



ALEXIUM

**QUARTERLY ACTIVITIES REPORT
FOR THE PERIOD ENDED**

30 June 2023

Q4 FY2023 Update Contents:

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Introduction by CEO, Billy Blackburn:

Q4 was all about execution for Alexium. During Q3, we rolled out the revised strategy with key focus areas for both business and product development. A recap of that focus is below:

Business & Product Development – FY23 & FY24 Focused Priorities

Core Focus Areas (70%):

PCM, DelCool& Eclipsys applications:

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

Adjacent Focus Areas (20%):

Alexiflan& AlexigaurApplications:

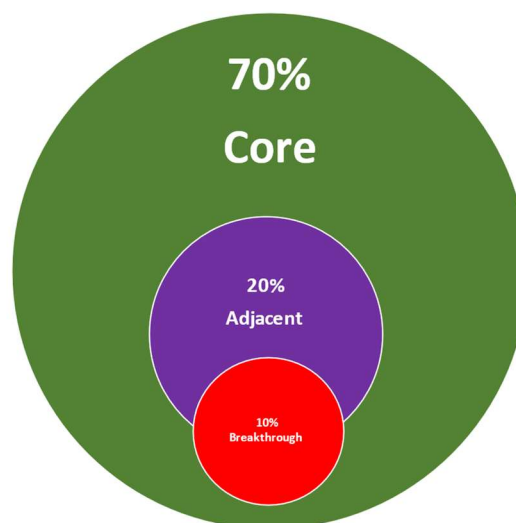
- FRNyCo – US Army
- FRNyCo – US Marine Corp
- Mattress

Eclipsys applications:

- Body Armor/Tactical Vests

Breakthrough Focus Areas (10%):

- Eclipsys for Helmets (military, law enforcement, sports)
- Eclipsys for Footwear
- Eclipsys for Electronics
- Eclipsysand/or PCM foCold Chain Packaging
- Alexiflansold as a textile softener
- Alexiflanfor workwear and/or PPE



Q4 was a continuation of what began in Q3. The team aligned around the priorities and executed activities that mirrored closely with the plan.

Our **core focus** area in bedding received the lion’s share of our time and resources with Alexicool®/BioCool® sales to this market accounting for the majority of Alexium’s revenue. Significant advancements were made in launching both DelCool™ and Eclipsys™ into the bedding space, both of which diversify the Company’s value offering within the bedding markets.

We had significant progress in the **adjacent** focus area with progress on Flame Resistant Nylon/Cotton (“FR NyCo”) fabric for the U.S. Military and Eclipsys™ applied to tactical gear, both initiatives directed to diversify the Company’s product and end market exposures.

Lastly, there was a small focus in our **breakthrough** objectives which included testing and progress on the use of Eclipsys™ + PCM in cold chain packaging and Eclipsys™ applied to footwear.

This continued disciplined focus of our efforts is evidenced in the Company's business and product development pipeline. The pipeline projects are progressing towards new product commercialisations and the potential revenue dollars have sharply increased. At the heart of our approach is the realisation of short-term revenue, and hence the priority given to projects that will deliver these near-term revenue gains.

30 June marks the close of our FY23, and my first 10-months with Alexium. During that time, we shifted the Company's focus to the commercialisation of the outstanding technical product development work of the organisation. That included improved marketing collateral, participation in more trade shows across several industries, increased direct sales activities, and increasing the breadth of the product portfolio.

While implementing this amplified commercial effort, the Company kept overhead costs low by running a lean staff that focused on priority initiatives utilizing a cross-functional approach that relies on a flatter, matrixed organization. Our employees have adapted quickly, leaning into the new structure, and have responded by stepping up and taking on more responsibility.

I am pleased to report that the Alexium team is well-positioned for growth, that the Company's culture is strong and positive, and the business is trending towards sustained success. Company transformation takes time, and Alexium is poised to deliver successful results to all stakeholders.

Q4 FY2023 Cash Flow Commentary

Cash receipts for the period were US\$1.9m with revenue of US\$1.8m. Cash receipts are down US\$0.1m from the previous quarter.

