

**Altech Chemicals Limited ATC**

**Company Presentation  
Wholesale Investor Sydney 4 Dec 15**

**Iggy Tan  
Managing Director**



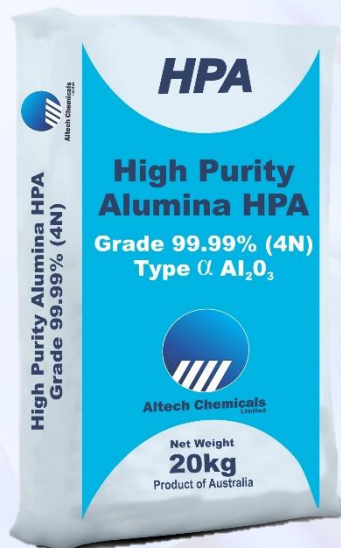
**Altech Chemicals  
Limited**





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**To be a world leading producer of  
high purity alumina (HPA)**



**Our Vision**







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### High Purity Alumina Applications

LEDs

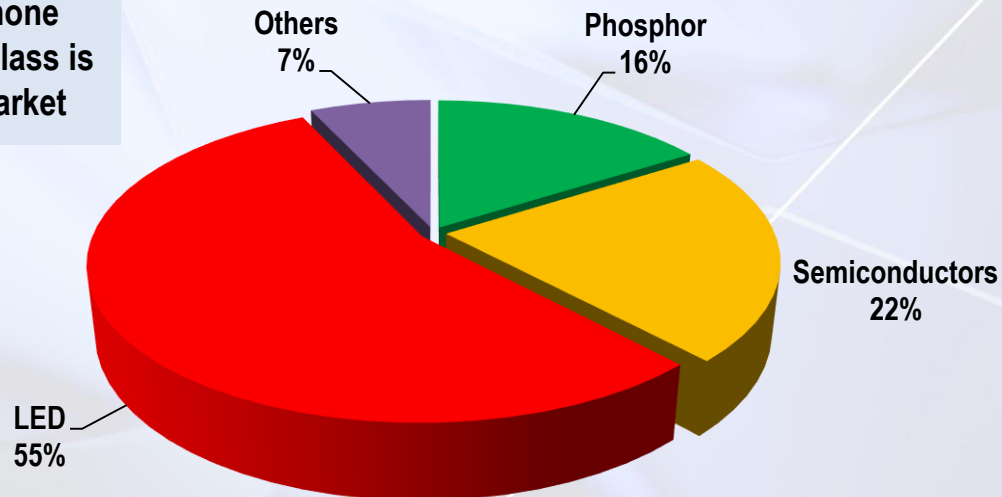
Semi  
conductors

Phosphor  
Based  
Applications

Other  
Applications

**Uses of HPA**  
**99.99% 4N**

Smartphone  
sapphire glass is  
a new market

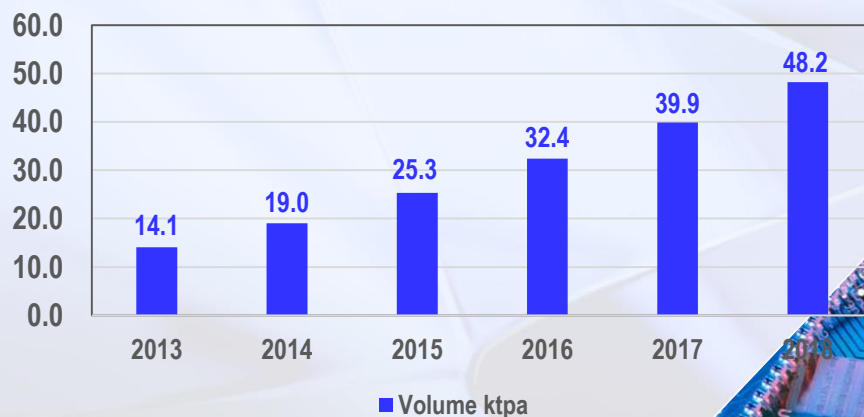


Source: Technavio Research "2014-2018 Global High-purity Alumina Market"

