

The Manager Companies - ASX Limited
20 Bridge Street
Sydney NSW 2000

ASX Announcement
18 August 2026
(8 pages)

PRODUCT MARKETING UPDATE

HIGHLIGHTS

SEMICONDUCTOR SECTOR

- **New Letter of intent for 1,400 tonnes of high purity aluminas**
 - Specialty South Korean ceramics end-user
 - Close linkage to South Korean memory chip sector demand
 - Focus on thermal interface aluminas applications for AI semiconductor packages
- **Letter of intent coverage advances to 13,500 tonnes**
- **Dramatic growth in HPA demand for semiconductor components**
- **Stage 1 sales continue to service Japan, South Korean and EU customers**
- **Inbound enquiries accelerating from Japanese agencies**
- **Product development completed to service translucent HPA demand for AI packaging**
 - High purity translucent alumina ceramic demand growing rapidly
 - Driven by adoption into AI accelerator packages which require 'low alpha' profile
- **Accelerated contract negotiations to secure Stage 1 and Stage 2 volumes**
- **Nano-mill installation complete and servicing CMP sector end-users**
- **US-based CMP/semiconductor specialist sales hire**

OTHER SECTOR MARKETING

- **Commercial AI-Nitrate sales commenced to service aerospace coatings**

The Board of Alpha HPA Limited (**Alpha** or **the Company**) is pleased to provide an update on product marketing activities for the **HPA First Project**, representing the commercialisation of the Company's proprietary, exclusively licensed solvent extraction and HPA refining technology and production of critical high purity aluminium products into high technology markets. Alpha's ultra-high purity product capability includes:

- High purity aluminas (**HPA**),
- High purity alumina hydroxides (**ATH**)
- High purity aluminium nitrate precursors (**AI-Nitrate**), and;
- High purity synthetic sapphire glass

Alpha is in continuous production at its HPA First Project Stage 1, Precursor Production Facility (**Stage 1**) across the Company's full range of high purity aluminium materials and in construction of the full commercial scale **Stage 2** of the HPA First Project. Stage 2 of the HPA First Project will be the world's largest, single site facility for the manufacture of high purity aluminium materials.



LOI VOLUME ADVANCES TO 13,500 TONNES

As product marketing, testing and multi-year product qualification continues to mature, Alpha has been completing a range of Letters of Intent (LOI's) to reserve Stage 2 capacity for selected end-users.

Alpha is pleased to advise it has completed a new LOI with a specialty South Korean ceramics supplier to the semiconductor sector, with a particular focus on supplying thermal interface aluminas to the South Korean memory chip market (Samsung and SK Hynix). The LOI covers the supply of up to 1,400 tonnes of high purity aluminas and alumina hydrates.

SEMICONDUCTOR SECTOR MARKETING

Product marketing has continued to validate the ongoing **rapid expansion of the adoption of high-purity alumina materials with the semiconductor supply chain**. Product demand is directly linked to the hyper-scale capital expenditure build-out of AI data centres, and the critical need to adopt HPA materials to manage heat and semiconductor performance – **Refer Appendix 2**.

The Company's agents and sales teams are deeply engaged across each of the respective supply chain, with a strong focus on Japan, South Korea and the US. The key application targets within the semiconductor sector are summarised below:

Thermal Fillers and Thermal Interface Materials (TIM)

The Company continues to observe exciting growth in end-user testing and qualification of both high purity aluminas and high purity ATH, aligned with the adoption of high purity alumina for spherical thermal fillers, which is increasingly used in the packaging to manage heat dissipation for advanced node memory and logic semiconductors.

Activity growth is based on the Company's novel capability to offer:

- **Ultra-high purity alumina materials**, combined with;
- **Zero-alpha radiation emission materials** now considered critical for use within advanced node semiconductor manufacturing, processing and high-density packaging. The Company delivers this specification with the ability to deliver **<1ppb Uranium and Thorium impurities**.
- **Bespoke product range to match end-user requirements** including alpha and gamma phase HPA and high purity alumina hydrates

Activity highlights within this sector application include:

- Accelerated effort from existing Stage 1 customers to secure contracted Stage 1 supply volumes for CY27 and Stage 2 volumes for CY28 onwards, with a number of these expected to complete this quarter
- Accelerated qualification test work following inbound demand enquiry from Japan, including Tier #1 Japanese manufacture of spherical alumina and semiconductor packaging resins.
- Confirmation of <1ppb U/Th levels from a separate Tier #1 Japanese end-user and submission of commercial supply quotation

Further detail of the expansion HPA adoption as thermal fillers is provided as **Appendix 1**.

