



ALEXIUM

1H FY2020 - Presentation

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27 February 2020

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# Alexium is well positioned to deliver long-term growth...

Alexium has made tangible progress over the past 18 months to reposition the business for future growth



Experienced advanced materials sciences management team



**Dr Bob Brookins appointed as CEO in July 2018**  
**Jason Lewis appointed as CFO in October 2018**  
**Allen Reihman appointed as CCO in October 2018**



Re-engineered our product suite to innovative, high margin, customer centric products



**Product suite is customer driven. Alexium's product development and marketing teams are now deeply integrated with key customers**



Developed multiple (yet targeted) routes to market, grown customer numbers and built an attractive pipeline of near term revenue opportunities



**Each key growth pillar has a clearly defined pathway to revenue, setting Alexium up for a important period of commercialisation over the coming 12-18 months**



De-risked and strengthened the balance sheet, ensuring Alexium is fully funded to capture growth



**Capital raising process reduced debt by US\$5.5 and annual interest cost by c.US\$1.0m. US\$6.9m of cash on hand (post tranche 2 of placement) provides sufficient funding to realise the significant opportunities ahead**



New cornerstone institutional investor



**Colinton Capital Partners invested a total of A\$9.2m in Alexium shares & convertible note with Simon Moore, Senior Partner of Colinton joining the Board of Alexium. Colinton working with Board and management to realise the near term potential of Alexium**

# ... and following 1H FY20 is on track to deliver shareholder value



FY11 – FY18 Invest in world leading R&D	FY19 Foundation for Growth	FY20 Commercialise world leading technologies	FY21 Accelerate revenue growth	FY22 Deliver meaningful shareholder returns
<ul style="list-style-type: none"> <li>✓ &gt;US\$25m invested over 7 years to develop unique portfolio of intellectual property</li> <li>✓ Refinement of key products Alexiflam® &amp; Alexicool®</li> </ul>	<ul style="list-style-type: none"> <li>✓ New management team</li> <li>✓ Reset of product /market priorities</li> <li>✓ Commercial advantage proposition for customers</li> <li>✓ Elimination of low margin commodity product sales</li> <li>✓ Supply agreement with major North American mattress brand for Alexicool® products</li> <li>✓ Exclusive development agreement with Pine Belt Processing for Alexiflam® FR NyCo for US military uniforms</li> </ul>	<ul style="list-style-type: none"> <li>○ <b>On track</b> - Commercialise and new revenue from foam application of Alexicool® products</li> <li>○ <b>On track</b> - Finalise product development and commercialise Alexiflam® NF for FR Sock</li> <li>○ <b>On track</b> - Alexiflam® FR NyCo production scale trials for military testing and evaluation</li> </ul> <p><b>Financial objectives</b></p> <ul style="list-style-type: none"> <li>○ <b>On track</b> - Aim for 50% growth on FY19 total revenue</li> <li>○ <b>Ahead of plan</b> - Gross margin &gt; 30%</li> <li>○ <b>On track</b> - Continue tight control of overhead costs and cashflow</li> <li>○ <b>Completed</b> - Balance sheet restructure via capital raise</li> </ul>	<ul style="list-style-type: none"> <li>○ Grow Alexicool® sales through innovative product development</li> <li>○ Realise first revenues from Alexiflam® FR sock</li> <li>○ Complete Limited User Evaluation with US military and realise first revenues</li> <li>○ Target international sales via distribution / licensing agreement or direct market entry</li> </ul> <p><b>Financial objectives</b></p> <ul style="list-style-type: none"> <li>○ Accelerate revenue growth rate above FY20 (greater than 50%)</li> <li>○ Gross margin &gt; 30%</li> <li>○ Sustainable EBITDA &amp; cash flow positive</li> </ul>	<ul style="list-style-type: none"> <li>○ Capitalise on globally unique and patent protected product range</li> <li>○ Realise cost benefits of increased scale</li> <li>○ Deliver material growth in earnings &amp; cashflow</li> </ul>

# Alexium's key growth pillars

Alexium has a defined set of near term growth pillars which when realised will create an attractive portfolio of patented products servicing large global markets



