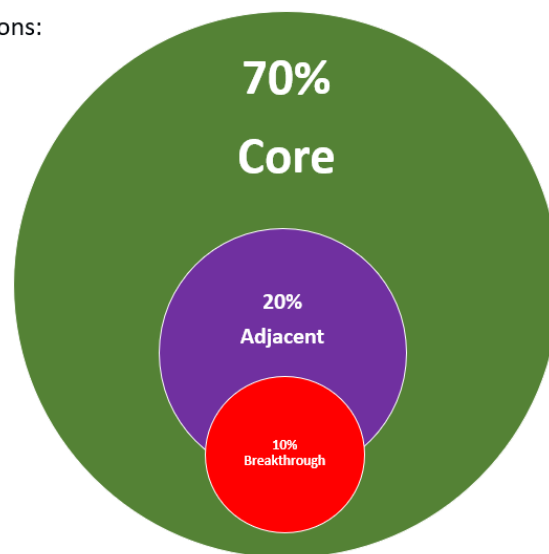
- FR NyCo – US Army
- FR NyCo – US Marine Corp
- Mattress

Eclipsys® applications:

- Body Armor/Tactical Vests

Breakthrough Focus Areas (10%):

- Eclipsys® for Helmets (military, law enforcement, sports)
- Eclipsys® for Footwear
- Eclipsys® for Electronics
- Eclipsys® and/or PCM for Cold Chain Packaging
- Alexiflam® sold as a textile softener
- Alexiflam® for workwear and/or PPE



Highlights for the quarter across our Focused Priorities:

Core Focus:

- **Strengthened DelCool™ sales for pillows**
 - Version 2 in production (enhanced aesthetics)
 - Additional orders from a large department store
- **Expanded BioCool® sales overseas (Turkey)**
 - New revenue streams
 - Opens new international markets for our largest bedding customer

Adjacent:

- **FR: Successful Pyroman tests with Alexium's FR NyCo fabrics**
 - Major milestone that proved Alexium's FR NyCo fabric works under the most stringent burn testing utilised by the US armed forces
 - Outperformed a dominant FR fabric currently utilised by the armed forces

Breakthrough:

- **Eclipsys® for footwear**
 - Commenced testing on an athletic shoe for a top-3 worldwide brand
- **Eclipsys® and PCM for Cold Chain Packaging**
 - Started product development for a biomedical packaging manufacturer

Although much of this progress is in the early commercial stages, it demonstrates that our technology is proving to be competitive for use in a wide array of end products and market applications with both new and existing customers. Progress of these commercial efforts is a great indicator that we are on the right track with our strategic focus.

Q1 FY2024 Cash Flow Commentary

Cash receipts for the period were US\$1.9m with revenue of US\$1.5m. Cash receipts are in line with the previous quarter.

Sales for the quarter at US\$1.5m were down US\$0.5m versus the prior quarter. Overall US mattress market conditions remained soft. The consumer confidence index continues to be low due to dynamics such as high US consumer inflation, rising interest rates and geopolitical concerns with the Russian/Ukraine war. Customer retention and engagement remains high.

Operating activity outflows (refer to Appendix 4C Item 1.2) primarily consist of raw material purchases, manufacturing costs, staffing costs, and corporate/administrative costs. The Company experienced a quarter-over-quarter increase in raw material purchases and production-related costs of US\$0.2m due to timing of raw material purchases. Other cash outflows are in line with typical quarterly expenses. Total aggregate payments to related parties for the quarter equal US\$240K which include payments to non-executive directors and compensation for executive directors, William "Billy" Blackburn, CEO and Robert "Bob" Brookins, CTO.

The outstanding balance on the Line of Credit at the end of the period was US\$251K on the total eligible borrowing base of US\$842K leaving US\$591K available for use. This line availability plus the cash on hand of US\$380K gives the company total available funding of US\$971K.

Market Update

Bedding Market: Alexium maintained a strong position in the bedding market which continues to be challenging due to political and economic factors in the US economy. Market Data released in August 2023 shows that H1 CY23 US mattress volumes were down 19.6% year on year, with most of this market contraction being felt by importers (36.7% volume reduction year on year). Our core domestic mattress manufacturing customers experienced an 11.2% volume reduction year on year as per Figure 1 below. Q2 volumes were on par with Q1 confirming our experience that the bedding market has probably bottomed out pending any further consumer

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

confidence related demand shocks. The Alexium results for the quarter reflect the market impacts felt by the bedding industry with one customer carrying excess inventory (delaying their next order), another customer delaying a major bed launch until July 2024 for redesign and cost reduction and a third customer slowing its top of bed product adoption. This is in contrast to a suite of new customers who are rapidly adopting our products into their mattresses and top of bed products.

The team is focused on closing immediate term revenue opportunities which include PCM on textiles, PCM on foam mattresses and DelCool™ for top of bed products and pursuing new opportunities for FR Sock (medium term).