## Technavio Research

- Global HPA demand 19,040tpa in 2014
- Expected to increase to 48,230tpa by 2018
- Growing at a CAGR of 28%

HPA Demand & Growth Forecast



**Demand  
for HPA**



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sapphire  
glass



iPhone 7

apple watch  
& iphone 7

## INTERNATIONAL BUSINESS TIMES

AU EDITION | WEDNESDAY, JULY 15, 2015 AS OF 5:22 PM AEST

iPhone 7 Release Update Suggest Arrival Of Sapphire Crystal Glass, A9 Chip, 2 GB RAM, Larger Battery And More

By **Anvin Sivanandan** on March 06 2015 6:14 PM

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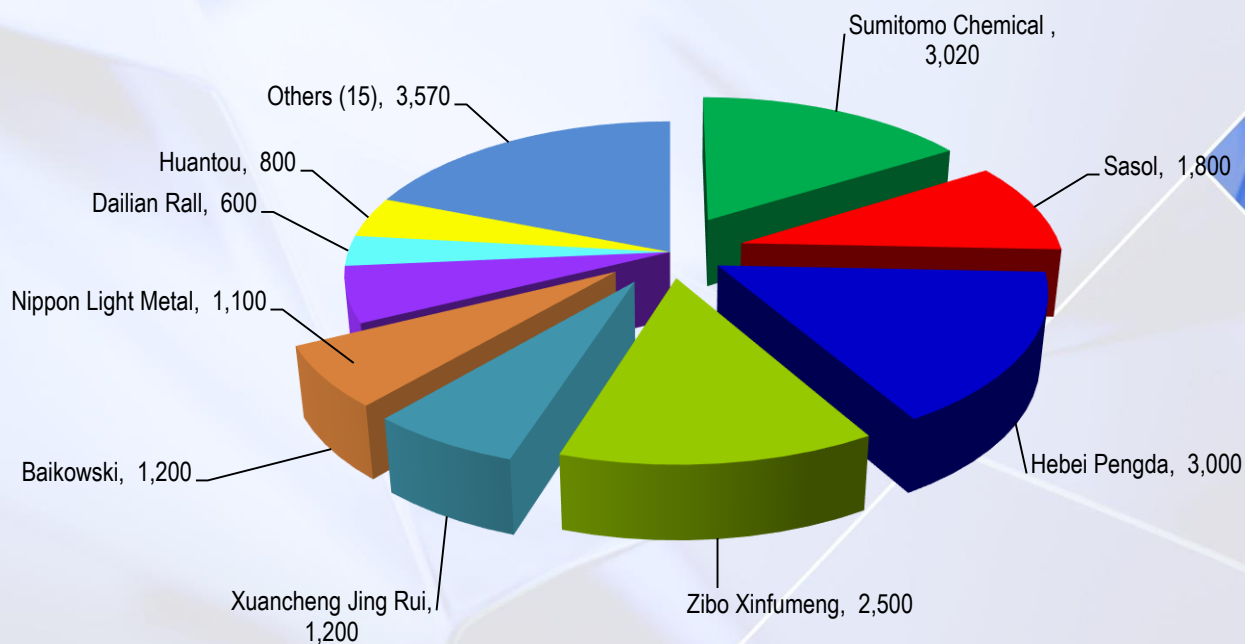
# Sapphire Glass Scratch Test





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- Six largest HPA producers
- 3 Chinese, 1 Japanese, 1 Sth African, 1 French



**Current HPA  
Producers**





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# Altech's Differentiation

**Current HPA Producers**



Bauxite

**Alumina  
Refinery**



Smelter Grade Alumina 99.8%

**Alumina  
Smelter**



Aluminium Metal

**US\$2,000 per tonne**

**Aluminium  
Dissolution**



99.99% HPA



Aluminous Clay

**ALTECH HPA PLANT**

**One Single Process Step**



99.99% HPA



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- Processed by mother nature
- Very low Iron (Fe) due to weathering
- Silica is non reactive – easily removed

