

The Manager Companies - ASX Limited  
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ASX Announcement  
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(3 pages)

## SEMICONDUCTOR SECTOR PRODUCT MARKETING UPDATE

### SEMICONDUCTOR SECTOR

- Semiconductor sector engagement continues to gain momentum
- Outstanding end-user test results from CMP polishing
  - Up to 50% higher CMP performance
  - Performance related to novel nature of Alpha HPA aluminas
- Letter of Intent received for up to 4,000 tonnes HPA per annum
- Marketing capacity expanded with South Korean agency
- Successful development of ultra fine nano-alumina dispersions
- Further sales orders received for thermal interface materials

Alpha HPA Limited (**Alpha** or **the Company**) (ASX: A4N) is pleased to provide an additional update on semiconductor sector marketing activities which are positively impacting both **Stage 1** and **Stage 2** of the HPA First Project in Gladstone, Queensland.

Alpha's Managing Director, Rob Williamson said, "*The semiconductor sector is a key focus for the Commercial team, with attractive pricing and demand pull from significant AI data centre growth and power electronics. Alpha's technology is enabling our products to outperform in both the CMP slurry and thermal interface packaging applications, which is leading to the recent Letters of Intent we are seeing coming from this space.*"

### Overview

Consistent with the commentary provided within the ASX announcement dated 14 January 2025, Alpha continues to observe strong semiconductor sector demand interest for the Company's high-purity aluminium materials, dominated by two applications:

- High purity aluminas (**HPA**) and HPA precursors for the synthesis of spherical alumina for thermal interface materials in semiconductor packaging. This demand is closely linked to data centre and Artificial Intelligence (**AI**) applications.
- HPA and HPA precursors as abrasives within Chemical Mechanical Planarization (**CMP**) polishing slurries, particularly for silicon-carbide (**SiC**) based power semi-conductors. This demand is closely linked to power-semiconductor demand for high power switching applications, including EV's, EV charging, wind turbines and solar PV.

## CMP Performance

Outstanding CMP performance of Alpha HPA's materials was previously reported from third party independent testwork, per ASX Announcement dated 14 January 2025.

Recent end-user CMP testwork on SiC substrates has confirmed material outperformance using Alpha's high purity alumina materials as slurry abrasives, showing:

- Removal rates (of SiC substrates) reaching over 50% higher than incumbent CMP abrasives whilst maintaining equivalent final substrate smoothness

These results translate to faster polishing cycles and material efficiency gains by CMP end-users. Importantly, the testwork confirms the likelihood that the CMP outperformance relates to the unique particle shape and impurity profile of Alpha's materials, as determined through the use of the Company's novel HPA production process.

## Letter of Intent received for up to 4,000 tonnes HPA per annum

Based on the very strong CMP testwork performance referred to above, Alpha is very pleased to note the Company has received a Letter of Intent (**LOI**) from a CMP sector end-user, for up to 4,000 tonnes per annum across a range of the Company's HPA materials (alpha phase and gamma phase HPA).

Consistent with previous LOI's in the semiconductor sector, the LOI includes allocation of commercial volumes from HPA First Project Stage 1 facility in 2025 and 2026, prior to larger volumes from the Stage 2 Facility commencing in 2027.

## Successful development of ultra fine nano-alumina dispersions

In response from building demand enquiry from CMP end users, Alpha has now successfully developed a method to produce an ultra-fine, high purity alumina dispersion, specifically for ultra-high-value CMP applications.

The dispersions represent ultra fine alumina particles with sizing  $\sim 100$  nanometres (or 0.1 micron), suspended in solutions, usually de-ionised water, matched to a particular end-user specification. Similar to the CMP results achieved from both independent testing and end-users, the Company believes the novel shape and impurity profile of our aluminas are ideally suited for outperformance.

The Company has already commenced distributing samples of ultra-fine dispersions to end-users for testwork



*Alpha's samples of Ultra fine nano-alumina ( $\sim 100$ nm) dispersions – prior to customer despatch*

## Marketing Agency expanded into South Korea

Alpha is pleased to note it has expanded the Company's marketing capacity in Northeast Asia with the recent agency agreement with AM&M group, based in South Korea. The AM&M sales team are semiconductor sector specialists, with strong technical and commercial reach, particularly in semiconductor ceramics, packaging and CMP.

AM&M's engagement extends the Company's a global network of marketing agencies and specialist technical intermediaries who support the Company's own commercial team.

Alpha's network of advisors and intermediaries and global agency agreements are set out in the graphic below:



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### About the HPA First Project

The Company's HPA First Project represents the commercialisation of the production of high purity aluminium materials using the Company's proprietary, exclusively licensed solvent extraction and HPA refining technology. The disruptive, low-carbon process technology provides for the extraction and purification of aluminium from an industrial feedstock to produce 4N (>99.99% purity) and 5N (>99.999% purity) aluminium materials for sale into high technology markets including the semiconductor, lithium-ion battery and LED lighting sectors.

Alpha is in production at its HPA First Project Stage 1, Precursor Production Facility (PPF) across the Company's full range of high purity aluminium materials and has commenced construction of Stage 2 of the HPA First Project.

On 20 May 2024, Alpha reached Final Investment Decision for Stage 2 of the HPA First Project, being the full commercial scale deployment of the process technology on the same site.

Alpha has commenced construction of Stage 2 of the HPA First Project, which will be the world's largest, single site facility for the manufacture of high purity aluminium materials.