CRITICAL MATERIALS FOR THE SEMICONDUCTOR SUPPLY CHAIN

CAUTIONARY STATEMENT

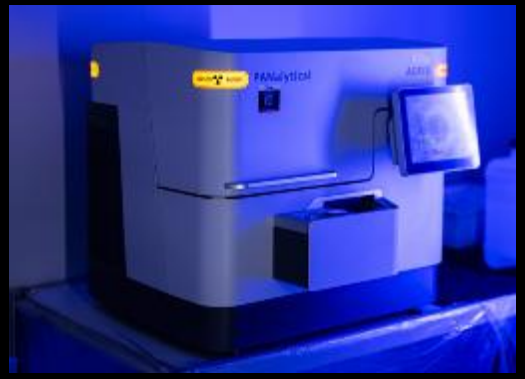
The Definitive Feasibility Study (DFS) referred to in this Presentation was undertaken in 2023 and 2024 to assess the technical and financial viability of the HPA First project. The DFS is based on the material assumptions including the availability of funding and the pricing received for Alpha's products. The HPA First Project, Stage 2 financials were re-baselined in January 2026.

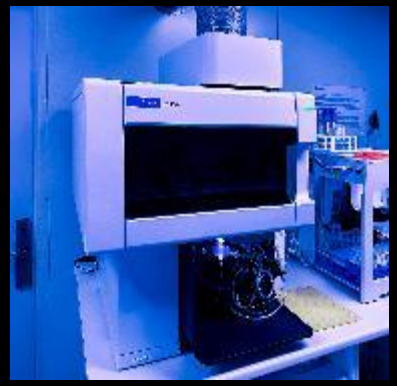
While the Company considers all of the material assumptions in the 2024 DFS and the January 2026 re-baseline to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes indicated will be achieved. To achieve the range of outcomes indicated in the 2024 DFS and the 2026 re-baseline, additional funding may be required. Investors should note that there is no certainty that the Company will be able to raise the amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the HPA First project. If it does, this could materially reduce the Company's proportionate ownership of the HPA First project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the 2024 DFS or the 2026 re-baseline.

FORWARD LOOKING STATEMENTS

This presentation contains certain forward-looking statements with respect to the 2024 DFS, the 2026 re-baseline, financial conditions, results of operations, and business of the Company and certain plans and objectives of the management of the Company that are based on the Company's assumptions, expectations, estimates and projections as of the date on which the statements were made. Generally, forward-looking statements can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'likely',' believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. These forward-looking statements involve known and unknown risks, uncertainties and other factors which are subject to change without notice and may involve significant elements of subjective judgement and assumptions as to future events which may or may not occur. Forward-looking statements are provided as a general guide only and there can be no assurance that actual outcomes will not differ materially from these statements. Neither the Company, nor any other person, give any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. In particular, those forward-looking statements are subject to significant uncertainties and contingencies, many of which are outside the control of the Company.

A number of important factors could cause actual results or performance to differ materially from the forward looking statements. Although the Company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the Company. Investors should consider the forward looking statements light of those disclosures and are cautioned not to place undue reliance on forward looking statements. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.



Alpha HPA

SECTION 1

ABOUT ALPHA HPA

ABOUT ALPHA HPA

LEADING SPECIALTY MATERIALS MANUFACTURER OF HIGH-PURITY ALUMINA ("HPA") AND RELATED PRODUCTS PRIMARILY FOR ADVANCED SEMICONDUCTOR APPLICATIONS

- Operating the Stage 1 Facility and constructing the world's largest High Purity Alumina materials facility as Stage 2
- Established and growing as a critical supplier to the semiconductor sector, currently supporting memory and logic chips for Artificial Intelligence
- Proven technology advantage positions Alpha as the only known manufacturer to meet critical product specifications for heat dissipation and low radiation for advanced semiconductor packaging
- Comprehensive support by Federal and State critical minerals initiatives

ULTRA HIGH PURITY
+
ULTRA HIGH VALUE MATERIALS
+
HIGH MARGIN

COMPELLING ECONOMICS

OUR TECHNOLOGY ADVANTAGE

Alpha **HPA**

DEVELOPING THE WORLD'S LARGEST, SINGLE-SITE HIGH PURITY ALUMINA MATERIALS FACILITY IN GLADSTONE, QUEENSLAND

COMPANY HIGHLIGHTS

Alpha provides rare and direct ASX exposure to the rapidly expanding AI semiconductor supply chain; Stage 2 completion will make Alpha the largest single site manufacturer of HPA globally

1. **Alpha uniquely positioned to meet rising demand for advanced semiconductor packaging materials** with Alpha's unique tech advantage supporting end-users across memory and logic chips for AI; alongside the development of the world's largest single-site HPA manufacturing facility in QLD to meet growing demand

2. **Attractive economics with industry-leading profitability:** An increase in annual steady state project EBITDA of +13%[1] to A$289m driven by rising demand

3. **Strong government backing and funding support:** HPA First Project Stage 2 is of strategic importance to the Australian Government with A$497m[2] total funding across debt facilities, strategic investment, and government grants

4. **National Reconstruction Fund Corporation now a substantial holder in Alpha as part of our recent $225M Capital Raising,** investing A$75m in Alpha and representing a pro-forma shareholding of ~6.9%

5. **Longer term growth and market expansion:** Through Alpha's significant marketing effort and customer engagement, the demand profile for our bespoke materials will require further expansion with study work underway for a Stage 3 expansion

6. **Additional growth opportunities:** Development and commercialisation of Alpha Sapphire (sapphire wafer qualification); which is in fourth-round qualification with a Tier 1 European power-semi OEM and studies for future manufacturing facilities to supply future forecast semiconductor demand