	Bauxite Darling Range *	Canadian HPA Project	Altech HPA Project
Al <sub>2</sub> O <sub>3</sub> (%)	34.5	22.77	30.5
SiO <sub>2</sub> (%)	21.5	53.29	56.3
Fe <sub>2</sub> O <sub>3</sub> (%)	21.2	8.36	0.7
TiO <sub>2</sub> (%)	2.00	0.98	0.7
K <sub>2</sub> O (%)	0.24	3.41	0.1
NaO (%)	0.005	1.42	0.1

Typical Mean Analysis

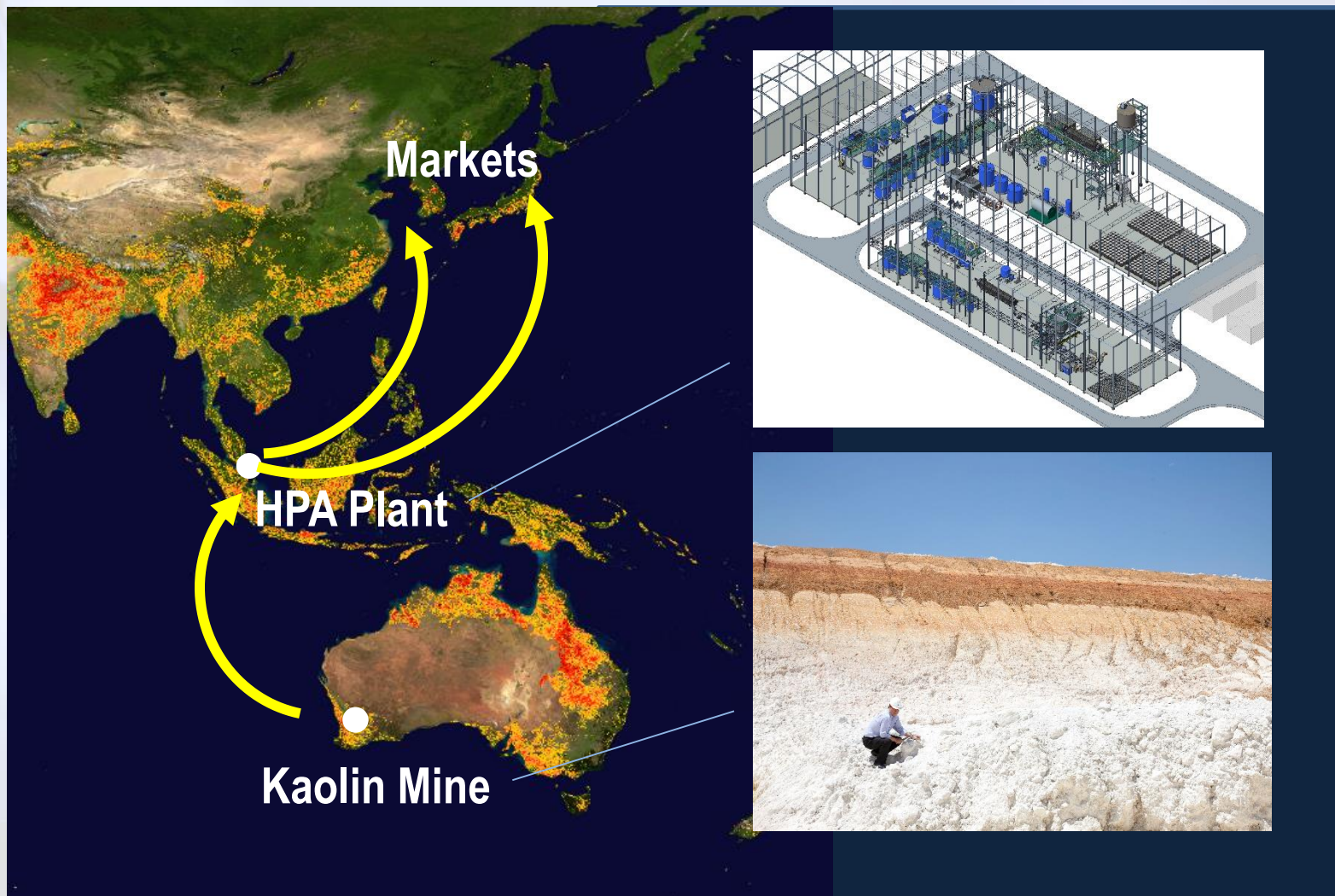