Sales for the quarter at US\$2.0m were up US\$0.2m versus prior quarter ending the year at US\$7.2m. Overall US mattress market conditions remained soft with the consumer confidence index continuing to be low due to dynamics such as high US consumer inflation, rising interest rates and geo-political 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 reduction in raw material purchases and production related costs of US\$0.3M 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\$201K which include payments to non-executive directors and compensation for executive directors, Billy Blackburn, CEO and Bob Brookins, CTO.

Line of credit outstanding balance at the end of the period was US\$195K on the total eligible borrowing base of US\$1,307K leaving US\$1,112K available for use. This line availability plus the cash on hand of US\$513K gives the company total available funding of US\$1,625K.

Market Update

Mattress Market: The last 12-months have been tumultuous for the mattress market with several plant closures and consolidations. Key market changes are summarised below:

- Tempur Sealy signed a definitive agreement to acquire Mattress Firm, the largest mattress specialty retailer in the United States.
- Serta Simmons Bedding announced that it has concluded its financial restructuring and emerged from Chapter 11.
- Soft-Tex was purchased out of bankruptcy by Devolli Corporation and is now operating under the name of SFX Sleep.
- HK Foam added a business unit named Healthcare that is focused on top-of-bed products to complement their MLilly mattress line.

These changes present opportunities for Alexium to further expand its position in the bedding market.

Overall, the US Market remains down year over year. Q1 Results are in the table below:

Q1-2023 Quarterly
Issued: May 2023

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

	DOLLAR VALUE (millions)						Units (thousands)					
	1st Quarter			Year-To-Date			1st Quarter			Year-To-Date		
	2022 [†]	2023	% Change	2022 [†]	2023	% Change	2022 [†]	2023	% Change	2022 [†]	2023	% Change
TOTAL MARKET	\$2,841.3	\$2,411.2	-15.1%	\$2,841.3	\$2,411.2	-15.1%	12,248.6	9,233.3	-24.6%	12,248.6	9,233.3	-24.6%
Mattresses (U.S.-Produced & Imports)	\$2,468.3	\$2,118.2	-14.2%	\$2,468.3	\$2,118.2	-14.2%	8,054.7	6,110.5	-24.1%	8,054.7	6,110.5	-24.1%
U.S.-Produced Mattresses (Jan-Mar)	\$2,172.2	\$1,934.8		\$2,172.2	\$1,934.8		5,584.2	4,574.9		5,584.2	4,574.9	
Data Reported by U.S. Producers	\$1,459.7	\$1,300.2	-10.9%	\$1,459.7	\$1,300.2	-10.9%	2,753.0	2,255.4	-18.1%	2,753.0	2,255.4	-18.1%
Projection for Other U.S. Producers [†]	\$712.5	\$634.6		\$712.5	\$634.6		2,831.2	2,319.5		2,831.2	2,319.5	
Imported Mattresses (Dec-Feb)	\$296.2	\$183.4		\$296.2	\$183.4		2,470.5	1,535.6		2,470.5	1,535.6	
Official Import Statistics [†]	\$246.8	\$152.8	-38.1%	\$246.8	\$152.8	-38.1%	2,470.5	1,535.6	-37.8%	2,470.5	1,535.6	-37.8%
20% Wholesale Equalization Factor	\$49.4	\$30.6		\$49.4	\$30.6							
Foundations (U.S.-Produced & Imports)^{**}	\$373.0	\$292.9	-21.5%	\$373.0	\$292.9	-21.5%	4,193.9	3,122.8	-25.5%	4,193.9	3,122.8	-25.5%
U.S.-Produced Foundations (Jan-Mar)	\$210.7	\$164.6		\$210.7	\$164.6		2,400.2	1,776.3		2,400.2	1,776.3	
Data Reported by U.S. Producers	\$119.5	\$93.3	-21.9%	\$119.5	\$93.3	-21.9%	1,207.3	893.5	-26.0%	1,207.3	893.5	-26.0%
Projection for Other U.S. Producers [†]	\$91.2	\$71.3		\$91.2	\$71.3		1,192.9	882.8		1,192.9	882.8	
Imported Foundations (Dec-Feb)	\$162.3	\$128.4		\$162.3	\$128.4		1,793.8	1,346.5		1,793.8	1,346.5	
Official Import Statistics [†]	\$135.2	\$107.0	-20.9%	\$135.2	\$107.0	-20.9%	1,793.8	1,346.5	-24.9%	1,793.8	1,346.5	-24.9%
20% Wholesale Equalization Factor	\$27.0	\$21.4		\$27.0	\$21.4							

U.S. Production Source: Aggregated data provided by participants in SPA'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
† = 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 Markets: Alexium continues work on requests from the military and law enforcement markets.

