



ALEXIUM

SPECIALTY CHEMICALS AND SOLUTIONS

Protecting Lives at Home and on the Battlefield



Military



Work Wear



Transportation



Outdoor



Home Furnishings



Plastics and Resins

Agenda



1 Alexium Overview

2 Market Overview

3 Product Overview

4 Financial Snapshot

5 Appendix

6 Board and Management Team



Company Overview

- Alexium International is a speciality chemicals developer based in Greer, South Carolina, USA
- Two key product lines:
 - **Flame Retardant (FR)** chemical formulation developed in 2011
 - **Reactive Surface Treatment (RST)** a patented technology acquired from the US Air Force in 2009, which can change the surface properties and performance of every day materials
- Alexium's FR formulation is uniquely differentiated to existing treatments
 - Safe and environmentally friendly / halogen free – passes strict new environmental regulation
 - Significant cost and performance advantages over existing treatments
 - Lightweight, durable and can be laundered
- Growing IP portfolio with over 20 patents in 9 countries and 3 patent applications pending regarding FR chemical treatments and FR emulsions
- Sizeable market opportunity
 - US\$7b market in 2014 forecast to grow to US\$10b by 2019 (5.7% CAGR)¹
 - Organophosphorus FR CAGR of 7.5%^{1,2}
- Current focus on growing FR sales across the commercial and defence sectors
 - Validation by strong and growing Department of Defense relationship and commercial pipeline
- Ongoing partnership with ICL, the largest FR producer in the world

1. MarketsandMarkets' Report on the Flame Retardant Market: Trends & Forecasts to 2019

2. Due to the restricted use and ban of brominated flame retardants, organophosphorus compounds (Ops) are ubiquitous in various environmental compartments worldwide



Fire Retardant Market

Key Market Drivers:

Green Drivers

- 1 Increasing focus on environmentally friendly FR solutions by manufacturers
- 2 Evidence of toxicity and bio accumulation in halogenated compounds and carcinogens
- 3 Increased regulatory and legislative focus across US and Europe on restricting / eliminating the use of brominated/halogenated compounds

Regulatory Drivers

- 4 Stringent fire safety regulations causing companies to look for more effective performance in FR
- 5 Increased cases of litigation against products without appropriate or effective FR treatments is driving demand for better solutions

Alexium Compelling Advantage:

Alexium Technologies

- 1 Unique Proprietary Chemistries

Alexium Product Brands:

- 2
 - ALEXIFLAM™
 - ALEXIFLAM-NF™
 - ALEXIFLAM-SYN™
 - ALEXIFLAM SYN-FILL™

Auxiliary Chemistries

- 3 No one else has environmentally-friendly FR chemistry with minimal impact to other properties while meeting unique customer needs

- 4 Industry experts with formulation know-how

Proven Collaborations

- 5 ICL
Natick
Major Customers / Industry Leaders

Alexium is able to meet and/or exceed market needs while hitting price points to win business and achieving margins from 30-60%



Primary Product Applications and Target Markets


Alexium's FR products have commercial application across a number of key target markets

Category	Standards met
<p>1 Bedding and decorative fabrics</p>	<p>US: 16 CFR 1633; BFD IX-1; CAL TB 117-2013; NFPA 255; NFPA 260; NFPA 701; CAL 19 EU: BS 5852; EN 1021; BS 5867</p>
<p>2 Military and work wear</p>	<p>Military: PyroMan™; 100 Home Launderings; D-6413 with less than 4 ½" char length and less than 2 second afterglow; doesn't affect physical properties: abrasion resistance, air permeability, tear strength, dimensional change, tensile strength, seam strength Work wear: ISO 11612 A-F</p>
<p>3 Automotive and transportation</p>	<p>General: 25.853 Sections A-D; Passes Fog and Smoke Regulations Automotive: FMVSS 302; VOC Testing – Low VOC; Low Fog and Smoke; Pass all water spotting/staining tests with no/low crocking</p>
<p>4 Outdoor fabrics</p>	<p>CPAI-84; NFPA 701; CAL19</p>
<p>5 Coatings and polymers</p>	<p>UL-94 V-0</p>