Typical bauxite deposit

Altech aluminous clay deposit

**Low-impurity  
Aluminous Clay  
Feedstock**



# Proposed Operations



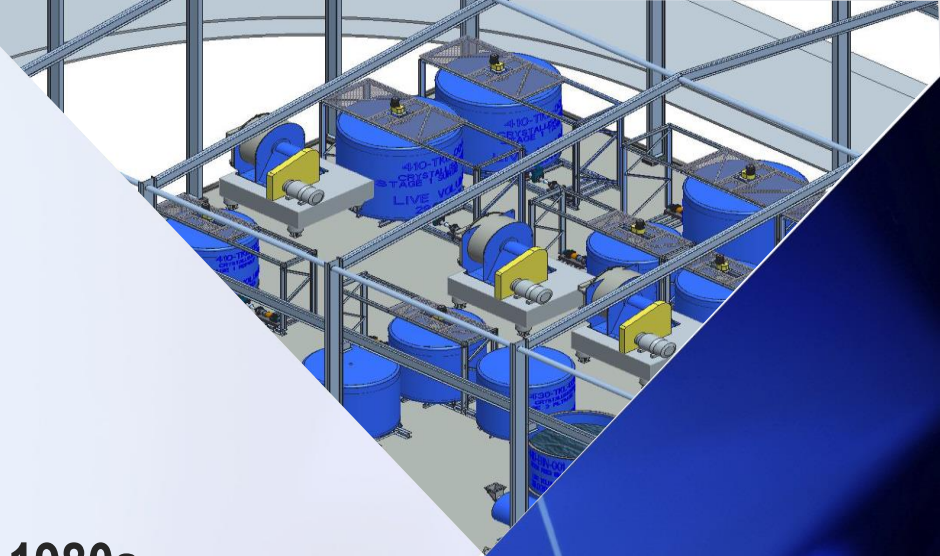




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- Work started in 2011
- Established HCl technology from 1980s
- Extensive laboratory testwork
- Pilot laboratory testing
- Completed successful BFS