Product	Cooling			Fire Retardant	
Market	US Bedding			General	Military
Program	1. General Alexicool® Sales	2. Alexicool® Total Mattress Cooling System	3. Alexiflam® NF Sock	4. AlexiFlam® NF global distribution partnership	5. AlexiFlam® FR NyCo
Overview	<ul style="list-style-type: none"> <li>Thermal management and “cool to the touch” technologies for improving the comfort of bedding products, including mattresses, pillows, etc.</li> <li>Alexium’s expertise in analytics supports the customers marketing claims and product development, giving the company a unique value proposition to our customers and differentiating us from competitors.</li> </ul>	<ul style="list-style-type: none"> <li>Responding to customer needs, Alexium has developed an innovative systems approach to total mattress cooling that leverages its materials science expertise and analytical tools to enable leading edge unique products.</li> </ul>	<ul style="list-style-type: none"> <li>Foam mattresses require a FR sock made from glass fibre which is expensive and has environmental and safety risks</li> <li>Alexium is currently leveraging Alexiflam® NF for application to a cotton/polyester blend sock</li> <li>Alexium product will be low-cost and safer than incumbent products</li> </ul>	<ul style="list-style-type: none"> <li>Alexiflam® NF has a unique value proposition for FR cotton applications</li> <li>FR Cotton is a global market with applications in work wear, military uniforms, transportation, and other industries.</li> <li>Alexium is working with established FR providers to support the commercialisation of Alexiflam® NF into this global market</li> </ul>	<ul style="list-style-type: none"> <li>Proprietary set of chemistry for wash durable flame retardation of nylon/cotton fabrics</li> <li>Commonly used for US military uniforms</li> <li>No current incumbent solution of nylon/cotton flame retardation</li> <li>Commercialisation of this product will solve a long standing problem for the U.S. and international militaries</li> </ul>
Addressable Market	US\$65m (US Market)		US\$55m (US Market)	US\$300m (Global Market)	US\$90m (US Market)
Near Term Target Market <sup>1</sup>	US\$10m	US\$10m	US\$15m	TBD	+US\$10m
Alexium Product	Alexicool® products for textiles and foam	Alexicool® products for textiles and foam	Alexiflam® NF	Alexiflam® NF	Alexiflam® FR
Patent Status	Patent Pending	Patent Pending	Patent Pending	Patent Pending	Patent Granted

<sup>1</sup>Near Term Target Market represents management’s estimate of the immediate revenue opportunity available to Alexium post an expected ramp up period following initial sales (potentially up to one year). Alexium’s ability to generate sales will require the satisfaction of the key milestones laid out in this presentation as well as entering into sales agreements with customers.

# Near term target markets are expected to be realised in FY2020 and FY2021



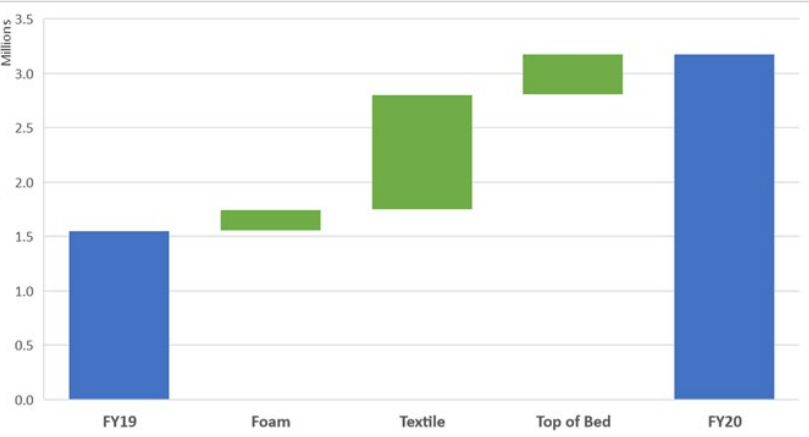
Strong progress has been made over the last 6 months, with the next 12-18 months representing an important period of commercialisation

	Program	Current Status	Anticipated revenue realisation profile				
			1H-FY20	2H-FY20	1H-FY21	2H-FY21	1H-FY22
1.	General Alexicool® Sales	<ul style="list-style-type: none"> <li>Generating Revenue &amp; increasing market penetration</li> </ul>					
2.	Alexicool® Total Mattress Cooling Systems	<ul style="list-style-type: none"> <li>First customer agreement signed</li> <li>Currently negotiating larger sales agreement with existing key customer</li> </ul>					
3.	Alexiflam® NF Sock	<ul style="list-style-type: none"> <li>Market opportunity validated with existing customer base</li> <li>Production scale work &amp; finished product testing currently underway</li> </ul>					
4.	Alexiflam® NF global distribution partnership	<ul style="list-style-type: none"> <li>Finalising key terms of licensing and market development agreement</li> </ul>					
5.	Alexiflam® FR NyCo	<ul style="list-style-type: none"> <li>Adjustments and refinements to the FR NyCo manufacturing process have been successful with key metrics met</li> <li>Product will proceed to military testing once technical production testing completed</li> </ul>					