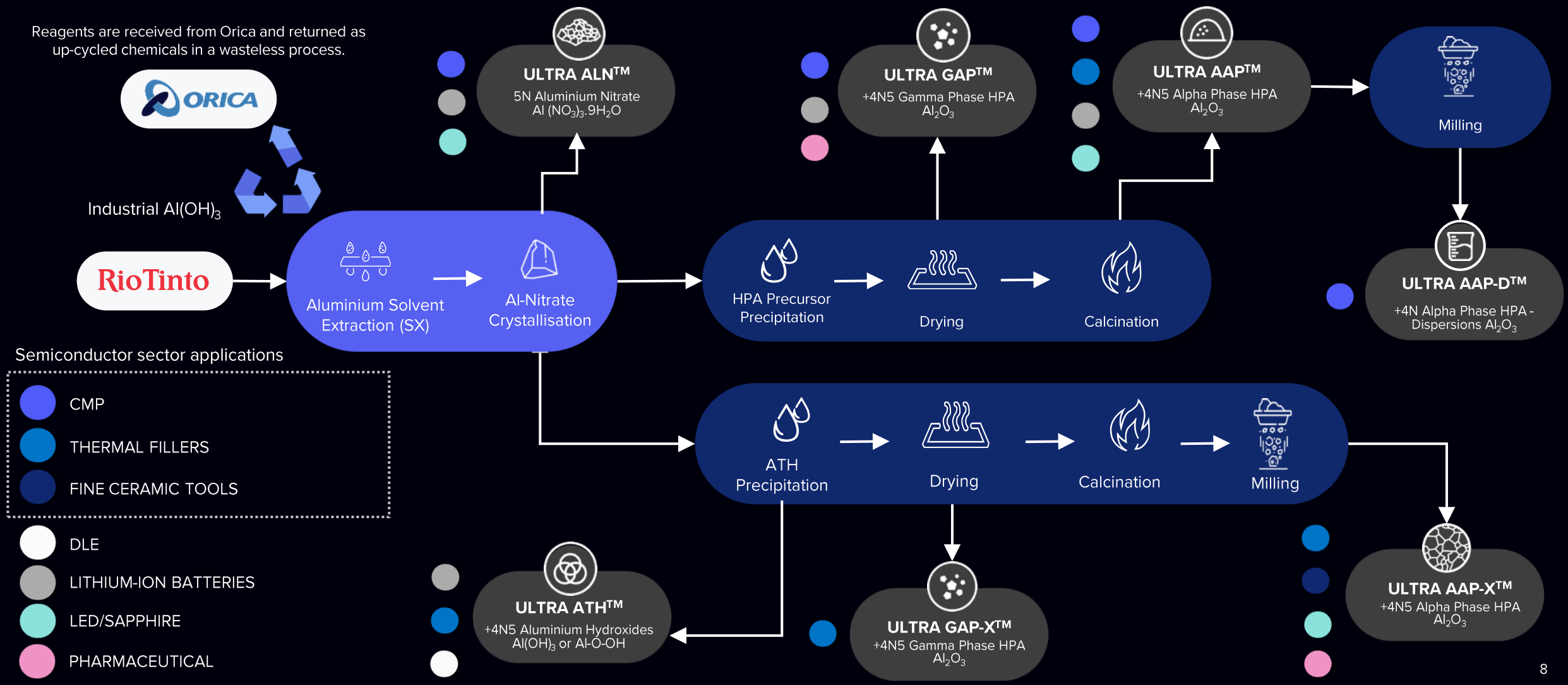
[1] EBITDA uplift is forecast from a January 2026 HPA First Stage 2 re-baseline relative to the 2024 DFS
[2] Represents total value of government grants and funding facilities, noting that drawdown on the NAIF / EFA facility remains outstanding and subject to the satisfaction of certain CPs

PROJECT LAYOUT

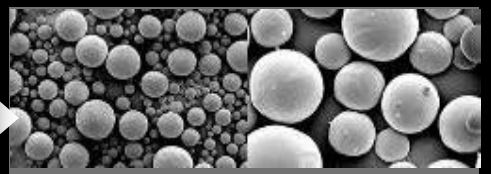
PROJECT LAYOUT

PROVEN TECHNOLOGY ADVANTAGE

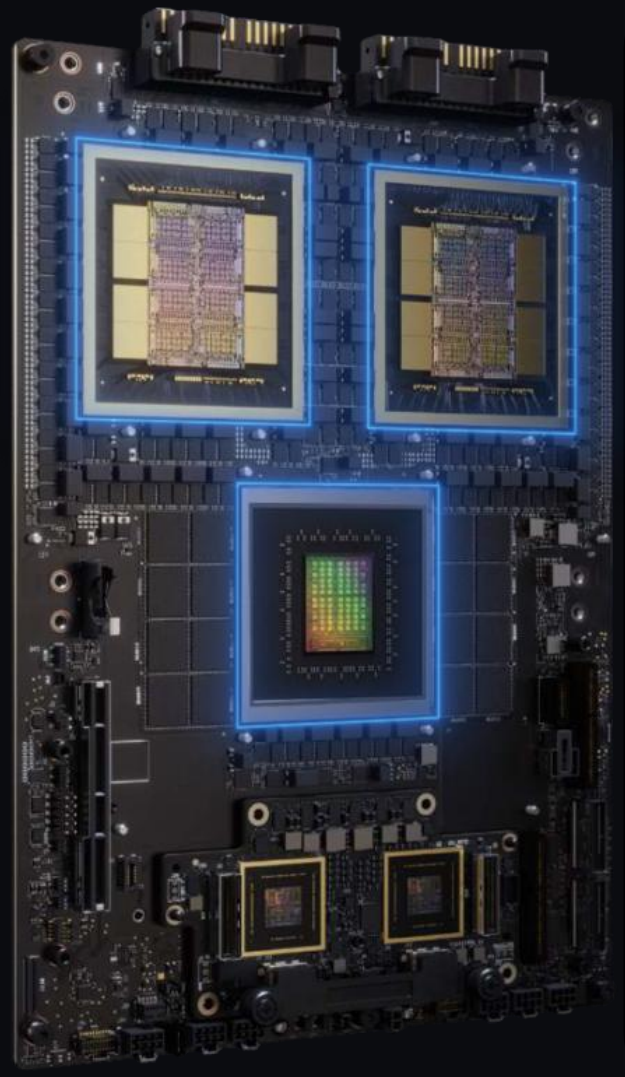
NEXT GEN PROCESS DELIVERS UNIQUE, HIGH-PERFORMING PRODUCTS TO A RANGE OF GROWTH SECTORS



WHERE ALPHA HOLDS A CLEAR ADVANTAGE

SECTOR	SEMICONDUCTOR			DLE	LITHIUM-ION BATTERY
USE	 THERMAL FILLERS	 CMP	 SEMI - TOOLING	 DLE SORBENTS	 COATINGS
PRODUCTS	Alumina and ATH materials as spherical 'heat sinks' to manage temperature in high performance parallel processors	Alumina abrasives for polishing silicon carbide substrates (Si-C) and package polishing 5N Al-Nitrate additive	High sintering, 'low alpha" HPA for alumina ceramic tool components in advanced node semiconductor	ATH ($Al(OH)_3$) as a precursor to make DLE sorbents for extracting lithium from brines	High purity Al-Nitrate as coating precursor to apply Al-based coating on anode materials
A4N ADVANTAGE	Alpha is the only global supplier capable of providing <1ppb U and Th materials for 'low-alpha' thermal interface fillers	Novel process delivers ultra low alkali metals impurities (Na & K) and morphology driving out-performance as a CMP abrasive (up to 50% higher vs industry)	Alpha is the only global supplier of 'low-alpha' alumina with high sintering (+3.9g/cm^3) performance	Novel process delivers unique amorphous ATH crystal structure = ultra-high performance	Alpha is the first company globally to manufacture 5N purity aluminium nitrate MAJOR SAFETY BENEFIT
MARKET DISCOVERY	1,100tpa under LOI (2 OEM's) 1st Binding contracts in place, 2nd under draft. 2 x LOIs in draft Qualifying with 6 x other Premium pricing ~ US$25-35/kg Est. unmet demand: **+8ktpa**	4,000tpa under LOI Small scale sales commenced Qualifying for 10 x other Strong pricing **~US$20-30/kg** Est. unmet demand:**+2.3ktpa**	**Alpha** is early stage outreach only. Total potential demand est. **+5ktpa**	LOI in draft Qualifying with 14 x counterparties Moderate pricing Est unmet demand: **+15ktpa**	Qualified with a sector leader 2 x LOI + quotation in draft Moderate pricing (strong in HPA Eq) Est unmet demand: **+10ktpa**

