



**Altech Chemicals**  
Limited

## ASX ANNOUNCEMENT AND MEDIA RELEASE

6 November 2018

# ALTECH – HPA PLANT SITE LAYOUT AND BUILDING DESIGN FINALISED

### Highlights

- HPA plant site layout and buildings design finalised
- Incorporates results from geotechnical ground survey
- Construction development order application
- Stage 1 construction to commence

Altech Chemicals Limited (Altech/the Company) (ASX: ATC) (FRA: A3Y) is pleased to announce that it has now finalised and “locked” the site layout and building design for its proposed Malaysian high purity alumina (HPA) plant. The final layout and design incorporates results from the recently completed site geotechnical survey and feedback from pre-construction consultation meetings between SMS group GmbH (appointed EPC contractor), local authorities, and Malaysian permitting consultant WKL & Associates. The final design is the basis for the submission of a development order application and the commencement of stage 1 construction.

The final site layout (see Figure 1) comprises three (3) production buildings:

- Building 1: Kaolin Beneficiation
- Building 2: Leach & Neutralisation
- Building 3: HPA Production & HCL Recycle Plant

There are four (4) ancillary buildings:

- Administration and Process
- Workshop and Stores
- Guardhouse and First Aid
- Electrical Substation

**Figure 1 – HPA Plant Final Buildings Layout**

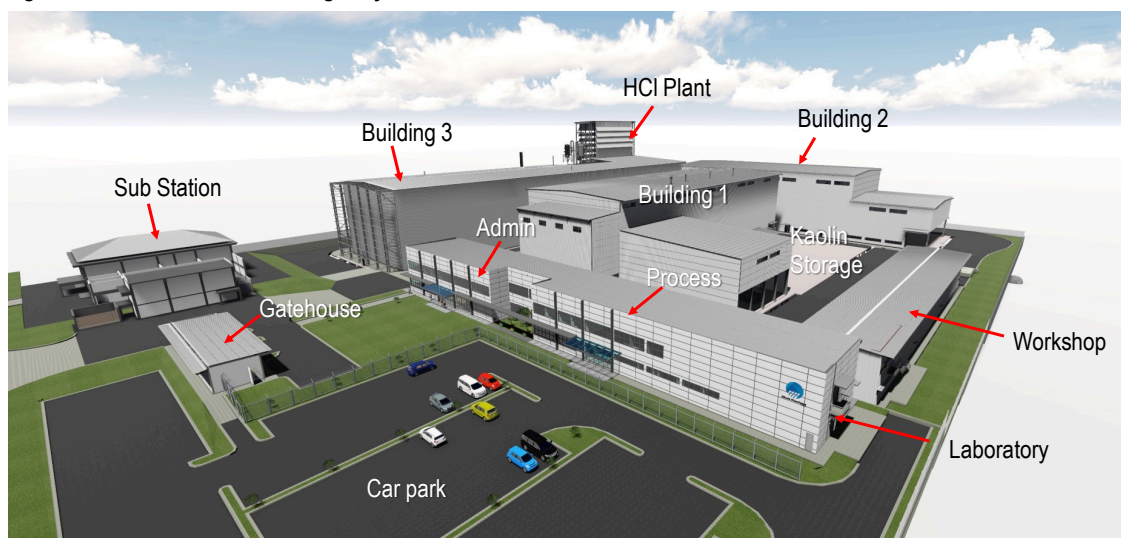
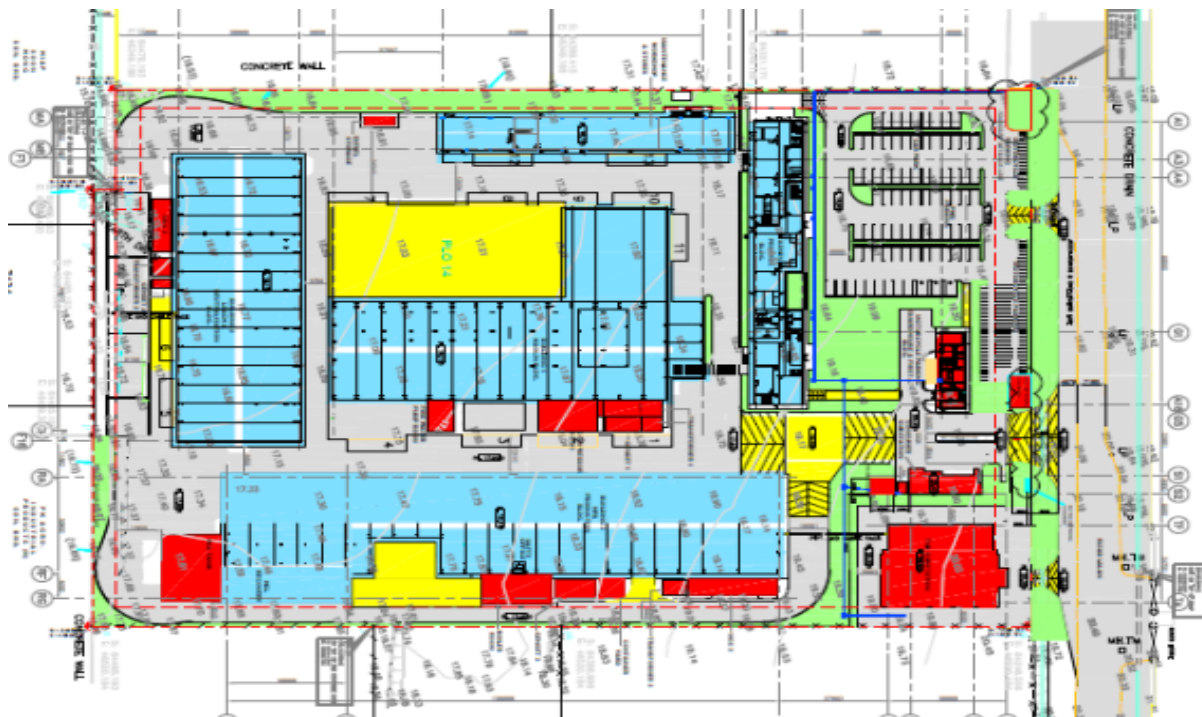


