NOMURA

Global Markets Research
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Global Memory

EQUITY: MEMORY

AI market concerns and the memory outlook

Supply constraints remain central to our investment thesis

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We remain constructive on memory and expect supply constraints to persist through at least 2028F

Following the *news* on CXMT's (688825 CH, Buy) progress in 4F² technology, concerns over AI revenue growth and neocloud funding have weighed on sentiment. We continue to view market concerns over CXMT's 4F² transition as excessive (*report*). In our view, the market is underestimating both the breadth of AI demand and the earnings that such strong demand can generate across the value chain. Our investment thesis rests on continued data center deployment and associated memory requirement. Sustained cuts to computing commitments or material delays to funded projects would challenge this view.

AI revenue trends require a consistent basis of comparison

In our opinion, three factors complicate the interpretation of recent revenue trends of AI lab companies: reporting scope, customer changes, and seasonality. Taken together, they suggest that the headline revenue slowdown does not imply a comparable weakness in aggregate AI demand.

Reporting scope: The difference between Open AI's (unlisted) reported September annualized revenue run-rate of ~USD50bn and the previously cited USD68-70bn figure largely reflects partner revenue accounting. The higher figure included partners' gross revenue for comparison with Anthropic (unlisted), whereas Open AI recognizes its own share of certain partner sales. CNBC *reported* a 77% increase in Open AI's annualized revenue run rate during 3Q26. This measures growth in the run-rate over the quarter, rather than growth in recognized quarterly revenue.

Customer changes: Anthropic's restrictions on distillation activity appear to have created a discrete revenue headwind; press *reports* put the affected activity at 5–7% of revenue. Separately, Meta (META US, Not rated) has *reportedly* encouraged employees to shift from Claude Code to Muse Code, introduced in August, and its internal MetaCode tool. In our view, such migration could be a headwind to AI lab companies' revenue growth.

Seasonality: We believe the recurring 3Q summer holiday period would have temporarily reduced activity among heavy users on usage-based plans, weighing on billed token consumption. The 3Q decline of 7.4% in US GitHub activity, which we take as a proxy, is consistent with this seasonal pattern. Lower vacation-period usage likely contributed to the recent revenue moderation, with scope for recovery as normal work schedules resume.

(Continued on the next page...)

Fig. 1: Global Memory – Stocks for action

Company	Ticker	Rating	Target price (KRW)	Current price (KRW)	Upside
Samsung Electronics	005930 KS	Buy	670,000	218,000	207.3%
SK Hynix	000660 KS	Buy	4,700,000	1,277,000	268.1%

Note: Nomura research
Source: Stock prices as of 19 October 2026.

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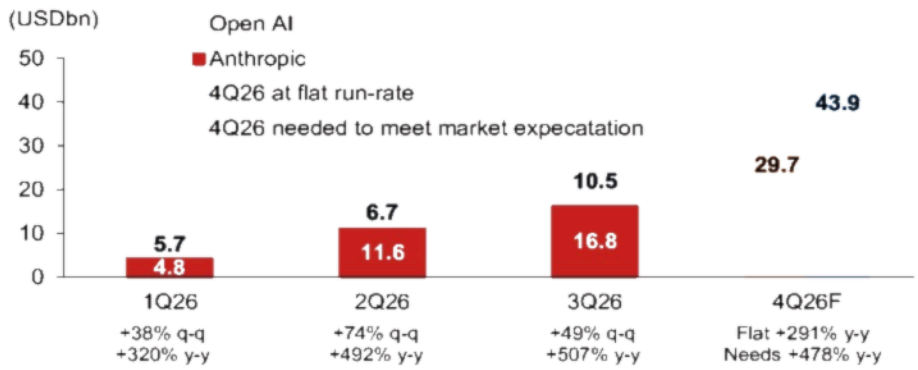
See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

Year-on-year growth remains substantial

Based on our estimated historical quarterly revenue, the combined revenue of OpenAI and Anthropic implies growth of ~320% y-y in 1Q26F, ~492% y-y in 2Q26F, and ~507% y-y in 3Q26F. These indicative rates point to rapid expansion despite the recent moderation in sequential growth.