A UNIQUE SEMICONDUCTOR SUPPLY CHAIN SUPPLIER



- Scaling alumina purification technology to meet rising demand in the semiconductor sector
- Alpha's unique process capability is enabling the sector adoption of Alpha's products:
  - high purity aluminas for thermal filler in AI memory and logic chip packaging,
  - novel alumina particle in CMP, *and*
  - novel aluminas for fine alumina ceramic tools in advanced semi's
- Alpha is already established as supplier to the premium Japan and Korean thermal filler markets
- Market demand for Alpha's product above existing Stage 1 production capacity
- Alpha is uniquely positioned to scale supply to the semiconductor sector

Alpha HPA

SECTION 2

ACCELERATING HPA DEMAND

SUPERIOR HPA PRODUCT FOR HIGH-GROWTH SEMI SECTOR

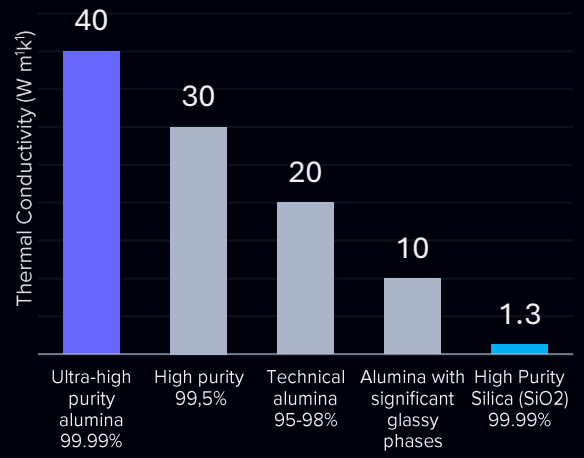
1 THE SWITCH TO HPA TO MANAGE DATA CENTRE COOLING

- Silica has long been used for thermal fillers in chip packaging. HPA is now emerging as the preferred material, offering superior heat dissipation and mechanical reliability for advanced semiconductors
- Chips are hitting thermal limits – materials must carry more heat out of the package
- HPA enabling higher computing output per kilowatt of energy at data centre level
- HPA vs silica: ~2–3× higher thermal conductivity for heat dissipation → ~4–5 °C cooler chips per accelerator
- Fleet impact scales to ~20–30 TWh/year energy savings by 2030 with full-stack adoption

"There is growing industry attention on new packaging materials to unlock much-needed thermal efficiency in the next wave of AI hardware. Interest in High Purity Alumina (HPA) is growing due to its rare combination of thermal conductivity, electrical insulation, and mechanical compatibility"

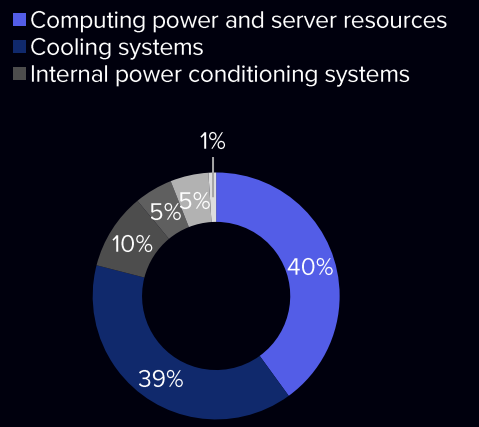
Source: UBS – "Cooler Chips – Dec 2025"

HIGH PURITY AUMINA IS >30x MORE EFFECTIVE AT DISSIPATING HEAT THAN SILICA. HIGH PURITY IS CRITICAL FOR HIGHEST THERMAL CONDUCTIVITY



Source: UBS – "Cooler Chips – Dec 2025"

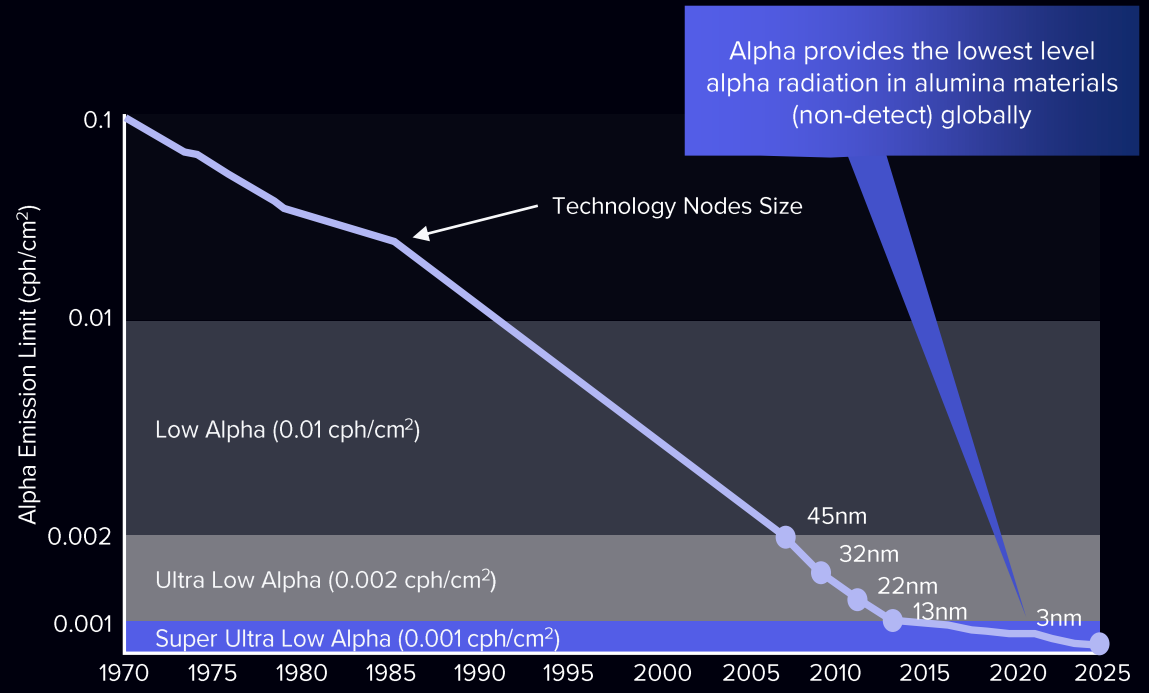
COMPUTING POWER AND COOLING SYSTEMS DRIVE MUCH OF THE CONSUMPTION IN AI DATA CENTRES