For a summary of the reported results for the US bedding industry for the previous reporting period, the table below is provided:

Q2-2023 Quarterly
Issued: August 2023

FIGURE 1 – TOTAL MARKET OF MATTRESSES, FOUNDATIONS AND MOTION FOUNDATIONS

	DOLLAR VALUE (millions)						Units (thousands)					
	2nd Quarter			Year-To-Date			2nd Quarter			Year-To-Date		
	2022 ¹	2023	% Change	2022 ¹	2023	% Change	2022 ¹	2023	% Change	2022 ¹	2023	% Change
TOTAL MARKET	\$2,622.1	\$2,502.2	-4.6%	\$5,461.8	\$4,913.6	-10.0%	10,869.2	9,191.5	-15.4%	23,114.2	18,427.4	-20.3%
Mattresses (U.S.-Produced & Imports)	\$2,279.1	\$2,214.6	-2.8%	\$4,746.4	\$4,333.0	-8.7%	7,151.2	6,112.5	-14.5%	15,198.5	12,224.8	-19.6%
U.S.-Produced Mattresses (Apr-Jun)	\$1,981.8	\$2,012.6		\$4,154.0	\$3,947.4		4,600.3	4,473.6		10,184.5	9,048.5	
Data Reported by U.S. Producers	\$1,331.8	\$1,352.5	1.6%	\$2,791.5	\$2,652.7	-5.0%	2,268.0	2,205.5	-2.8%	5,021.0	4,460.9	-11.2%
Projection for Other U.S. Producers ^r	\$650.0	\$660.1		\$1,362.5	\$1,294.8		2,332.4	2,268.1		5,163.5	4,587.6	
Imported Mattresses (Mar-May)	\$297.3	\$202.0		\$592.4	\$385.6		2,550.9	1,638.9		5,014.0	3,176.3	
Official Import Statistics	\$247.7	\$168.3	-32.0%	\$493.7	\$321.3	-34.9%	2,550.9	1,638.9	-35.8%	5,014.0	3,176.3	-36.7%
20% Wholesale Equalization Factor	\$49.5	\$33.7		\$98.7	\$64.3							
Foundations (U.S.-Produced & Imports)[*]	\$343.0	\$287.6	-16.1%	\$715.4	\$580.6	-18.8%	3,718.0	3,079.0	-17.2%	7,915.8	6,202.6	-21.6%
U.S.-Produced Foundations (Apr-Jun)	\$178.9	\$154.8		\$389.6	\$319.3		1,983.0	1,651.4		4,383.2	3,427.7	
Data Reported by U.S. Producers	\$101.4	\$87.8	-13.5%	\$220.9	\$181.1	-18.0%	997.5	830.6	-16.7%	2,204.7	1,724.1	-21.8%
Projection for Other U.S. Producers ^r	\$77.5	\$67.0		\$168.7	\$138.3		985.6	820.7		2,178.4	1,703.6	
Imported Foundations (Mar-May)	\$164.1	\$132.9		\$325.8	\$261.3		1,735.0	1,427.6		3,532.6	2,774.9	
Official Import Statistics	\$136.8	\$110.7	-19.1%	\$271.5	\$217.7	-19.8%	1,735.0	1,427.6	-17.7%	3,532.6	2,774.9	-21.4%
20% Wholesale Equalization Factor	\$27.4	\$22.1		\$54.3	\$43.5							

U.S. Production Source: Aggregated data provided by participants in ISPA's Bedding Market Quarterly (see Figure 2)
Official Import Source: International Trade Commission (see Figure 3 for category breakdown)

* includes foldable foundations
** summary data and percentages calculated prior to rounding
r = revised data / ITC regularly updates import data for previous years on or around July 1st.

In 2022, the reporting U.S. producers accounted for the following percentages of U.S. mattress and foundation output:

	Value	Units
Mattresses	67.2%	49.3%
Foundations	56.7%	50.3%
Total	66.3%	49.6%

*Source: <https://sleepproducts.org/>

Military and Law Enforcement: Alexium continues to focus on the military and law enforcement sectors with development work on Eclipsys® in tactical gear and FR NyCo for military uniform fabric. We continue to be excited about our testing results and growth potential in these markets.

Business and Product Development Updates

FR NyCo – Military Uniforms: Alexium’s FR efforts continued throughout Q1 with major milestones achieved for performance of the company’s next generation FR NyCo technology for the US Military. The Company worked with a recognised market leading fabrics testing party to assess the performance of uniforms made with its FR NyCo fabrics in a mannequin level thermal protection test called “Pyroman.” This test simulates a flash fire scenario and assesses how manikin heat sensors respond in order to forecast the potential risk of tissue burn injuries for individuals wearing protective clothing.

We are pleased to report that the Pyroman test validated that the FR NyCo fabric passed the flame resistance test standards prescribed by the US Military. These results represent a major milestone for the development of this product line. Due to non-disclosure agreements in place, the Company is not able to provide additional details; however, we can clarify that the next step for this product development effort is to focus on addressing secondary specifications for fabric performance (fabric feel). Additional updates will be provided as this effort progresses.