The trend of the US military rebuilding its supply chain continues. Data reports revealed that world military expenditure rose by 3.7% in real terms in 2022, to reach a record high of US\$2,240B. Global spending grew by 19% over the decade 2013–2022 and has risen every year since 2015. Russia's invasion of Ukraine was a major driver of the growth in spending in 2022.

Several US states and cities reduced funding for law enforcement in 2022, which in turn has resulted in an uptick in civil unrest and violent crime. It now appears that this trend may reverse, which will lead to increased demand for equipment for law enforcement (e.g., tactical gear).

Business and Product Development Updates

Alexicool®/BioCool® – Bedding: Alexicool®/BioCool® products for mattress applications remains Alexium's largest source of revenue. Q4 marked an uptick in PCM sales to OEM manufacturers that support large international bedding brands. Sales were up 11% over Q3. The company is in the final stages of trials for its first two placements of Alexicool®/BioCool® products in Europe. Shipments for both are scheduled to commence in Q1 FY24. The company also secured two new customers in Q3, both of which are applying our products to foam bedding products. New product developments are in late-stage development that will further expand Alexium's portfolio of PCM-based products. This will allow Alexium to secure new business in foam applications, then to move to a commercial production scale.

DelCool™ – Bedding: DelCool™ is Alexium's newest commercial technology. This technology is based on a proprietary composite fabric that is sold either as a rolled good or as a cut-and-sewn product component. This product offers best-in-class cooling from heat index reduction via microclimate regulation.

Q4 marked the initial production of DelCool™ at full commercial scale. The company accepted its first DelCool™ order in March for a cut-and-sewn product, then ran successful production trials in April. In May, full-rate production began on the 18,000-pillow liner order. Initial DelCool™ sales were booked in Q4 at US\$57K.

Alexium is currently working on four active product development projects with four major bedding brands. The projects are for three mattress brand builds and an additional pillow placement for a large national retail chain.

Eclipsys™ – Bedding: Last quarter we announced that the long-awaited Eclipsys™ adoption by a major bedding brand was on track to commercialize in early FY24. That projects remains on track to launch in Q3 FY24 commencing with low initial production rates in Q2 FY24 which then ramp up to full rates at or around launch. We are now working with that same brand on a second bed launch to include Eclipsys™, which is anticipated to launch in a similar timeframe.

There are two further significant mattress projects in the Alexium pipeline. Both are in the early stages of building test beds for analysis to support product qualification by the customer.

FR NyCo – Military Uniforms: Work on FR NyCo fabric for US Military uniforms continued in Q4. Specifically, Alexium’s FR development efforts were focused on a next generation option for both the US Army and the US Marine Corps.

Alexium participated in a federal request for quotation (“RFQ”) for the US Marine Corps in Q4. The RFQ was for production scale goods of flame-resistant fabric for a next generation fabric at a price point that would afford the Marines adopting it across all enlisted personnel. Alexium submitted three proposals with accompanying samples. The submittals were for good/better/best options at increasing levels of treatment and finishing at lowest/median/highest price points within the Marine Corps’ prescribed budget parameters. Successful offers would lead to an award for additional yardage to be utilized in the cut-and-sew of uniforms for field tests throughout the 2024 calendar year. If the field tests are successful, then the Marine Corps plan to start using the fabric for new uniforms in FY25 (US Military fiscal year runs 01 Oct – 30 Sept). Feedback on the RFQ submittals is anticipated in Q1 FY24.

Alexium continues product development efforts on FR NyCo fabrics to improve existing offerings and create more options for application across military branches of all allied nations.