Source: Deloitte Analysis

2 HPA FILLERS REQUIRE 'ZERO ALPHA' SPECIFICATION

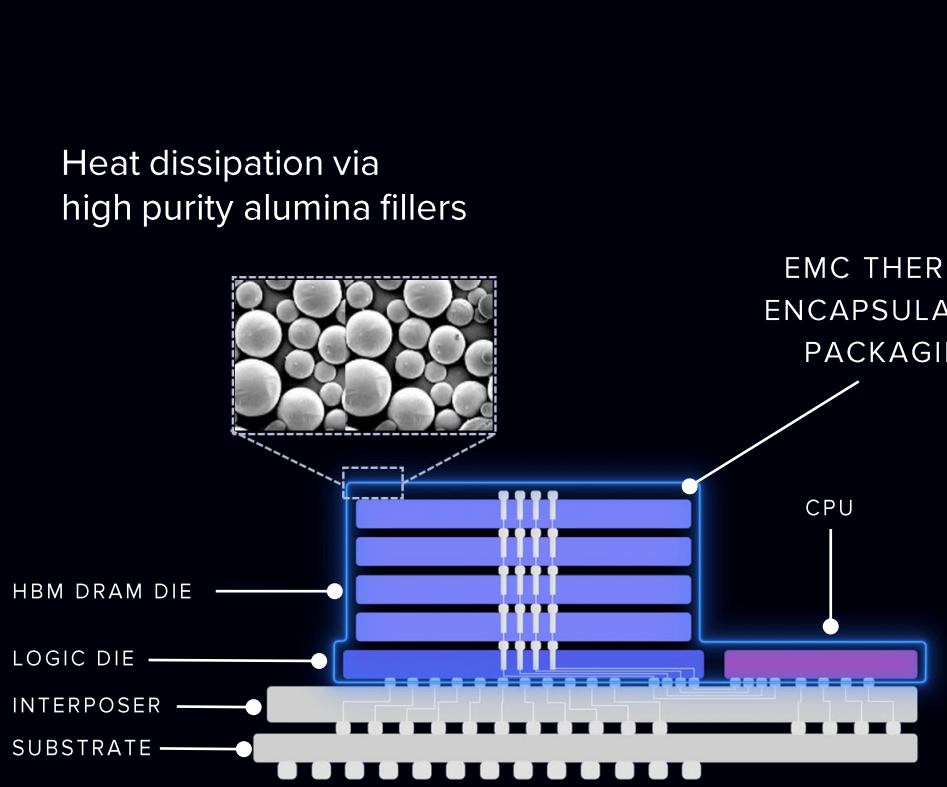
- Shrinking semiconductor nodes make ultra-low alpha alumina essential for reliability
- Adopted for thermal fillers and wafer-adjacent ceramics in advanced packaging
- Alpha radiation causes soft errors; Alpha's unique purification process eliminates detectable Uranium and Thorium (alpha emitters)
- Customers confirm Alpha as the only supplier achieving non-detect alpha-radiation levels
- Positioned for rapid demand growth with >1,000 tpa under LOI

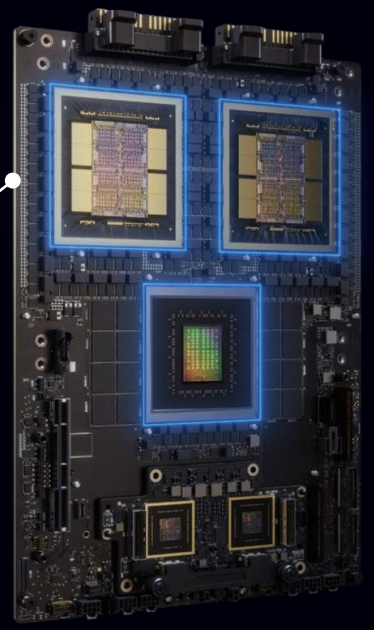


Source: Honeywell Advanced Materials

‘LOW ALPHA’ HPA FILLERS: THE FRONT LINE OF HEAT MANAGEMENT

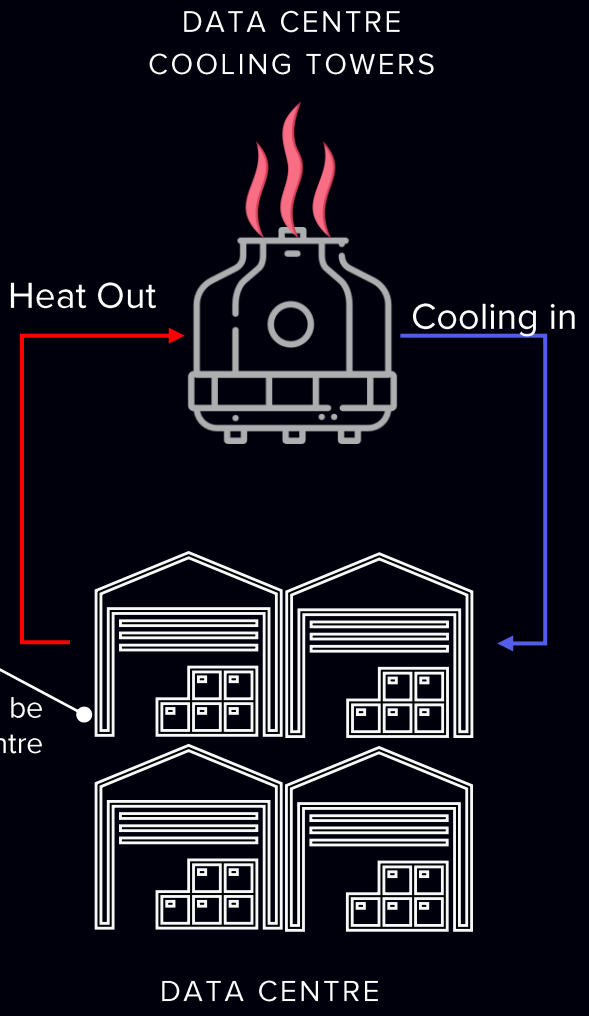
- HPA thermal fillers provide the heat transfer for chip package encapsulation
- Low alpha radiation HPA filler is critical for AI chip reliability and performance





TYPICAL AI GPU

Heat transfer to air to be collected by data centre cooling system



Schematic of AI Graphics Process Unit
HPA use case based on confirmed end use for Alpha’s material

HPA IN THERMAL FILLERS: MARKET OUTLOOK

Strong forecast demand - directly correlated to AI/Data Centre CapEx deployment

1 ALPHA AND MACQUARIE BANK MODELLING INDICATES STRONG DEMAND GROWTH BY AI/DATA CENTRE EXPANSION

- Forecast demand: ~8,000 tonnes per year by 2030
- Driven by AI/data centre growth and advanced packaging adoption
- Actual demand could be higher (model excludes an estimated 40% material loss in encapsulation)