Figure 2 – HPA Plant Site Final Buildings Layout (2D Drawing)



#### Detailed HPA Plant Layout Information

All processing equipment will be installed in one of the three production buildings. The HPA production buildings have been laid out on the 4Ha site in Johor, Malaysia to closely reflect the order of the kaolin to HPA chemical process illustrated in the Company's process flow sheet. The HPA manufacturing process will commence with kaolin beneficiation; then filtration and meta-kaolin conversion in Building 1; kaolin leach, leach residue and waste water neutralisation circuits in Building 2; followed by crystallisation, roasting, calcination and HPA finishing in Building 3. Building 3 includes a segregated structure within which the hydrochloric acid (HCl) recovery and recycling plant will be located.

Figure 3 – Administration and Process Building

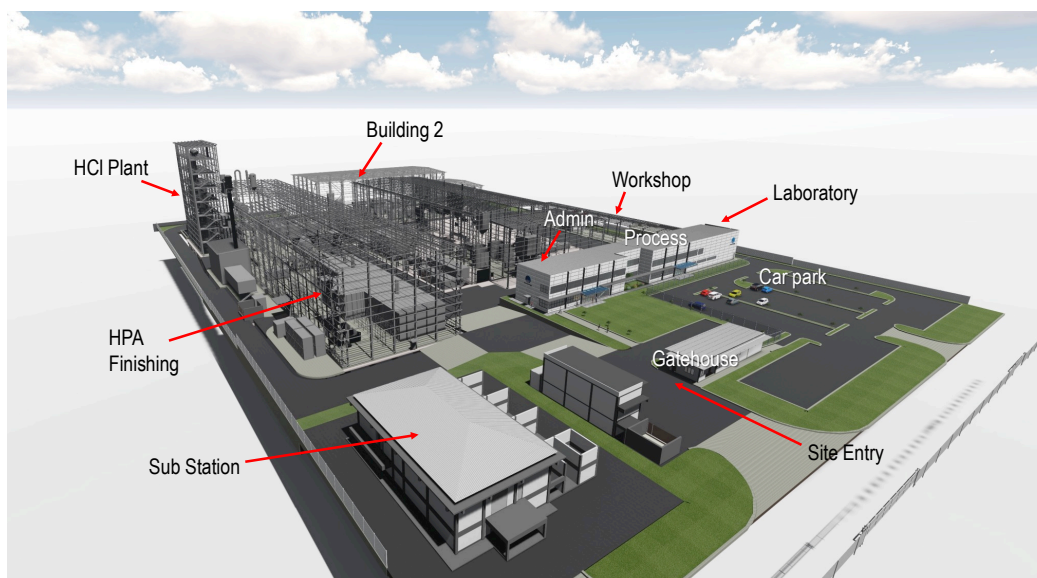


The Administration and Process building will be the central location for plant operational management and administration. The building is separated into halves, an administration wing and a process wing. The administration wing will accommodate HPA site general management, process engineering, finance and administrative staff. Included in the administration wing is a conference room, training rooms, meeting rooms and lunchroom facilities.

The process wing will be the location for the site's central control room, from where the operation of the entire HPA plant will be monitored and managed. In addition, the process wing will accommodate the site's laboratory; process control and programming engineers; operator change rooms; and will also have separate lunchroom facilities.

The Workshop and Stores building will be the location for the storage of all minor equipment and spare parts; the conduct of valving and instrument maintenance and for all fabrication activities. A dedicated stores area has been allowed for to accommodate the delivery, receipt and storage of spare parts, consumables and reagents. The building also includes office space for site maintenance and purchasing teams.

**Figure 4 – Gatehouse and Site Entry**



A Gatehouse and First Aid building will be the single point of entry to the HPA site. The building will include a guardhouse that will be manned 24 hours a day and site access beyond the gatehouse will be only via a card-entry turnstile. A visitor waiting room, meeting room and lunchroom are included in the building, as is a dedicated first aid room and ambulance parking bay.

Altech managing director Mr Iggy Tan said *"the HPA plant site layout and building designs are of the highest calibre. Naturally, the designs are to international standard and of a quality expected from our appointed German EPC contractor SMS group. The next step of project development is application for a development order from local authorities. We are currently waiting for a land sub-title number (PTD number) to be issued for the ~4HA site, so that the development order can be submitted. Once the development order is issued, the staged mobilisation of various sub-contractors, most of which are Johor based, will commence."* Mr Tan concluded.

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*Wir sprechen Deutsch.*

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

**Altech Chemicals Limited** (Altech/the Company) is aiming to become one of the **world's leading suppliers of 99.99% (4N) high purity alumina (HPA)** ( $\text{Al}_2\text{O}_3$ ).

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. There is no substitute for HPA in the manufacture of synthetic sapphire.



Global HPA demand is approximately 25,315tpa (2016) and demand is growing at a compound annual growth rate (CAGR) of 16.7% (2016-2024), primarily driven by the growth in worldwide adoption of LEDs. As an energy efficient, longer lasting and lower operating cost form of lighting, LED lighting is replacing the traditional incandescent bulbs.

Current HPA producers use expensive and highly processed feedstock materials such as aluminium metal to produce HPA. Altech has completed a Final Investment Decision Study (FIDS) for the construction and operation of a 4,500tpa HPA plant at the Tanjung Langsat Industrial Complex, Johor, Malaysia. The plant will produce HPA directly from kaolin clay, which will be sourced from the Company's 100%-owned kaolin deposit at Meckering, Western Australia. Altech's production process will employ conventional "off-the-shelf" plant and equipment to extract HPA using a hydrochloric (HCl) acid-based process. Production costs are anticipated to be considerably lower than established HPA producers.

The Company is currently in the process of securing project financing and has announced the execution of an agreement with its appointed EPC contractor SMS group for the commencement of stage 1 construction of its HPA plant in Johor, Malaysia.

**Forward-looking Statements**

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 forward-looking 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.