A recovery of 4Q26F revenue remains our base case, although customer migration and pricing pressure could persist. Meeting the market's FY26E combined revenue expectation of ~USD100bn for OpenAI and Anthropic would require ~USD43.9bn in 4Q (+61% q-q and +478% y-y; *Fig. 2*). This sets a demanding benchmark for the recovery. Assuming unchanged September run rates, we estimate that 4Q revenue would still reach about ~USD29.7bn (+291% y-y). The upcoming hyperscaler results will help gauge a broader AI demand, given their dual role as computing power suppliers to and as competitors of AI labs. Subsequent AI lab revenue updates will test our expectation of a 4Q26F revenue recovery.

Fig. 2: Open AI & Anthropic – Quarterly revenue trend



Note: OpenAI's 3Q26 revenue is based on our estimates.
Source: Company data, FT, NYT, Reuters, WSJ, Nomura estimates

AI profitability is stronger than headline cash flows suggest

We believe the market is understating profitability across the AI value chain. Losses at select AI labs and neoclouds, together with the cash requirements of rapid capacity expansion, have contributed to a broader perception that AI investment is unprofitable. We believe this overlooks the substantial operating earnings already being generated across the key parts of the ecosystem.

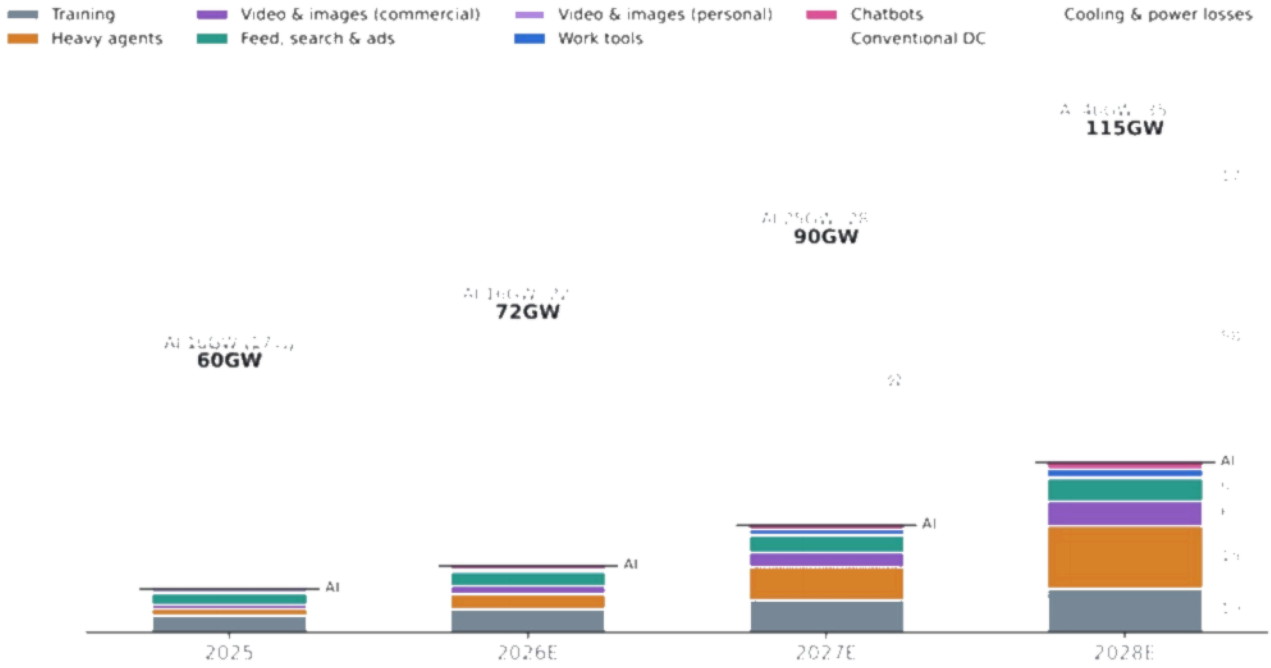
Established cloud platforms remain highly profitable. The disclosed OPM for the June 2026 quarter was approximately 39% for AWS (part of Amazon [AMZN US, Not rated]), 41% at Microsoft (MSFT US, Not rated) Intelligent Cloud, and 36% at Google (GOOGL US, Not rated) Cloud. We expect cloud platforms' overall margins to improve further as new contract pricing gets reflected in revenue. Our illustrative EBITDA margin estimate for these cloud businesses is ~60%, indicating substantial operating earnings before depreciation and amortization.