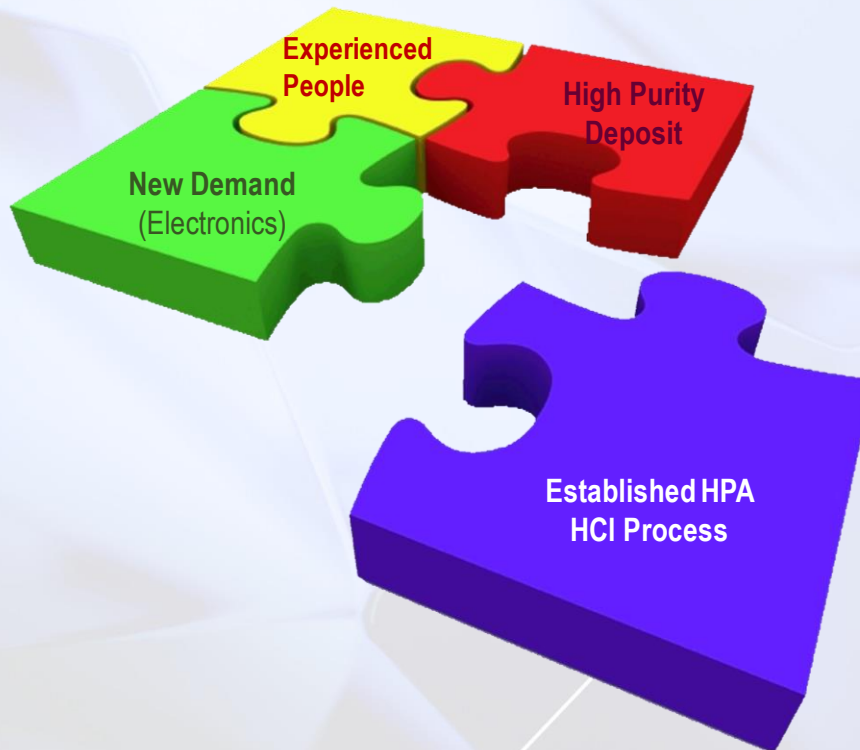
**Going  
Commercial**





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**New HPA Demand + Established Process + Great  
Deposit + Experienced People  
→ Shareholder Value**



**Altech  
Business  
Strategy**

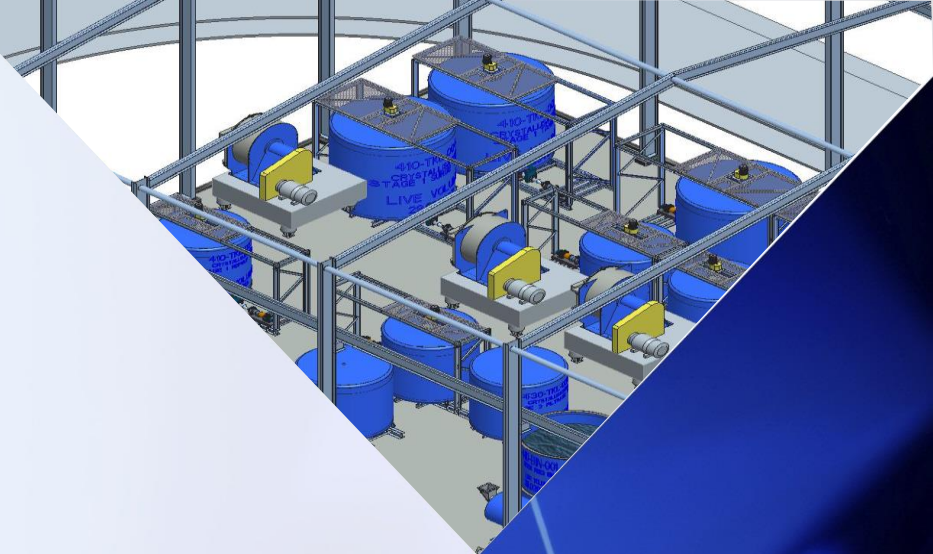
***“the last piece of the  
puzzle is in place”***



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- Capital cost estimate US\$76.9 m
- Payback period 3.8 years
- Pre-tax NPV<sub>10</sub> of US\$326 m
- Highly attractive IRR of 30.3%
- Operating cost of US\$8,200/t
- Margin of US\$14,800/t
- Operating profit of US\$59.4m pa
- Breakaway values ATC 31c p share