1 Bedding and Decorative Fabrics

Alexium Product: Alexiflam™

Use & application	<ul style="list-style-type: none"> • Bedding, upholstery, drapes and other decorative fabrics <ul style="list-style-type: none"> — Topical FR Treatments — Pad and back-coating applications — Foaming • Contract application for hospitality and hospital uses • Customised Topical FR treatments for furniture and upholstery (no wash-off, semi-durable treatments) 	
Fabric application	<ul style="list-style-type: none"> • 100% polyester, 100% cotton, poly-cotton and 50/50 NyCo 	
Estimated US market size	<ul style="list-style-type: none"> • US\$120 million p.a. 	
Market growth opportunities	<ul style="list-style-type: none"> • Engaged with 12 customers in the bedding industry <ul style="list-style-type: none"> — Revenue from trial production runs in CY15 received from 3 customers • Engaged with 12 customers in the decorative fabrics industry for upholstered furniture <ul style="list-style-type: none"> — Trial production runs received from 3 customers 	
Divisional outlook and strategic objectives	<ul style="list-style-type: none"> • US\$5.3 million revenue in CY16 • Market penetration through component manufacturers and expansion into complementary chemistries 	



2 Military and Work Wear



Alexium Product: Alexiflam™

Use & application	<ul style="list-style-type: none"> • Topical FR treatment for Nylon Blend fabrics <ul style="list-style-type: none"> — Standard military uniforms — Industrial work wear applications • Alexiflam™ application facilitates multiple washing cycles (key competitive advantage) which is generating strong interest from the textile and chemical industry • Wash durable (up to 50 cleaning cycles)
Fabric application	<ul style="list-style-type: none"> • Nylon blend fabrics
Estimated US market size	<ul style="list-style-type: none"> • US\$245 million p.a.
Market growth opportunities	<ul style="list-style-type: none"> • Working with Natick Soldier Research and Engineering Centre <ul style="list-style-type: none"> — \$50k grant to develop durable eco-friendly fire resistant 50/50 NyCo fabric • Contract with US Marine Corps to provide FR NyCo • Engaged with 7 additional customers
Divisional outlook and strategic objectives	<ul style="list-style-type: none"> • US\$2.5 million revenue in CY16 • Leverage on-going success with US military programs worldwide • Accelerate and expand progress in workwear market with new NFPA 2112 technology



3 Automotive and Transportation



Alexium Product: Alexiflam-NF™

Use & application	<ul style="list-style-type: none"> • Public transportation fabrics, automotive body cloth, airplane fabric • Upholstery and contract fabric applications • Low weight add-on maintains inherent fabric properties while providing flammability protection • Non-leaching, non-migrating, wash durable (up to 15 cleaning cycles) 	
Fabric application	<ul style="list-style-type: none"> • Natural fibers including wool , cotton and natural fiber blends 	
Estimated US market size	<ul style="list-style-type: none"> • S\$50 million p.a. 	
Market growth opportunities	<ul style="list-style-type: none"> • Engaged with 8 customers <ul style="list-style-type: none"> — Revenue from trial production runs in CY15 received from 5 customers — Scaling up commercial production trials with customer base • Engaged with 1 customer in European Luxury automotive textiles market with commitment to environmentally friendly solutions <ul style="list-style-type: none"> — Purchase order to scale up to commercial trial 	
Divisional outlook and strategic objectives	<ul style="list-style-type: none"> • US\$4.7 million revenue in CY16 • Continue to gain market share and expand into non-fabric components with Alexiflam SYN-Fill™ product line. 	



4 Outdoor Fabrics



Alexium Product: Alexiflam-SYN™

Use & application	<ul style="list-style-type: none"> • Acrylic fabrics: <ul style="list-style-type: none"> — Outdoor fabric items including: awnings, tents and marine fabrics • Polyester fabrics: <ul style="list-style-type: none"> — Furnishings, upholstery, bedding, curtains and contract fabrics — Alexiflam-SYN treatment reduces fabric costs by treating conventional polyester fibres • Comes in solvent or aqueous based solutions • Can be used in non-textile applications, including masterbatch, films and resins 	
Fabric application	<ul style="list-style-type: none"> • 100% acrylic , 100% polyester, 100% nylon 	
Estimated US market size	<ul style="list-style-type: none"> • US\$50 million p.a. 	
Market growth opportunities	<ul style="list-style-type: none"> • Engaged with 8 customers <ul style="list-style-type: none"> • Scale up trials with 3 companies • Revenue received in CY15 from 2 companies 	
Divisional outlook and strategic objectives	<ul style="list-style-type: none"> • US\$2 million revenue in CY16 • Complete critical environmental certifications and finalize Asian supply chain / processing infrastructure to greatly advance market share in the outdoor industry. 	