Operating leverage is becoming more visible. Profitability varies across AI labs, reflecting different levels of investment in future models and computing cost of served users who do not yet generate revenue. As paid revenue expands, relatively fixed development costs are absorbed across a larger revenue base, which we believe will support a J-curve improvement in profitability. In our view, Anthropic's reported profit move into adjusted operating profit in 2Q26 followed by continued profitability on an adjusted basis in 3Q26 indicates that it has already entered this phase.

Rapid growth requires investment in computing capacity before the associated revenue streams fully mature. The resulting cashflow mismatch can create an external funding requirement even when operations are profitable. In our view, this timing gap and losses at selected companies are distorting perceptions of the broader AI profit pool. We believe sustained utilization and pricing remain important to returns on incremental capital.

The breadth of AI workloads reinforces this point. Our model allocates approximately 5GW of our estimated 29GW of global installed AI capacity at end-2026F to OpenAI and Anthropic. Their financial results consequently capture only part of the activity supporting infrastructure demand.

Fig. 3: Global data center power usage by application



Note: Above are based on our illustrative estimates and does not fully reflect financials of AI-related companies.
Source: Nomura estimates

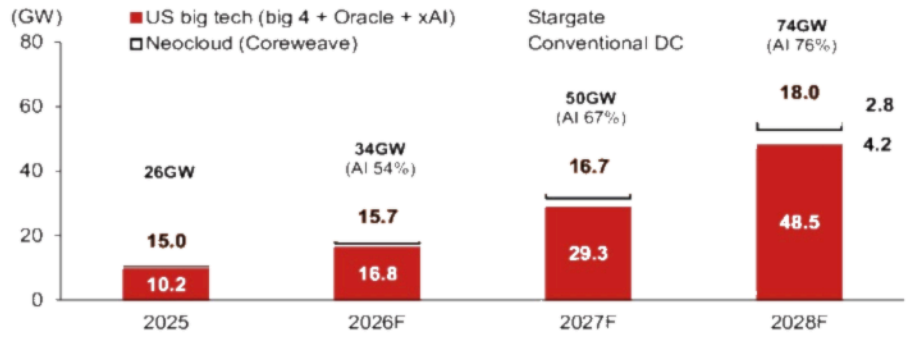
We see limited risk of systemic spillovers

If borrowing costs rise and access to funding becomes more difficult, companies can face material company-specific risks arising from their business models and funding structures. In our view, however, the likelihood of these risks developing into a market-wide systemic event or derailing the broader AI investment cycle remains limited.

We take CoreWeave (CRWV US, Not rated) as an example, to also illustrate its relative scale within the ecosystem. At end-June 2026, CoreWeave had 1.5GW of active power and USD35.1bn of debt on balance sheet, excluding lease liabilities. Its active power is equivalent to approximately 4.4% of the roughly 34GW of projected end-2026 facility capacity. Its debt represents 1.7% of our USD2.12tn estimate of global data center investment in 2026F.

In our view, GPU and data center assets retain strategic value to customers and other operators. Even in a worst-case scenario for a data center operator, alternative ownership could allow existing infrastructure and selected projects to remain in use or continue development. This provides a potential buffer against disruption to the broader investment cycle. We would reassess our view if refinancing stress spread across major customers and infrastructure providers, causing widespread project cancellations or capex reductions.