Chemical Mechanical Polishing (CMP)

Marketing to the CMP sector continues to expand in parallel with the Company's development of its HPA nano-slurry, which has now reached its final generation of development. Alpha is also actively marketing its ultra-high purity Al-Nitrate product, which is an additive chemical in a number of existing and next-generation CMP slurries.

Alpha continues to progress qualification with each of the global major CMP slurry manufacturers and is at varied levels of engagement, from early sampling stage through to advanced qualification. Activity growth is based on the Company's capability to offer:

- A 4N5 (+99.995%) purity alpha-phase alumina particle with novel crystallinity, as a nano sized dispersion (slurry). This product has been proven to deliver dramatic out-performance, particularly in removal rate, when used as a CMP abrasive and applied to a number of 'hard to polish' and 'slow to polish' substrates, including:
 - Hard carbon mask layers; widely used in the manufacture of High Bandwidth Memory (HBM) and Dynamic Random Access Memory (DRAM) semiconductors;
 - Layers within the semiconductor production process including:
 - Alumina dielectric layers
 - Tungsten and copper layers
- An ultra-pure, 5N (+99.999%) Al-Nitrate product, produced at commercial volumes.

Following completion on installation and commissioning of Alpha's nano alumina mill (see below), the Company is now preparing a range of samples for CMP end-users. The nano-alumina mill will service both Stage 1 production and Stage 2 commercial volumes.



Fully installed alumina nano mill – within the Stage 1 Facility

Alpha is also pleased to advise the appointment of US-based CMP/semiconductor specialist Dr Chris Newman to manage and accelerate the Company's semiconductor marketing in the US. Dr Newman brings extensive CMP experience to the business including the previous four years as a senior research and development scientist at Fujimi.

Semiconductor Ceramics

Alpha continues to steadily expand its marketing activities within the semiconductor ceramics sector. The use of alumina ceramics within the specialist manufacturing equipment is increasingly adopting higher purity aluminas (4N+) for the manufacture of advanced node semiconductors.

The dominant applications include:

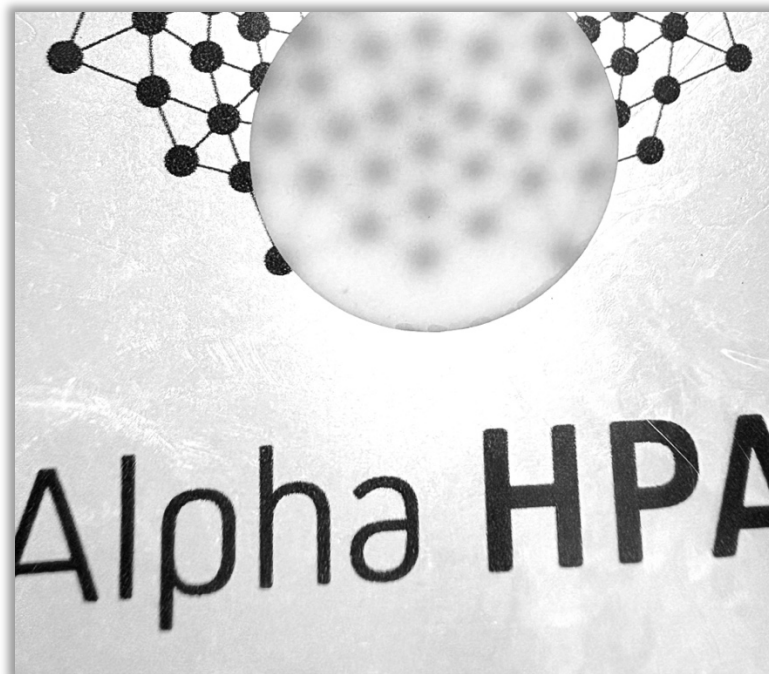
- HPA for ceramic tool components, including electrostatic chucks, hold down rings and lifting arms
- The use of alumina thermal spray coating within semiconductor etch and lithography chambers
- The recent and rapid increase in the adoption of translucent high purity alumina within the AI/semiconductor package

Activity growth in this sector is based on the Company's capabilities for:

- A recently developed, high purity (+4N5), high-sintering alpha-phase alumina powder, optimised for both ceramic tooling and translucent alumina ceramics (see below)
- The ability to deliver rounded-shape, tightly controlled alumina powders required for thermal spray
- The only known HPA manufacturer who can commercially deliver these materials with a 'zero-alpha' emission profile (<1ppb Uranium and Thorium impurities)

The development, in consultation with end-users, of a unique HPA powder offering that is capable of delivering high density translucent alumina (see image below) is considered specifically significant given the level of end-user enquiries following the recent and rapid adoption of this material into the AI accelerator (interposer) to manage heat dissipation and to solve warpage of silicon interposers in large AI accelerators (e.g.: NVIDIA Rubin). Alpha's product performance, in combination with 'zero-alpha' (<1ppb U & Th), is considered a unique HPA offering to this application.

Alpha is now rapidly distributing end-user samples to service requests, including a number of inbound requests from Taiwan, Japan and South Korea.



Translucent, high purity alumina plate

Alpha is also currently servicing new qualification requests from Japanese based end-users applying high purity alumina based thermal spray coatings to a range of semiconductor ceramic components.

NEW SECTOR DEMAND AEROSPACE

Alpha has commenced commercial supply of high-purity Al-Nitrate to a European based manufacturer of specialist, high-temperature resistant coatings, with a particular focus on space and aerospace applications.

Alpha has completed an initial commercial sale of Al-Nitrate to a European space-sector customer for high-temperature protective coating applications, with a materially larger scale-up quotation under consideration. The customer is undergoing a rapid commercial scale-up, and Alpha is hopeful of securing meaningful Stage 1 and Stage 2 supply volumes.