5 Coatings and Polymers

Alexium Product: Alexiflam SYN-FILL™

Use & application	<ul style="list-style-type: none"> • Plastics, resins and composites <ul style="list-style-type: none"> — Building, construction, coatings, electronics, wire and cable , molded injection • Adhesives and laminations (textile and non-textile) <ul style="list-style-type: none"> — Contract transportation, composites and films • Fibers and filaments (textile industry) <ul style="list-style-type: none"> — Bedding, upholstery, contract fabrics, apparel, webbing 	
Fabric application	<ul style="list-style-type: none"> • Natural fibers including wool , cotton and natural fiber blends 	
Estimated US market size	<ul style="list-style-type: none"> • US\$220 million p.a. 	
Market growth opportunities	<ul style="list-style-type: none"> • Actively engaged with 9 companies <ul style="list-style-type: none"> • 4 scale-up trials are in progress • Revenue received from 1 company in late 2015 	
Divisional outlook and strategic objectives	<ul style="list-style-type: none"> • US\$4 million revenue in CY16 • Establish footprint with initial customers using Alexiflam SYN-FILL™ and modify this platform technology to allow penetration into a wider range of polymeric and resin materials. 	




Partnerships

Alexium has established strategic partnerships in order to rapidly scale its go-to-market capabilities

- These partnerships were hand picked with reference to geography and sector expertise
- iTextiles - Agreement signed June 2015 with six current opportunities
- Remaining 6 partnerships (established 2016) have 42 agents representing various Alexium target markets
- Over 50% already have initiated lab trials/opportunities

Global Distribution & Sales Agent Network

 iTextiles	<ul style="list-style-type: none"> • Europe, Asia • 2 senior sales executive appointed to service a growing European client base 	Targeting initial sales opportunities in Transport and Military & Workwear segments
	<ul style="list-style-type: none"> • Brazil • 5 Sales Reps between Sao Paolo & Brasilia 	Extensive experience in sales to Textiles Customers, with specific experience in Workwear, Carpet, and Transportation Industries
	<ul style="list-style-type: none"> • Australia & New Zealand • 9 Sales Reps across both Countries 	Three reps that specialize exclusively in Textiles Markets: Transportation, Workwear, Carpet, Upholstery
	<ul style="list-style-type: none"> • Southeast Asia: Myanmar, Vietnam, Indonesia, Thailand, Malaysia, Singapore • 12 Sales Reps across 6 Countries 	Two specialized Polymers & Formulated Compounds sales groups
	<ul style="list-style-type: none"> • Israel & Mediterranean • 4 Sales Reps with Key Relationships 	Key target markets: Textiles (workwear, military, bedding, transportation) , Polymers, Plastics
Schmits Chemical Solutions	<ul style="list-style-type: none"> • Northern & Southern Europe • 2 Sales Reps with over 20+ years of sales 	Textiles Markets: Workwear, Transportation, Bedding, and Military
Southern Solutions LLC	<ul style="list-style-type: none"> • South Eastern USA • 2 Sales Reps 	Sales into the Polymers and Textiles Markets with over 25 years of experience of B2B into our target markets



Toll Manufacturing / Supply Chain

Alexium has established strategic partnerships in order to rapidly scale its go-to-market capabilities

Toll Manufacturing – Scale through asset light operating model



- Lenoir, NC
- 10+ mixing vessels
- 80k sq.ft. property



- Rock Hill, SC
- 46 acre site with 75k sq.ft. distribution centre
- 13 specialized reactors

- Chemical production of Alexium's core products facilitating global supply to customers and distributors
- Allows Alexium to scale through an asset light operating model

Global Supply Chain Infrastructure & Partnerships



- Physical Location Belgium

- Go-to-market global partnership initially targeting Europe and Asia
- Market leading, vertically integrated Supply Chain & Logistics Group.
- VLS-Group has worldwide infrastructure & networks in place to support Alexium growth in Europe, the Middle East, Africa, all corners of Asia, and the Americas.
- Customer and commercial partner for Alexium's FR products in the UK and Europe



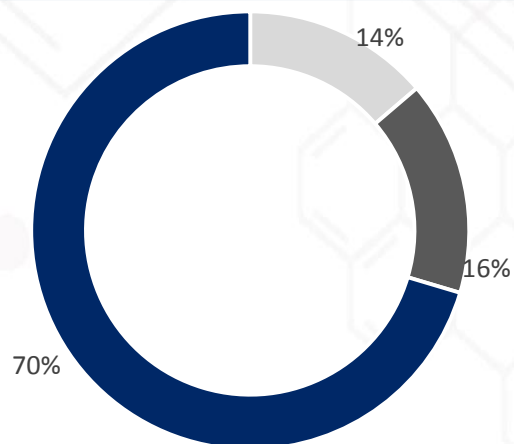
- United Kingdom and Europe

- Euroflam offers bespoke flame retarding and soil and stain treatment service for Domestic and Contract standards for Upholstery, Curtaining, Bedspreads and soft furnishing.