Today

# Expansion of Alexicool® Products in US Bedding Market

1H FY 2020 Review



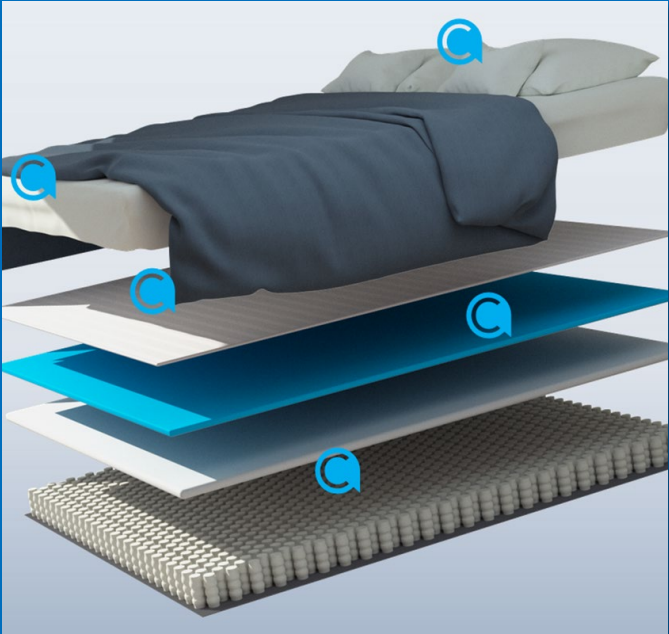
**Sales Up  
105%**

vs 1H FY19

Market penetration across all three market segments (ahead of schedule)

12-Month Plan

- While incremental growth has continued, Alexium has leveraged its broad product portfolio and analytical tools to develop total mattress cooling systems (TCMS) where a suite of textile- and foam-based Alexicool® products are used.
- This increases revenue per unit, strengthens the reliance on Alexium IP, and promotes the utilisation of the Company’s analytical tools.
- These opportunities provide a step change in revenue growth and are the basis for achieving cash flow positive.



## Key Milestones

Finalise testing of Total Mattress Cooling Systems (TMCS)	2H FY2020
Finalise agreements for commercialisation of TMCS	2H FY2020
Initial sales for TMCS	1H FY 2021

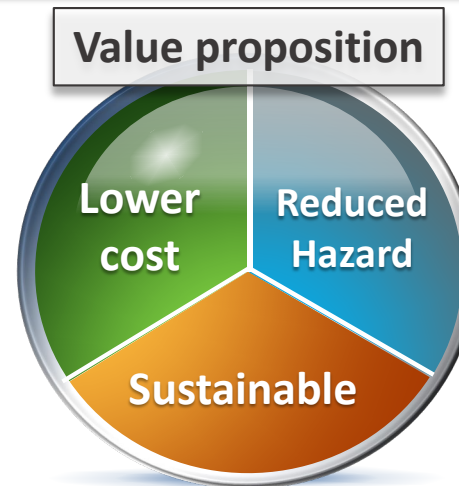


# Alexiflam® NF-treated Cotton Socks for Protection of Foam Mattresses

## 1H FY 2020 Overview

In 1H FY2020, the following milestones were achieved:

- product design was validated in laboratory-scale testing
- cost & supply chain models established
- commercial production efforts commenced.



## 12-Month Plan

- Based on 1H FY2020 achievements, production scale work has commenced in preparation for and to support a full mattress scale burn test (16 CFR 1632).
- In parallel, Alexium has and will continue to meet with customers to introduce the product. Initial customer interest is positive given hazards of the incumbent products.
- Given addressable market, strong value proposition, and established customer relationships, commercialisation is a 12-month priority.



