



**Altech Chemicals**  
Limited

## ASX ANNOUNCEMENT AND MEDIA RELEASE

7 June 2022

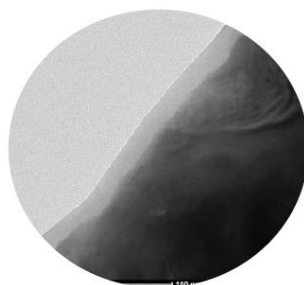
# ALTECH – PATENT PROTECTION FOR SILUMINA ANODES™ BATTERY MATERIALS TECHNOLOGY

### Highlights

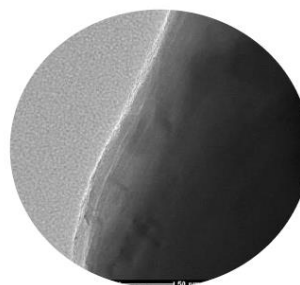
- Patent protection for Silumina Anodes™ battery materials technology in place
- Australian provisional patent application originally filed on 13 May 2021
- Broaden filings to extend reach and protection
- National Patent filings in the United States, Europe, China, Japan and Korea
- International Patent filing covering up to 156 countries

Altech Chemicals Limited (Altech/the Company) (ASX: ATC) (FRA: A3Y) is pleased to announce further patent filings to protect its intellectual property relating to the application of Silumina Anodes™ battery materials technology and alumina coating process. On 13 May 2022, an international patent application preserving the right to file national applications in up to **156 countries** was filed. National patent applications have also been filed in the **United States, Europe, China, Japan and Korea**. All of these applications claim priority from Australian provisional patent application filed on 13 May 2021.

The patent applications protect Altech's process for covering anode materials such as silicon and graphite with nano-layer alumina coatings. The coatings serve as an artificial solid electrolyte interface (SEI), and can reduce lithium loss during each battery charge and discharge cycle, and also retards degradation of battery capacity throughout battery life. This current round of patent filings further demonstrates Altech's commitment to protecting its intellectual property.



Altech alumina coated silicon



Altech alumina coated graphite

Authorised by: Iggy Tan (Managing Director)

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### **About Altech Chemicals Ltd (ASX:ATC) (FRA:A3Y)**

Altech Chemicals ("Altech" or "Company") is a specialty battery materials technology company that has licenced its proprietary high purity alumina coating technology to 75% owned subsidiary Altech Industries Germany GmbH (AIG), which has commenced a definitive feasibility study for the development of a 10,000tpa silicon/graphite alumina coating plant in the state of Saxony, Germany to supply its Silumina Anodes™ product to the burgeoning European electric vehicle market.

This Company recently announced its game changing technology of incorporating high-capacity silicon in lithium-ion batteries. Through in house R&D, the Company has cracked the "silicon code" and successfully achieved a 30% higher energy battery with improved cyclability or battery life. Higher density batteries result in smaller, lighter batteries and substantially less greenhouse gases, and is the future for the EV market. The Company's proprietary silicon graphite product is registered as Silumina Annodes™.

The Company is in the race to get its patented technology to market and recently announced the results of a preliminary feasibility study (PFS) for the construction of a 10,000tpa Silumina Anode™ material plant at AIG's 14 hectare industrial site within the Schwarze Pumpe Industrial Park in Saxony, Germany. The European graphite and silicon feedstock supply partners for this plant will be SGL Carbon and Ferroglobe. The project has also received green accreditation from the independent Norwegian Centre of International Climate and Environmental Research (CICERO). To support the development, AIG has commenced construction of a pilot plant adjacent to the proposed project site to allow the qualification process for its Silumina Anodes™ product. AIG has executed NDAs with two German automakers as well as a European based battery company.

**Silumina Anodes™**

### **HPA Project**

Altech is also further aiming to become a supplier of 99.99% (4N) high purity alumina (Al<sub>2</sub>O<sub>3</sub>) through the construction and operation of a 4,500tpa high purity alumina (HPA) processing plant at Johor, Malaysia, and has finalised Stage 1 and Stage 2 construction of its HPA plant in Johor, Malaysia. Feedstock for the plant will be sourced from the Company's 100%-owned near surface kaolin deposit at Meckering, Western Australia and shipped to Malaysia. The HPA project is significantly de-risked with a bankable feasibility study completed, senior lender project finance from German government owned KfW IPEX-Bank approved, and a German EPC contractor appointed – with initial construction works at the site completed. In addition to the senior debt, conservative (bank case) cash flow modelling of the HPA plant shows a pre-tax net present value of USD 505.6million at a discount rate of 7.5%. The project generates annual average net free cash of ~USD76million at full production. Altech is in the final stages of project finance with a potential raising of US\$100m of secondary debt via the listed green bond market. In addition, US\$100m of project equity is being sought through potential project joint venture partners.

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