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## ALTECH – GERMAN LAND PURCHASED FOR BATTERY MATERIALS PROJECT

## **Highlights**

- Acquisition of ~14Ha industrial site in Saxony, Germany
- Ideal location for a 10,000tpa HPA battery materials coating plant
- Strategic location to supply the European lithium-ion battery and EV markets

Altech Chemicals Limited (Altech/the Company) (ASX: ATC) (FRA: A3Y) is pleased to announce that its 75% owned German subsidiary, Altech Industries Germany GmbH (AIG), has exercised its option to purchase a ~14-hectare industrial site within the Schwarze Pumpe Industrial Park, municipality of Spreetal, Saxony, Germany (see Figure 1). The site is an ideal location for a proposed 10,000tpa high purity alumina (HPA) battery materials coating plant, which is the subject of a preliminary feasibility study that is being finalised by AIG. The plant would produce alumina coated silicon / graphite anode materials to supply the lithium-ion battery and electric vehicle (EV) markets, using Altech's proprietary coating technology. The site's location is well positioned to supply alumina coated anode materials to European markets.

An official land handover ceremony was recently concluded at the Schwarze Pumpe Industrial Park. Attendees included the Saxony State Minister for Development Mr Thomas Schmidt; the Mayor of Spreetal, Saxony Mr Manfred Peine and Lady Major of Spremberg, Brandenburg Ms Christine Herntier. Members of the board of Altech Advanced Materials AG (AAM) and several other political and industrial dignitaries were also present. The ceremony was held in the Dock3 facility of the industrial park, which is directly adjacent to the land, and is where AIG is proposing to construct a HPA battery materials coating pilot plant.

The site handover and an accompanying information update about the proposed battery materials coating projects attracted wide German print and television media coverage. A German television report can be viewed on Altech's web site www.altechchemicals.com, or at https://youtu.be/JJ0S1zbxAxk.



Figure 1: Location of the Schwarze Pumpe Industrial Park and the ~14Ha industrial site acquired by AIG

Telephone: +61 8 6168 1555 Facsimile: +61 8 6168 1551 Website: www.altechchemicals.com The Schwarze Pumpe Industrial Park is located in north-eastern Saxony and is well serviced by existing infrastructure including reticulated electricity and natural gas, rail and roads. The industrial park is 120 km from Berlin and 78 km from Dresden. This area, in the eastern part of Germany, is considered the new automotive nucleus in Europe and hosts production sites for Volkswagen, BMW, Porsche, Daimler and Tesla, as well as a number of key resource and technology players within the value chain of lithium-ion batteries. The region is a leading engineering training ground and has excellent research facilities including the Fraunhofer Institute for Electronic Nano-systems, which is very focussed on ceramic (HPA) nano technology in energy storage.



Figure 2: Mr. Thomas Schmidt (Saxony State Minister for Development), Mr Uwe Ahrens (AIG) in front of Dock3



Figure 3: Land handover ceremony held in Dock3, which is adjacent to the land acquired by AIG





Figure 4: Dignitaries looking over the proposed site for a battery materials coating pilot plant, in Dock 3.



Figure 5: AIG Managing Director Uwe Ahrens, speaking to German Media

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

Altech Chemicals Limited (ASX: ATC, "Altech" or "Company") is a specialty alumina technology and production company that has finalised Stage 1 and Stage 2 construction of its high purity alumina (HPA) plant in Johor, Malaysia, and continues with innovative research and development of its downstream alumina coating technology used to improve the battery life and performance in lithium-ion batteries. Altech's alumina coating technology is successful on both silicon and graphite particles, typical of those used in the anode of lithiumion batteries, particularly within the burgeoning electric vehicle industry.

The Company has commenced a preliminary feasibility study (PFS) for the construction of a high purity alumina (HPA) battery materials coating plant in Saxony, Germany. The PFS is being undertaken by Altech's 75% owned German subsidiary, Altech Industries Germany GmbH (AIG). Work on the preliminary engineering design for a 10,000tpa battery materials plant is in the final stages of completion. Altech has also finalised the green accreditation of the environmental credentials of the battery materials coating process.



Altech is further aiming to become one of the world's leading suppliers 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. 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.

HPA is a high-value, high-margin and highly demanded product as it is the critical ingredient required for the production of synthetic sapphire. Synthetic sapphire is used in the manufacture of substrates for LED lights, semiconductor wafers used in the electronics industry, and scratch-resistant sapphire glass used for wristwatch faces, optical windows and smartphone components. Increasingly, HPA is used by lithium-ion battery manufacturers as the coating on the battery's separator, which improves performance, longevity and safety of the battery. With global HPA demand approximately 19,000t (2018), it is estimated that this demand will grow at a compound annual growth rate (CAGR) of 30% (2018-2028); by 2028 HPA market demand is forecast to be approximately 272,000t, driven by the increasing adoption of LEDs worldwide as well as the demand for HPA by lithium-ion battery manufacturers to serve the surging electric vehicle market.

German engineering firm SMS group GmbH (SMS) is the appointed EPC contractor for construction of Altech's Malaysian HPA plant. SMS has provided a USD280 million fixed price turnkey contract and has proposed clear and concise guarantees to Altech for plant throughput and completion. Altech has executed an off-take sales arrangement with Mitsubishi Corporation's Australian subsidiary, Mitsubishi Australia Ltd (Mitsubishi) covering the first 10-years of HPA production from the plant.

Conservative (bank case) cash flow modelling of the HPA plant shows a pre-tax net present value of USD505.6million at a discount rate of 7.5%. The project generates annual average net free cash of ~USD76million at full production (allowing for sustaining capital and before debt servicing and tax), with an attractive margin on HPA sales of ~63%. (Refer to ASX Announcement "Positive Final Investment Decision Study for 4,500TPA HPA project" dated 23 October 2017 for complete details. The Company confirms that as at the date of this announcement there are no material changes to the key assumptions adopted in the study).

The Company has been successful in securing senior project debt finance of USD190 million from German government owned KfW IPEX-Bank as senior lender. Stage 1 and Stage 2 early works construction has been completed on time and on budget.

## Forward-looking Statements

Altech Chemicals Limited

ASX:ATC

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This announcement contains forward-looking statements which are identified by words such as 'anticipates', 'forecasts', 'may', 'will', 'could', 'believes', 'estimates', 'targets', 'expects', 'plan' or 'intends' and other similar words that involve risks and uncertainties. Indications of, and guidelines or outlook on, future earnings, distributions or financial position or performance and targets, estimates and assumptions in respect of production, prices, operating costs, results, capital expenditures, reserves and resources are also forward-looking statements. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions and estimates regarding future events and actions that, while considered reasonable as at the date of this announcement and are expected to take place, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the directors and management. We cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forwardlooking statements contained in this announcement will actually occur and readers are cautioned not to place undue reliance on these forward-looking statements. These forward-looking statements are subject to various risk factors that could cause actual events or results to differ materially from the events or results estimated, expressed or anticipated in these statements.