## Key Milestones

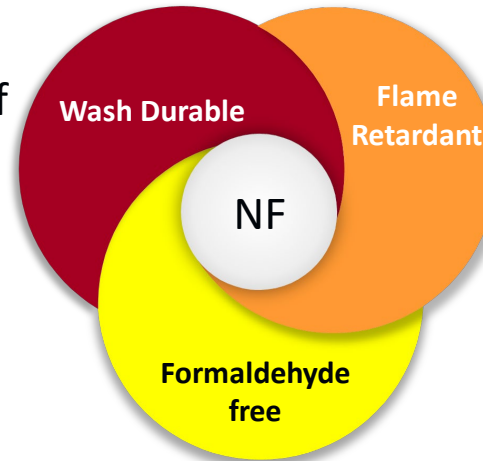
Complete production scale work on NF-based sock	2H FY2020
Complete mattress-scale burn test	2H FY2020
Key meetings with customers	2H FY2020
Initial Sales	1H FY 2021



# Expansion of Applicable Markets for Alexiflam® products

## 1H FY 2020 Overview

- Framework established with ICL (a global leader in flame retardants) for the commercialisation of Alexiflam® NF with ICL customers in target markets
- Framework addresses scope & strategic goals (both near and long-term) for working together
- Similar scope evaluated for other potential partners



## 12-Month Plan

- Finalise Alexiflam® NF licensing and market development agreement with ICL
- In accordance with framework, support ICL commercial efforts with research, product development and manufacturing resources
- In parallel with these efforts, the Alexium commercial team continues work on established FR opportunities at Alexium.



## Key Milestones

Finalise ICL licensing and market development agreement	2H FY2020
Launch commercial efforts with target customers	2H FY2020
Finalise production work with target customers	1H FY 2021

# Flame retardation of nylon/cotton (NyCo) fabrics for military applications

## 1H FY 2020 Overview

- Minor adjustments have been made to Alexiflam® products to suit the Pine Belt manufacturing process and promote even chemical application
- These adjustments and refinements to the FR NyCo manufacturing process have been successful with key metrics met
- Alexium Directors conducted a program review with Pine Belt leadership confirming that production scale testing is on track

### Key FR NyCo Metrics

*Flame Retardancy* ✓

*Durability* ✓

*Comfort/Strength* ✓

*Even Chemical Application* ✓

*Production Optimisation* ◇

## 12-Month Plan

- Support Pine Belt in finalising and optimising production scale processes
- Complete technical production testing on lowest weight add-on with FR NyCo process
- Deliver FR NyCo fabrics to USMC for testing and evaluation (T&E)
- Support Pine Belt and USMC efforts



## Key Milestones

Finalise production optimisation in Pine Belt's facility	2H FY2020
Testing and Evaluation by military initiated	2H FY2020
Complete operational timetable and logistics to supply Pine Belt and military	1H FY 2021



# Half Year Financial Results

# Financial Snapshot

All values in USD and thousands unless otherwise noted



## Meaningful progress made across all key financial indicators over the half

- ✓ Strong revenue growth of 105.2% vs 1HFY19
  - ~ Top of Bed customer inventory scale up in 2HFY19 resulted in lower revenue in 1HFY20
- ✓ Gross margin improvement of 980 bps from 30.1% in 39.9%
- ✓ Tight control of overheads – reduced by US\$0.6m from US\$3.3m to US\$2.7m
- ✓ US\$1.4m improvement in EBITDA
- ✓ Operating + Investing Cash Outflow reduced by US\$1.0m to US\$2.5m
  - Interest cashflow will reduce by a further US\$0.5m as a result of the refinancing completed during the period (**pro forma cash burn of US\$2.0m for the half**)