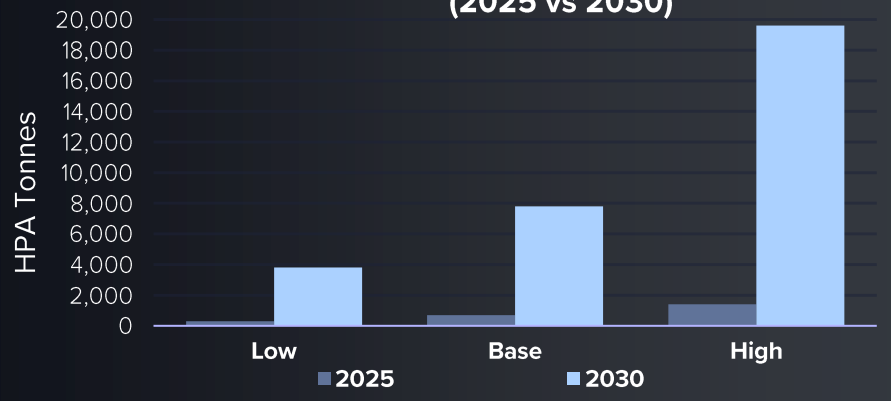
PROJECTED HPA DEMAND FOR THERMAL FILLERS (2026–2030)

Source: Alpha HPA Market Intelligence & Macquarie Research

2 UBS RESEARCH FORECASTS SIGNIFICANT UPSIDE FOR HPA IN THERMAL PACKAGING ACROSS MULTIPLE MATERIALS AND APPLICATIONS

- Low Case: Limited adoption
- Base Case: ~8,000 tonnes by 2030
- High Case: >18,000 tonnes by 2030 (includes underfills, EMCs, die-attach, gap fillers, thermal pads, ceramic packaging compounds)

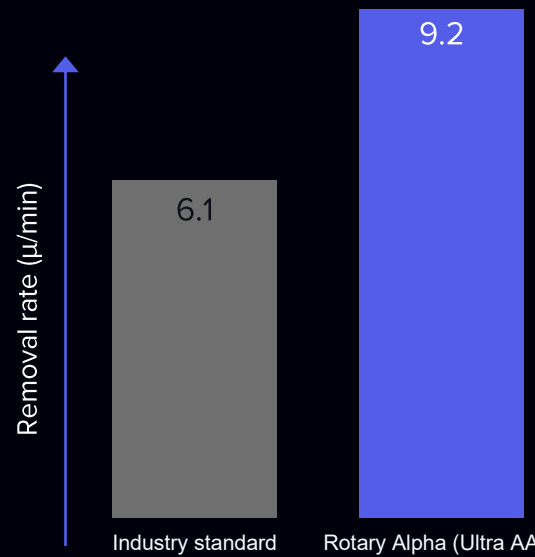
TAM SCENARIOS FOR HPA IN THERMAL PACKAGING (2025 vs 2030)



Source: UBS Research – "Cooler Chips – Dec 2025"

OUTPERFORMANCE IN CMP

- CMP (Chemical Mechanical Planarisation) is essential for precision wafer polishing in advanced semiconductor manufacturing
- Alpha's process delivers a novel HPA particle that can deliver up to 50% higher removal rates and superior selectivity on hard substrates (SiC, GaN, Sapphire)
- Selectivity refers to the ability to polish one material faster than another without damaging adjacent layers – critical for advanced nodes where multiple materials (e.g., SiC, GaN, dielectrics) are present
- Commercial traction: LOIs for up to 4,000 tpa, advanced qualifications underway with leading end-users in US, Asia, Japan



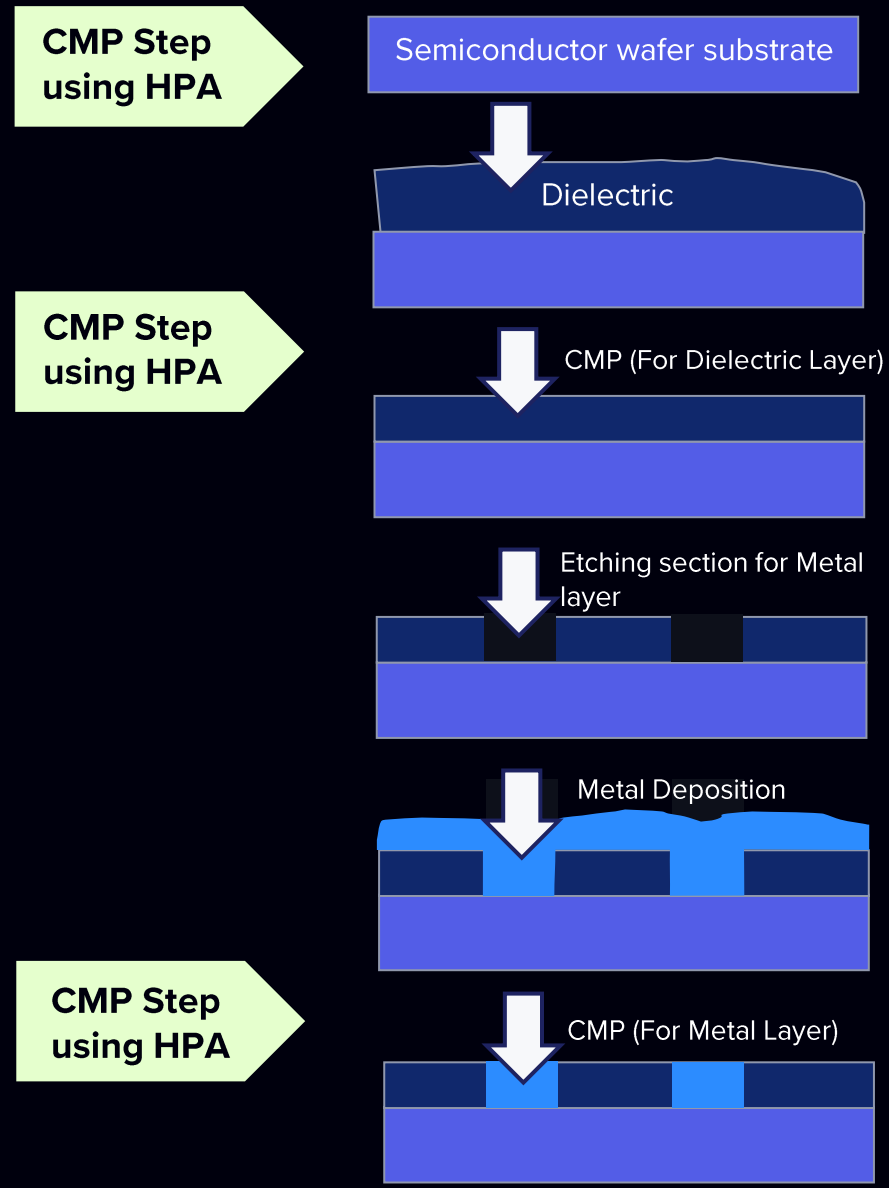
50% higher removal rate performance using Alpha's novel HPA particle:

Si-C wafer substrate

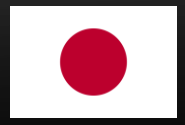
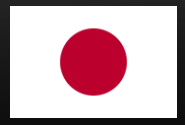
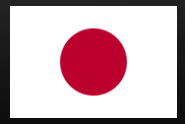
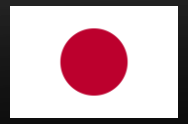
On: Si-C wafer substrate

Source: Alpha

PROFILE SCHEMATIC OF CMP STEPS IN SEMICONDUCTOR MANUFACTURING



SHORT LIST OF HPA FOR THERMAL FILLER OUTREACH

DOMICILE	SUMMARY STATUS[1]	COMMERCIAL			
		TEST #1	QUALIFICATION TESTING	SALES	LOI
	Japan based, global quality leader for spherical alumina fillers. Qualified for both HPA and ATH, sales commenced, LOI in pace for 100tpa. Binding sales contract under negotiation	✓	✓	~1,000kg/m	+100tpa
	Korea-based, existing spherical alumina filler supplier to SK market. Very focused on low-alpha. LOI in place for up to 1,000tpa. Binding CY2026 sales contract in place	✓	✓	~1,000kg/m	Up to 1,000tpa
	Japan based, global #1 in aluminium-nitride (AIN) interface materials – using high purity alumina as feedstock. 2 testwork round complete – LOI in draft Alpha materials confirmed as <1ppb U & Th supplier	✓	✓	SOP 2027	In Draft
	Japanese # 1 in spherical alumina. Testwork confirmed best-in-class U and Th levels (<0.2ppb). Qualification expanded to potential to supply semiconductor ceramics business. Production quotations issued Aug 2025	✓	Underway	✓	In Draft
	Japan-based, premium HPA producer. Testing ATH as high-purity, low-alpha feed stock for their proprietary alumina which is effectively a premium spherical alumina product	✓	Underway	Pending	Pending
	Largest Korea-based, spherical alumina OEM. Well established in low-purity spherical alumina, looking to expand to include high purity/low-alpha offering	Underway	Pending	Pending	✓ Initial 50tpa
	Global # 1 in spherical alumina and spherical silica. Low cost specialists, looking to expand to include high purity/low-alpha offering. Positive test results with low U/Th results confirmed	✓	✓	Prod'n scale quotation submitted	Pending

[1] Market outreach as at January 2026

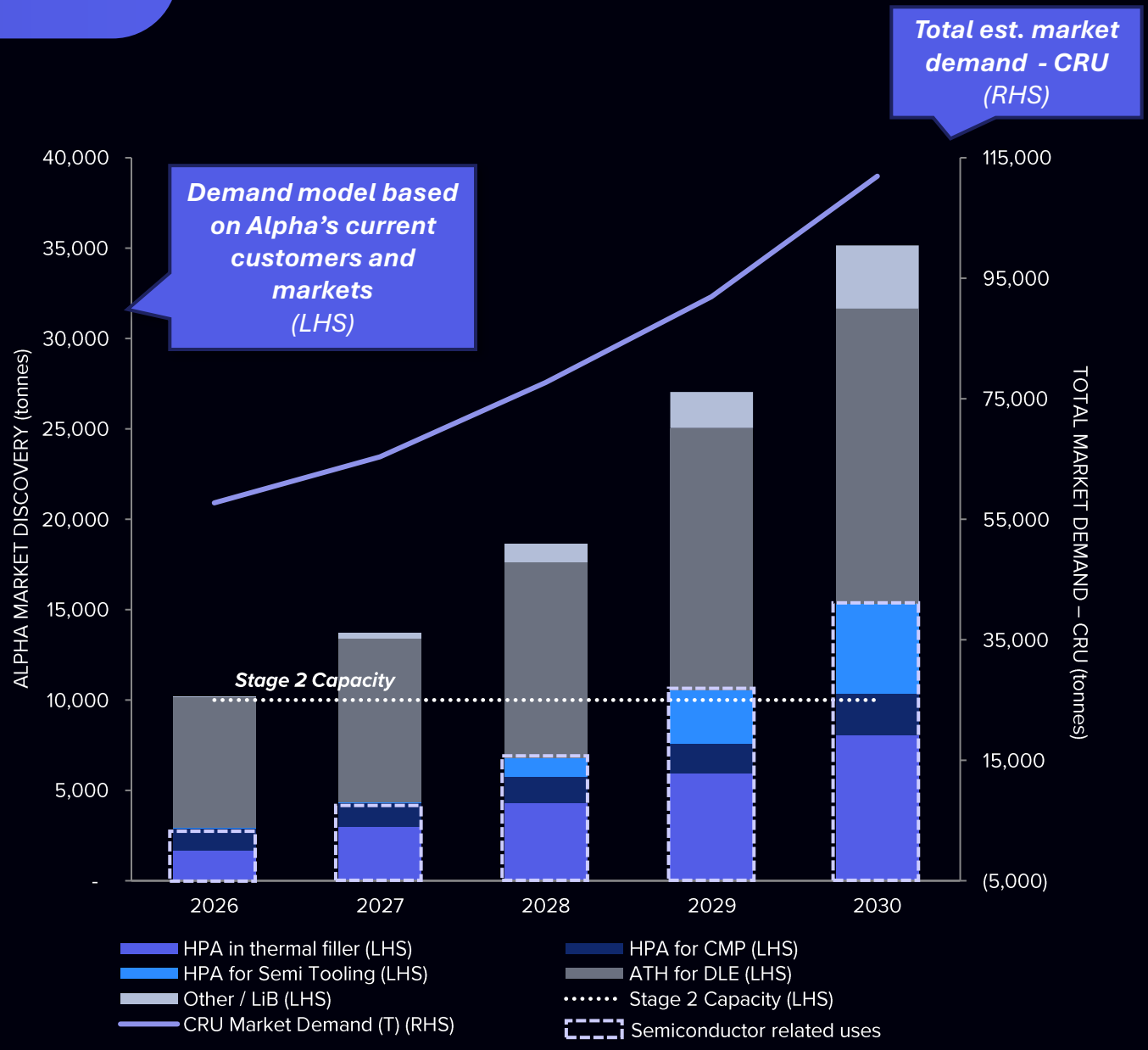
SHORT LIST OF CMP SECTOR OUTREACH

DOMICILE	SUMMARY STATUS[1]	COMMERCIAL			
		TEST #1	QUALIFICATION TESTING	SALES	LOI
	A CMP market leader. + 3 year testwork with Alpha. Currently testing both our alpha-phase nano-powders and our first round of nano—slurries	✓	Underway	Pending	✓ Volumes TBD
	Japan/US based, CMP market leader. Assessing Alpha's nano-alumina dispersions and Al-Nitrates. Outstanding test reports to date. Developing at least 2 new slurries for Tier #1 end-users. LOI in draft	✓	Underway	Pending	In Draft
	Japan/US based. A CMP market leader	Underway	Pending	Pending	Pending
	Global materials OEM with strong presence in CMP. Testing Alpha's nano-alumina slurries	Underway	Pending	Pending	Pending
	China based CMP slurry OEM – specific focus on new generation of silicon-carbide slurries. Purchasing Alpha's upstream HPA powders for in-house milling and slurry preparation	✓	✓	✓ Est 10-12tpa	✓ +4,000tpa
	Largest Korea-based, CMP OEM. Testing Alpha's nano-alumina slurries for hard-carbon CMP on next-generation HBM chips	✓	Underway	Pending	Pending
	US/EU based OEM. Testing Alpha's nano-alumina slurries	✓	Underway	Pending	Pending