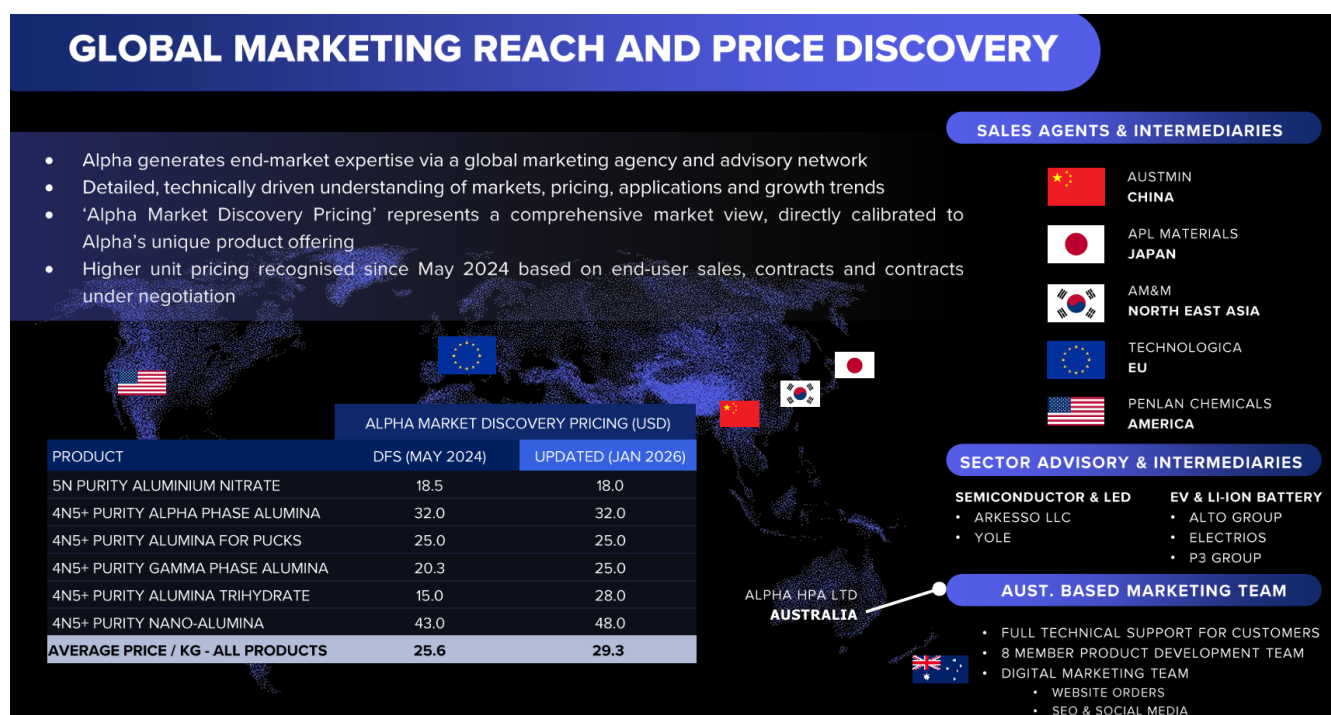
COMMERCIAL BUILD-OUT

Alpha has now secured commercial qualification and LOI's for 13,500 tonnes of demand, with multiple qualifications underway and new engagements building month-to-month.

Commercial momentum accelerates with Stage 1 HPA and ATH sales to Japan and Korea, both linked to servicing the Korean advanced memory thermal packaging supply chain. Customer demand is already multiples of current Stage 1 availability, acting as a direct production bridge into Stage 2.

In response, Alpha is working with priority customers to secure CY26, CY27 and CY28 volumes from both Stage 1 and Stage 2 production under binding contracts.

Pricing for Alpha materials remains firm, with an upward trend relative to our January 2026 update.



For further information, please contact:

Robert Williamson
Managing Director
rwilliamson@alphaHPA.com.au
+61 (0) 407 125 175

Robert Lord
Head of Corporate Development
rlord@alphaHPA.com.au
+61(0) 400 008 553

Rimas Kairaitis
Exec. Director & Chief Commercial Officer
rkairaitis@alphaHPA.com.au
+61 (0) 408 414 474

Appendix -1 : Adoption of High Purity Alumina in semiconductor packaging

The following extract from UBS Research, references the commercial adoption and key end markets for these materials; UBS Transition Materials May 2026 Equities “Data Center Thermal Bottleneck Driving Innovation in Thermal Materials”.

“Leading chip and materials companies are moving from R&D to market deployments of these high thermal conductivity packaging materials:

Company	Packaging Layer Focus	Material / Filler Type	Thermal Conductivity	Purity / Alpha Control	Particle Morphology	Key Products (Sources)
SK Hynix (IDM)	High-K EMC material	Epoxy mold compound with HPA alumina filler	3.5 vs baseline, vertical thermal resistance improved by 47%	Filler ≥4N purity; ultra-low; Na+/low-alpha (for memory)	Multi-modal spherical alumina blend (high fill %)	SK Hynix
Shin-Etsu (Materials)	EMC materials / encapsulation	KMC series epoxy + silica/Al ₂ O ₃	3.5–5 W/mK quote on most recent factsheet	High purity aluminas	Spherical alumina (~10 µm avg) + silica blend for flow	Epoxy molding materials factsheets
Resonac (Filler)	Fillers for EMCs, underfills, TIMs, EMCs	Alunabeads™ CB series spherical alumina powders	Factsheet refers to a Spherical Alumina at 99.9% (CB-P09) and EMC with 3 W/mK (CEL-9750 ZHF10T3W)	≥99.9% Al ₂ O ₃ (4N+, many grades ~99.91–99.9%)	Perfect spheres (sizes 2–100 µm; broad & narrow PSD options)	Resonac
Sumitomo Bakelite (Materials)	Substrate dielectrics for PCB; die-attach TIMs	LaZ® epoxy + alumina (build-up core); Ag sinter paste	LaZ: 1.5–2.1 W/mK (vs ~0.5 baseline)	HPA alumina filler (4N+ purity) in LaZ; 99.9% Ag (no α emitters)	Spherical alumina (µm-scale) in resin	Sumitomo Bakelite
Nagase	EMCs, Encapsulation Resins, Die Attach Adhesives	References Alumina and AlN	Resins: 0.75–2.5 W/mK (vs baseline 0.2–0.3); Die Attach: 20–21 W/mK; Compounds: 25 W/mK	Al ₂ O ₃ at 4N+; AlN at 4N	Spherical alumina (µm-scale)	Nagase
KCC	EMCs, Encapsulation, Underfill, Thermal Conductive Materials (TCM)	Alumina Substrates, AlN	References 3 W/mK for High Power mold for TCM and 3.8–5 W/mK for paste & mold for TCM	Al ₂ O ₃ purity referenced 94–99.5%	Spherical alumina (µm-scale)	Solutions Primer
Admatechs	Filler for underfills, TIM adhesives	ADMAFINE ultra-fine spherical alumina (0.25 & 10 µm); refers to >99.8 alumina at AO-5 grade	Filler: ~20–30 W/mK (enables ~2–3× composite λ vs silica)	≥99.8% Al ₂ O ₃ ; Na+ <1 ppm (std. AO-5 grade); negligible U/Th (low-alpha)	Nano- & micro-scale smooth spheres (non-porous, high dispersibility); 0.25 µm and 10 µm	ADMAFINE AO series
Momentive Tech	Thermal filler raw materials (feedstocks)	Boratherm™ SA (ex-*) spherical alumina; fused silica	Al ₂ O ₃ feedstock: ~30 W/m·K intrinsic; SiO ₂ : ~1.3 W/m·K	Industrial high purity (3N–4N) alumina; fused silica (Momentive acquired SA line)	Fused spheres (50–100 µm & blends for high packing)	Boratherm™ SA alumina
Denka	Filler for mold compounds, TIM sheets, etc	Denka Spherical Alumina (DAM/DAW grades)	Filler: ~24–35 W/m·K (raises resin to ~3 W/mK @ max loading)	≈99.9% Al ₂ O ₃ ; Na+ 30–80 ppm (std) [denka.co.jp]; Na+ 3–11 ppm (low-Na DAW)	High-sphericity fused alumina; sizes from ~1 µm up to 100 µm	Denka Sph. Alumina