Fig. 4: AI data center capacity by operators



Note: Above are our estimates based on company guidance, press release, and our assumptions.
Source: Company data, Nomura estimates

Cash generation strengthens the case for semiconductor suppliers

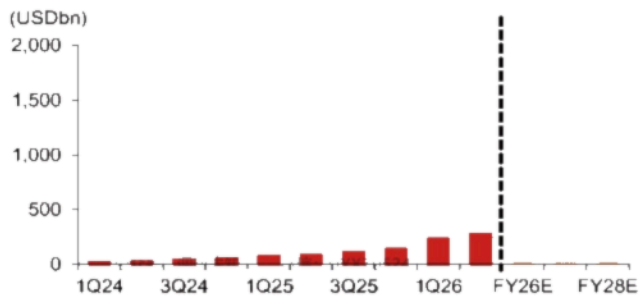
Our estimate points to a widening divergence in cash generation across the AI value chain. Aggregate net cash of nine semiconductor companies in our sample increased from USD27bn in 1Q24 to USD282bn in 2Q26, nearly a tenfold increase (*Fig. 5*). We project the semiconductor companies' combined net cash to reach ~USD2tn by end-2028F, while the seven data center companies in our comparison enter into a deeper net debt position (*Fig. 6*).

These projections assume shareholder distributions remain at their 2026F annualized level and exclude incremental equity investments, acquisitions and new financing. They indicate potential funding capacity and funding requirements before further capital allocation decisions.

Semiconductor suppliers are also acquiring equity stakes in AI labs. Nvidia (NVDA US, Not rated) has invested in OpenAI and Anthropic, while Samsung Electronics (005930 KS, Buy), SK Hynix (000660 KS, Buy), and Micron (MU US, Not rated) have participated in Anthropic's Series-H financing. As cash accumulates at suppliers, these investments provide an additional channel to participate in potential value creation at AI labs, alongside earnings from chip sales.

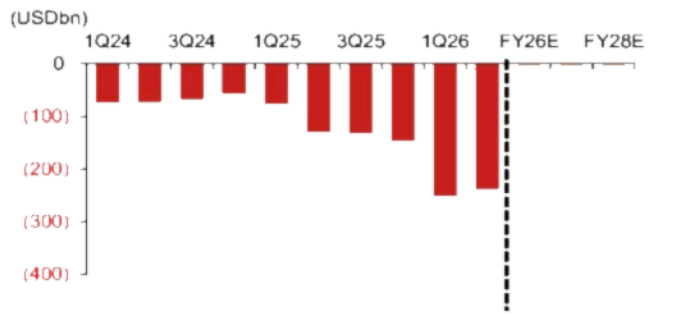
We believe valuations do not yet fully reflect the cash generation we expect from memory producers. The projected divergence in financial resources strengthens our relative preference for semiconductor suppliers and gives them greater flexibility to invest, return capital and participate in the funding of the AI ecosystem.

Fig. 5: 9 semiconductor companies' aggregate net cash



Note: Aggregate of Samsung Electronics, SK Hynix, Micron, Sandisk, Kioxia, TSMC, Nvidia, AMD, and Broadcom. Figures for Samsung Electronics, SK Hynix, Kioxia, and TSMC are based on our estimates (assuming USD/KRW of 1,334.3, USD/JPY of 158.02, and USD/TWD of 32.375). Figures for other companies are based on Bloomberg consensus estimates.
Source: Nomura estimates, Bloomberg Finance L.P.