[1] Market outreach as at January 2026

ALPHA MARKET SIZE DISCOVERY

- **Alpha Market Size Discovery model** based on:
  - First-hand discussions with customers and agents
  - First principles, bottom-up calculations
  - CAGR supported by research reports underpinning demand for product sectors
- Demand is specific to applications that Alpha actively holds a distinct technological advantage
- Alpha Market Size Discovery metric **represents a sub-set of the total addressable market** referable to the specific end-users with whom Alpha is currently in discussions
- **Total addressable market estimated to be substantially larger** with CRU data (RHS) and data obtained from UBS Research 'Cooler Chips' (slide 14) providing an independent benchmark for the size of the total addressable market
- **Ongoing supply deficit for low alpha materials** and the evolution of the DLE industry may present a key driver to underwrite an FID on a Stage 3 facility
- Alpha's Stage 3 plant locations under consideration with initial work on Alpha Polaris Concept study still under consideration
- Alpha is in advanced discussions with over >100 parties who are progressing through product qualification
- Alpha's price discovery suggests >3x capacity demand by 2030



GLOBAL MARKETING REACH AND PRICE DISCOVERY

- Alpha generates end-market expertise via a global marketing agency and advisory network
- Detailed, technically driven understanding of markets, pricing, applications and growth trends
- 'Alpha Market Discovery Pricing' represents a comprehensive market view, directly calibrated to Alpha's unique product offering
- Higher unit pricing recognised since May 2024 based on end-user sales, contracts and contracts under negotiation

	ALPHA MARKET DISCOVERY PRICING (USD)	
PRODUCT	DFS (MAY 2024)	UPDATED (JAN 2026)
5N PURITY ALUMINIUM NITRATE	18.5	18.0
4N5+ PURITY ALPHA PHASE ALUMINA	32.0	32.0
4N5+ PURITY ALUMINA FOR PUCKS	25.0	25.0
4N5+ PURITY GAMMA PHASE ALUMINA	20.3	25.0
4N5+ PURITY ALUMINA TRIHYDRATE	15.0	28.0
4N5+ PURITY NANO-ALUMINA	43.0	48.0
AVERAGE PRICE / KG - ALL PRODUCTS	**25.6**	**29.3**

ALPHA HPA LTD
AUSTRALIA

SALES AGENTS & INTERMEDIARIES

AUSTMIN
CHINA

APL MATERIALS
JAPAN

AM&M
NORTH EAST ASIA

TECHNOLOGICA
EU

PENLAN CHEMICALS
AMERICA

SECTOR ADVISORY & INTERMEDIARIES

SEMICONDUCTOR & LED
- ARKESSO LLC
- YOLE

EV & LI-ION BATTERY
- ALTO GROUP
- ELECTRIOS
- P3 GROUP

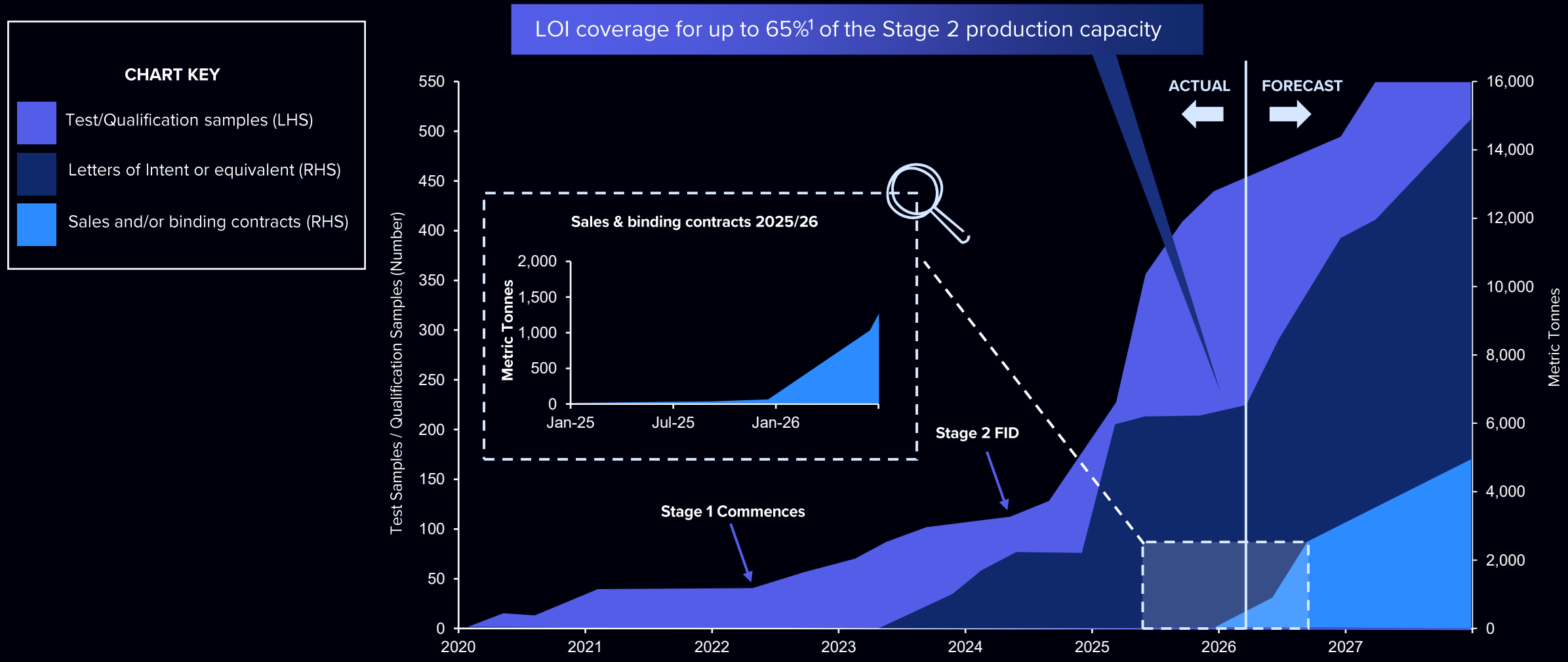
AUST. BASED MARKETING TEAM

- FULL TECHNICAL SUPPORT FOR CUSTOMERS
- 8 MEMBER PRODUCT DEVELOPMENT TEAM
- DIGITAL MARKETING TEAM
  - WEBSITE ORDERS
  - SEO & SOCIAL MEDIA