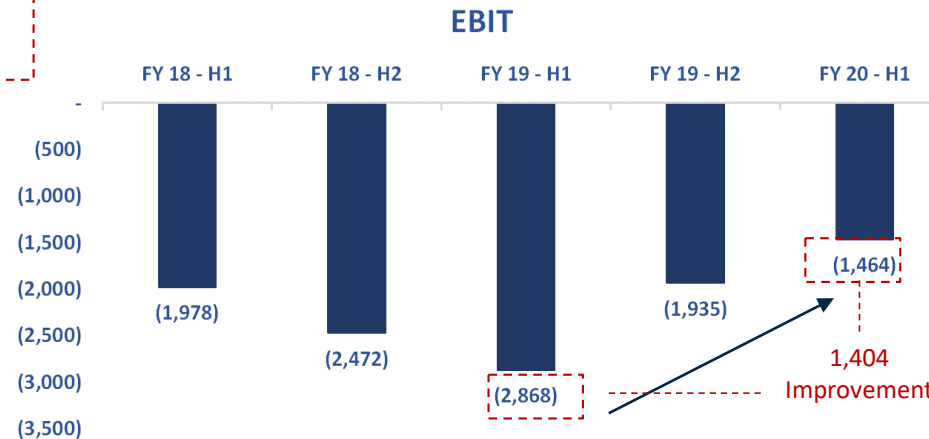
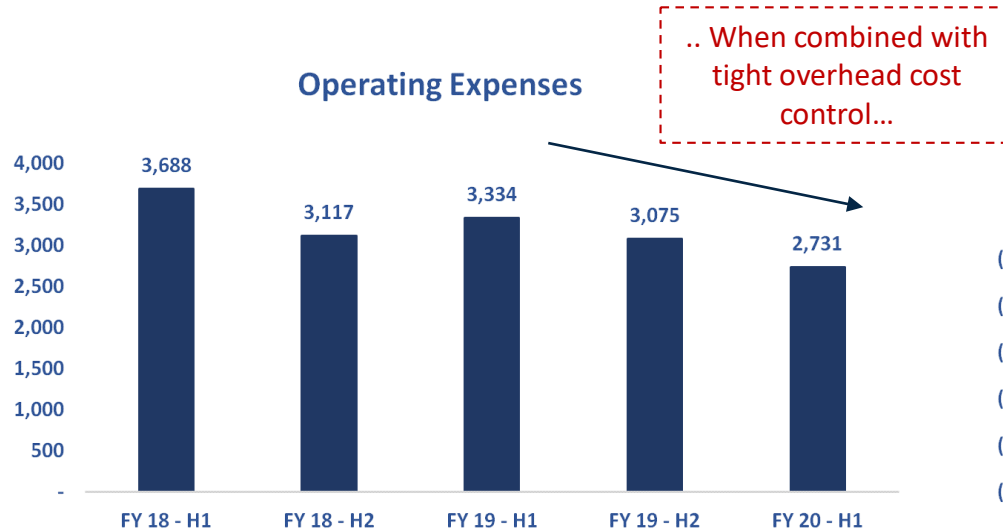
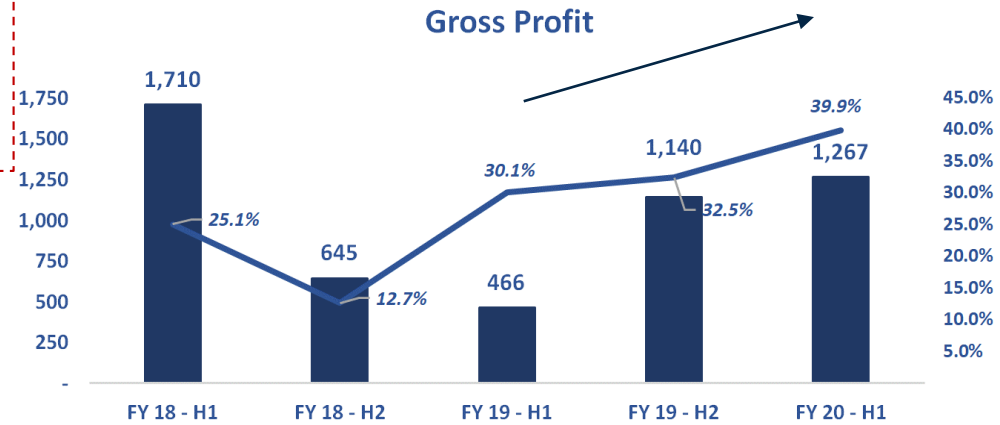
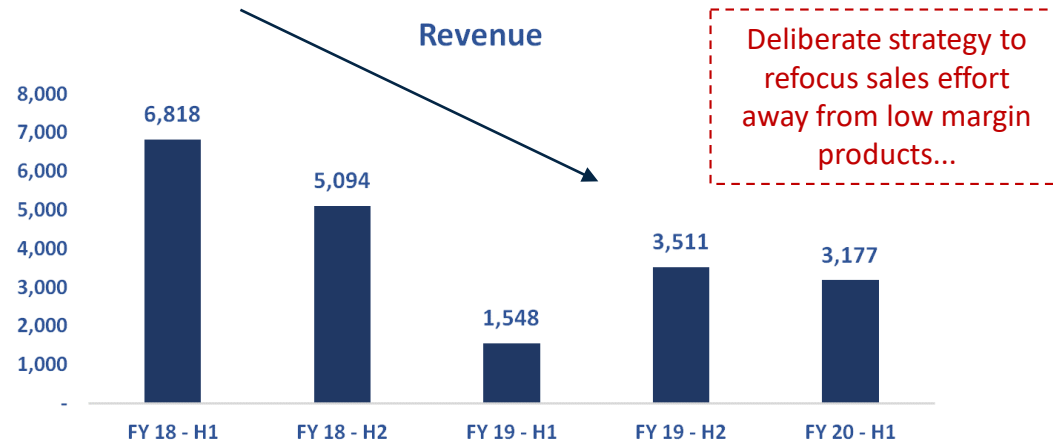
## Capital structure re-set eliminates high cost debt, provides funding required to realise the numerous near-term growth opportunities and introduces new cornerstone institutional investor