Fig. 6: 7 data center operators' aggregate net cash

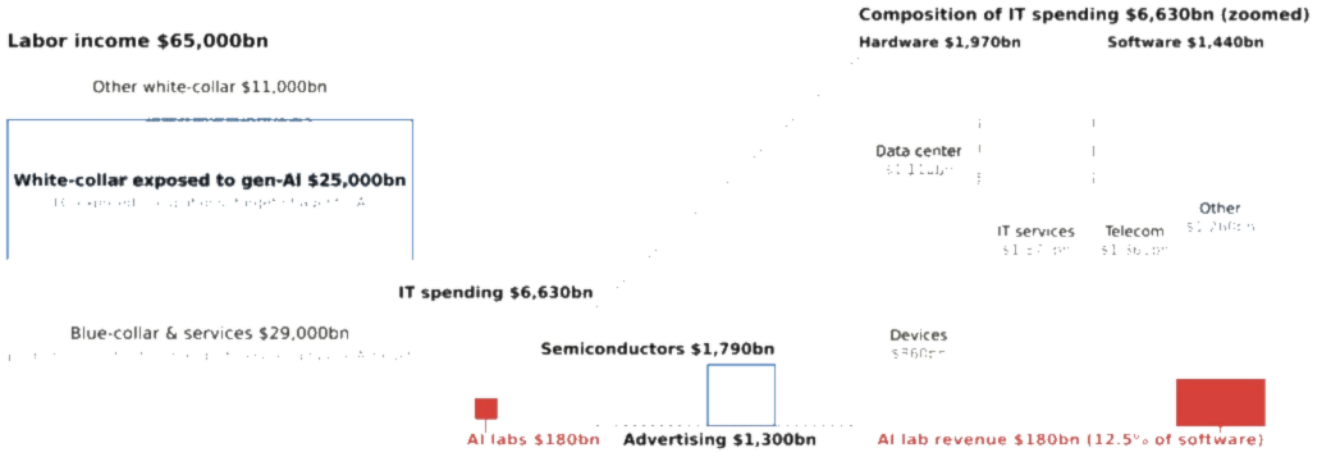


Note: Aggregate of Microsoft, Google, Amazon, Oracle, Meta, Coreweave, and Nebius (all based on Bloomberg consensus estimates).
Source: Nomura research, Bloomberg Finance L.P.

Capacity deployment supports a tight memory outlook through 2028F

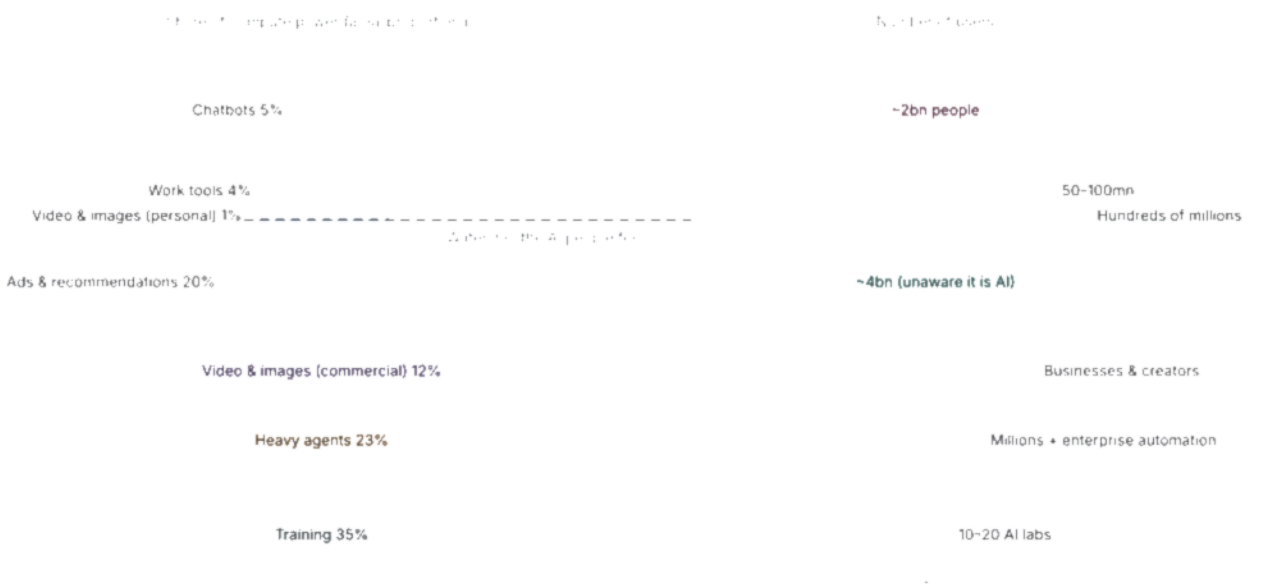
We believe the scale of AI's growth opportunity helps explain continued strength in capacity deployment. Our estimated global AI lab revenue of USD180bn in 2026F is equivalent to just 0.7% of the USD25tn in labor income associated with white-collar occupations exposed to generative AI and 5.4% of the USD3.3tn of combined IT services and software market, based on Gartner's estimates. These comparisons point to substantial scope for further AI adoption and monetization.