PRODUCT MARKETING PROGRESSION

TEST AND QUALIFICATION SAMPLES AS A LEADING INDICATOR TO LOI'S AND SALES

- Qualification testing underway with >100 end-users



[1] Note that the relevant condition precedent (CP) under the NAIF/EFA Senior Facility Agreement (SFA) is broader than the aggregated volume of LOIs, and includes non-binding LOI's, MOU's or email equivalents and consideration of minimum and maximum volumes, product qualification and status of binding supply contracts

Alpha HPA

SECTION 3

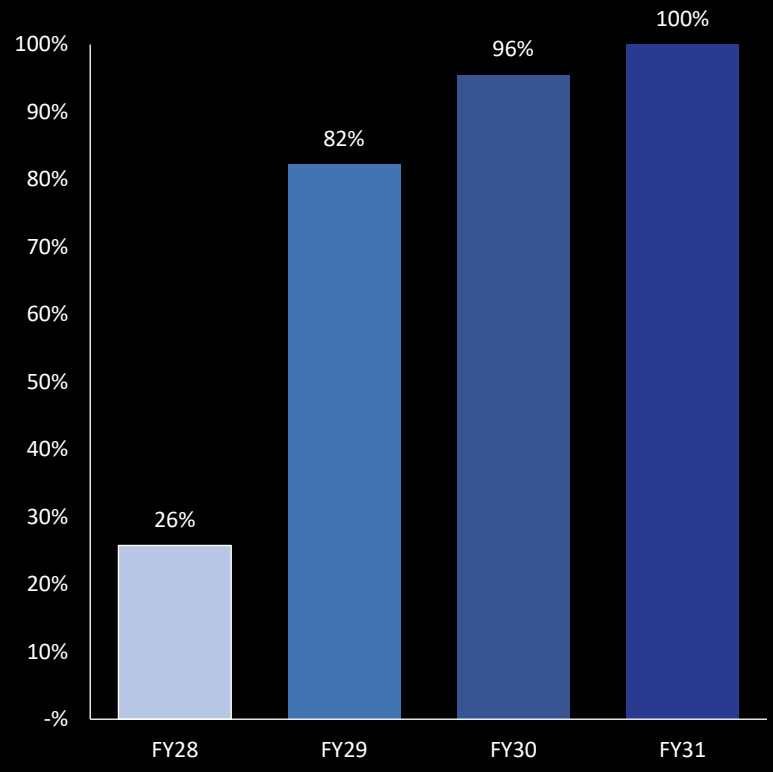
STAGE 2 PROJECT UPDATE

STAGE 2 : UPDATED TIMETABLE

Foundational phases complete, plant assembly now commenced (Jan 2026), first production to begin during CY 2027

	CY 2024				CY 2025				CY 2026				CY 2027			
	MarQ	JunQ	SepQ	DecQ	MarQ	JunQ	SepQ	DecQ	MarQ	JunQ	SepQ	DecQ	MarQ	JunQ	SepQ	DecQ
STAGE 1: PRODUCTION FACILITY																
Production																
STAGE 2: FULL SCALE HPA FIRST PLANT																
Final Investment Decision (FID)																
Product Marketing & Customer Contracts																
All Long Lead Items Orders Placed																
Earthworks																
Civil Works (Concrete)																
Engineering																
Structural Mechanical & Piping (SMP) – installation																
Electrical and Instrumentation (E&I) – installation																
Early commissioning and equipment testing																
Plant Commissioning and first production																

Stage 2 production ramp up (% utilisation)



The above timetable is based on a December 2025 project re-baseline following 30% project engineering milestone. This timetable is indicative only and is subject to change. Production percentages represent the projected monthly average for each financial year.

STAGE 2 : UPDATED PROJECT METRICS

Refreshed economic model with 13% improvement in EBITDA[1]

- Alpha undertook a re-baselining of Stage 2 as the project progressed through its 30% commissioning milestone
- Substantially improved annual revenues forecast, driven by higher unit pricing as informed by end-user sales, contracts and contracts under negotiation
- 13% improvement in annual EBITDA[1]
- Increased capital expenditure driven by incremental permitting requirements resulting in the required commissioning of a water treatment plant ~A$20-30m, alongside significant bulk commodity increases since 2023 (~40% copper, labour and general materials ~20%)

	$USD (M)[2]		$AUD (M)		
Key Project Metrics at 100% production	**DFS FY30 (Nominal)**	**Revised FY31 (Nominal)**	**DFS FY30 (Nominal)**	**Revised FY31 (Nominal)**	**Change**
Annual Revenue	251.3	282.0[2]	359.0	402.8[2]	12%
Annual Operating Costs	(70.0)	(76.3)	(100.0)	(109.1)	9%
EBITDA (Less Payroll Tax & Royalty)	**178.5**	**202.0**	**255.0**	**288.6**	**13%**
Unit Cash Cost (USD$/kg of aluminium product)	(6.7)	(7.3)	(9.6)	(10.5)	9%
Weighted Average Product Price (USD$/kg)	24.1	27.0	34.4	38.6	12%
CapEx (including contingency)[3]	387.1	489.5	553.0	699.2	26%

DFS CapEx Contingency = A$79m[3]
2026 CapEx Contingency = A$53m[3]

[1] Based on Alpha Price Discovery Case. DFS FY30 (Nominal) as disclosed in the HPA First Project Stage 2 Commercialisation announcement dated 20 May 2024
[2] October 2025 real product prices taken as basis for calculating nominal FY2031 revenue forecast
[3] Exchange rate of AUD:USD = 0.7

STRONG GOVT. SUPPORT FOR STAGE 2

Project construction – time lapse video

STRONG GOVERNMENT BACKING AND SUPPORT ACROSS THE CAPITAL STACK

National Reconstruction Fund Corporation — A$75M EQUITY to 6.9% holding

NAIF / export finance australia — A$320M PROJECT LOAN A$80M COST OVERRUN[1]

QIC — A$30M ROYALTY INVESTMENT[2]

Australian Government — A$45M GRANT[3]

Queensland Government — A$22M GRANT[4]

[1] Drawdown subject to conditions precedent which are dependent on LOI test volumes, per announcement dated 17 April 2024
[2] Drawdown subject to conditions precedent, which were fully satisfied with Financial Close reached in October 2025 as per announcement dated 30 October 2025
[3] As per announcement dated 16 March 2022
[4] As per announcement dated 5 April 2023

THANK YOU

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