- ✓ US\$15.1m successfully raised in December 2019 / January 2020 with proceeds used to retire GPB debt
  - Financing sees well regarded institutional investor – Colinton Capital Partners become a cornerstone investor in Alexium
  - Simon Moore, Senior Partner of Colinton Capital Partners joined the Alexium Board in February 2020
- ✓ Cash Balance of US\$3.1m plus the proceeds received from the Tranche 2 Placement in January of US\$3.8 provides total liquidity of **US\$6.9m** before capital raising costs and ensures Alexium is **fully funded** to capitalise on the multiple growth opportunities in the current pipeline

# Financial Snapshot continued

All values in USD and thousands unless otherwise noted

Actions taken by the current management team over the past 18 months across the business are driving a strong and continued improvement in profitability



# Profit & Loss Statement

All values in USD and thousands unless otherwise noted

- Revenue growth from new customers of Alexicool® products in the three categories of Foam, Top of Bed and Textile along with increased revenue from current customers
- Improved gross margins by 9.8% through pricing and manufacturing controls and processes
- Decrease in operating overhead by 18% from fiscal stewardship and increased efficiencies. Expense increase in overhead of US\$8k due to implementation of AASB 16 – Leases for the net impact in adding depreciation and removing rental payments versus prior year
- Operating Loss improvement of US\$1.4m versus same period last year
- Finance and Interest costs unfavorable due to the repayment of the GPB term loan



	HY20 (USD)	HY19 (USD)	Change	% Change
Sales Revenue	3,177	1,548	1,629	105.2%
Cost of Goods Sold	1,910	1,083	(828)	(76.5%)
<b>Gross Profit</b>	<b>1,267</b>	<b>466</b>	<b>801</b>	<b>171.9%</b>
<b>Gross Margin</b>	<b>39.9%</b>	<b>30.1%</b>	<b>9.8%</b>	
Operating Expenses	1,631	2,075	444	21.4%
Sales and marketing expense	518	533	16	2.9%
Research & Development	152	184	32	17.5%
Occupancy	298	305	7	2.2%
Other expenses	132	236	104	44.2%
<b>Operating expenses</b>	<b>2,731</b>	<b>3,334</b>	<b>603</b>	<b>18.1%</b>
<b>Operating Loss</b>	<b>(1,464)</b>	<b>(2,868)</b>	<b>1,404</b>	<b>49.0%</b>
Interest & Amortisation of Convertible Notes	1,599	1,393	(206)	(14.8%)
Change in Fair Value of Derivative Liability	(201)	(1,010)	(808)	80.1%
(Gain)/ Loss on Debt Extinguishment	1,522	-	(1,522)	
Finance income	(4)	(18)	(14)	77.4%
<b>Finance Costs Total</b>	<b>2,915</b>	<b>365</b>	<b>(2,550)</b>	<b>(698.0%)</b>
<b>NPAT</b>	<b>(4,379)</b>	<b>(3,233)</b>	<b>(1,146)</b>	<b>(35.4%)</b>

# Cash Flow Statement

All values in USD and thousands unless otherwise noted



- Operating Activities
  - Cash collections increased with increased revenue, no collection issues
  - Payments for raw materials and manufacturing increased US\$1.5m with increased revenue and purchases for following period
  - Operating cost cash outlays have decreased US\$0.5m with improved cost controls
  - Interest expense will decrease by US\$0.5m per half with the refinancing of the debt
- Investment Activities
  - Intangible assets increases from intellectual property development efforts
- Financing Activities
  - Repayment of GPB Capital US\$9m term loan on 31-Dec-2019
  - Addition of the Colinton Capital A\$5.15m four-year 6% convertible note on 24-Dec-2019
  - Cash interest expense will decrease approximately US\$85k per month
  - Proceeds from rights issue and first of two placements in December netted US\$7.7m after transaction costs
  - Second placement completed in January generated and additional US\$3.8m in cash before capital raise fees