Fig. 7: AI revenue in the context of labor income and technology spending



Note: Estimates for 2026: combination of Gartner estimates and our illustrative forecasts.
Source: Gartner, Nomura estimates

Fig. 8: The AI people feel is only the tip of the iceberg



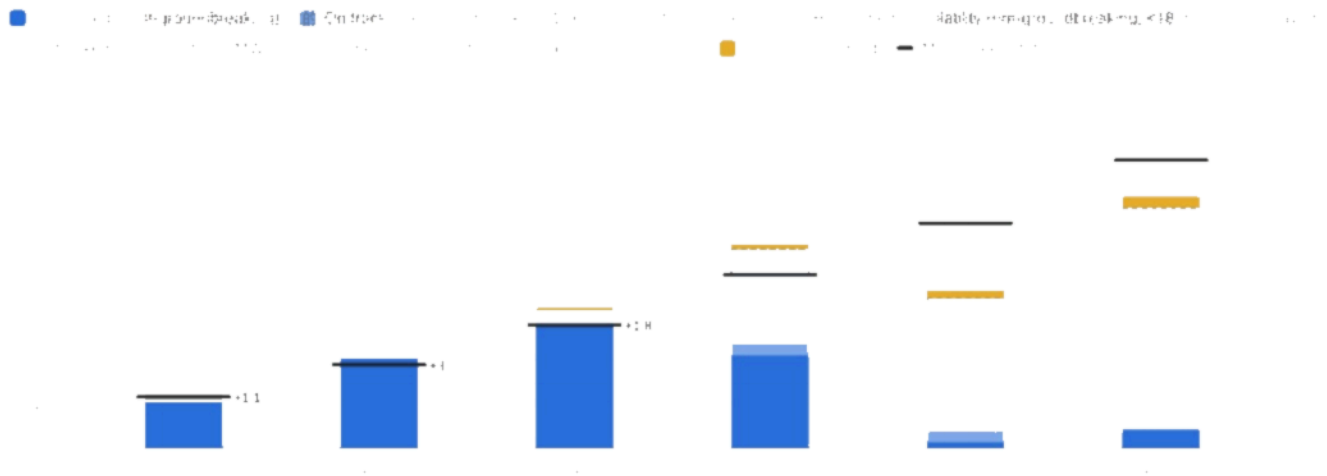
Note: Based on our estimates (illustrative purpose).
Source: Nomura estimates

Our AIDC project tracker supports continued capacity expansion. Including our adjustment for projects below 50MW, it indicates 22.3GW of global capacity additions in 2026F, up 77% y-y and 16% above our base-model estimate of 19.3GW (with some projects potentially slipping into early 2027F). For 2027F, the tracker indicates 31.5GW, 6% above our model estimate of 29.7GW (which is higher than 2026F base of 19.3GW). These are deployment estimates: the pipeline includes operating, delivered and construction-stage projects.