**Highly  
Attractive  
BFS**



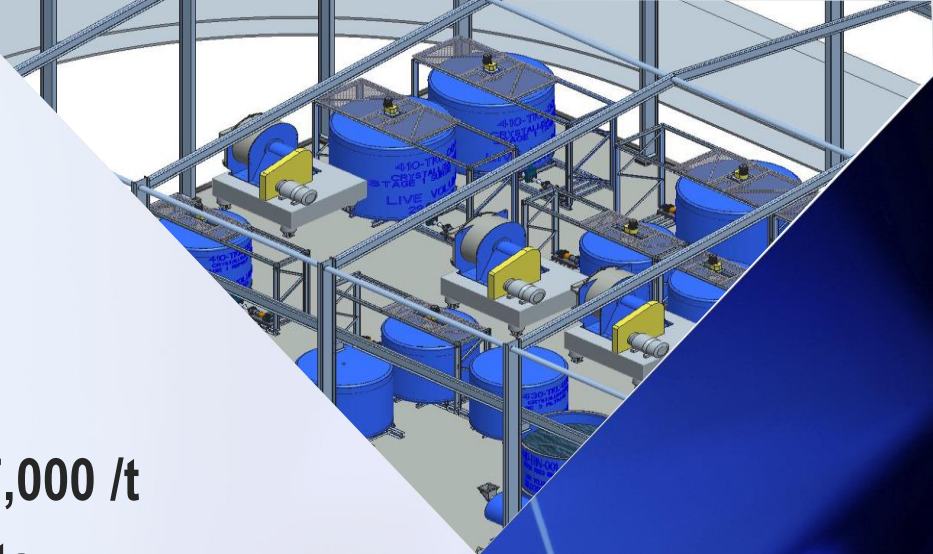




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- Breakway - competitors US\$14-17,000 /t
- Bottom quartile for operating costs
  1. We own our feedstock
  2. Large scale economy 4,000 tpa – one train
  3. Main reactant HCl re-used
  4. Minimal impurity removal costs
  5. Plant in low cost country (Malaysia)

**Bottom  
Quartile  
for Op Costs**





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- **Mitsubishi as Sales partner in Japan**
- **Japan 21% of HPA market**
- **All sales to Japan**
- **Mitsubishi largest general trading company**
- **First of the off take process**



**Mitsubishi  
as Partner**



**MITSUBISHI**



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- **Mandate signed with KfW IPEX Bank**
- **Senior debt inc US\$40m ECA cover**
- **Approx 55% of capex German suppliers**
- **M+W Group as general contractor**
- **Due diligence and detailed design**

**Project  
Finance**

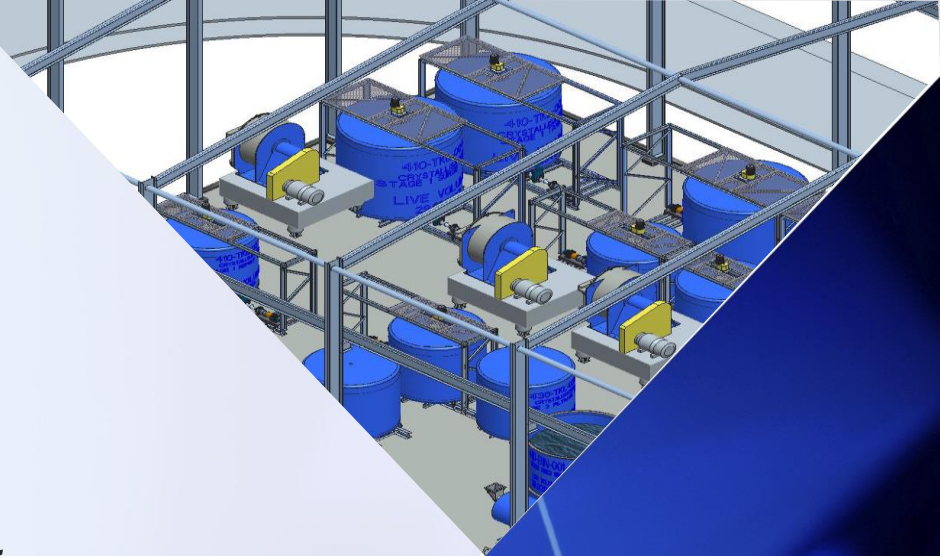






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***“HPA will be part of the next “new age materials boom” like rare earths, lithium and graphite”*** Iggy Tan





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*Right Place*  
*Right Time*  
*Right Feedstock*  
*Right Technology*



**Thank you**



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### **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 our 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.

### **Competent Person Statement**

Technical information in this report is based on information compiled by Mr Michael O'Mara, B.Sc. Geology, Altech Chief Geologist and a member of the Australasian Institute of Geoscientists. Mr O'Mara has sufficient exploration experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC 2004"). Mr O'Mara consents to the inclusion in this release of the matters based on his information in the form and context in which it appears.