Financial Overview

- Alexium secured significant growth during the 6mth to Dec-15 period with revenue increasing by 942%.
- Alexium has achieved 6 straight quarters of growth
- Half-Year accounting loss of ~\$9.0m reflects additional hiring, share-based payments as well as scale-up efforts resulting in substantially larger inventory purchases during the period.

Share register composition



- Directors, Management & Founders
- Institutions (International & Domestic)
- HNW & Retail

Balance sheet

A\$000s	31-Dec-2015
Cash & cash equivalents	10,196
Trade & other receivables	588
Property, plant & equipment	536
Other non-current assets	187
Trade & other payables	(635)
Other current liabilities	(95)
Net Assets / Equity	10,778

Income statement

P&L (A\$000s)	6mth Dec-15	6mth Dec-14
Revenue	1,250	120
Cost of sales	(1,037)	(10)
Gross margin	212	110
Other expenses	(9,118)	(2,515)
EBITDA (underlying)	(8,906)	(2,406)
D&A	(103)	(62)
EBIT (underlying)	(9,009)	(2,468)
NPAT (statutory)	(9,009)	(5,412)

Alexium – Positioned for Success

Alexium Product Launches	✓
Clear Market Demand	✓
Commercial Partnerships	✓
Clearly Differentiated Technology	✓
Scalable Capital Light Business Model	✓
Novel Environmentally Friendly Chemistry	✓
Expanding Patent Portfolio	✓



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Protecting Lives at Home and on the Battlefield

Contact:

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Appendix

Board of Directors and Senior Management Team

Board of Directors



Gavin Rezos – Executive Chairman

- Extensive international investment banking experience
- Held CEO positions in companies in Australia, the UK, US & Singapore
- Non Executive Director of Iluka Resources



Nick Clark – CEO and Executive Director

- Degree in Economics and Law with a postgraduate MBA and PhD in Management
- Certified with the AICPA as a Chartered Global Management Account
- Attended the Yale CEO College over two years



Craig Smith Gander – Non Executive Director

- Graduate Royal Military College Duntroon, 10 years military service
- Former Director Investor Banking CIBC World Markets
- Experienced company director, entrepreneur



Craig Metz – Non Executive Director

- Partner at Nelson, Mullins, Riley and Scarborough LLP with over 20 years experience in legislative and regulatory affairs
- Served as Chief of Staff to the late Congressman Floyd Spence (R-SC)
- Held staff positions in the United States Senate and House of Representatives
- Appointed to senior positions in the Executive Branch of the Federal Government



Brigadier General Stephen Cheney – Non-Executive Director

- Former Inspector General of the Marine Corps and Commanding General of Parris Island Marine Base
- Former Deputy Executive Secretary to U.S. Defense Secretary Dick Cheney under President George H.W. Bush
- Sits on Secretary of State John Kerry's Foreign Affairs Policy Board

Senior Management Team



Nicholas "Nick" Clark – Chief Executive Officer

Law and Economics graduate with a postgraduate MBA and has attended Columbia University and Yale CEO College



Dr. Dirk Van Hyning – President

Holds a BS, MS and PhD from NC State and the University of Illinois



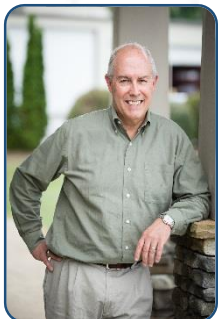
Aaron Krech – Chief Financial Officer

Accounting and Finance Business degree from the Darla Moore School of Business and is currently completing an MBA in International Business at the University of South Carolina



Dr. Bob Brookins – Vice President of Research & Development

Holds a PhD from University of Florida, a MAE in Science Education from the University of Alabama, a BA in English from Oglethorpe University and a BS in Chemistry from GA Southwestern University



Steve Gravlee – Vice President Sales

Over 35 years' experience in the textiles and flame retardant furnishings arena. BA in Economics from Wofford College and MBA from Wake Forest University



Michael Schwartz – General Manager of Operations and Growth

17 years of coatings and textile chemical industry experience. BA from the University of North Texas.