Alexicool®/BioCool®: The Company completed commercialisation of Alexicool®/BioCool® products with two new parties which mark significant penetration of new markets for the Company. The first relates to sales of the Company’s BioCool® products to manufacturers in Turkey, with subsequent distribution of the finished product in the US. Orders were received during the reporting period and ongoing sales and shipments are underway. Additionally, Alexium expanded sales of Alexicool® products to a major US foam manufacturer in bedding.

DelCool™: In 2H FY23, the Company officially launched and commercialised DelCool™, an innovative technology for humidity regulation in consumer products. Full scale production of DelCool™ pillow liners continued in the reporting period. This production is being driven by higher than projected sales at a national retail chain resulting in a higher forecast for DelCool™ units. In 2Q FY 24, commercial activity for DelCool™ is accelerating for top-of-bed and mattress level DelCool™ products.

Eclipsys®: The Company had extensive activity throughout Q1 providing the technical support for tactical gear manufacturers’ market claims and marketing materials relating to tactical vests. The Company looks forward to these customers launching their Eclipsys®-based products in the coming months. In contrast, Eclipsys® sales into the bedding market have been impacted by the delay in a bed launch until July 2024 and the redesign of the bed build.

The company is pleased to report that it is working towards breakthrough placements for Eclipsys® in adjacent markets with business and product development initiatives underway with target “alpha” customers for the use of Eclipsys® in athletic shoes and cold chain packaging.

Company Update

Alexium now sets its sights on Q2 FY24 where the focus areas will begin to shift more to adjacent and breakthrough markets. This approach is driven by our strategy to diversify from a concentration of selling into the bedding sector to markets less impacted by movements in consumer confidence. At the heart of this diversification is also a heightened sense of urgency to deliver revenue in the shortterm from our current technology where we are undoubtedly market leaders.

As reported on October 1, Alexium CFO Jason Lewis gave notice of his resignation with availability until 15 December 2023. The Board is currently reviewing the need for a formal CFO role given the quality of the current finance team and business systems developed during Jason's tenure. Commenting on this, CEO Billy Blackburn stated, *"I appreciate everything that Jason has done for Alexium as well as working with me over the past year in getting up to speed here. I wish him well in his future endeavours."*

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	30-September-2023

Consolidated statement of cash flows	Current quarter \$US'000	Year to date (3 months) \$US'000
1. Cash flows from operating activities		
1.1 Receipts from customers	1,890	1,890
1.2 Payments for		
(a) research and development	(111)	(111)
(b) product manufacturing and operating costs	(932)	(932)
(c) advertising and marketing		
(d) leased assets	(23)	(23)
(e) staff costs	(573)	(573)
(f) administration and corporate costs	(315)	(315)
1.3 Dividends received (see note 3)		
1.4 Interest received	3	3
1.5 Interest and other costs of finance paid	(23)	(23)
1.6 Income taxes paid		
1.7 Government grants and tax incentives		
1.8 Other (GST received)	9	9
1.9 Net cash from / (used in) operating activities	(75)	(75)

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	(73)	(73)
(f) other non-current assets		

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Consolidated statement of cash flows		Current quarter \$US'000	Year to date (3 months) \$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	(73)	(73)

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		
3.3	Proceeds from exercise of options		
3.4	Transaction costs related to issues of equity securities or convertible debt securities		
3.5	Proceeds from borrowings	1,604	1,604
3.6	Repayment of borrowings	(1,580)	(1,580)
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	24	24

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	513	513
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(75)	(75)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(73)	(73)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	24	24
4.5	Effect of movement in exchange rates on cash held	(9)	(9)
4.6	Cash and cash equivalents at end of quarter	380	380

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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	380	513
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)	380	513

6. Payments to related entities of the entity and their associates	Current quarter \$US'000
6.1 Aggregate amount of payments to related parties and their associates included in item 1	240
6.2 Aggregate amount of payments to related parties and their associates included in item 2	
6.1 Total payment of \$240K for non-Executive Directors fees and payroll for Mr Blackburn, Managing Director and Dr Brookins, Director	

7. Financing facilities	Total facility amount at quarter end \$US'000	Amount drawn at quarter end \$US'000
7.1 Loan facilities	4,943	4,943
7.2 Credit standby arrangements	842	251
7.3 Other (please specify)	-	-
7.4 Total Financing facilities	5,785	5,194
7.5 Unused financing facilities available at quarter end		591
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.		
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 \$251K drawn on a total availability \$842K as of the reporting date. Interest is variable based on Wall Street Journal published Prime Rate + 5% spread for a current rate of 13.5%. 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)	(75)
8.2	Cash and cash equivalents at quarter end (item 4.6)	380
8.3	Unused finance facilities available at quarter end (item 7.5)	591
8.4	Total available funding (item 8.2 + item 8.3)	971
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	13.0
	<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: 26 October 2023
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Authorised by: The Board of Directors
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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.