Eclipsys™ for Tactical Gear: Last quarter, Alexium reported that the learnings from the initial launch in 2022 had led to product improvements and renewed interest and testing from multiple target customers.

That work and momentum continued throughout Q4 with new orders starting in earnest for one tactical vest customer. The new customer started production of vests with Eclipsys™ in Q4, with the initial sales volumes of the vests to go to retail customers, mostly in e-commerce. We are working with that customer on large-scale international military and federal police tactical vest placements.

Alexium has added a sales agent in Europe to develop opportunities in the European, Middle East, African and Asian markets and that addition has already led to multiple new opportunities. Product development and testing efforts continue with two additional tactical vest producers, both of which sell large volumes to law enforcement and civil servants.

Outlook – FY24

Alexium remains focused on delivering profitable results. The team will utilize contracts to secure supply terms with both customers and vendors. New external legal counsel has been retained that is focused on supporting management in negotiating favourable terms. The Company will continue to patent protect its intellectual property and seek opportunities to license that IP in successful supply deals.

The outlook for the 2024 Financial Year is bright. The team has come together and is well aligned around the strategy and business plan. We anticipate a year of meaningful pipeline, revenue, customer, and product improvements, with potential for some large new projects in the 2024 Financial Year.

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-June-2023

Consolidated statement of cash flows	Current quarter \$US'000	Year to date (12 months) \$US'000
1. Cash flows from operating activities		
1.1 Receipts from customers	1,899	6,635
1.2 Payments for		
(a) research and development	(86)	(370)
(b) product manufacturing and operating costs	(702)	(3,455)
(c) advertising and marketing		(5)
(d) leased assets	(20)	(83)
(e) staff costs	(451)	(2,249)
(f) administration and corporate costs	(368)	(1,495)
1.3 Dividends received (see note 3)		
1.4 Interest received	4	13
1.5 Interest and other costs of finance paid	(31)	(129)
1.6 Income taxes paid		
1.7 Government grants and tax incentives		
1.8 Other (GST received)	10	34
1.9 Net cash from / (used in) operating activities	255	(1,104)

2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities		
(b) businesses		
(c) property, plant, and equipment	(1)	(19)
(d) investments		
(e) intellectual property	(84)	(368)
(f) other non-current assets		

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

Consolidated statement of cash flows		Current quarter \$US'000	Year to date (12 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	(85)	(387)
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
3.3	Proceeds from exercise of options		
3.4	Transaction costs related to issues of equity securities or convertible debt securities		(1)
3.5	Proceeds from borrowings	1,536	5,771
3.6	Repayment of borrowings	(1,764)	(5,797)
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	(228)	996
4. Net increase / (decrease) in cash and cash equivalents for the period			
4.1	Cash and cash equivalents at beginning of period	577	1,027
4.2	Net cash from / (used in) operating activities (item 1.9 above)	255	(1,104)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(85)	(387)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(228)	996
4.5	Effect of movement in exchange rates on cash held	(6)	(19)
4.6	Cash and cash equivalents at end of quarter	513	513

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

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	513	577
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)	513	577

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	201
6.2 Aggregate amount of payments to related parties and their associates included in item 2	
6.1 Total payment of \$201K 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	4,927	4,927
7.2 Credit standby arrangements	1,307	195
7.3 Other (please specify)	-	-
7.4 Total Financing facilities	6,234	5,122
7.5 Unused financing facilities available at quarter end		1,112
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 \$195K drawn on a total availability \$1,307K as of the reporting date. Interest is variable based on Wall Street Journal published Prime Rate + 5% spread for a current rate 13.5%. Loan ends on 05-Apr-25.		

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

8.	Estimated cash available for future operating activities	US\$'000
8.1	Net cash from / (used in) operating activities (item 1.9)	255
8.2	Cash and cash equivalents at quarter end (item 4.6)	513
8.3	Unused finance facilities available at quarter end (item 7.5)	1,112
8.4	Total available funding (item 8.2 + item 8.3)	1,625
8.5	Estimated quarters of funding available (item 8.4 divided by item 8.1)	N/A
<p><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></p>		
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	
<p><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></p>		

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: 10 July 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.