



ASX MEDIA RELEASE

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## CHEMICAL INNOVATIONS

ALEXIUM INTERNATIONAL GROUP LIMITED

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### FOUNDATIONS FOR 2016

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**Perth, WA and Greer, South Carolina: Alexium International Group Limited (Alexium) (ASX:AJX, AX:AJX, OTC QX:AXXIY)** is pleased to share our foundations for 2016. Alexium's mission is to develop unique IP Protected Formulations centered on our award winning flame retardant (FR) technologies, together with add on products, to provide a diverse portfolio of quality, environmentally-friendly chemical solutions to satisfy the needs of our customers worldwide, whilst being a recognized leader in FR technology and environmental stewardship.

To date, Alexium has been rapidly delivering on its target of establishing a global footprint. Leading into 2016, we have already secured over 45 customers for an approximate US\$18.5M (baseline) of earnings, within a potential order book of US\$44.7M from these customers alone for 2016.

#### KEY SUCCESSES & HIGHLIGHTS DEFINED BY MARKET SEGMENTS

1. HOME FURNISHINGS
2. DEFENSE SECTOR
3. WORKWEAR
4. TRANSPORTATION
5. OUTDOOR FABRICS
6. COATINGS/POLYMERS

#### HOME FURNISHINGS

The US FR market size in the home furnishings sector is US\$132M with an estimated 2016 total revenue potential to Alexium of US\$14.5M. Alexium has secured 38% of our overall 2016 baseline group revenue through current home furnishings customers.

Our first commercial success of 2015 came from the Bedding/Mattress market segment in the Home Furnishings Industry. We partnered with a major bedding supplier to provide FR treatment for fabrics used for top of the line mattresses. Throughout the development of this treatment with our customer, our Product Development group worked closely with the fabric source to ensure our chemistry was compatible with all other components. As a result, this effort expanded the scope of the initial project and increased purchase orders to accommodate additional customer needs. The collaboration also led to Alexium developing Alexiflam Crockban and Next-Generation cooling phase change chemistry.

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Our Product Development Group also assisted a major fabric supplier by successfully treating a high content polypropylene fabric. These fabrics are traditionally difficult to treat and the Alexiflam FR treatment enabled the CFR 1633 bed burn test to be passed. We expect to see increased Alexiflam FR orders before year end to support the expansion of our business into this area. In another area of protection for mattresses, we are expecting to run plant trials on knitted materials to create "FR socks". These socks, which are the industry standard method of protecting a foam mattress and currently contain modacrylic and the heavy metal, antimony, hence leading to scrutiny by regulators. In addition, the memory foam mattress is gaining an increasing amount of total mattress market share and this is an area that Alexium is intent on offering its FR solutions.

We also continue to work with a large commission finisher to fine tune formulations using the Alexiflam FR product for which we expect to see orders and co-branding in January. Another focus and growth area for our FR products is the drapery market.

## DEFENSE SECTOR

The US FR market size in the military sector is US\$240M with an estimated 2016 total revenue potential for Alexium to US\$13M. Alexium has secured 23% of our overall 2016 baseline group revenue through current Defense Sector customers/existing contracts.

This has been a break out year for Alexium in the Defense Sector. Alexium completed and delivered on stage one- Environmentally-Friendly FR Nylon-Cotton (NyCo) Fabric to Natick (US Army Solider Systems Center) for down select testing. As a result, Natick selected Alexium to proceed to the second stage of development of non-inherent FR 50/50 NyCo Uniforms during the month of August. During this time our CEO, Nick Clark met with Key Officials on Capitol Hill to encourage legislation aimed at the deployment of safer, durable, FR uniforms for all military personnel, not just in combat situations.

In October, the US Department of Defense (DoD) selected Alexium as Key Partner for the New Fire Retardant Uniform Fabric. Alexium is now working with a major US defense Sector contractor for large scale field trials of their NyCo uniforms, treated with Alexiflam.

In addition, we have had four successful burn tests and plant trials with a second primary military supplier for high performance textile applications for new their NyCo FR uniforms.

Murdock Webbing, a leading DoD contractor for strapping and webbing, provided a large initial Purchase Order for Alexium FR treated goods. We recently finalized a Royalty Program with Murdock Webbing, set to commence in January 2016.

Finally, Alexium has been working with a new Defense Sector customer for advanced textiles comprised of exotic materials for specific Defense Sector applications. Along with this initiative, Alexium received a new purchase order from a Defense Sector contractor to advance progress on these next generation Defense materials.