Memory demand growth ahead of supply through at least 2028F

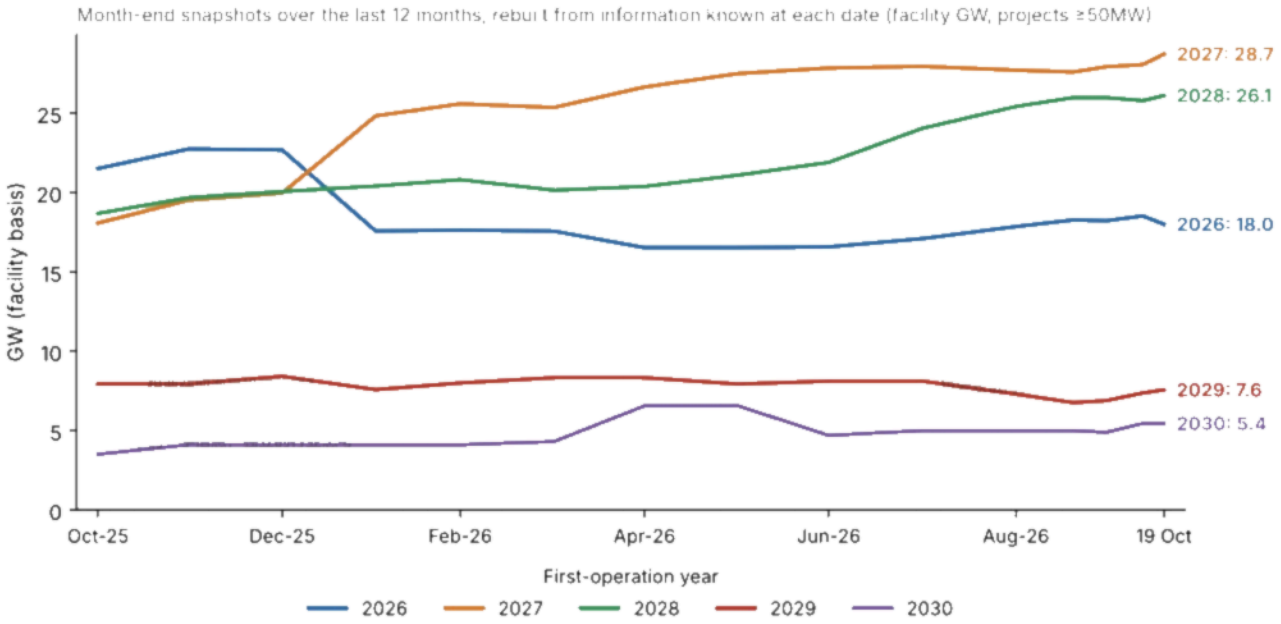
Our deployment forecasts, combined with our assumptions for system mix and memory content, continue to imply memory demand growth ahead of supply through at least 2028F. This underpins our expectation of sustained supply constraints and a supportive pricing environment for memory producers.

Fig. 9: Globally confirmed and at-risk data center capacity vs. model requirements



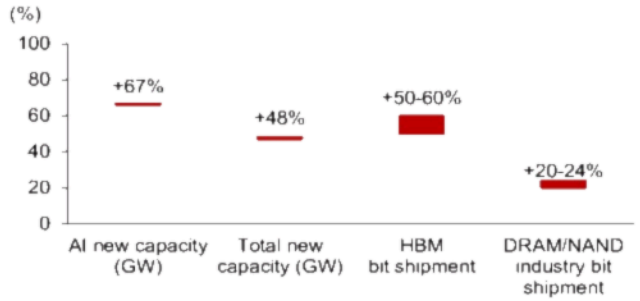
Note: Based on combination of our deployment estimates and data center companies' announcement/guidance.
Source: Company announcements, Epoch AI, Sightline climate, Nomura research

Fig. 10: Global tracked data center capacity by first operation years



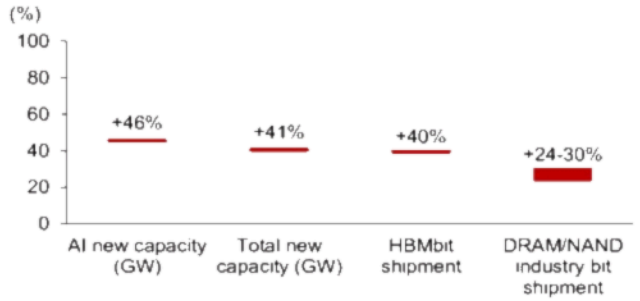
Source: Company announcements, permission filings, Epoch AI, Nomura research

Fig. 11: 2027F – AI capacity / memory bit shipment growth



Source: Nomura estimates

Fig. 12: 2028F – AI capacity / memory bit shipment growth



Source: Nomura estimates