SK Hynix – Introduced the industry’s first “High-K” epoxy mold compound for mobile DRAM. By adding alumina filler to its packaging resin, SK hynix boosted thermal conductivity $\sim 3.5\times$ and cut vertical thermal resistance by $\sim 47\%$. This material enabled their new mobile DRAM to run cooler, improving smartphone performance and battery life. It also validates that chipmakers see HPA materials as critical to manage heat in stacked memory.

Shin-Etsu Chemical – Developed a “super high thermal” epoxy encapsulant (KMC series) blending silica and alumina fillers. The composite quotes as high as 3.5-5 W/mK (vs $\sim 0.8\text{--}1$ W/mK for conventional epoxy), a $\sim 4\times$ improvement achieved by very high loading of HPA filler, possible due to higher spherical morphology.

Resonac - Aluminabeads™ CB filler series offers ultra-pure, “low-soda” alumina powders (Na 0.5 baseline (typically used in PCB, indicating potentially broader adoption of HPA). Piloting a 150 W/m·K silver sinter die-attach paste (vs ~ 50 W/m·K for solder) for power semiconductors, as well as a new resin substrate film $\sim 3\times$ more conductive (~ 2 W/m·K). The silver-based TIM, sampling now, aims to run EV power devices cooler and replace lead solders – illustrating how thermal innovations span from data centers to automotive. Nagase - References encapsulation resins with 0.75-2.5 W/mK vs typical baseline of 0.2-0.3 W/mK via both 4-5N purity in alumina and AlN. KCC - References new Thermal Conductive Materials with pastes, molds and EMCs reaching 3-5 W/mK using high purity spherical aluminas.

Sumitomo Bakelite – LaZ epoxy substrate product references 1.5-2.1 W/mK vs 0.5 baseline (typically used in PCB, indicating potentially broader adoption of HPA). Piloting a 150 W/m·K silver sinter die-attach paste (vs ~ 50 W/m·K for solder) for power semiconductors, as well as a new resin substrate film $\sim 3\times$ more conductive (~ 2 W/m·K). The silver-based TIM, sampling now, aims to run EV power devices cooler and replace lead solders – illustrating how thermal innovations span from data centers to automotive.

Nagase - References encapsulation resins with 0.75-2.5 W/mK vs typical baseline of 0.2-0.3 W/mK via both 4-5N purity in alumina and AlN.

KCC - References new Thermal Conductive Materials with pastes, molds and EMCs reaching 3-5 W/mK using high purity spherical aluminas.

Spherical Alumina Suppliers – Admaetch, Momentive Tech, and Denka: All now reference supplying higher purity aluminas to the semiconductor industry at high purity and high sphericity, quoting 4N purity and fillers at 20-30 W/mK.”