	31-Dec-19 USD	31-Dec-18 USD
<b>Cash flow from operating activities</b>		
Receipts from customers and other income	3,820	1,584
Payments to suppliers and employees	(5,048)	(4,071)
Interest received	4	18
Interest and other costs of finance paid	(737)	(582)
Goods & services tax received from ATO	14	42
<b>Net cash flows (used in) operating activities</b>	<b>(1,947)</b>	<b>(3,010)</b>
<b>Cash flows from investing activities</b>		
Purchase of property, plant and equipment	(11)	(23)
Purchase of other non-current assets	-	(50)
Payments for development costs	(499)	(349)
<b>Net cash flows (used in) investing activities</b>	<b>(510)</b>	<b>(423)</b>
<b>Cash flows provided by financing activities</b>		
Proceeds from issue of ordinary shares	7,819	-
Transaction costs related to issue of shares	(133)	-
Proceeds from borrowings	3,612	-
Transaction cost related to loans and borrowings	(118)	-
Repayment of borrowings	(9,510)	(1,137)
<b>Net cash flows from/(used in) financing activities</b>	<b>1,668</b>	<b>(1,137)</b>
<b>Net increase / (decrease) in cash and cash equivalents</b>	<b>(788)</b>	<b>(4,569)</b>
<b>Cash and cash equivalents at beginning of year</b>	<b>3,843</b>	<b>10,642</b>
Effect of exchange rate changes on cash & cash equivalents	71	(57)
<b>Cash and cash equivalents at end of year</b>	<b>3,126</b>	<b>6,015</b>



# Balance Sheet

All values in USD and thousands unless otherwise noted

- **Working Capital**
  - Current period decrease in cash conversion cycle due to improvements in all three areas of DSO, DIO and DPO. No collections issues, continued improvements in inventory purchasing through S&OP process and management of trade payables
- **Non-Current Assets**
  - Right of Use Assets - implementation of new standard AASB 16 - Leases caused a reclass of capital leases from PP&E along with capitalisation of our long-term rental building
  - Intangible assets increase due to of intellectual property asset development efforts
- **Non-Current Liabilities**
  - Repayment of the GPB Capital US\$9m term loan plus fees
  - Addition of the Colinton Capital A\$5.15m four-year 6% convertible note. Cash interest payments will decrease by approximately US\$85k per month
  - AASB 16 Lease accounting implementation increased Lease Liabilities by US\$0.9m
- **Equity**
  - Completed rights issue and first of two placements for net US\$7.8m
  - Second placement completed in January generated US\$3.8m in cash before capital raise fees



	31-Dec-19 USD	30-Jun-19 USD
<b>Current Assets</b>		
Cash and cash equivalents	3,126	3,843
Trade and other receivables	549	962
Inventories	1,382	1,153
Other current assets	148	75
<b>Total Current Assets</b>	<b>5,205</b>	<b>6,034</b>
<b>Non-Current Assets</b>		
Other financial assets	18	18
Property, plant and equipment	1,080	1,727
Intangible assets	2,210	1,778
Right of Use Assets	1,410	-
<b>Total Non-Current Assets</b>	<b>4,718</b>	<b>3,523</b>
<b>Total Assets</b>	<b>9,923</b>	<b>9,557</b>
<b>Current Liabilities</b>		
Trade and other payables	1,754	1,559
Lease liabilities	138	171
Other liabilities	-	-
<b>Total Current Liabilities</b>	<b>1,892</b>	<b>1,729</b>
<b>Non-Current Liabilities</b>		
Convertible note	1,884	6,596
Derivative liability	1,613	658
Lease liabilities	1,021	190
<b>Total Non-Current Liabilities</b>	<b>4,519</b>	<b>7,445</b>
<b>Total Liabilities</b>	<b>6,411</b>	<b>9,174</b>
<b>Net Assets</b>	<b>3,512</b>	<b>383</b>
<b>Equity</b>		
Contributed equity	62,177	54,368
Reserves	(806)	5,078
Accumulated losses	(57,859)	(59,063)
<b>Total Equity</b>	<b>3,512</b>	<b>383</b>