

# Altech Chemicals Ltd

## Commercialising the CERENERGY battery project

Altech Chemicals Ltd (ASX:ATC) is commercialising a 100MWh solid-state sodium alumina battery production facility in Saxony, Germany. The company has forged a joint venture with world-leading German battery institute Fraunhofer IKTS to commercialise the CERENERGY Sodium Alumina Solid State Battery at the production facility which intends to produce 10,000 10Kwh battery modules a year to provide grid storage solutions to the market. CERENERGY batteries are an alternative to lithium-ion batteries and are designed to be fire and explosion-proof, to operate in extreme climates and have a life span of 15 years. The battery technology also is free from lithium, cobalt, copper and graphite, eliminating exposure to critical metal prices. The company will have a majority 75% stake in the JV.

### The Projects

The company's flagship project is the CERENERGY Sodium Alumina Solid-State (SAS) battery joint venture in Saxony, Germany. The JV with Fraunhofer IKTS will seek to commercialize IKTS's CERENERGY SAS battery technology which the institute has developed over the past eight years, spending €35m on R&D and €25m on an operating pilot plant. Altech is the majority owner of the JV company which will now commercialise a 100MWh project on Altech's land in Schwarze Pumpe, Germany. The SAS CERENERGY battery uses common table salt and nickel, reducing its exposure to critical metal price rises which could impact lithium, cobalt, graphite and copper-based technologies. In a parallel project, Altech has commenced a DFS for the development of a 10,000tpa silicon/graphite alumina coating plant also in Saxony, Germany to supply its proprietary silicon graphite product Silumina Anodes™ product to the growing European electric vehicle market. The company recently announced its game-changing technology of incorporating high-capacity silicon into lithium-ion batteries. Through in-house R&D, ATC believes it 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 lower greenhouse gases. Altech's third project is a 4,500tpa high purity alumina (HPA) processing plant at Johor, Malaysia where stage one and two construction has been completed along with a bankable feasibility study. ATC is in the final stages of project finance with a potential raising of US\$100m of secondary debt via the listed green bond market and US\$100m from potential JV project equity partners.

### Moving toward commercialisation

IKTS has already spent more than €35m in R&D and €25m on a pilot plant at Hermsdorf in Germany and the JV will now move quickly toward commercialisation of the project. The final CERENERGY battery modules at 10KWh each are designed for the grid storage market and are designed to fit in racks housed in sea containers that can be deployed for grid storage. The proposed battery plant at Altech's site at Schwarze Pumpe will produce 10,000 SAS battery modules a year, rated at 10KWh each and are expected to sell for between €7,000 and €9,000 per module. IKTS has estimated that the total cost of production for CERENERGY batteries will be from 40% to 50% cheaper than lithium-ion batteries. The JV has commenced the planning process for the bankable feasibility study required for commercialisation.

### Demand is in its favour

The CERENERGY batteries are targeted to supply the grid energy storage market which is forecasted by Frost & Sullivan to grow at a CAGR of 26.5% to 2030. Grid energy storage is a collection of methods used to store energy on a large scale within an electrical power grid, allowing power to be returned to the grid when energy demand is high or at its peak. Forecasting group MarketsandMarkets is predicting that the battery energy storage market will grow from US\$4.4b in 2022 to US\$15.1b in 2027.

#### Share Details

ASX code	ATC
Share price	\$0.088
Market capitalisation	\$125.6M
Number of shares	1,426.8M
Unlisted performance rights	21.0M
Net cash at 30-Jun-2022	\$10.9M

#### Share Price Performance (12 months)



#### Upside Case

- Developing several in-demand technologies
- Moving closer to Definitive Feasibility Study stage
- Economic conditions and critical metal prices favour Altech's technology over lithium battery projects

#### Downside Case

- Fails to secure an offtake agreement and financing for CERENERGY JV
- Other battery technology overtakes Silumina Anodes
- HPA plant construction and operation remains uncertain

#### Catalysts

- Finalising DFS for CERENERGY JV
- Successful project financing for both the CERENERGY and HPA projects

#### Comparative Companies (Australia & NZ)

AWC, ABX, ASQ, MMI, WYX

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## FINANCIAL SERVICES GUIDE

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Effective Date: 6<sup>th</sup> May 2021

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