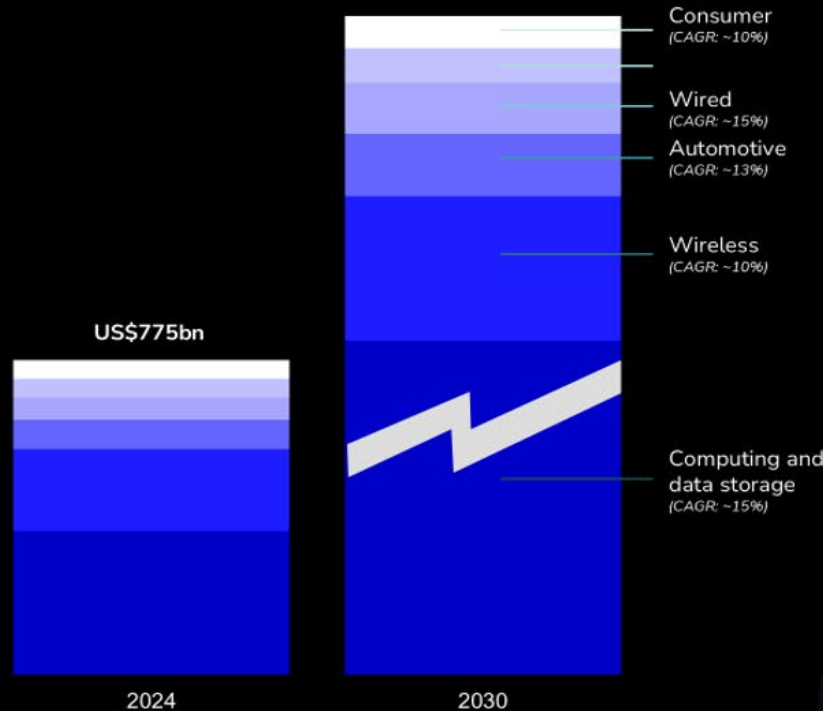
Due to strict non-disclosure agreements, Alpha's end-customer names cannot be disclosed. The referenced UBS Research excerpt is included solely for illustrative context.

SCALE OF SEMICONDUCTOR CAPITAL INVESTMENT (IMPLICATIONS FOR THE SUPPLY CHAIN)



Surging AI adoption driving demand across the semiconductor sector – with compute and data driving majority of the scale and growth

2030 Est \$5.5T*



AI predominant driver of demand growth...



The rapid growth of AI, connectivity, and customer adoption of advancing technology is driving advancements in semiconductors



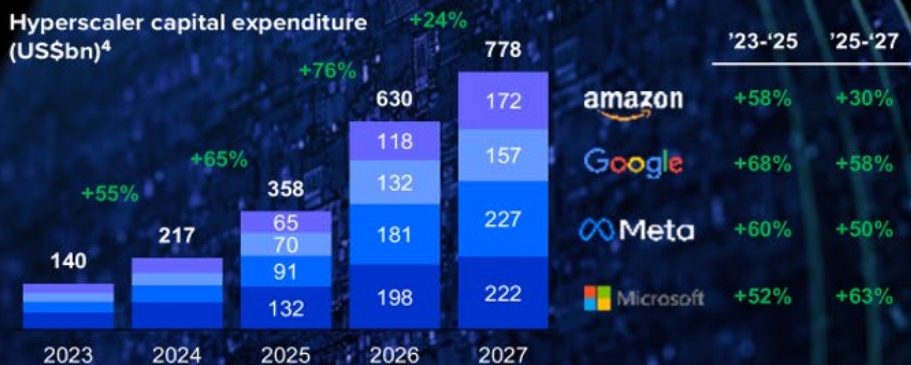
Global chip sales recorded a ~26% increase in 2025 driven by the computer end-market which surged ~60%²



The global server market is projected to grow at a ~12% CAGR to over US\$300n by 2030³

... underwriting an unprecedented surge in capital spend

Hyperscaler capital expenditure (US\$bn)⁴



Advanced packaging, high bandwidth memory (HBM), and wide-bandgap power semiconductors are the focus areas of next generation semiconductor advancement

Source: JPMorgan, McKinsey & Company, World Semiconductor Trade Statistics, Gartner, Statista, PwC analysis, NextMSC, Financial Times, Factset as at 6 May 2026. Gartner. Notes: 1. McKinsey & Company (January 2026). 2. World Semiconductor Trade Statistics. 3. 'Semiconductor' PwC. CAGR from 2024 to 2030. 4. Factset consensus as at 6 May 2026. 5. Gartner (January 2026).