## WORKWEAR

Recent developments in the Defense Sector have shown that our NyCo fabrics pass the NFP 2112 body burn required for many workwear applications. Our partners, iTextiles, have scheduled overseas trials both in Poly Cotton and NYCO overseas where we see the biggest immediate opportunities.

## TRANSPORTATION

The US FR market size in the transportation sector is US\$52.8M with an estimated 2016 total revenue potential to Alexium of US\$9M. Alexium has secured 22% of our overall 2016 baseline group revenue through current transportation market customers.

We have run successful plant trials in Europe through our partner iTextiles. Test results have just been received showing our FR treatment far surpasses all requirements on their main line of fabrics. Additional orders for chemistry are expected soon as they scale up for full production. We are progressing our search for overseas production capability to support the Eurasia market area.

Domestically, we have run several plant trials at 2 key domestic automotive suppliers. In addition, we are working with a supplier of aircraft carpeting on treating their products.

## OUTDOOR

The US FR market size in the outdoor sector is US\$52.8M with an estimated 2016 total revenue potential for Alexium to US\$4.2M. Alexium has secured 8% of our overall 2016 baseline group revenue through current outdoor market customers.

We are working with a major US domestic Camping & Outdoor company on finalizing contracts with an Asian based finisher. All tests and laboratory work are complete, ready to ship chemistry. Further, we are working with one of the largest US outdoor retailers for an FR treatment of their tent fabrics.

Product development has continued to develop a soak durable FR treatment for cotton tenting. We have fabric on order to run plant trials when the formulation is complete. There are at least 3 potential customers waiting for this product so they can service the substantial United Nations (UN) Refugee Tent market.

## NEW PLATFORM FOR 2016

### COATINGS/POLYMERS

The US FR market size in the coatings/polymers sector is US\$270M with an estimated 2016 total revenue potential to Alexium of US\$4M. Having only entered this market in the last quarter, Alexium has gained new customers and has already secured 9% of our 2016 baseline group revenue.

By using our expertise in coating chemistries, we successfully expanded into the coatings/polymers markets in 4Q 2015 ahead of schedule, with the launch of Alexiflam SYN-FILL.

Alexiflam SYN-FILL was developed for applications in the composites, adhesives, laminations, resins, films, coatings and masterbatch processes. Potential end uses cover a wide range from engineered molded plastics to building construction to industrial fibers. This initial effort outside of the textiles arena will be a bright star in our future. We have successfully completed plant trials for PET treated film in 4Q 2015 for application in

the consumer electronics market. Our product has the ability to be scalable which also differentiates us in the market.

We recently began working with a resin provider to the electronics industry and laboratory scale trials show excellent results and we have received an initial purchase order for plant trials. Another customer has shown interest in our Alexiflam SYN-FILL chemistry to be applied in their resin products that are aimed at the construction industry.

The large FR coatings and polymers market is the most exciting market to emerge in 2015 for Alexium, even considering our break out year in the Defense Sector. Expanding the Alexium FR product line into the large non-textile markets, where brominated and halogenated FR products have been the mainstay over many years, has been a key part of our strategic development. Our ability to provide an environmentally friendly, cost effective and performance enhancing FR solution as a safe and effective FR replacement technology in these large and valuable markets is a further demonstration of the depth of our capabilities in the FR area.

## BEYOND 2016

2015 was a very successful year as Alexium made a dedicated approach in the commercial textiles sector while continuing its focus on the Defense Sector. Through development of these two sectors with our core technologies, Alexium expanded research and development to specialty surface technologies in the coatings/polymers markets. In addition, Alexium began expanding on its core FR technologies to provide additional solutions to further meet our customers' needs.

Through these developments, Alexium is positioning to be a major global player in the Flame Retardant Chemistry market whilst providing our customers with a complete multi-platform, environmentally friendly, chemical solution package. We intend to be a major force in every market sector we serve and have established the foundation and mechanism to drive us to that end.

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## **About Alexium**

Alexium International Group Limited (ASX: AJX, AX:AJX OTC QX: AXXIY) holds proprietary patent applications for a process developed initially by the U.S. Department of Defense, which allows for the surface modification and attachment of nano-particles or multiple chemical functional groups to surfaces or substrates to provide functions such as fire retardancy, water proofing, oil proofing, and anti-microbial treatments. Applications under development include but are not limited to textiles, paints, and packaging, glass and building materials. Alexium's fire retardant chemical treatment are currently marketed for different fabric markets under the Alexiflam™, Ascalon™, Nycolon™, Nuvalon™, and Polytron™, Omnitron™ and Bactron™ trademarks.